dependent online media organization that monitors water quality, says "everybody in Canada seems to think we don't have issues with water, and we do, and they're growing." The site maps boil-water advisories and "Do Not Consume" orders from across Canada daily. (*CMAJ* collected its figures independently.) "What we're trying to do is get people aware of the issues," Milville-Dechene says.

The provinces and territories vary on how up-to-date their figures on water quality are, and on how readily they make them available to the public, she adds. Alberta does not publish its figures online, while British Columbia, Saskatchewan, and Newfoundland and Labrador do, but provide different levels of detail about the causes for the boil-water advisories or Do Not Consume orders.

In 2005, the most recent year for which statistics are available, the Public Health Agency of Canada reported 571 cases of cryptosporidiosis and 4046 cases of giardiasis. The Canadian Public Health Association declined comment.

For municipalities, which are on the front lines of any water crisis, the repercussions of the health issues that poor quality or contaminated water can cause can be overwhelming, says Steeves. He cites the *Escherichia coli* O157:H7 contamination in Walkerton, Ontario, that killed 7 people and made an estimated 2000 ill in May 2000, and the C*ryptosporidium parvum* crisis that made between 6000 and 7000 people ill after the parasite contaminated the drinking water in North Battleford, Saskatchewan, in April 2001.

"It is absolutely apocalyptic for a community to go through what a place like Walkerton, Ontario, went through," says Steeves. In addition to the health consequences, "the economic ramifications are so great, proportionately, that they are almost impossible to measure."

While municipalities support and recognize that much of the responsibility for correcting the infrastructure deficiencies that jeopardize the provision of clean water in communities, they cannot pay the approximately $31 billion it will collectively cost to upgrade water and waste water treatment infrastructure across the country, Steeves says. "We require federal and provincial funding to support any new standards or any augmentation of the infrastructure."

The issue of water quality is high on the municipal agenda, says Steeves, and bleeds into many areas of provincial and federal jurisdiction. Vancouver, British Columbia, for example, attributes approximately 30 000 hospital visits a year to gastrointestinal illness, including those from water-borne causes, while Montréal, Quebec, cites water-borne contaminants as being responsible for about a third of all gastrointestinal complaints in their hospitals. Clean water "is pretty fundamental," adds Steeves.
— Laura Eggertson, Ottawa, Ont.

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Research chairs program under review

The formulas for divvying up Canada Research Chairs among the biomedical, natural and social sciences, and among the nation's universities, will be put under an international microscope in a forthcoming review of the program.

No aspect of the roughly $300 million per year program will be exempt from scrutiny, says Canada Research Chairs Steering Committee Chairman and Social Sciences and Humanities Research Council President Chad Gaffield.

"There's absolutely no doubt about it. The world has changed, what's happening on our campuses has evolved, the development of graduate programs and so on. There's lots of changes on our campuses and my expectation would be that we'd start and go from A to Z in terms of all features of the program."

Under the program, which was created in 1999, the available 2000 chairs were divvied up among 61 universities, using a distribution formula based on each institution's track record in obtaining grants from the nation's 3 granting councils. Chairs were awarded on 2 levels: Tier I, worth $200 000 per year for 7 years, and Tier II, worth $100 000 per year for 5 years. All chairs were renewable.

The program is officially slated to expire in 2010, although administrators hope its demonstrated worth will persuade the federal government to extend, or even expand, funding for at least another decade.

Gaffield says the chairs program is such a success that a number of countries, including Spain, South Africa, Australia, France and Finland have already moved with imitations. "My expectation will be the key question will be, not whether to just renew it, but how can we really use this foundation to really keep going in the years after 2010."

Earlier, Gaffield argued that the program had positioned Canada as a global leader in many disciplines. It has also "revitalized university-based research in Canada," he told a Mar. 27, 2008, gathering which brought together roughly 100 chair recipients in Gatineau, Quebec, for round table discussions on scientific developments that will revolutionize society and medicine over the coming decade.

The review of the chairs program will include evaluation by an independent, international peer panel, as well as a measure of consultation with the universities to ascertain whether they believe aspects of the program, including institutional allocations, should be changed.

Gordon King Photography

Each of Canada's 2000 Tier I and Tier II research chairs will receive a sterling silver lapel pin, valued at $11.50 apiece. Program managers say the expense was justified because it will make chairholders "easily recognizable" by Canadians.

Under the allocation system, the nation's 10 largest universities scooped up two-thirds of the chairs, while the biomedical and natural sciences each received 40% of the positions and the social sciences and humanities just 20%. In the interest of promoting more differentiation and specialization by universities, each was also required to situate their chairs within the context of an institutional strategic plan which sketched the disciplines in which it would specialize.

Over the course of the program's lifetime, various criticisms have been leveled to the effect that it was biased against women, that it encouraged faculty poaching by larger universities, and that it created elites within the academy, as well as "have" and "have not" disciplines.

