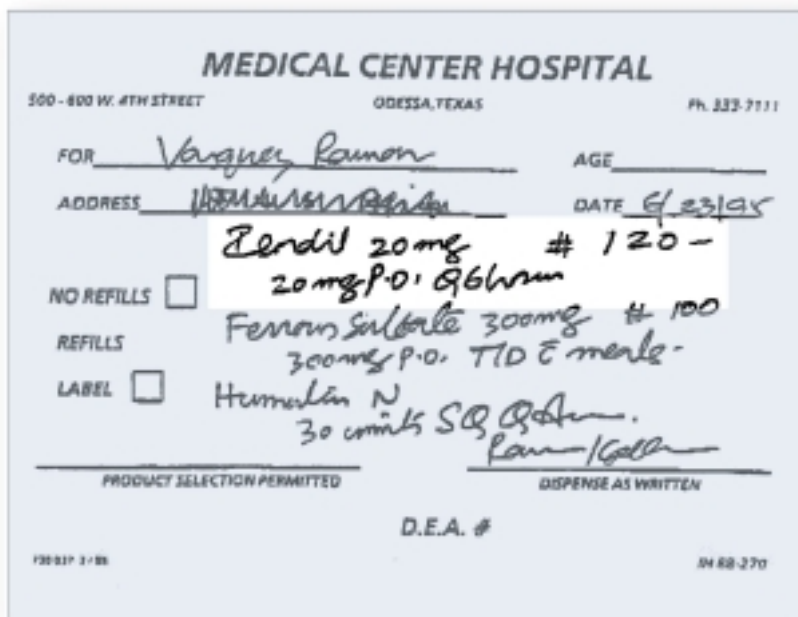


## Poor penmanship costs MD \$225 000

A US jury has found that a Texas doctor's poor penmanship was partly to blame for the death of a 42-year-old man. *American Medical News* (Nov. 22/29, 1999, p. 1) reports that the verdict is probably the first in the US in which a physician was found negligent solely on the basis of poor handwriting.

Cardiologist Ramachandra Kolluru of Odessa, Texas, allegedly wrote a prescription that called for Ramon Vasquez to take 20 mg of Isordil (isosorbide) every 6 hours. However, the illegibility of the prescription caused a pharmacist to dispense the same dosage of Plendil (felodipine), although the maximum daily dose was only 10 mg. (In Canada the maximum recommended daily dose is 20 mg.) Vasquez had a heart attack a day after taking the Plendil and died several days later. Jurors attributed his death to the drug and found the physician and pharmacy equally liable for the fatal error. Each was ordered to pay \$225 000.

"This is a wake-up call," said Max



American Medical News

**A jury decided that this prescription caused a Texas man's death.**

Wright, the attorney for Kolluru. "[It is] another reminder that doctors . . . need to ensure that they have commu-

nicated what they meant to communicate to their patients." — *Caryn Hirshborn, CMAJ*

## It's a seller's market for Quebec's residents

At the Fédération des médecins résidents du Québec (FMRQ) fourth annual career day this fall, the province's young doctors learned that a buyer's market has turned into a seller's market overnight. The event was originally conceived as a tool for graduating residents who wanted to stay in Quebec but were having difficulty finding positions due to health cutbacks. Now the tables have turned.

The FMRQ reports that there are shortages of doctors throughout the province, and many of the positions available to graduating residents are going to remain vacant. Shortages are particularly severe in radiology, psychiatry, family medicine, obstetrics and anaesthesia, especially in rural areas.

This year representatives from at

least 100 hospitals, community health centres (CLSCs) and long-term-care facilities came to the fair with hopes of hiring some of the 500 residents who will graduate in the province this June. Quebec has 400 medical institutions, including 150 hospitals and 150 CLSCs. Dr. Jean-François Cailhier, the FMRQ president, says the number and location of available positions is always in flux due to budgetary reallocations and the varying number of retiring doctors. "Over the last few years restrictions in health care spending have had an impact on the career choices of young doctors in terms of where and how they will practise in Quebec. Nonetheless, we know that the majority of them want to stay in

the province. This job fair allows graduating residents to get to know the real needs of various regions."

