News and analysis

Nouvelles et analyses

Doctors take NB government to court

Seven years, 7 presidents, 6 expert reports, 2 executive directors and 1 lawyer later, it's off to court they go. The Professional Association of Residents in the Maritime Provinces (PARI-MP) and 4 New Brunswick doctors are suing the provincial government, claiming that a physicians' resource management plan the health department introduced in 1992 infringes on 4 of their rights under the Canadian Charter of Rights and Freedoms. "This plan is so restrictive," says PARI-MP Executive Director Sandy Carew Flemming. "Essentially it restricts mobility for people [wishing] to enter the province and gives physicians already here an unfair advantage."

Under New Brunswick's plan, the province was divided into 7 health regions, each of which had a cap on the number of physicians allowed to practise. Since the plan was implemented 8 years ago, New Brunswick has suffered a shortage of doctors, says Carew Flemming. "It's starting to get quite critical. The perception out there is that this is a closed province."

PARI-MP, which represents 370 residents in Atlantic Canada, is arguing that the government's resource management plan violates the charter in 4 areas: it restricts doctors' mobility, violates the concept of liberty as described in the charter, does not allow for free association and discriminates on the basis of sex. With respect to the latter claim, Carew Flemming notes that New Brunswick has approximately 1300 physicians, 1000 of whom are male. Fifty percent of medical school graduates are now female; PARI-MP argues that, because of the New Brunswick government's cap on physician numbers, female physicians have been, in essence, denied equal access to employment in New Brunswick. The government is arguing that under Section 1 of the charter, it has the legal right to restrict certain freedoms if there are sound reasons for doing so.

The College of Physicians and Surgeons of New Brunswick has been named as a codefendant in the suit because of its licensing role. However, the college registrar, Dr. Ed Schollenberg, has also expressed concern about the government's resource management plan, and the college is seen as friendly to the plaintiff. Indeed, in 1996 the provincial government attempted without success to have the college removed as a party in the lawsuit.

Neither PARI-MP nor the 4 doctors involved in the lawsuit — all are now employed in New Brunswick — are asking for remuneration. Rather, they want the government's resource management plan declared illegal. The case, which is now being heard before a judge in the Court of Queen's Bench in Saint John, was expected to end Mar. 31, but a decision is not expected until this summer — at the earliest. — *Donalee Moulton*, Halifax

Doctor in the house? Project may open door to better care

House calls provide ideal opportunities for physicians to learn about patients, says Dr. Irene Cohen. The London, Ont., family physician is medical coordinator of Integrated Physician Services in the Home (IPSITH), a pilot project to provide home-based treatment for acutely ill patients who would otherwise be in hospital. She says physicians often discover issues during house calls that might not be detected during office visits.

Cohen recalls one patient who mixed her medications together in a fruit bowl because they were "pretty" and then used colour preferences when deciding which to take. On another occasion, Cohen visited a new elderly patient and found her living in her 1-bedroom apartment with only a bed, chair, tiny fridge and no food. The patient, who believed she was coping well since her husband's death a year earlier, was later diagnosed with Alzheimer's disease. Cohen says the patient likely would have presented herself well during an office visit, creating delays in diagnosis and obtaining services. She thinks issues surrounding hygiene, family dynamics, spousal support and health are more readily apparent through house calls. "It's a definite eye-opener," she says.

Dr. Irene Cohen with home care patient Alice Keukelaar

(Continued on page 1187

Cataract surgery contracted out in Vancouver

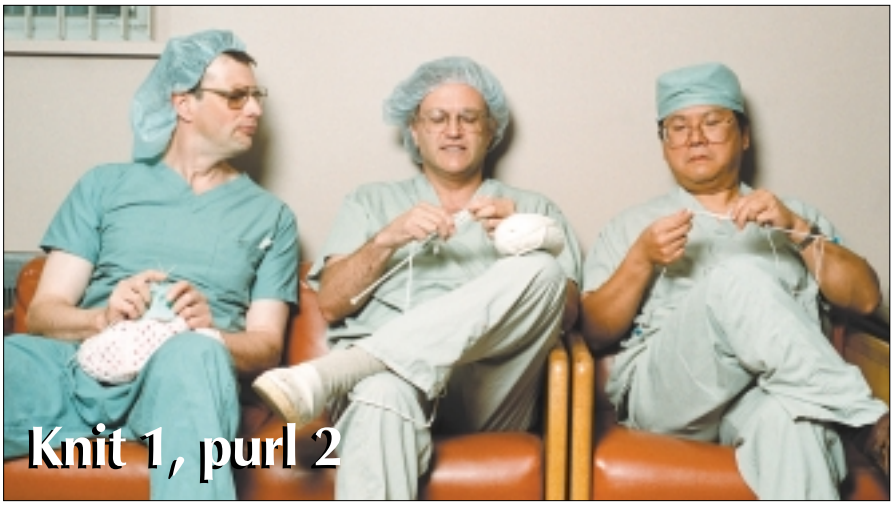
Vancouver's Lions Gate Hospital has cut its waiting list for cataract surgery by 30% and freed up operating room time by contracting some services to a private clinic close to the North Shore hospital. The 3-month contracts began on a trial basis last July and will be assessed later this year.

The Northmount Eye Surgery Centre is well positioned to accept the steady flow of about 85 low-risk patients a month, says Clay Adams, spokesman for the North Shore health region, especially since 5 of the hospital's 6 ophthalmologists practise there. The cost of $550 per eye, which is paid by the hospital, includes an allowance for the clinic's overhead costs. Meanwhile, about 40 high-risk cataract operations are still performed at Lions Gate each month, but waiting times have dropped from almost 5 months to 3.

"It's going very well," says Adams. "Our patients are being seen on a much more timely basis and there is potential to speed up access even more. The benefits well outweigh the costs. It is an access issue, not a cost issue." Since 15% of local residents are older than 65, Adams expects demand for surgery will continue to grow; the move also creates more OR time at Lions Gate, allowing about 60 extra operations a month.