Gaffield argues that such concerns have since been dispelled. "My sense is that the constant poaching that some people said would ensue has not happened," he says. "Sure there is some movement but it has not become a problem and we have heard very little criticism of that now."

Program administrators say that as of November 2007, 14.4% of all chairs were awarded to ex-patriots; 12% were awarded to recipients raided from other Canadian universities and 7% to recipients coming from outside a university. Nearly 22% of recipients came from outside the country and 58.5% of chairs were awarded to existing faculty within a university, while 22% of chairholders are women.

Gaffield also says there's absolutely no doubt that the program has resulted in significant specialization within the nation's universities.

"What we've all found on campus is that we want to have a strong foundation across our fields but clearly if we're going to make significant contributions to research, you really have to focus. You can't be internationally outstanding in everything. Even the biggest universities, and this is true whether it is Oxford or Harvard or the University of Toronto or any university, you're just not going to be internationally outstanding in everything." — Wayne Kondro, *CMAJ*

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Inducing seizures among seniors

For some patients with major depression, psychotherapy and medications offer little respite, which prompts many psychiatrists to turn to electroconvulsive therapy, particularly to relieve psychosis or thoughts of suicide.

It's been anecdotally suggested by several Canadian physicians that inducing seizures in the brains of Canadian seniors is rapidly becoming the norm in the treatment of the elderly for depression. Quantifying that trend, though, is somewhat problematic because of provincial differences in the reporting of data to the Canada Institute for Health Information (CIHI). There is some evidence to suggest, however, that electroconvulsive therapy is, in fact, now more often administered on an outpatient basis and more often to seniors.

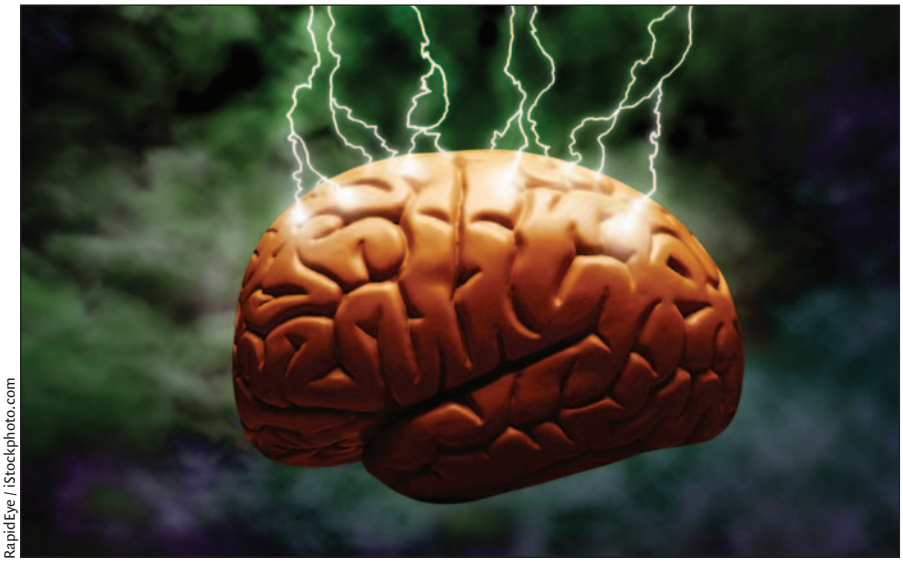
The popularity of electroconvulsive therapy has ebbed and flowed over the course of its 70-year history, but the treatment is now well accepted in Canada, says Barry Martin, head of the electroconvulsive therapy service at the Center for Addiction and Mental Health in Toronto, Ontario.

Data on its current use are incomplete, although CIHI conservatively estimates that annual administration of electroconvulsive therapy has been relatively unchanged, at about 15 000 procedures per year, since 2002. But CIHI lacks information about outpatient procedures performed in Quebec and Alberta, and data for hospitals outside the Winnipeg area prior to the 2004/05 fiscal year.

The treatment's usage also appears to have oscillated during the last 25 years. In Quebec, the number of patients who received electroconvulsive therapy increased from 455 to 871 between 1983 and 2003; 681 patients were treated last year. During the late 1980s and early 1990s, its use on an inpatient or day surgery basis in Manitoba hospitals declined, but peaked at 482 patients in 1999. In Ontario, treatments have also been on the rise, from 7800 to 10 800 between 1999 and 2005.

According to Canada-wide statistics, electroconvulsive therapy is increasingly being delivered on an outpatient basis, eliminating the need for overnight stays in unfamiliar institutions and reducing the risk of exposure to hospital infections.

"If the patient is well enough not to require inpatient hospitalization, it is better to have it done [as an outpatient] and go home," says Martin. Inpatient electroconvulsive therapy accounted for half the treatments provided in Canada in 2002, but only 36% in 2005 (Figure 1). The nationwide stats also



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Electroconvulsive therapy is increasingly being delivered on an outpatient basis and being administered to seniors as treatment for depression.