The career day also gives residents a chance to meet the people in a position to hire them. In the process, many are able to get a taste of the working conditions that await them. Dr. Alexandra Tcheremenska-Greenhill, a family medicine resident who attended this fall's event, found the huge array of opportunities wonderful for physicians but depressing overall. "It was a great job fair, but some of the hospitals and CLSCs were pleading 'please come work for us — we're dying.' We were told that the staff would be on their knees, begging us to come and work." — *Susan Pinker, Montreal*

## Auditor general slams feds' response to *Salmonella* outbreak

The incoherent response to a recent disease outbreak (see editorial on page 5) means that a formal framework detailing the roles and responsibilities of the Laboratory Centre for Disease Control (LCDC) is urgently needed, Canada's auditor general says. In a report tabled Nov. 30 ([www.oag-bvg.gc](http://www.oag-bvg.gc)), the federal watchdog detailed the facts behind a nationwide outbreak of foodborne disease that eventually involved at least 800 mostly young Canadians. All had eaten a snack containing cheese and developed *Salmonella enteritidis*; at least 60 people were hospitalized. The report said the LCDC was not prepared to manage disease outbreaks and had no established procedures for responding to foodborne disease outbreaks and no formal protocols for working with other bodies when outbreaks occur.

The problem was first noticed in Ontario in early March of 1998, and the provincial Ministry of Health was criticized for failing to inform the LCDC as soon as it had information. However, even when Newfoundland's chief medical officer informed the LCDC of the possible problem on Mar. 25, "LCDC officials were not sure who in their organization was responsible. No one in LCDC was formally tasked with managing these outbreaks." Eventually, an LCDC epidemiologist took responsibility for coordinating the investigation "on her own initiative."

Although the food causing the problem had been identified by Mar. 31, 1998 — the problem was traced to the water supply and other problems at a cheese factory — packages of the

snack were still being found on store shelves a month later.

The auditor general concluded that many people could have avoided the illness had federal and provincial officials acted "more swiftly and cooperatively." It responded with 5 recommendations, the main ones being a call for Health Canada to create a chain of command for determining who is responsible for responding to foodborne diseases, and for Health Canada and the Canadian Food Inspection Agency to work more collaboratively with other bodies when problems arise. Health Canada is also supposed to ensure "a more timely exchange of information" between Ottawa and the provinces when problems arise. The report indicated that "corrective action" is already being taken. — *Patrick Sullivan, CMAJ*

## NEJM editor reflects on his firing

If the editors of 2 of the world's most prestigious medical journals can be fired following disputes with their publishers, where does that leave the other ones? This crucial question was explored by Dr. Jerome Kassirer, recently fired editor of the *New England Journal of Medi-*

*cine*, during the *CMAJ's* annual Editorial Board meeting this fall. Kassirer, the *NEJM* editor for 8 years, lost his job in a dispute with his publisher, the Massachusetts Medical Society. It involved the society's plan to "brand" products that "had nothing to do with" the *NEJM* name. They also wanted to move the journal offices from the Countway Library at Harvard University, which Kassirer considers an ideal location, to the society's new offices. He believes firmly that society and journal offices should remain separate.

Kassirer acknowledged that money can dominate a publisher's relationship with a journal, but he argued that medical organizations that own journals have much to gain — besides profits — from the journals they publish. "Medical societies have an important responsibility to be shepherds of a journal that is focused not on the [medical] society so much as on general physicians and the public."

Following the meeting, Kassirer accepted an invitation to serve on *CMAJ's* Editorial Board. — *Barbara Sibbald, CMAJ*

## Open med-school doors wider: report

CMA President Hugh Scully's August 1999 call for more medical students has received official endorsement from the Canadian Medical Forum, which represents the country's main medical bodies. The forum says first-year enrolment should increase by more than 400 students a year — to 2000 students — beginning this year; it currently stands at 1577 students. "If we delay this decision," the forum warned in a 24-page report released Nov. 22, "Canada will sacrifice the principle of self-sufficiency in physician workforce supply and will [continue] to deny outstanding Canadian students positions in medical schools." The report said Canada needs another 540 to 600 physicians a year just to cope with a rising population. The report was presented to Canada's health ministers, who responded that the production of more doctors is only one step to be considered.



