The election cometh: *CMAJ* polls the federal parties

CMAJ asked the leaders of the 5 major political parties to respond to the health care questions it thought doctors would want answered prior to the Nov. 27 federal election. Answers to 4 questions appear below. The responses, edited for style only, appear in the order they were received. The complete package of 8 questions and answers is available on our Web site (**www.cma.ca/cmaj**). The Bloc Québécois declined to participate because its platform was incomplete at press time.

Would you amend the Canada Health Act (CHA)? In what way?

New Democratic Party — *We believe that ensuring equal access to health care across Canada requires legislative change in a broader legislative framework. The CHA does not have to be opened up to achieve the legal changes that would allow real innovation and reform of health care. We share Monique Bégin's view that strong laws are required to protect against a parallel, for-profit system. In response to Liberal inaction against Alberta's Bill 11, the NDP proposed a ban on public funds being used to subsidize for-profit hospitals. Every other party in the House of Commons voted against our motion.*

Canadian Alliance — *Yes, we would amend the CHA to entrench 5-year funding agreements negotiated with the provinces to ensure that the federal government lives up to its responsibility to provide stable, predictable funding. We would also be prepared to work with the provinces if they collectively decided that amending the CHA would lead to better health care for Canadians.*

Progressive Conservatives — *The Progressive Conservative Party would amend the CHA by adding a sixth principle to medicare: stable and predictable funding for health care. We would guarantee a commitment to stable federal funding through appropriate legislation so that provinces can better plan to meet the health care needs of our growing and aging population. In addition, a Progressive Conservative government would immediately restore the cash portion of the Canada Health and Social Transfer to at least 1993–94 levels.*

Liberals — *The Liberal Party is committed to upholding the principles of the CHA, which are broad and flexible enough to allow for innovation while building on the strengths of our single-payer system. A national effort to renew and strengthen medicare is presently under way with all provincial and territorial governments. All governments across Canada believe that the status quo is no longer an option. Furthermore, with respect to improving the federal government's enforcement of the CHA, Health Minister Allan Rock recently announced an increase of resources for administering the CHA. An increase of $4 million, which would bring the total resources to $5.5 million a year, will enable Health Canada to be proactive in fulfilling its responsibilities in this area. We are also improving the CHA information system so that we will have the information we need to uphold the principles of medicare.*

Alberta and other provinces have experimented with variations on the all-public financing and administration of health care in Canada. As prime minister, would you encourage or discourage more experimentation in this area by the provinces and territories?

New Democratic Party — *Canada's NDP supports innovation in health care, but does not confuse innovation with privatization. We do not encourage for-profit "experimentation"; rather, we encourage real reform such as home care and disease-screening programs, such as BC's work on breast cancer detection. The federal Liberals encouraged privatization by deregulating drug approval, encouraging corporate research and helping to spawn Bill 11 in Alberta by agreeing to a 12-point deal with Mr. Klein in 1996. This deal provided historic permission for doctors to practise in both a public and for-profit system concurrently, a key building block for a parallel, private health system.*

Canadian Alliance — *The goal of all governments must be to provide quality health care at affordable cost. Everyone recognizes that constructive change to the current situation is required. Thus, we would encourage innovation within the parameters of the CHA.*

Progressive Conservatives — *The Progressive Conservative Party believes that accessible health care is a core value of Canadians. It is too central to our way of life to be held hostage to the political demands of the moment. We believe that we need an approach that will secure the future of health care — a system that respects the principles of the CHA and that will give provinces and the people they serve predictability and stability. Provinces have the know-how and the mechanisms to assess the needs of their populations, to set targets for the mix of services they want to achieve and to set priorities accordingly.*

Liberals — *The minister of health has been very clear in expressing his opposition to Bill 11 and the direction it takes. We believe that the right direction to take is to reinvest in and support the public system. The Liberal government has profound concerns about the possible implications of Bill 11, since it could lead to violations of the CHA. Consistent with the recommendations of the auditor general, we have increased by more than $4 million our CHA enforcement capacity. We have also been watching the situation in Alberta very closely and will continue to do so. The government of Canada will be there to protect the principles of the CHA if, in practice, any violations do occur — either in Alberta or elsewhere.*

What is the federal role in Canadian health care?

New Democratic Party — *Partner and protector. Health care was founded on an NDP vision supported by federal and provincial governments. Though the Liberals harmed this partnership, health care is a unique issue in which the federal government has both the*

right and the responsibility to assert vision. We will continue to fight for new national programs, real national standards and meaningful enforcement of the CHA. Without a national plan and vision, there is no guarantee of equal access for families in all communities and with all incomes. The federal role is made more important by trade agreements. Increased privatization threatens to lose Canada's tenuous NAFTA exemption for health care, which is based on the public provision of health care.