The health region did not seek the provincial health ministry's permission to contract for the cataract services. "All we are doing is changing the location of where the patients receive their service," says Adams. "We are not contravening the Canada Health Act because procedures are not based on people's ability to pay." The ministry has not expressed any concern about the arrangement; precedents for contracting out other services have already been set with hospitals in Washington State.

Adams, who worked with the Alberta Ministry of Health when contracting out was introduced there, had been anticipating some public outcry over the new arrangement, but says the response has been uniformly positive. — *Heather Kent*, Vancouver



Dominique LaCasse, Wild West Communications

A humorous Year 2000 calendar has reaped big financial dividends for the Vernon Jubilee Hospital Emergency Department in Vernon, BC. About 5000 copies of the calendar, the brainchild of local doctors, were sold, raising $25 000 for much-needed cardiac-monitoring equipment. Thanks to their efforts, community fundraising and a provincial grant, $750 000 worth of monitors are now beeping away in Vernon. A series of brainstorming sessions led by family physician Bill Sanders resulted in the calendar's 12 humorous concepts. The most risqué photo, entitled "Say no to crack," showed 3 doctors modelling hospital gowns. In the photo above, surgeons John Crowley, Richard Creel and Ghee Hwang reveal the secret behind their cutting-edge surgical skills. "It would seem the citizens of Vernon appreciate seeing their medical role models in various states of undress and other humorous poses," says ER medical director Nick Balfour. The 2000 edition is sold out, but Sanders is devoting "1 or possibly 2 neurons" to concepts for a 2001 edition.

Care in the home

(Continued from page 1186)

Under IPSITH, acutely ill patients are receiving between 5 and 15 days of in-home care from a multidisciplinary community team that includes a case manager, nurse practitioner, the patient's family physician and health professionals from provider agencies (*CMAJ* 1999;161[11]:1437). Since April 1999, 39 FPs and nearly 40 specialists have agreed to participate in the program, which is expected to serve between 100 and 150 patients during the 2-year pilot period.

Cohen says house calls are not a thing of the past. She says a survey of London family physicians indicated that 60% to 70% of them make house calls; most involve elderly or severely disabled patients, but palliative care is becoming a larger part of home care. She says highly skilled teams of palliative care nurses in London offer tremendous assistance to family physicians. "It's become a real collaboration between all the team players to give [dying] patients optimum care in their homes."

As more and more people with significant illnesses and disabilities remain at home, Cohen foresees house calls becoming "absolutely necessary. We have to be more open to this kind of care. I hope the government looks at it that way as well." — *Lynne Swanson*, London

Delay in cancer centre expansion may derail Ontario project

The Hamilton Regional Cancer Centre may move to a new location because of plans proposed by the Hamilton Health Sciences Corporation (HHSC) to remove acute care services from the Henderson General Hospital.

The centre had originally planned to build a $45-million addition to its present site beside the Henderson, which it relies on for diagnostic and emergency services. However, Dr. George Browman, head of the cancer centre, says uncertainty surrounding the Henderson's medical role has forced the centre to look at alternative sites. Browman says there's a lot at stake because local patients are already being sent to hospitals in Buffalo and Thunder Bay, Ont., for treatment.

The HHSC includes the McMaster Medical Centre and the Hamilton General, Henderson and Chedoke hospitals. Browman said earlier that the delay was not affecting operations at the centre, but that it had affected morale. The longer the delay continues, he says, the more impact it will have on cancer centre patients. "If there are any delays or ambiguities about the siting issue, there is a risk that getting the cancer centre expansion back on track could be significantly delayed."

Facilities aren't the only shortfall in cancer care. According to Dr. Tom McGowan, head of radiation therapy with Cancer Care Ontario, an agency of the provincial government, staffing of the province's regional cancer centres is also a problem. "Everything regarding waiting times and our ability to treat people is tied directly to our ability to recruit. We need to have people here as fully functional radiation staff." The Toronto radiation oncologist says the most serious situations are in Toronto, Hamilton and London, Ont. Three new centres, in Peel, Durham and Kitchener-Waterloo, are being built.

Dr. Anthony Whitton, head of radiation oncology and chair of the radiation program at the Hamilton centre, says there are staff and treatment unit limitations. "We are not able to run all the units that we have because of a lack of therapists. If we didn't have [the ability to re-refer to other cancer centres], then our waiting times would be very long. We've sent about 160 [patients] since this re-referral started." He worries that sending patients away adds to their stress.

Ted Wheatley, president of Ontario Division of the Canadian Cancer Society, agrees. "It's shameful that cancer patients are being asked to shoulder the stress of having to cope with an inadequate cancer treatment system." — *Ken Kilpatrick*, Hamilton

CMA Online manager honoured

Ann Bolster, the CMA's associate director of online services and a former managing editor at *CMAJ*, has been named a fellow of the 4000-member American Medical Writers Association (AMWA). There are roughly 130 AMWA fellows; the list includes former *BMJ* editor Stephen Lock and former *CMAJ* editor Bruce Squires. Bolster has held almost every position in AMWA's Canadian chapter and served on he Board of Directors. AMWA helps people enhance their communication skills in the biomedical area. Through the Canada Chapter, Bolster has organized seminars, workshops and conferences for writers and editors. She has also designed courses for physicians attending annual meetings of the Royal College. — *Caryn Hirshhorn*, CMAJ

Canadians run Kosovo clinics

Captain Tom Hurley, medical officer with the Royal Canadian Regiment, treats a patient in the mountain community of Gradica, Kosovo. Canadian soldiers have been in Kosovo for 8 months, and although the main job of the medical team is to care for these 1400 troops, it also visits civilian clinics, travelling via armoured personnel carrier. At the clinics, which rotate among villages in need, Hurley dispenses drugs donated by Pharmaciens sans Frontières. The clinics are a volunteer effort, with everyone from doctors to ambulance drivers donating their time. Hurley thinks the clinics play a crucial role because no established family or preventive medicine has been practised in many parts of Kosovo for 7 or 8 years. "Some of the people we see here have diseases that would be easily treated in Canada, but here there is only so much we can do."— *Lieutenant-Commander Jacques Fauteux*, Kosovo

BC's reference-based pricing stirs controversy

Reference-based pricing, the BC government policy that requires doctors to prescribe the low-cost "reference" version of certain medications, may be 5 years old now, but it remains controversial.