Barbara Sibbald

**Dr. Jerome Kassirer: shepherd your journals well**

## Australia eyeing Canada's rural MDs

Australia, which used to rely on the United Kingdom to help meet its need for rural physicians, is now gazing toward Canada. And that may be bad news for small Canadian communities facing their own physician shortages.

"As our dollar weakened against the English pound and the general conditions of UK GPs improved, it has become less attractive for English graduates to work here," explained Dr. Felicity Jefferies, a recruiter with the Western Australian Centre for Remote and Rural Medicine. "We thought it would be worth while to pursue Canadian family physicians, especially those working in rural areas."

Some Canadian doctors appear interested. Jefferies said a recent advertisement in *CMAJ* (Dec. 14, p. 1617) attracted about 20 enquiries. "The majority were from doctors with young families looking for a working holiday, but I had a few from older doctors whose families have grown up and who are anxious to try something new."

Jefferies is hoping to fill locum positions lasting 3 months to 2 years, although permanent assignments can be arranged. "The aim is to give our rural doctors a chance for a holiday," she said.

Western Australia, which has a population of 1.8 million, has 380 rural GPs and advertises 50 vacancies each quarter. Australia produces 400 new GPs a year, including 42 in Western Australia; Canada produces about 800 new FPs annually.

Jefferies tries to attract Canadians by offering free airfare to physicians coming for at least 6 months. She also ensures that their immigration and medical board requirements are met. Doctors accepting the offer are paid at least Aus\$2250 (roughly Cdn\$2150) a week, along with a free house and car.

Did Jefferies learn anything during a recent recruiting trip to Canada? "I realized that you have exactly the same problem that we do in recruiting rural doctors," she said. — *Patrick Sullivan, CMAJ*

## Banting featured on millennium stamp

Sir Frederick Banting, one of the codiscoverers of insulin, has been honoured by a new Canada Post Millennium Collection stamp. In 1923 Banting shared a Nobel Prize for physiology and medicine with Dr. J.J.R. Macleod because of the discovery. The Millennium Collection contains 68 stamps that focus on Canada's humanitarian and other efforts.



## Detecting hep C for \$1.5 million a case

A new test that will detect about 13 additional cases of hepatitis C in blood donations annually at a cost of \$20 million is now in place in Canada. "We'd rather be criticized for being overly cautious than not cautious enough," explains Canadian Blood Services (CBS) spokesperson Ian Mumford. The high cost was criticized in *CMAJ* even before the program was launched (1999;161[2]:129).

Nucleic acid amplification testing (NAT) detects low levels of viral genetic material before the body begins producing antibodies. This means that it can detect hepatitis C in blood given by someone who became infected just 14 to 28 days earlier. The current test detects the virus about 70 days after a person has been infected (*CMAJ* 1999;160[5]:699-700).

This may result in an additional 4 to 6 cases of infection being detected each year in Canada. Because each blood donation can produce 2 or more components for transfusion, NAT has the potential to prevent up to 13 cases of hepatitis C infection each year. NAT was implemented Oct. 26 at regional laboratories in Vancouver, Toronto, Ottawa and Halifax.

With the new test, says Mumford, Canada will continue to uphold international standards; this is considered vital, because Canada imports 60% of its plasma products from the US, which implemented NAT last summer.

Mumford doesn't know where CBS will draw the line when it comes to the cost benefits of new technologies, but the year-old not-for-profit organization will be examining that question. "We have to ensure that we spend taxpayers' money in an appropriate way, but the public says they want this to be as safe as it can be to avoid what happened in the '80s — \$1.4 billion in compensation, thousands of lives affected and great tragedy."

The Canadian Hemophilia Society agrees. "We feel NAT is a big step forward and shows that the CBS really is a new organization," said Vice-President Mike McCarthy.