Canadian Alliance — *Under Canada's Constitution, provinces are responsible for delivering almost all health care. In addition to its direct responsibility to provide health care to military personnel, the RCMP and federal prisoners, the federal role is therefore to facilitate interprovincial coordination, provide independent information, support provinces through block-funding transfers and equalize provincial disparities to ensure that all Canadians receive quality health care.*

Progressive Conservatives — *There is a need for a strong federal role in health care. National leadership is vital in this vision of a health system that is prepared to meet the challenges of tomorrow as well as today. While there is a need for an immediate injection of money into the system, it must go hand-in-hand with a clear plan of action that would focus on the ends that we want from our health system, not just the current debate on means, and that will build on the foundation of the core principles of the CHA as well as the many strengths of the system.*

Liberals — *From a constitutional or legal perspective, the 2 major bases for federal activity in the health field are its spending power and its criminal law power. The federal spending power allows the federal government to have a policy presence in areas where it does not have constitutional power to regulate directly. To date, the government's ability to support the principles of the CHA has rested entirely on its spending power and the conditions it places on its cash grants to the provinces. To maintain public health and safety, the government of Canada also has the authority to use its criminal law power. Thus, for example, federal health-related activities occur through criminal sanctions against unauthorized use of narcotics (the Narcotics Control Act) and the control of hazardous products. Other legal bases for federal intervention with respect to health have been supported by the "peace order and good government" clause in the Constitution, and the federal powers to regulate trade and commerce between provinces. Federal authority extends to entering into agreements on international health care matters and to health concerns of people entering Canada. Also, the federal government has explicit responsibilities for providing health care to Aboriginal peoples, military personnel and veterans, and public servants. Finally, it should be remembered that the federal role in health care includes the licensing and regulation of drugs and medical devices and health research. The government of Canada has nearly doubled its contribution to health research over the past 2 years and officially launched the Canadian Institutes of Health Research (CIHR) on June 7, 2000, revolutionizing the way health research is done in this country. This strong role and commitment to CIHR will allow Canada to keep its best and brightest scientists and remain internationally competitive in today's knowledge-based economy.*

What is your vision of medicare for the future? What is the appropriate balance of responsibility between the individual and the state in achieving health?

New Democratic Party — *The NDP's vision goes beyond more money and beyond hospitals. While these are crucial, true reform requires a broader approach, including drug- and community-based care, and a plan to stop privatization of both care and research. We believe in encouraging healthy lifestyles, but we also believe that poverty, housing and pollution are health issues not solved by massive tax cuts. By fighting causes of disease — including reversing tobacco tax cuts — we aim to prevent illness before it reaches health professionals' offices. We will fight for a public system that assures equality of access and standards across Canada.*

Canadian Alliance — *My vision for today is to see a government helping its citizens to achieve better health in addition to caring for those who are ill. In the future our aging society will increase the cost of health care to society. My vision for tomorrow is to arrive at an appropriate division of health care costs between generations, while maintaining our strong tradition of compassion for the sick and needy. Given the demographics of an aging population, more emphasis must be placed on preventive medicine, which places a degree of responsibility on individuals to ensure their wellness.*

Progressive Conservatives — *My vision is one of a revitalized health care system, one with stable long-term funding and one that provides Canadians coast to coast with a system that is people oriented, empathetic and offers a caring response to human needs. Health care in the new millennium must continue to rest on the twin pillars of access and quality. To achieve those goals we would work with the provinces and health professionals to develop national standards for a Canada-wide health-info system to bring a greater level of accessibility and accountability to the health care system. A Progressive Conservative government would work with the provinces to ensure that new technologies, such as information technologies and telehealth, form part of a modernized health system. In addition, we would encourage the development of a "Wellness Agenda" that stresses health promotion and disease prevention.*

Liberals — *The first ministers have signed an agreement that is very clear on our vision of health care. Our vision, shared by the provinces and territories, is for quality, publicly funded health care for Canadians, health care that is cost-effective and fair. Our vision includes timely access to an appropriate and integrated range of services for Canadians. The vision means that health care is available to all Canadians, based on their needs and not on their ability to pay. Our vision recognizes that we must report regularly to Canadians on how our health care system is performing. Our vision is for a health care system that is forward looking and that focuses on health promotion and prevention. Our vision confirms all governments' commitment to the principles of the Canada Health Act. And, our vision respects provincial jurisdiction and commits us to working together, cooperatively, to improve health care for Canadians.*