Dr. Rick Hudson, who consults to Pharmacare, says that since 1996, $138 million has been saved in spending on the 5 classes of drugs involved. He adds that administrative costs have not increased during that period. However, Vancouver physician Bill McArthur, a Fraser Institute consultant, says the program actually costs taxpayers money because the government fails to factor in program costs or the cost of having patients switch from a drug that works to a referenced drug. The end result, he says, is more visits to doctor's offices and ERs.

Classes covered by the program include nonsteroidal anti-inflammatory drugs, angiotensin-converting enzyme inhibitors and calcium-channel blockers. The rationale for reference-based pricing is that older, cheaper drugs in these classes work just as well as more expensive, newer ones (see *CMAJ* 1999;161[3]:255-60; 286-8). Doctors can file a "special-authority request" if they wish to prescribe a newer more expensive drug.

Three independent studies are now under way to evaluate the program's cost-effectiveness and analyse patient outcomes. Notwithstanding these results, Hudson says there is "no question that, nationally, prospective adjudication is going to be the way of the future. It allows a drug plan to define first- and second-line benefits." Technically, BC is the only province with the program, although Hudson says some provinces, including Ontario and Newfoundland, have adopted "similar" ones. Overseas, New Zealand and Australia currently have the program, while Holland, Germany and Britain are considering it.

Dr. Ailve McNestry, who chairs the British Columbia Medical Association's (BCMA) Pharmacy and Therapeutics Committee, says that even though the program's cost-containment goals are admirable, there are other problems. "What concerns me most is the way it was implemented, with very little consultation with physicians, pharmacists and patients — the 3 groups directly involved." Physicians object to the philosophy of reference-based pricing and are frustrated with dealing with the program, she says. The time family doctors have to take for special-authority requests is a major issue.

About 6000 special-authority requests are filed in the province each month, or about 16 to 20 per typical family physician. As for the unpaid time this takes, Hudson says the government expects certain administrative procedures to be included in a doctor's professional work, and that 99% of the requests are approved. However, McNestry says some approvals are delayed for weeks. Besides, she says, "if they are approving as many as they say, what's the point?"

McNestry thinks there has to be a better way. "I just can't believe that this system is a good way to do it. The BCMA and the pharmacists' association would very much like to be involved in a discussion as to how this could be streamlined." — *Heather Kent*, Vancouver

Companies in NS get heart smart

Dr. Lydia Makrides wants her research to have an impact on both the physical health of employees and the financial health of their employers, and that is why Project Impact is designed to assess both outcomes.

"We are trying to come up with a comprehensive study that looks at clinical effectiveness and also very real issues for employers like productivity and morale," says Makrides, director of the Atlantic Health and Wellness Institute in Halifax. The project will also assess return on investment.

More than 3000 employees from companies such as Nova Scotia Power, the Nova Scotia Liquor Commission and the Halifax Regional Municipality are now lining up to have their blood pressure checked, their body-mass index recorded, their cholesterol measured and their risk factors for heart disease identified. Those with at least 2 risk factors that can be modified through lifestyle changes will become part of a control group or a treatment group that participates in a 12-week health-and-wellness program. "These are the programs that are needed now," notes Makrides. "We need to combat chronic disease by exercising, eating healthy and reducing body fat. The answer is to get health and wellness programs right into those places where people work."

Project Impact, which will cost approximately $750 000 to implement — funding is provided by a 3-year grant from an insurance company and drug company — is one of the first in the country to assess the effect of health and wellness intervention on employees' health, their quality of life and their overall satisfaction, as well as the cost/benefit to employers.

Although it is too early to report results, pre-screening data indicate that the percentage of people in Nova Scotia with risk factors is similar to the proportion found in other heart health studies, with one notable exception: the proportion of obese people is much higher. "Upwards of 60% of the population here is obese," says Makrides. "The national average is 35%." — *Donalee Moulton*, Halifax

On the Net

An atlas of the brain, online

Although hype surrounding the Net's medical education and research possibilities has been with us for years, the reality is finally catching up with the hyperbole. A prime example is offered by The Whole Brain Atlas (**www.med.harvard.edu/AANLIB/**), a site created by Dr. Keith Johnson of Harvard University and Alex Becker of the Massachusetts Institute of Technology. It allows users to delve into the brain and observe the diseases that attack it.

Using datasets from real patients, users can observe the pathology resulting in transcortical aphasia, see what advanced Alzheimer's disease actually does to the brain's anatomy and function, and check how normal aging affects the brain. Occasionally, data are gathered over time to see how the brain changes, either by itself or in response to pharmaceutical or surgical treatment.

The Whole Brain Atlas includes MRI, CT and nuclear medicine images of 30 clinical cases, with more than 13 000 images available. The focus is on the pathoanatomy of several leading central nervous system diseases such as stroke and Huntington's disease, but diseases such as AIDS and multiple sclerosis are also discussed.

The system offers multiple ways to view each case. There is a standard "point-and-click" Web interface that lets users move through various modalities. For those with Java-ready browsers (this includes all newer versions of Netscape and Explorer), there is an interactive system. And for those who hate the slow speed of the Web, there is a direct download feature.

In a broader but less-detailed offering, the US National Library of Medicine has created a tool called the Visible Human Project (**www.npac.syr.edu/projects/vishuman/**) — a set of digitized images of the human body available online. Here the datasets include digitized anatomical photographs as well as MRI and CT scans. A Java-ready browser is needed to use the images.