The CBS has also introduced leukoreduction, which filters out white cells to reduce the incidence of adverse reactions to transfusions. It costs \$15 million a year and also ensures that the CBS — [www.bloodservices.ca](http://www.bloodservices.ca) — meets international standards. — *Barbara Sibbald, CMAJ*

## On the Net

### Outfitting a medical office online

These days doctors can outfit their offices from the comfort of a computer terminal because medical cyberstores are multiplying to serve the Canadian market for medical equipment. American companies still dominate this area, but a solid list of Canadian sites is now run by Yahoo ([ca.yahoo.com/regional/countries/canada/business\\_and\\_economy/companies/health/medical\\_equipment/](http://ca.yahoo.com/regional/countries/canada/business_and_economy/companies/health/medical_equipment/)).

Blacklock Medical Products ([www.blacklock.com](http://www.blacklock.com)) of Delta, BC, markets medical-grade adhesives and phototherapy equipment, while Canadian Medical Products ([www.canmedprod.com](http://www.canmedprod.com)) in Scarborough, Ont., offers a range of products that includes pain-management stimulator units and complementary accessories such as ultrasound gel.

Crossing the border, you can surf to Hospital Associates ([www.mediquip.net](http://www.mediquip.net)) in Anaheim, California, and order everything from a cast-cutting saw to crutches. Medical EquipNet ([www.solumed.com](http://www.solumed.com)), another online sales site, also lets you sell used equipment.

When it is time to buy office supplies, you can choose between big-name suppliers such as Office Max ([www.officemax.com](http://www.officemax.com)) or Staples ([staples.com](http://staples.com)) and smaller in-

dependent companies like Camcosupplies.com ([www.camcosupplies.com](http://www.camcosupplies.com)).

With all this Web surfing, your computer will be an essential item. The Apple Store ([store.apple.com](http://store.apple.com)) has been selling a complete line of Macintosh computers online for years, as has Dell Computer ([www.dell.com](http://www.dell.com)) and others like IBM ([commerce.www.ibm.com](http://commerce.www.ibm.com)).

Finally, several companies specifically market software for doctors' offices. These include Avio Corp. ([www.avio.com](http://www.avio.com)), which provides advanced information technology for physician practice management, and MedicaLogic ([www.medicallogic.com](http://www.medicallogic.com)), which offers an electronic patient-record system. MedServe Link ([www.medservelink.com](http://www.medservelink.com)) markets its business management software to doctors, while Sunquest Information Systems ([www.sunquest.com](http://www.sunquest.com)) has a software suite aimed at hospitals, laboratories and pharmacies. Pointshare ([www.pointshare.com](http://www.pointshare.com)) develops and manages medical intranet services.

With all these online choices, doctors wanting to outfit a new practice may never have to step outside the door again to go shopping. — *Michael O'Reilly*, [mike@oreilly.net](mailto:mike@oreilly.net)

## Canadians attract \$17 million in xenotransplant funding

Flush with \$17 million in recent funding, a team of xenotransplant researchers from London, Ont., is seeking new ways to modify pig organs genetically for grafting into humans and to induce tolerance in the immune systems of recipients. Few areas of research are as controversial, because many people are concerned about the potential for cross-species transfer of pathogens.

The London Transplant Research Team's 2-pronged approach to the problem of cross-species rejection is rapidly establishing the Southwestern Ontario city as a major centre for xenotransplant research. Earlier this month, the Ontario Government announced \$5.7 million in funding from the Ontario Research and De-

velopment Challenge Fund. This added to previous commitments from the John P. Robarts Research Institute and private-sector partners. The team is a partnership of the London Health Sciences Centre (LHSC), the Robarts Research Institute, the University of Western Ontario and 6 companies.

Xenotransplantation "has the potential to relegate kidney dialysis machines to the museum, where they will collect dust with iron-lung machines," said Dr. William Wall, director of the LHSC's transplant program ([www.lhsc.on.ca/transplant/](http://www.lhsc.on.ca/transplant/)). The London team hopes to attract 15 clinical fellows and 70 graduate students to work on the program. It is also seeking applicants for a new chair

in xenotransplantation. Jim Wilson, Ontario's minister of energy, science and technology, expressed hope that the London project "might even repatriate people who have gone to the US for work."