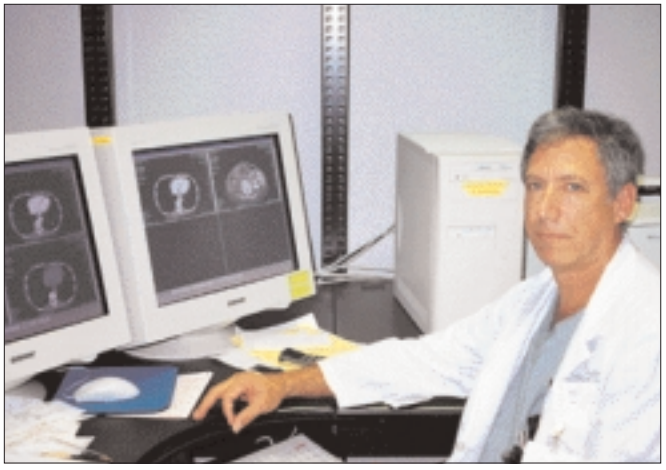
Private MRI clinics flourishing in Quebec

Twenty-five radiologists from the McGill University Health Centre (MUHC) in Montreal are the latest to launch a private medical imaging centre, joining similar clinics in Alberta, British Columbia and Quebec.

"We're doing this because there's an acute shortage of MRIs in Montreal and Canada," says Dr. Larry Stein, chief of radiology at the Royal Victoria Hospital, 1 of 5 hospitals consolidated under the MUHC umbrella. "I have to spend hours every week prioritizing patients to see [who gets] bumped. The bottom line is that in Quebec we probably need double the number of MRIs we have now."

Slated to open next month, the $5-million, state-of-the-art clinic will include a $2-million MRI machine, additional imaging equipment such as a CT scanner, and a picture-archiving communication system that will allow images to be transmitted across the province.

In Montreal, the waiting period for an MRI scan at the city's 8 public facilities now ranges from 2 weeks for high-priority patients to 14 months for patients with non-life-threatening symptoms.



Dr. Larry Stein and the new picture-archiving communication system

Montreal got its first privately owned MRI machine in 1997; 3 more privately owned machines will be in use soon, including the one purchased by the MUHC doctors. The privatization trend is endorsed by the Quebec Association of Radiologists. "We are in favour of a private system that complements the public one, but we are against a single system like the American one," says President Dr. Gaétan Barrette. "The government no longer has the interest, nor the means, to provide the medical imaging services the population needs."

He added that the provincial and federal governments are hardly in a position to criticize private radiology centres, given that Quebec's workers' compensation board is one of its biggest users.

Dr. John Radomsky, past president of the Canadian Association of Radiologists, says private clinics are simply filling a void left by a system in "deep trouble. The government seems unwilling or unable to provide the services that people need. People can't take it any longer."

Until recently, many patients went to US border towns for MRI scans. The MUHC group estimates the average cost of a scan done at its site will be around $550.

But the private centres have their detractors. Dr. Paul Saba, from the Coalition for Physicians for Social Justice, questions the motivations of the MUHC radiologists. "Are they doing this purely for profit reasons, or are they concerned about the health of the patient? When we become business people first, we have abdicated our moral responsibility as physicians."

A potential conflict of interest also worries MUHC cardiologist Maurice McGregor. "I certainly don't oppose the clinic, but I deplore the existence of the need. The fact is that the public system is severely underfunded at this time. There is a potential conflict of interest when doctors in the public system invest in, and work in, private, competing clinics." — *Susan Pinker*, Montreal

More Americans have health insurance

The number of Americans without health insurance declined by 1.7 million people, or 3.8%, between 1998 and 1999, the first decrease since the US Census Bureau (**www.census.gov/**) began collecting comparable health insurance data in 1987. "The driving force behind this improvement was an increase in the likelihood of people having employment-based health insurance," said Robert Mills, author of *Health Insurance Coverage: 1999*.

In 1999, 42.6 million were uninsured, compared with 44.3 million the previous year. The proportion of Americans without health insurance coverage declined from 16.3% in 1998 to 15.5% in 1999. In comparison, 13.9% of the population (34.7 million people) were uninsured in 1990.

One of the most dramatic improvements was among children 18 years old and younger. The proportion of uninsured children declined by 9.9%, from 11.1 million children in 1998 to 10 million in 1999. Young adults (18 to 24) remain the least likely age group (71%) to have health insurance coverage.

Both the number and percentage of uninsured poor remained unchanged from 1998: 10.4 million poor Americans, or 32.4%, had no medical insurance; only 8.3% of those with incomes of $75 000 or more were uninsured. — *Barbara Sibbald*, CMAJ

Fluoridation beneficial, studies say

The first systematic review of water fluoridation reveals that the quality of evidence surrounding the topic is low, but the only adverse effect from adding fluoride to drinking water appears to be fluorosis, and this depends on the concentration of the chemical in drinking water. On the benefit side, the authors found a median 15% reduction in tooth decay, which meant a median 2.25 fewer decayed, missing and filled primary and permanent teeth.