The aim of both projects is mainly educational, but they point to a future in which research may also be conducted using these types of cyber services. — *Michael OReilly*, mike@oreilly.net

BC's PharmaNet system proving convenient

Most BC physicians think the 4-year-old PharmaNet system is a useful treatment tool, according to a recent evaluation by doctors. The evaluation, conducted by the government-run program, found that 45% of respondents rated the program with scores of from 8 to 10 using a 1-to-10 scale. PharmaNet, which is available in every pharmacy and hospital in the province, provides patient drug profiles and claims processing at pharmacies and in hospital emergency departments.

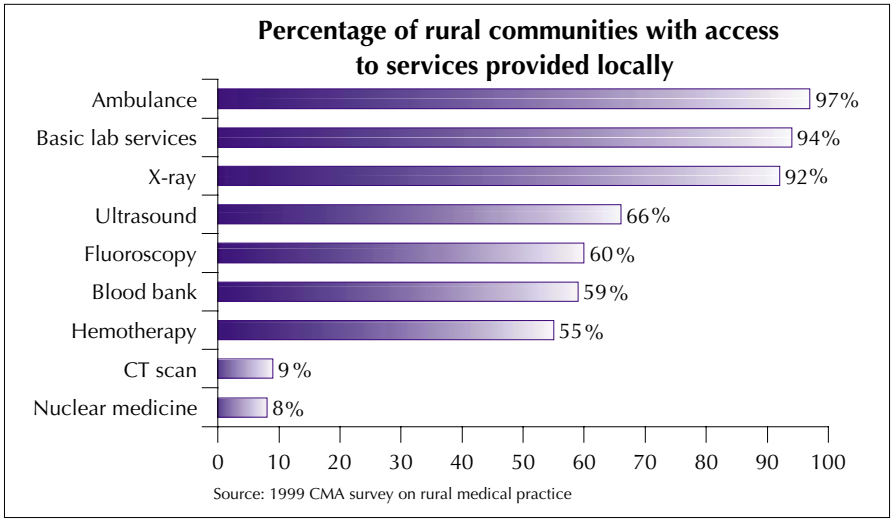
The evaluation also revealed that 20% of all drug profiles obtained through the service affected treatment decisions. According to Paul Tier, director of HealthNet BC, other benefits include the accuracy of the drug profiles (when compared with a patient's memory), the elimination of language barriers and the time saved in retrieving drug information. The system provides "complete, accurate, unbiased information in a minute or less," says Tier. "A lot of initial fears about administrative overhead have turned out to be an administrative saving."

PharmaNet was also lauded as a successful example of telecommunication service delivery during a Vancouver seminar on telemedicine last fall. When a prescription is about to be filled, the pharmacist can access the patient's drug profile. The program will check for potential drug interactions or any history of refilling prescriptions too soon or too late, and will automatically process claims for costs that can be reimbursed. "Pharmacists are warned right there if there is anything on which they should be taking action," says Tier. — *Heather Kent*, Vancouver

Pulse

Availability of services in rural areas

Just 55% of rural physicians surveyed by the CMA in 1999 said their communities could provide cesarean sections if needed. (For the purposes of this study, rural physicians were defined as doctors living in communities with 10 000 or fewer residents.) Respondents reported that normal deliveries were handled in 70% of rural areas, but only 47% could provide epidural analgesia for labour. Tonsillectomies were done in 51% of communities, while hysterectomies could be performed in less than half (49%). Of the choices given in the survey, fracture management was the most common service handled locally, with 83% of rural physicians reporting that the service was available in their communities through family physicians or specialists.



Almost all physicians (97%) reported that they had access to ambulance services, and the vast majority had basic laboratory (94%) and x-ray (92%) services within the community. More than half (55%) could provide chemotherapy, but only 17% had dialysis services available locally.

While many communities did not have specialists living within their boundaries, many had access to regular visits from specialists. The majority of respondents (60%) reported having either a permanent or visiting radiologist. The proportion was slightly less for general surgeons (57%), internists (53%) and psychiatrists (51%), and substantially less for obstetricians/gynecologists (39%) and anesthetists (32%). — *Lynda Buske*, Chief, Physician Resources Information Planning, CMA (**buskel@cma.ca**).

Improperly sterilized endoscopes cause concern in Halifax

Everything looked fine on the surface, but closer examination revealed that endoscopes being used at the Queen Elizabeth II (QE II) Health Sciences Centre in Halifax were not being sterilized properly. As a result, 277 patients who were tested over a 2-week period in December have been informed that there is a chance they may have been infected with HIV or contracted an infectious disease such as hepatitis C. That chance is slim, however — it is literally one in a million, the same odds normally associated with the procedure.

The culprit in this case was a filter in the machine used to disinfect the equipment. It had not been properly fitted and the machine was not able to sterilize the endoscopes completely. The problem was detected because of the hospital's ongoing quality assurance program, which calls for scopes and other equipment to be tested every few weeks. In December the scopes were found to contain bacteria commonly found in the stomach. Tests for viruses were not conducted because they are too fragile to exist outside the body for anything but a brief time. The hospital responded by closing down the the GI clinic temporarily; other sites at the QE II were also examined carefully.

The hospital sent a letter to all patients examined with an endoscope from Dec. 10 to Dec. 23. They were offered tests to detect HIV and hepatitis C, with most patients opting to receive them. "We did have a problem," says Bob Smith, president and CEO of the hospital. "We will from time to time have things that occur that we need to address publicly."