Dr. Robert Zhong, director of experimental surgery at the UWO and president of the International Society for Experimental Microsurgery, told *CMAJ* that transplants of porcine organs into humans are at least 2 years away in London. He wants to see an 80% survival rate over 6 months in pig-to-baboon trials before further experimentation on humans. London currently holds the record for survival of pig-to-baboon kidney grafts — 40 days. — *Dave Helwig*, London, Ont.



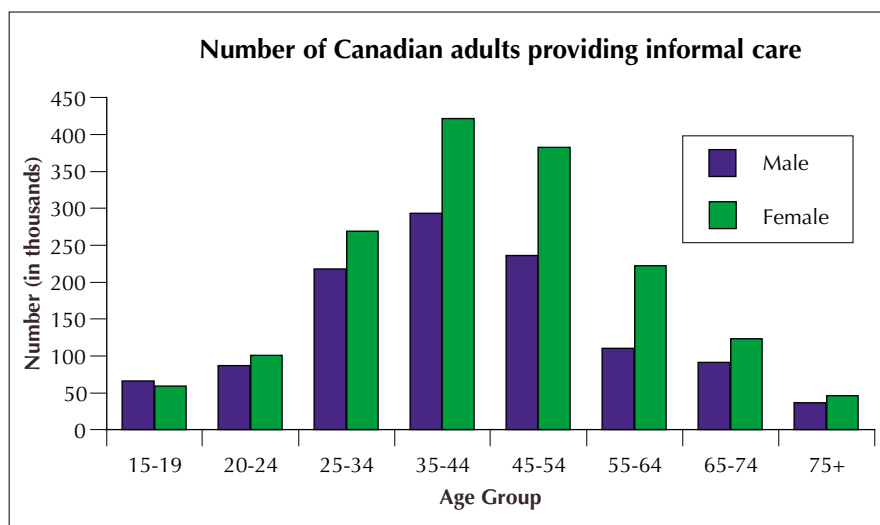
## Pulse

# Caring for sick a strain on families

The Statistics Canada General Social Survey has determined that 2.8 million Canadian adults provided informal care for someone with long-term health or physical limitations in 1996. The need to provide this care has affected the caregivers' lives in a variety of ways.

Nearly half of all informal care providers reported that these efforts restricted their social life, with males and females affected almost equally (44% versus 47%). Similar proportions of males and females (46% versus 42% respectively) reported incurring additional expenses while providing care. However, twice as many women (27%) as men (12%) reported adverse impacts on their own health. Changes in sleep patterns were reported by 31% of females and 26% of males.

The age of the caregiver had an impact on the prevalence of some of the burdens related to providing informal care. More than half of caregivers aged 20–24 (57%) reported restrictions to their social life, compared with only 34% of those aged 65–74.



Only 32% of respondents aged 20–24 reported incurring extra expenses, compared with 54% of those in the 35–44 age group and 50% of those aged 45–54. Caregivers in the 35–44 age range were more likely to report adverse effects on their own health (29%) than those aged 25 to 34 (18%) and 65 to 74 (18%). Nova Scotia and

Ontario residents were most likely to report restricted social activities (53% and 51%), while caregivers in PEI and Saskatchewan were least likely to have experienced such restrictions. Only 14% of caregivers in Nova Scotia reported adverse effects to their own health, compared with 29% of Manitobans. — *Shelley Martin, CMA*

## Pediatric hospitals scrambling in wake of nursing shortage

Although many issues were discussed during the recent annual conference of the Canadian Association of Pediatric Hospitals, nursing recruitment was singled out for special attention. “The message is pretty simple,” said Heather Mass, chief of nursing at the BC Children’s and Women’s Health Centre. “Educate more nurses and stop cutting schools of nursing.”

According to an update provided at the conference, children’s hospitals across the country are already facing a serious nursing shortage. The Hospital for Sick Children in Toronto is responding by trying to become a “magnet organization” that has low staff

turnover and competes successfully with other local hospitals for nurses. Dr. Jean Reeder, the chief of nursing at Sick Kids, says magnet organizations promote career development, give nurses control over their areas of practice and encourage a collaborative atmosphere. At Sick Kids, where the average age of nurses is 33 — the North American average is 45 — there are 1300 registered nurses on the payroll, including 23 nurse practitioners. Reeder has spearheaded ongoing recruitment activities with a Web site and a campaign aimed at bringing Canadian nurses home from the US. Its slogan? “Come back and care for Canada’s kids.”