The review, which looked at 214 studies and was published in the *BMJ* (2000;321:855-9), concluded that "the evidence of reduction in caries should be considered together with the increased prevalence of dental fluorosis. No clear evidence of other potential negative effects was found." Another study in the same issue determined that long-term exposure to fluoridation may reduce the risk of hip and other fractures.

Earlier this year Canada's main dental body, the Canadian Dental Association (**www.cda-adc.ca**), reaffirmed "its support for fluoridation of municipal water supplies as a safe, economical and effective means of preventing dental caries in all age groups." However, it noted that water supplies have to be monitored to ensure that fluctuations in fluoride concentrations are avoided.

Fluoride was first added to Canadian drinking water in Brantford, Ont., in 1945, and hundreds of communities have since followed its lead. Several major cities, including Montreal, Vancouver and Victoria have not followed suit.

The subject remains controversial. The STOP Fluoridation USA Web site (**www.rvi.net/~fluoride/**) says "the evidence against the safety of this public health policy keeps mounting." — *Patrick Sullivan*, CMAJ

Emergency medicine journal slams fee-for-service payments

Fee-for-service (FFS) payments are a "dinosaur" when used in emergency departments, the editor of the *Journal of the Canadian Association of Emergency Physicians* (*CJEM* 2000;2[4]:228) says. Not only does FFS lead to longer patient waits and physician burnout, says Dr. Grant Innes, but it encourages highly skilled workers to perform low-complexity work and refer early.

"FFS also causes emergency medicine groups to limit their size and maximize single coverage to maintain income," says Innes, who practises at St. Paul's Hospital in Vancouver. This in turn leads to longer patient waiting times and increases physician overload, job dissatisfaction and burnout. In the editorial he argues that FFS "motivates us to work like dogs to see more patients faster and to handle more volume than we otherwise would — or perhaps should."

After 13 years practising in an FFS environment, Innes moved to an alternate funding agreement. He says the improved physician coverage this makes available means he can spend more time with patients in the trauma room and at the same time experience less stress related to patient volume. "FFS rewards high volume and low intensity," says Innes. "At tax time, the physicians who spent the fewest minutes per patient and treated the most stubbed toes will mail the biggest cheques to Ottawa." — *Barbara Sibbald*, CMAJ

Nearly a quarter of Canadians head online for health info

According to a recent PricewaterhouseCoopers (PWC) survey, 22% of adult Canadians used the Internet to find health information during the past year and 79% believed the quality of that information needs to be improved.

BC residents were the most likely to have looked for online health information (28%), followed closely by residents of Ontario and Alberta. Quebecers were least likely (14%).

Although 96% of those who searched indicated that it is easy to find information and it tended to be presented in a manner that was easily understood, 79% felt that it is hard to know which information can be trusted.

According to the survey, which was conducted in the spring of 2000, Canadians aged 65 and over are least likely to have used the Internet in the past year (7%, compared with 72% of those aged 15–24 and 56% of those aged 25–44). However, seniors who are connected are more likely to seek health information than younger Canadians (55%, versus 31% for those aged 15–24 and 51% for those aged 25–44). Women who use the Internet are more likely than men to search for health information (47% versus 36%).

According to the PWC study, 33% of Canadians who obtained medical information on the Internet discussed this material with their doctors. Results from the CMA's 2000 Physician Resource Questionnaire (PRQ) indicate that 84% of doctors have had patients present them with medical information obtained on the Internet, and 47% of those doctors reviewed such information always or often. The PRQ indicated that only 32% of doctors reviewing Internet-based health information presented by patients found the material to be of good or very good quality.

The exchange of Internet-based health information sometimes travels in the other direction. The PRQ found that 36% of doctors give information found online to patients; 51% of online doctors refer patients to health sites, at least occasionally. Doctors who are not personally online appear to be familiar with some health-related Web sites: 26% of them have referred patients, at least occasionally, to medical sites. — *Shelley Martin*, martis@cma.ca

Canada home to world's first association for disabled doctors

"If you stick your tongue out at me, you're wasting your time," says Dr. Ashok Muzumdar, a visually impaired Charlottetown physiatrist. With that joke, he tosses aside the cloak of awkwardness that usually blocks all discussion of physical disabilities. He's trying to do the same thing nationally as founder and president of the world's first association of disabled physicians.

The inaugural meeting of the 30-member Canadian Association of Physicians with Disabilities (CAPD) was held Aug. 13 in Saskatoon during the CMA annual meeting. CAPD was the culmination of 4 years' work by Muzumdar, director of the Department of Physical Medicine and Rehabilitation at the Queen Elizabeth Hospital. He developed diffuse retinal degeneration 15 years ago.

Muzumdar thought it would be useful for disabled physicians to compare notes on how they manage clinical practice and legal issues, and to share technology, offer emotional support and lobby for changes to improve their treatment and well-being. When he discovered that no organization existed, he got CMA help to form one.