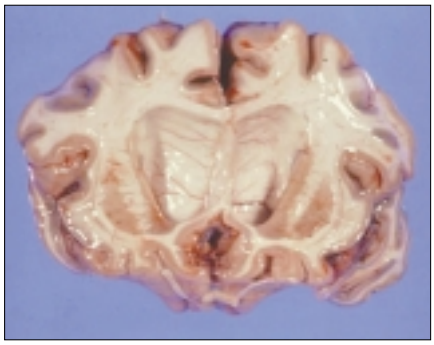
But this public acknowledgement of mistakes, he adds, "is a different way of doing business in the health care system. It is recognition that the goalposts have changed in terms of what our responsibility is to the public. It's a significant ethical and moral shift and an improvement for the QE II." — *Donalee Moulton*, Halifax

Research Update

Something in the way they move clue to Huntington's

American researchers believe they have identified both the mechanism that is associated with movement problems in Huntington's disease (HD) and the part of the brain that causes them. They have also discovered that subtle jerkiness in movements may appear in patients with HD long before other clinical symptoms are evident (*Nature* 2000;403:495-6).

"This study identifies a change in motor coordination long before we can see it on clinical examination," says Dr. Christopher Ross, professor of psychiatry and neuroscience at Johns Hopkins University. "This can be very useful. We are now trying to develop treatments for Huntington's disease. The problem is, how do you study a drug in the absence of any markers for the disease? This, we hope, will serve as a marker."



Kevin Roth and Robert Schmidt, Washington University, St. Louis, Mo.

Brain section from a patient with Huntington's disease.

The researchers found that HD involves a dysfunction in the way the brain monitors movement, specifically in the way it corrects small errors in movement. Researchers examined 11 asymptomatic patients who were known carriers of the HD gene, 16 others with symptomatic HD, and 3 subjects who did not have the HD gene but whose parents have the disease, as well as 12 healthy controls. (A second, similar study included 6 control subjects with cerebellar injuries.) Researchers asked the subjects to reach quickly for targets while grasping a robotic arm. The arm continuously measured the movements for jerkiness and smoothness and the ability to stay on target, called "aiming."

While initial aiming was not dramatically disturbed in patients with HD, all of these individuals and several of the asymptomatic patients displayed unusual jerkiness as the movements progressed. These results suggest that HD movements often begin normally, but become jerky and irregular at some point during their course because of impaired error feedback, says Maurice Smith, a doctoral student in Johns Hopkins' Department of Biomedical Engineering.

The significance of these findings may be relevant to diseases other than Huntington's, adds Dr. Ross. "In terms of genetic disorders [this] is quite important. Huntington's disease has been the prototype for genetic diseases. We need to develop a whole way of approaching genetic diseases and their onset. HD is presenting a model for doing that." — *Donalee Moulton*, Halifax

Vitamin E not a heartfelt protector

Some studies have suggested that vitamin E reduces the risk of coronary disease and atherosclerosis. But after almost 5 years of study, researchers involved with the Heart Outcomes Prevention Evaluation (HOPE) study have concluded that vitamin E has no apparent effect on outcomes for patients at high risk of cardiovascular disease (*N Engl J Med* 2000;342:154-60).

"What this really means is that we should really not be prescribing vitamin E for the prevention of heart disease — at least, not yet. Vitamin E has not had a protective effect, at least over 4 and a half years," says lead investigator Dr. Salim Yusuf, professor of medicine and director of cardiology at McMaster University in Hamilton, Ont.

More than 9500 men and women, who were all 55 years of age or older and at high risk for cardiovascular events, were randomly assigned to receive either 400 IU of vitamin E a day or a placebo. A total of 772 patients (16.2%) assigned to the treatment group experienced a primary outcome event, compared with 739 patients (15.5%) in the control group. As well, there were no significant differences in the numbers of deaths as a result of cardiovascular disease (342 in the vitamin E group versus 328 in the control group), myocardial infarction (532 versus 524), or stroke (209 versus 180). The researchers also found no significant differences in the incidence of secondary cardiovascular outcomes or in death from any cause. They also found no serious adverse effects of vitamin E.

"We found that [vitamin E] is safe. That doesn't mean we should use it. There is a cost to vitamins. Patients' money would be better spent elsewhere," says Yusuf, who recommends that physicians advise their patients to stick with the tried and true, such as stopping smoking and exercising regularly.

The vitamin E component of the HOPE study has now been extended for another 3 years. In addition to investigating the association with heart disease, the researchers are also looking to see if there is a link between vitamin E and the prevention of cancer. "This is a really promising area," notes Yusuf. "Studies suggest positive results." — *Donalee Moulton*, Halifax

Safe system developed for neural transplantation

Treating Parkinson's disease through fetal cell transplantation has been investigated by neurosurgeons for the past 2 decades. Despite promising results, however, trauma from the procedure and an inability to maximize the number of cells deposited have prevented the procedure from becoming routine. Now a Halifax neurosurgeon has invented a simple, reliable and safe system for performing neural transplantation in the brain, which may overcome these obstacles (*J Neurosurg* 2000;92:493-9).

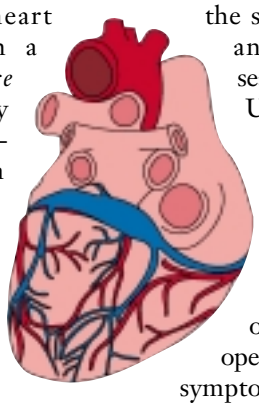
"Twenty-four hours after patients were operated on using the new system, there was no evidence of hemorrhage or tissue damage, which are potential side effects associated with neural transplantation," says Dr. Ivar Mendez, head of the Division of Neurosurgery at the Queen Elizabeth II Health Sciences Centre. The new system, which was developed in Nova Scotia with the help of the Biomedical Engineering Departments at the QE II Hospital and the Izaak Walton Killam–Grace Health Centre, increases the number of graft deposits of healthy cells that can be made with each injection, while decreasing trauma related to the procedure. The system consists of a unique piece of equipment called a "transplantation cannula" and a microinjector device. The entire system fits on a Hamilton syringe.