If recruiting is a challenge for Sick Kids, a pediatric mecca, it is a nightmare for other centres. In Quebec, 40% of the 1999 graduating class from McGill University left the province because salary rates were not competitive. In Newfoundland, the shortage was worsened by a switch to longer baccalaureate training, which meant that there was no graduating class from which to recruit. In Vancouver, the shortage of nurses has led to the cancellation of surgery. As a grim Isobel Boyle, nursing director for the Child Health Program at the Winnipeg Health Authority, told her colleagues: “See you at the job fairs.” — *Charlotte Gray, Ottawa*

## Research Update

### A shot in the arm for shock to the heart

Physicians at Vancouver's St. Paul's Hospital played a major role in an international study of heart attack patients with cardiogenic shock that shows that immediate angioplasty or bypass surgery improves the long-term chances of survival (*N Engl J Med* 1999;341[9]:625-34). The study was conducted in 30 centres in Europe, South America, New Zealand and North America, with the largest number of patients at St. Paul's Hospital.

A total of 302 patients were selected for the project from several thousand patients who were screened. The subjects

all suffered cardiogenic shock within 24 hours of an infarction. Shock occurs as a complication in about 5% of all myocardial infarctions. Other criteria for inclusion were a systolic blood pressure of less than 90 mm Hg, and low cardiac output. There were no age or sex restrictions.

Patients were randomly divided into 2 groups; the experimental group received immediate angioplasty or bypass surgery within 48 hours of cardiac arrest, while the control group was treated with conventional medical therapy. Standard treatment has been to stabilize patients before carrying out

the high-risk procedures. The patients who underwent angioplasty or surgery had a survival rate up to 20% higher after 6 months than the patients given medical therapy. Of the patients in the angioplasty/surgery group, those under age 75 did significantly better than those who were older.

"Overall, the mortality rate is quite dramatically reduced," says Dr. John Webb, a cardiologist and one of the study's lead authors. "But the benefit seems largely restricted to people under the age of 75. If you treat 1000 patients, you have 200 more people alive than if you hadn't treated those patients. And after one year, those numbers become even more dramatic."

A shorter hospital stay is another benefit of the surgical treatment option. The patients have been followed up for a year, and further follow-up is planned, depending on funding.

As a result of the study's findings, the American Heart Association and the American College of Cardiology have revised their guidelines for the treatment of heart attacks. In younger patients, "the standard of care is now early revascularization for shock," says Webb. The problem now is how to accommodate demand in terms of transportation, emergency department access and bed availability, he adds. — Heather Kent, Vancouver



### An ACE inhibitor in the hole for cardiovascular prevention

A large international study has found that ramipril, an angiotensin-converting-enzyme (ACE) inhibiting drug, cuts the risk of cardiovascular-related death, heart attack, stroke, angioplasty/bypass surgery, admission to hospital, and complications of diabetes in patients with risk factors for cardiovascular disease. The 5-year study, involving 267 centres in 20 countries,

was run out of McMaster University in Hamilton, Ont. The results were reported by Dr. Salim Yusuf, a professor of medicine at McMaster and the principal investigator, on behalf of all of the study investigators, and have been released on the Web site of the *New England Journal of Medicine* ([www.nejm.org](http://www.nejm.org)) before publication in the journal.

The Heart Outcomes Prevention Evaluation (HOPE) study involved high-risk patients — those aged 55 years and older with evidence of vascular disease or diabetes plus one other risk factor, such as high blood pressure, high "bad" cholesterol levels, low "good" cholesterol levels, or smoking. Patients with heart failure or a low ejection fraction were not included.