Members' disabilities range from visual and hearing impairment to handicaps related to multiple sclerosis, arthritis and spinal cord injury. "Sometimes people are quite imprisoned by their disabilities," says Muzumdar, who was elected president at the inaugural meeting. "But we all have abilities and that's where our emphasis is."

Dr. Ashok Muzumdar: employment a serious issue

He says one of the most serious problems for disabled doctors is the issue of employability. Some members can't find work, while others are underemployed. A case in point is Dr. Lise Couturier, who was diagnosed with multiple sclerosis just as her internship ended in 1987. She now works in human resources with Quebec's provincial police, although the work has little to do with her medical degree. And that hurts. "This wasn't my career plan."

Couturier worked as a family physician for only 3 years before she had to quit in 1992 for health reasons. Two years later, b-interferon treatment gave her a new lease on life; she hasn't had a flare-up since. Still, the Collège des médecins du Québec wouldn't allow her to start practising again. "They didn't think I was ready."

She spent her time volunteering and earning diplomas in social administration and occupational health. Finally, in 1999, she tried to do a preceptorship, but the college stopped her after only 10 days, saying her skills were too rusty. "They should have given me a chance to restart earlier," Couturier says. "They didn't give me much support."

She has a restricted license that allows her to work under supervision, but physicians are too busy to supervise her. "They should make time for physicians with disabilities who need help. And not all of us do."

For information on CAPD, email asmuzumdar@ihis.org; or call 902 894-2061. A Web site is under construction. — *Barbara Sibbald*, CMAJ

NB family doctors say enough is enough

Family physicians in New Brunswick say they're not going to take it any more. About 450 FPs are delivering that message to the provincial government as contract negotiations stall and a serious physician shortage continues.

"We can't recruit and we can't retain," says Saint John FP Michael Simon, secretary of the GP section within the New Brunswick Medical Society. "We can't fill vacancies and patients are becoming orphaned."

Poor pay and long hours are at the heart of the problem. Currently, the government pays only $20 for an office visit. This is 33% less than the $26.50 Ontario doctors are paid for an intermediate visit, the most common type of office visit in that province. Last year, as contract negotiations reopened, the FPs asked for a 30% fee increase; the government offered 1%.

Earlier this year, more than half of the province's FPs met to discuss the "deteriorating situation" and then launched an awareness campaign to garner public support. In mid-September, over half of the province's FPs shut their offices for a "study day."

"We finally said 'enough is enough,'" says Simon. "Not one patient expressed dissatisfaction [over the study day]. I got faxes congratulating me."

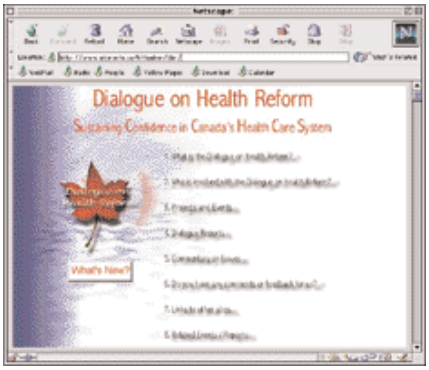
Then, in early October, FPs staged a "paperwork protest," refusing to fill out lengthy government-issue drug-authorization forms — a procedure that can take up to 2 hours daily. Just 3 days after the "paperwork protest" began, New Brunswick's health and wellness minister told the media that negotiations had started again and he was confident the dispute could be settled. — *Donalee Moulton*, Halifax

On the Net

Debating medicare from the left and right

Just as the *Toronto Star* is well known for its left-leaning, Liberal Party tendencies and the *National Post* for its unbridled support for the right-wing Canadian Alliance, Web sites also develop distinct political personalities. This is particularly true when it comes to health care issues.

With a federal election fast approaching and health care once again providing one of the dominant themes, there is plenty of policy information available on the Web. However, if you

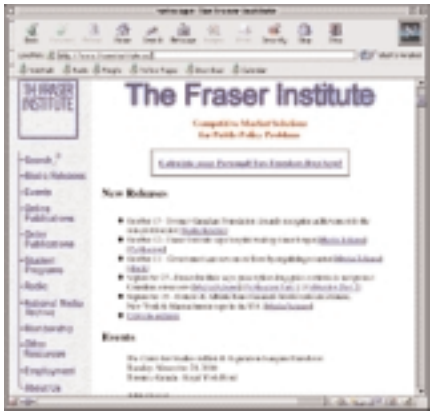


want to view Canadian issues in strictly black-and-white terms, 2 sites stand out.

The Dialogue on Health Reform (**www.utoronto.ca/hlthadmn/dhr**), run out of the University of Toronto's Department of Health Administration, wears its colours on its sleeve. "We are a group of concerned Canadians who think our country's universal publicly funded health insurance system must be strengthened, not taken apart. Canada's unique, exemplary health care system is being questioned, and so far, very few credible voices have been raised in its defence. We aim to change that."