The microinjector system was initially tested in the laboratory with positive results. Now it has been used on 8 patients with Parkinson's disease, who underwent a total of 16 transplantations involving 64 trajectories at the QE II.

Not only patients with Parkinson's disease can benefit from the new system, says Dr. Mendez. "This device has the potential to be useful in cell therapy delivery for other neurological conditions." — *Donalee Moulton*, Halifax

Stunning research pinpoints a cause of sudden heart failure

Troponin I (TnI), a small protein that helps the heart muscle to contract, has been found to trigger cardiac stunning, a form of heart failure that occurs after patients undergo open-heart surgery or are placed on a heart–lung machine (*Science* 2000;287:488-91). This study marks the first time that scientists have shown that a problem at molecular level can lead to any type of heart failure.



"What is so remarkable about this study is that it shows this protein — and this protein alone — if it is 'clipped' is sufficient to cause stunning," says coauthor Dr. Jennifer Van Eyk, an assistant professor of physiology at Queen's University, Kingston. "We didn't know that before."

Earlier research had revealed that patients with weakened hearts had a shorter form of TnI than normal. To understand the connection between the shorter, or damaged, TnI and cardiac stunning, researchers in Canada and the US cloned the abnormal genes associated with the protein and injected them into mice. Approximately 20% of these mice then went on to develop the shortened form of TnI. They also developed enlarged hearts, a classic symptom of a heart muscle that has been weakened.

"What we've done is produce, artificially, what normally can happen in the heart muscle when the blood supply gets interrupted," notes Dr. Anne Murphy, a cardiologist at the Johns Hopkins Children's Center and team leader of the research project. "We believe this may have importance for garden variety heart failure. [Patients] may have some of this protein broken down. We don't know that for sure yet, but there are good reasons to suggest this possibility," she adds. — *Donalee Moulton*, Halifax

Briefly . . .

Clotting defects raise risk of venous thrombosis from the Pill

Venous thrombosis develops more often and sooner in women taking oral contraceptives who have inherited clotting defects than in women without these defects, according to a study that identifies a major risk factor for women taking the Pill (*Arch Intern Med* 2000;160:49-52). The study confirms findings from previous studies showing that deep venous thrombosis occurs more often during the first year — and especially the first 6 months — of oral contraceptive use. It also shows that women with inherited clotting defects — protein C deficiency, protein S deficiency, antithrombin deficiency, factor V Leiden mutation or prothrombin 20210 A mutation — have a risk of deep venous thrombosis 11 times higher than other women in their first year on the Pill, and 19 times higher in the first 6 months. While the authors say it is "uncertain" whether women should be screened for genetic clotting disorders before starting oral contraceptives, they recommend taking a careful family history and providing patients with information about the signs and symptoms of venous thrombosis. An occurrence of venous thrombosis in a woman taking oral contraceptives may mean that she has a clotting disorder.

Public Health

Hypertrophic pyloric stenosis caused by erythromycin

Epidemiology

In March 1999 pediatric surgeons in Knoxville, Tenn., were startled by an increase in the number of cases of infantile hypertrophic pyloric stenosis (IHPS).[1] Seven cases were discovered within 2 weeks, all involving infants born at the same hospital. An investigation by public health authorities revealed that pertussis had been diagnosed in 6 neonates at the same hospital about a month earlier. On Feb. 25, in response to that epidemic, physicians had prescribed erythromycin as postexposure prophylaxis for the 166 infants born at the hospital during the preceding 3 weeks (Feb. 1–24, 1999). None of the infants treated with erythromycin prophylaxis developed pertussis.

An investigation of all cases of IHPS requiring surgical treatment in the previous 2 years revealed 40 cases. This demonstrated that the rate of IHPS per 1000 live births in February 1999 was nearly 7 times higher than during 1997/98 (relative risk 6.8, 95% confidence interval 3.0–15.7). No further cases of IHPS were detected in infants born in March through May in the region.

The clinical features of the 7 patients were similar to those of the earlier patients, although these infants were slightly younger at the onset of illness (mean age of onset 25.6 days v. 35.4 days for the historical cases). Among infants born in January and February 1999, erythromycin was associated with IHPS (relative risk 1.7 to infinity).[2]

The cause of IHPS is unknown, although a family history is sometimes apparent. The condition is 5 times more common in boys and occurs 1–3 times per 1000 live births.[3] An association between IHPS and erythromycin had been reported previously but was discounted.[4]

Clinical management

IHPS is a hypertrophy of the pyloric muscle that usually results in nonbilious projectile vomiting. The illness usually begins at about 3 weeks of age. Ultrasound will usually reveal a thickened pylorus. Measures of the length and thickness confirm the diagnosis. Treatment is surgical pyloromyotomy.

Pertussis is caused by *Bordetella pertussis*. The disease affects people of all ages, but in infants and the very young it causes a severe respiratory illness with excessive coughing that is often followed by a prolonged inspiration, resulting in a peculiar "whoop" sound. In adults the disease presents as an upper respiratory illness accompanied by a pronounced cough. The disease is highly contagious. About half of all cases occur in adults, and it is believed that adults are responsible for infecting most children who contract the disease. In Knoxville a hospital employee who had pertussis most likely caused the infection in the 6 neonates.

Prevention

Pertussis in neonates has a very high case-fatality rate;[5] prevention is therefore important. Erythromycin is recommended for prophylaxis; none of the 166 infants exposed to pertussis in Knoxville who subsequently received erythromycin developed pertussis. As well, there is no evidence that there is a safe and effective alternative to erythromycin for the prevention of pertussis.

However, the report of this epidemic provides convincing evidence that the use of erythromycin during early infancy should be re-evaluated. All patients involved in this epidemic were between 2 and 17 days of age (median 14 days, mean 12.2 days) when they began receiving the drug.

Because of this epidemic, it will be important to re-examine recommendations for pertussis prophylaxis in neonates. The use of erythromycin for other reasons during this period should also be avoided if possible.