“Our study was predominantly a secondary prevention study,” explains Dr. Eva Lonn, an associate professor of medicine at McMaster who served on the International Steering Committee, worked with the coordinating centre for the trial and was the site principal study investigator at the Hamilton Health Sciences Corporation. She says that most of the patients enrolled had already had one cardiovascular event (such as a heart attack). She says the study provides “overwhelming proof” of the benefit of ramipril in these patients and she unequivocally advocates the use of ramipril in patients with diabetes as a preventive measure.

“Patients with diabetes and one other risk factor are at extremely high risk. The benefits of ramipril in this subpopulation are very, very strong.” In fact, in people with diabetes the drug prevented not only cardiovascular problems but also complications of diabetes such as kidney disease.

In all patient groups, benefits were observed whether or not patients were already taking drugs for cardiovascular-disease prevention, such as ASA,  $\beta$ -blockers, lipid-lowering drugs or drugs to lower blood pressure. Ramipril seems to add to the benefit from these other drugs.

ACE inhibitors such as ramipril have traditionally been used for treatment of high blood pressure and heart failure, but this study shows that they could play a much larger clinical role in cardiovascular disease prevention.

The reduction in risk varied according to the outcome and the group of patients examined. For example, the rate of cardiovascular-related death was 6.1% in the patients taking ramipril and 8.1% in those taking a placebo. Ramipril reduced the rate of heart attack from 12.2% to 9.9%, and the rate of stroke from 4.9% to 3.4%. While the rate reduction appears moderate in terms of percentage, it is statistically significant. And when all of the outcomes are considered together, the benefit becomes more apparent. Dr. Lonn calculates that only 6 patients need to be treated with

ramipril to prevent 1 adverse event: death, heart attack, stroke or hospital admission for cardiovascular events.

A key question is why ramipril is effective. Lonn says there are many ideas and theories, but the answer is not entirely clear. “Its benefit in lowering blood pressure we know, but the magnitude of the benefit [in this study] is over and above what would be ex-

pected from lowering blood pressure.”

The entire study — everything from sending out enrolment and consent forms, arranging investigators’ meetings and entering information into a database — was done on a “lean” budget by a small staff, says Lonn. “It relied on the dedication of the patients, the nurses and the investigators. It’s a very big effort.” — *C.J. Brown, CMAJ*

## Briefly ...

### ***Thalidomide is back***

Thalidomide, the drug pulled from pharmacies because it caused serious birth defects, may soon join the armamentarium of drugs used to treat multiple myeloma. The drug has now shown some success in an uncontrolled trial to treat patients with myeloma that, in most cases, had failed to respond to high-dose chemotherapy (*N Engl J Med* 1999;341:1565-71). Thirty-two percent of the 84 patients treated had a response to thalidomide, judged on the basis of serum or urine levels of paraprotein. After a year, the survival rate was 58%. Researchers believe that thalidomide is effective against cancer because of its anti-angiogenic properties, which inhibit the growth of the blood vessels that feed tumours.

### ***Cold hands? Warm gel***

Researchers in Britain have developed a topical gel that stimulates blood flow in the hands of patients with severe Raynaud’s syndrome (*Lancet* 1999;354:1670-5). The gel generates nitric oxide through mixing water-based jelly solutions containing sodium nitrite and ascorbic acid. It is believed that the abnormal vasoconstriction in the fingers of people with Raynaud’s syndrome is caused by poor synthesis of, or impaired sensitivity to, nitric oxide. In a randomized, placebo-controlled trial, the gel increased both microcirculatory volume and flux in patients’ hands.

### ***Mad cow disease factory in lymph nodes***

The prion proteins that cause transmissible spongiform encephalopathies (such as new variant Creutzfeldt-Jakob disease) are replicated and passed on to the rest of the body by follicular dendritic cells, antigen-presenting cells found in the germinal centres of lymph nodes, British researchers have found (*Nat Med* 1999;5:1308-12). Experiments in chimeric mice provide strong evidence that follicular dendritic cells produce the normal PrP proteins found in the body, and replicate spongiform encephalopathies introduced into the mice. Abnormal “prion” PrP proteins are detected readily on follicular dendritic cells in lymph-node tissue taken from humans with new variant Creutzfeldt-Jakob disease, sheep with scrapie and mice infected with scrapie.