On the other side of the debate stands the Fraser Institute (**www.fraserinstitute.ca**), a Vancouver-based bastion of free enterprise. It lets its feelings be known on its home page with a welcoming statement — "Competitive market solutions for public policy problems" — and an offer to "calculate your personal tax freedom day here." (In Canada tax-freedom day usually falls around July 1. It is the day when all taxes are considered paid and workers are finally working for themselves rather than the government.)

Neither site pretends to provide balanced coverage. The Fraser Institute rails against waiting lists within the public system, government regulation and prescription drug price controls.



Meanwhile, the Dialogue on Health Reform site contains a commentary made during a Friends of Medicare rally in Edmonton, an editorial warning to "Decline Klein's medicine" and a report on the myths and realities of health care financing in Canada.

Both sites are provocative and point to the polarization that will dominate the country's health care debate both before and after the upcoming federal election. And as with most things Canadian, the final answers will probably be found somewhere in the middle. — *Patrick Sullivan*, CMAJ

Saskatchewan first province to use urine samples for STD testing

Saskatchewan's provincial laboratory has become the first in the country to use urine samples to conduct all chlamydia and gonorrhea tests. The move is expected to save money through earlier detection and treatment of sexually transmitted diseases.

The lab, which processes about 3000 such samples a month, made the switch from traditional testing techniques in June after a year-long trial of the new testing instrument. The provincial facility handles 98% of all chlamydia testing in Saskatchewan.

Dr. Edward Chan, clinical director of the lab, said the $8 cost of the reagent for either test is more than offset by savings achieved by treating patients before they develop more costly complications such as pelvic inflammatory disease. The US Centers for Disease Control and Prevention reports that the direct and indirect costs of chlamydia amount to more than US$2.4 billion annually, said Chan. Canada's health system is probably spending around a tenth of that amount.

Since the switch to this less invasive form of testing began, the number of men being tested jumped from 150 each month to between 500 and 600. This is likely because the new test is less painful. "Not only are urine samples easier to obtain, but I think they represent the future," said Chan. "Other studies are showing that urine testing can be used to detect other STDs, including HPV."

The sensitivity of the new assay is 95.3%, while its specificity is 99.3%. These figures represent a significant improvement over the sensitivity of 60% to 75% and specificity of 80% to 90% reported in the literature for the traditional urethral swab in men and combination cervical/urethral swab in women. — *Greg Basky*, Saskatoon

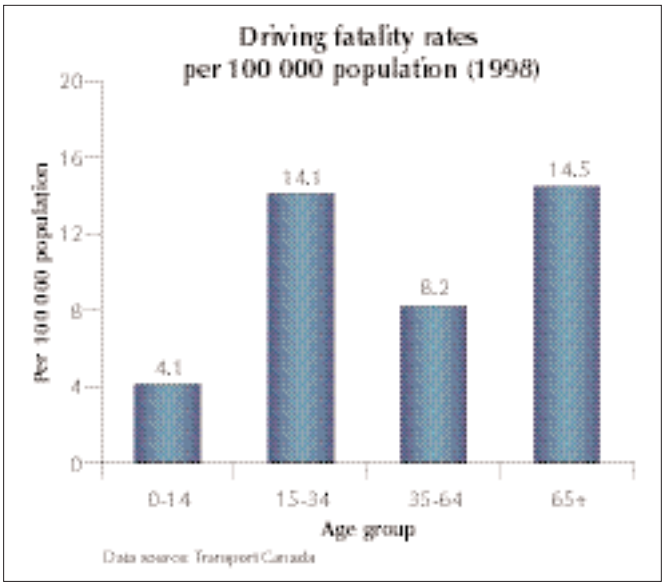
Pulse

Driving: How old is too old?

The CMA's new guide for physicians, *Determining Medical Fitness to Drive*, recognizes that while the rate of decline in physical and mental function varies from person to person as they age, these changes eventually affect everyone's ability to drive. The guide states that "slowed reaction time, lack of attentiveness, poor judgement and faulty attitudes are responsible for many crashes at all ages. These factors assume an increasing importance with advancing years."

Transport Canada statistics (www.tc.gc.ca/securite routiere/stats/stats98/en/st98agee.htm) show that Canadians over the age of 65 have a much higher annual fatality rate per 100 000 population (14.5) than those in their middle years (35–64), whose rate is rate is 8.2 deaths per 100 000. Young Canadians (15–34) come close to matching the fatality rate of seniors (14.1 per 100 000). The rate of injury, however, declines with age.

A May 16, 2000, Gallup poll revealed that Canadians appear to favour mandatory testing of elderly drivers. Eighty-five percent of respondents agreed that elderly drivers should be tested; people aged 30 to 39 years were most likely to agree (92%) compared with 68% of those 65 years of age or older.