Pertussis vaccine should be administered in 5 consecutive doses beginning at 2 months of age. Cases of IHPS following the use of oral erythromycin can be reported to the Adverse Drug Reaction Reporting Unit, Health Canada, (fax 613-957-0335). The form is available at **www.hc-sc.gc.ca/hpb-dgps/therapeut/zfiles/english/forms/adverse_e.pdf**. — *John Hoey*, CMAJ

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He said, she said: demystifying the dreaded disciplinary hearing

Barbara Sibbald

Disciplinary hearings are every physician's nightmare, and this helps explain why even a mock hearing can send shivers down a spine or two. A mock hearing held this winter, part of a medicolegal course for surgeons sponsored by the University of Toronto and McCarthy Tétrault, was designed to give surgeons an idea of the processes involved in these proceedings. Certainly it seemed real enough: there was a defendant, plaintiff, 2 witnesses and a bevy of lawyers, with 3 staff from the College of Physicians and Surgeons of Ontario assuming the panel's role. (The panel, which renders decisions, usually comprises 3 practising physicians and 2 members of the public.)

The case was chosen to illustrate the problems of communication and documentation that are often the underlying reasons behind disciplinary cases. It involved Hannah Spence, a 33-year-old woman who claimed she had been sexually abused on 2 occasions by her orthopedic surgeon, Dr. Felix Wembley. Specifically, she alleged that Wembley had performed 2 unnecessary and inappropriate breast examinations. He pleaded not guilty.

Spence had been referred to Wembley by her family physician because of bone spurs, and after an initial consultation an operation was scheduled for her right foot. On Oct. 16, 1997, Wembley performed a pre-operation check, which included a breast examination, at his hospital office; he remarked that Spence was "in good shape." Spence said she told Wembley she didn't need an exam because her FP had recently performed one. And she said this exam wasn't like previous ones.

Wembley repeatedly stated that breast exams are a standard part of his pre-operation routine — they are used to ensure that patients don't have pre-existing medical conditions that might preclude elective surgery. However, in an earlier statement to the college he said he only carried out a breast exam if the patient has some discomfort or a complaint. At the hearing, Wembley said this previous statement "doesn't make sense to me." He had noted the breast exam in Spence's chart by writing "no adenopathy."

Wembley initially agreed that he had said Spence was in "good shape" but said it was only small talk to put the patient at ease. Under cross-examination, he denied making the remark. Spence alleged Wembley performed a second breast exam during a postoperative examination Dec. 10. Wembley denied doing this.

In March, Spence saw Wembley to discuss an operation for her left foot, but because she didn't feel "comfortable" with the physician she didn't visit him again. In June 1998 she wrote a letter to the college complaining about a visit during which she had felt "humiliated and vulnerable." Asked why she didn't initially refer to both incidents, Spence agreed she should have been more specific. Although she was "confused and embarrassed" after the first breast exam, it wasn't until the second incident that the "light went off for me. It didn't feel like a regular breast exam."

Two expert witnesses were called. Dr. Ray Lake, an expert in breast examinations, didn't understand why a breast exam was necessary and questioned Wembley's technique. He also advised that physicians should be aware of patients' concerns and explain what they are doing — Wembley had failed to do this.

Wembley's lawyer called expert witness Dr. Terry Axelrod, a Toronto orthopedic surgeon, who said it is the surgeon's responsibility to do a complete general exam pre-operatively, including a breast exam. Under cross-examination he qualified this, saying that a breast exam was not needed for this operation.

This mock hearing lasted only 2 hours, although cases of this type normally run 2 days or more and involve character and other witnesses and more cross-examination; the longest hearing lasted 7 weeks. About a third of Ontario's disciplinary hearings involve sexual-abuse allegations; there were 18 hearings in 1998 and 30 in 1999. Penalties can range from a recorded reprimand to licence revocation.

Before making their decision, the panel members were advised that there had to be clear evidence supporting guilt. Members of the audience were also polled, with 12 of the 18 surgeons finding Wembley not guilty. The panel came to the opposite conclusion by a 2-1 margin.

The college's chief prosecutor, Neil Perrier, said the college intentionally constructed a case with lots of grey areas that emphasized the importance of communication and charting. "If Dr. Wembley had explained why he was doing [the breast examination] none of this would have happened." Michael Barrack, a lawyer at McCarthy Tétrault, offered some tips for doctors defending themselves against a complaint to the college. He said doctors must keep complete charts and communicate openly with patients and family members. If the college does call about a patient's complaint, call the CMPA before responding.

He also warned that physicians should not talk or complain about a case to colleagues, because they might be called to testify.

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UBC med school marks 50th birthday with call for increased enrolment

Heather Kent

Dean John Cairns' outlook is serene as the University of British Columbia's medical school turns 50 this year. This may not seem particularly surprising, given that a golden anniversary is usually a time for positive reflection. However, the past 20 years haven't been particularly kind to his school, which has faced funding cuts and a static number of undergraduate students in a rapidly growing province.

Still, Cairns begins an interview by focusing on the successes of the faculty's researchers and the excellence of the school's graduates. Indeed, UBC medical faculty are world leaders in areas such as genetic and neurodegenerative research, and 25% of the university's spin-off companies originated in the Faculty of Medicine.

It is at the undergraduate level that Cairns is seeking change. The number of students who enter the school each year — at 120, the smallest number in Canada in terms of the population drawn from — has remained unchanged since 1980. At the same time, the undergraduate fees, frozen at $4000 annually for the last 4 years, are the lowest in Canada outside Quebec.

The academic upside is that the students who are selected have the highest MCAT scores among students attending Canadian medical schools, but the downside is that many potentially outstanding students are turned away from careers in medicine. Cairns, who notes that BC's population has increased by 50% in the past 20 years, would like to increase the annual undergraduate intake to 160 or 180 students. "BC has not taken responsibility for educating an appropriate portion of its own physicians," he said. "It never has."

Cairns, a 1968 UBC graduate, said problems don't end at the undergraduate level. "We are unique in having fewer first-year residency positions than the size of our graduating class," he said. This means that BC depends on the rest of Canada and other countries both to train many of its own graduates and to provide many of its practising physicians. Cairns warns that the policy "makes us very vulnerable. It's a short-term policy that ultimately will fail."

He says recruitment of foreign doctors is already becoming more difficult as traditional overseas sources, such as Britain, are retaining more doctors. The province has enough doctors now — on a per capita basis it ranks second only to Quebec — but this situation won't last because of retirements.

Cairns would prefer to see the "enormous amount of money" health boards are spending recruiting doctors spent on increased enrolment at UBC. While the provincial government remains preoccupied with the overall ratio of physicians to population, says Cairns, "we struggle with the development of a provincial vision in which the medical school is seen as integral to the health care system. We haven't yet achieved that [integration]."

He also thinks the school's relatively small undergraduate and postgraduate capacity means that it has to work harder to establish relationships with doctors from other regions. He says this is not the case in Alberta and Ontario, both of which train a much higher proportion of their physicians. "Alberta is very progressive, and Ontario is addressing its problem."

Cairns does think that talks with the BC government are going in the right direction. "It's critically important that real progress be achieved."

The school is also dealing with the increasing role of nurse practitioners and health providers such as midwives. "There are many responsibilities that physicians currently carry out that do not require their training and education and could be assumed by individuals with less training," says Cairns. He thinks nurse practitioners work well in remote parts of the province, where they have "a kind of social attractiveness," and in intensive care units that have a "clear hierarchy of accountability. Problems arise when their expertise is exceeded."

Despite all the challenges, Cairns is optimistic: "The focus of the Canadian public on health care, the absolute requirement for Canada to educate more of its own physicians, the development of a federal vision around health research and the quality of BC life, are very solid reasons for optimism."

UBC photo

Deans past and present include (from left) Dr. William Webber (1977–1990), Dr. Martin Hollenberg (1990–1996), Dr. John Cairns (1996 to present) and Dr. David Bates (1972–1977).

Heather Kent is a Vancouver journalist.

Can the Senate save medicare?

Charlotte Gray

When a Senate committee embarked on an ambitious review of the Canadian health care system in March, observers were quick to suggest that fools rush in where angels fear to tread. Besides, why should anybody listen to recommendations from the Senate's Standing Committee on Social Affairs, Science and Technology? How could a credibility challenged, nonelected body expect to have any impact on one of the most sensitive issues in Canada?

Senator Michael Kirby, who chairs the committee, is used to such cynicism. "Of course we're going to be attacked, particularly because we'll be stepping on toes. But that's the advantage of being in the Senate: you can rise above partisan interests and come to grips with the issues." This was his experience as former chair of the Senate's banking committee, which had a significant influence on the Liberal government's policy.

Kirby hopes the committee will figure out the systematic changes that the health care system needs and how those changes might be implemented. But at the very least, the committee will provide a forum for a rational discussion of policy alternatives. "The subject creates such passion that calm discussion is hard to come by," says Kirby.

The 11-member committee includes Dr. Wilbert Keon, the cardiac surgeon, and Lucie Pépin, a former nurse. Its deputy chair is Conservative Senator Marjory LeBreton, a longtime Brian Mulroney loyalist. Together, they will look at 5 particular aspects of the health care system: the principles on which it is based, its history, current pressures on it, health care systems in other countries, and the role of the federal government.

Kirby acknowledges that in the initial stages there will be a fair amount of overlap between his committee and the National Forum on Health, which operated from 1994 to 1997. He admits that he "doesn't know a lot yet about what those guys did."

However, his committee won't address one of the forum's key issues — the amount of money required to keep today's system going. "That's the short-term issue," Kirby insists. Instead, it will deal with the long-term challenge of discussing the changes required to ensure that medicare still meets Canadians' expectations.

So far, conversations with federal and provincial authorities have convinced Kirby that nearly everybody recognizes that change is essential. "Only a handful of people truly believe that you can keep the current system going simply by more efficient spending."

He says that most Canadians also believe that there is a continuing leadership role for the federal government, even though this is an area where Ottawa does not have jurisdiction and is under fire for cutting its own contributions. "The exercise of leadership doesn't always depend on money. "There are other ways to be a leader."

Maybe, he muses, Canada needs a surgeon-general, based on the US model, who could give an annual statement on the health of the nation.

Kirby believes passionately in the 5 principles of the Canada Health Act and singles out universality and accessibility as crucial to the present and future system. "My expectation is that we can maintain these. Is this an achievable goal? Absolutely." He is well aware, however, that when these 2 words are used, a great deal depends on the definition of "medically necessary."

The senator is also concerned that many Canadians think there are only 2 types of health care — the Canadian and American models. He plans to study European systems, and the committee will have a budget of "around $500 000" to allow senators to undertake research trips.

They are already getting some expert help from Dr. Raisa Deber, a professor of health administration at the University of Toronto, and Dr. Robert McMurtry, the former dean of medicine and dentistry at the University of Western Ontario. Sharon Sholzberg-Gray, president of the Canadian Healthcare Association, and Dr. Mary Ellen Jeans, director of the Canadian Nurses Association — the cochairs of HEAL, the Health Action coalition — are also providing support.

The Senate committee has the potential to be a useful sounding board, but it also runs the risk of being overtaken by events. The same week that the Senate Committee began its hearings, Ontario premier Mike Harris slammed Ottawa for "starving" medicare in the latest budget and Alberta premier Ralph Klein introduced legislation to extend the operation of private clinics. Meanwhile, Saskatchewan Premier Roy Romanow called for a royal commission to look at health care.

What changes will these and other premiers have made within their provincial health care systems by the time the Senate committee produces its recommendations in December 2002? And will anyone still care what the recommendations are?

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