Over a third (36%) thought mandatory testing should begin at age 65, but only 3% thought testing should only be mandatory for those over 80. Respondents from Atlantic Canada were the least likely to agree to mandatory testing (76%) but had the highest proportion of respondents (44%) who felt testing should begin at 65. — *Lynda Buske*, buskel@cma.ca

Hike med school fees, NS business federation says

A proposal to raise medical school fees at Dalhousie University and then offer bursaries to students who agree to stay and practise in Nova Scotia is "simplistic," a spokesperson for the medical school says.

In a recent presentation to the 3 political parties represented in the provincial legislature, Canadian Federation of Independent Business Vice-President (Atlantic) Peter O'Brien said taxpayers need a "reasonable return" on the money they invest in the only medical school in the Maritimes. Getting physicians to practise in underserviced areas would be one such return.

O'Brien says the federation, which represents 94 000 businesses across the country, recommends hiking tuition fees at Dalhousie and then offering "significant" bursaries to offset this to students willing to practise in an underserviced area after graduation. "We have to look at ways to encourage those young physicians to go into rural areas, even for 3 or 4 years," says O'Brien. He adds that physician shortages have a direct impact on businesses and communities.

But Dr. Micheline Ste-Marie, associate dean of undergraduate medical education and student affairs at Dalhousie, says the federation plan is simplistic. The main problem, she says, is that there are no checks and balances to determine who is sent to work in under-represented, primarily rural, areas. "Do you selectively apply this to people who volunteer?" she asked. "There are people who will not do well in an underserviced area. One has to be realistic about the value of what you get."

Dalhousie accepts approximately 90 new medical students each year, more than 80% of whom are from the Maritimes; it is not known how many of the students remain in the Maritimes to practise. Tuition at Dalhousie's medical school is $7670 a year; the country's highest fees are at the University of Toronto — $14 000 annually for first-year students. — *Donalee Moulton*, Halifax

Clinical Update

New evidence of a link between inhaled corticosteroid use and osteoporosis

Wong CA, Walsh LJ, Smith CJ, Wisniewski AF, Lewis SA, Hubbard R, et al. Inhaled corticosteroid use and bone-mineral density in patients with asthma. *Lancet* 2000;355(9213): 1399-403.

Background

Although systemic corticosteroid therapy is a well-recognized risk factor for osteoporosis, the effect of chronic inhaled corticosteroid (ICS) use on bone mineral density is uncertain.[1] The relationship between ICS and bone mineral density has been difficult to assess because of potential confounding variables such as age, use of oral corticosteroids and lower activity levels in patients with asthma.

Question

Is inhaled corticosteroid use associated with decreased bone mineral density in patients with asthma?

Design

This cross-sectional study recruited patients with asthma between 20 and 40 years of age from primary care practices and from an asthma research registry in Nottingham, England. Patients had taken an inhaled corticosteroid regularly for at least 6 months; exclusion criteria included the use of oral and parenteral steroids on more than 2 occasions or within 6 months of the study. The patients completed an extensive health questionnaire, which included a detailed medical history, risk factors for osteoporosis and questions about occupation, lifestyle, diet and medication use. Reported use of corticosteroids in all formulations (i.e., inhaled, oral, nasal and dermal) was recorded and validated by an independent researcher using available health records. This information was used to calculate a cumulative dose of ICS for each patient. Bone mineral density of the femoral neck and the lumbar spine of each patient was measured using dual-energy x-ray absorptiometry. Multiple linear regression analysis using a priori confounders of age and sex assessed the relationship between cumulative dose of ICS and bone mineral density. Other variables associated with bone mineral density were then evaluated in the regression model.

Results

Of the 196 subjects who participated in the study, 119 (61%) were women, and all but 20 were recruited from primary care practices. The median duration of corticosteroid treatment was 6 years, and the mean forced expiratory volume (1 s) was 93% predicted. Beclomethasone was the ICS for 80% of the subjects, 9% of whom had started taking inhaled corticosteroids before the age of 15; almost half (45%) had never taken a course of oral corticosteroids.

The median cumulative dose of ICS was 876 mg (roughly 500 mg per day for 5 years). A doubling of the cumulative dose of ICS was associated with a decrease in bone mineral density of 0.023 g/cm^3 (95% confidence interval [CI] 0.005–0.041) at the lumbar spine and a decrease of 0.020 g/cm^3 (95% CI 0.002–0.038) at the femoral neck compared with age-matched reference data. Similar results were obtained for the duration of ICS therapy. Adjustments for factors such as smoking, calcium intake and exercise did not affect the results significantly.

Commentary

This study demonstrates an inverse relationship between bone mineral density and the cumulative dose and duration of ICS therapy in patients with asthma. The investigators minimized potential confounding variables by using young patients with mild asthma and by excluding patients who had received more than 2 courses of oral corticosteroids. Validating subjects' reported steroid use with health records helped to minimize recall bias.

Practice implications

There is good evidence that the use of low-dose inhaled corticosteroids has improved asthma treatment over the past decade.[2] This study draws attention to the potential risk of osteoporosis in patients who require long-term ICS therapy. To minimize this risk, physicians should ensure that their patients are on the lowest effective dose of ICS and encourage them to undertake simple measures such as regular exercise and an adequate calcium intake to optimize bone density. Although none of the subjects in this study showed evidence of vertebral fractures, longitudinal studies are required to evaluate whether patients treated with ICS are at higher risk for fractures. — *Kathryn A. Myers*

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Public Health

Coping with *Legionella*

Epidemiology

The *Legionella* species of gram-negative aerobic bacilli are widely distributed in aquatic habitats and soil. Since the discovery of *Legionella pneumophila* in 1976 following an outbreak of pneumonia among delegates attending an American Legion convention in Philadelphia, the family Legionellaceae has expanded to include 42 described species, 18 of which have been documented to cause human infection.[1]

Legionella pneumophila causes about 85% of reported cases of infection; *L. micdadei*, *L. bozemanii* and *L. dumoffii* are also relatively common.

Originally thought to be exotic pathogens, *Legionella* spp. are now recognized to be a common cause of community-acquired and nosocomial pneumonia. As many as 15% of North American patients hospitalized because of community-acquired pneumonia may be victims of *Legionella* spp. infections,[2] although a surveillance study indicates that only about 3% of cases are correctly diagnosed.[3] Most of these community-acquired cases are sporadic. Smoking, chronic lung disease, advanced age and immunosuppression increase susceptibility.[2]

The epidemiology of nosocomial legionellosis has shifted. In the 1980s most reported outbreaks occurred at tertiary-care centres. More recently, sporadic nosocomial cases from community hospitals have predominated.[2]

The disease can be acquired by inhaling aerosols or by microaspiration of water contaminated with *Legionella* spp. The bacteria are chlorine tolerant[4] and survive the water-treatment process. Colonization depends on water temperature, sediment accumulation and commensal flora.[1] Surveillance studies have identified *Legionella* spp. in water-distribution systems in 83%–92% of health care facilities,[5,6] raising fears that it may be ubiquitous in hospital plumbing systems.

Clinical management

Legionella spp. infection manifests in 2 very different forms: Pontiac fever and pneumonia (Legionnaires' disease). Pontiac fever is an acute, self-limited, flu-like illness without pneumonia, whereas pneumonia is the predominant clinical syndrome of Legionnaires' disease. After an incubation period of about 10 days the illness begins with a 1-day prodrome of myalgias, malaise and a slight headache. This is followed by an acute onset of fever, usually above 40ºC, a slightly productive cough and, often, pleuritic pain. Encephalopathic features may be present as well as gastrointestinal symptoms; diarrhea occurs in 20%–40% of cases.[1] Chest x-rays show nonspecific patchy infiltrates that may progress to nodular infiltrates in 1 or more lobes. Effusions are infrequent. Sputum culture has a sensitivity of about 80%.[2] Because special media are necessary for growth, the laboratory test must be specifically requested. Less sensitive but more rapid diagnostic tests include the direct fluorescent antibody stain and the urinary antigen test.[1,2] Laboratory and clinical data suggest that fluoroquinolone and newer macrolide–azalide agents against *L. pneumophila* are superior to erythromycin.[7]

Prevention

There are 3 effective ways to disinfect water-distribution systems.[1] Copper–silver ionization units use electrodes to generate metallic ions which disrupt bacterial cell walls and lead to cell lysis and death. These units are highly effective and provide residual protection throughout the system.[1,8] As well, temperatures above 60°C are bactericidal for *L. pneumophila*. The "superheat-and-flush" technique allows for urgent disinfection. With this method water temperature is raised to 60°C–77°C for several days, and then each distal water site is flushed for at least 30 minutes. The temperature is then maintained at 66°C; this carries the risk of scalding patients, however.[1] Ultraviolet light kills *Legionella* spp. by damaging cellular DNA, but it must be combined with 1 of the other methods as well. Hyperchlorination is no longer recommended because *Legionella* spp. are relatively tolerant to chlorine.[1,4]

Routine monitoring for *Legionella* spp. in hospital water is recommended.[2,6] A minimum of 10 distal sites (faucets and showerheads) should be sampled, as should all hot water tanks. Disinfection should be considered on the basis of the number of positive culture sites and any prior experience with hospital-acquired cases.[2] Recommendations for home water systems are less clear.[9] Legionellosis is a reportable disease. — *Erica Weir*, CMAJ

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