

Safe drinking water standards for First Nations communities

The federal government is implementing safe drinking water standards for First Nations communities, 76 of which have boil water advisories in place, Indian Affairs Minister Jim Prentice has announced.

The new national standards are the first to govern the quality of drinking water on First Nations communities. Ottawa will also work with 21 of the communities with the most serious water issues to develop remedial plans, Prentice told a news conference on Mar. 21. (For a list of communities with advisories in place, go to www.cmaj.ca/cgi/content/full/174/9/1248/DC1.) But Prentice did not allocate any new money for his plan, saying lack of training, maintenance and standards is the issue, not lack of funds.

"It is unacceptable that many First Nations communities across Canada continue to face ongoing risk to the safety of their drinking water," Prentice said. "Like most other Canadians, I was appalled by last year's crisis on Kasechewan First Nation."

Last year, about 1000 members of Kasechewan, a fly-in reserve in Northern Ontario, were evacuated after Dr. Murray Trussler and band officials sounded the alarm about the dangers posed by the community's water quality. The community had been under a boil water advisory since 1996. High levels of chlorine that were used to combat *Escherichia coli* were exacerbating scabies, impetigo and other skin disorders, as well as concerns about hepatitis A and gastroenteritis.

"As long as I am Minister, I will take the preventive measures needed to head off similar crises, and will not hesitate to intervene when the health and safety of a community is at risk," Prentice said.

The 21 communities deemed most at risk are in New Brunswick, Quebec, Ontario, Alberta and British Columbia.

In one of them, the Muskrat Dam First Nation, residents have been under a boil water advisory for more than a year, Band Councillor Charlie Beardy told *CMAJ*. The backwash pumps on the band's water treatment plant gave

out and have not been repaired, Beardy says. Residents have to boil their water or buy bottled supplies.

"I don't see any government people coming up to work on our plant to get it repaired," says Beardy, whose remote Northern Ontario reserve is a fly-in community in summer, accessible by road only in winter.

Although First Nations receive federal funds to build, operate and maintain water treatment systems, until all operators are certified the federal government will hire private companies to deliver water services temporarily in some communities.

Under the new federal plan, operators at all First Nations plants will receive training and be certified to operate the plants.

Under last November's \$5-billion deal between the former Liberal government and First Nations, the government had promised \$400 million in new money for water treatment issues. But Prime Minister Stephen Harper has not agreed to honour the so-called Kelowna agreement, although Prentice has said the government is supportive of its "targets and objectives."

In a news release, Phil Fontaine, the Assembly of First Nations' national chief, called the announcement "an encouraging first step in our larger efforts to close the gap in the quality of life between First Nations and non-Aboriginal Canadians." —Laura Eggertson, *CMAJ*

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News @ a glance

China and AIDS: China has issued its first official regulations on preventing and controlling the spread of HIV/AIDS, including free testing and medication for the nation's poor. The law, which took effect Mar. 1, protects people with HIV/AIDS from discrimination and criminalizes intentionally spreading the disease. UNAIDS estimates that up to 10 million people in China could be infected by 2010. In January, the Chinese government estimated that 650 000 people were living with HIV, including 75 000 with AIDS.



TB campaign: Two Nobel Peace Laureates and several global health care organizations are calling on governments to train more health care workers and finance and intensify efforts to fight tuberculosis (TB) in the 22 countries with the largest number of new TB cases. Archbishop Desmond Tutu of South Africa and Betty Williams, who co-founded the Community of Peace People in Northern Ireland, are working with Eli Lilly & Company and 6 global health and relief organizations to highlight the human resources crisis in TB treatment. A well-trained health care workforce is needed if countries afflicted with high rates of TB are to fully implement control strategies, the World Medical Association says in a news release announcing the campaign. According to the Stop TB Partnership, a strategy that commits US \$250 million each year could save 14 million more lives over the next 10 years. TB causes 9 million new cases and 2 million deaths each year. "I urge the G8, governments of TB-burdened countries, and international donors to address this gap in funding for human resources urgently," says Tutu, who had TB as a child.

No junk: Canadian schools are implementing health and nutrition policies to fight the rising incidence of obesity among children. Ontario and Alberta have made daily physical activity mandatory in the curriculum this year. New Brunswick and British Columbia have introduced guidelines to remove foods from schools that have minimum nutritional value and encourage healthier food choices. In Nova Scotia, a policy is under discussion that would remove all unhealthy choices from vending machines and cafeterias. And some schools in Quebec and Saskatchewan have banned soft drink

machines. Statistics Canada reports 26% of Canadian children aged 2 to 17 are overweight or obese. — Andréa Ventimiglia, Ottawa

BC is best: A report from the Conference Board of Canada finds that British Columbia and Alberta have the top performing health systems in Canada overall, but all 10 provinces have room for improvement. *Health Provinces, Health Canada: a Provincial Benchmarking Report* compared performance among provincial health care systems based on 70 comparable health indicators in 2004. BC was the top performer in terms of overall population and health outcomes, but posted second-lowest in terms of patient satisfaction. The report also compared Canada's health performance to the 23 leading OECD countries, finding, once again, that Canada places in the middle range at number 11, tied with Iceland, Luxembourg and the Netherlands. The Conference Board of Canada is an independent, not-for-profit applied research organization.

Premium increase: Nova Scotia seniors will see their annual pharmacare premium rise to \$400 a year as of Apr. 1, an increase of \$10 a year. The province is also raising the annual cap on seniors' co-payments on each prescription by \$10, to \$360 per year. In total, the province anticipates it will spend \$172 million in 2006–07 for the Seniors' Pharmacare program. It serves more than 95 000 people in the province. Thousands of low-income seniors, including those who receive the federal Guaranteed Income Supplement, are either exempt from paying the premiums, or else pay a reduced amount. "The Seniors' Pharmacare program is an important part of the health care system that must remain both affordable to seniors and sustainable over time," Health Minister Chris d'Entremont said in a statement announcing the increases. "As prescription drug costs continue to rise, a model increase in the fees will allow the program to continue to provide benefits to the greatest number of seniors." —Compiled by Barbara Sibbald and Laura Eggertson, *CMAJ*

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BENCH TO BEDSIDE

New mechanisms of antibiotic resistance

In the 1970s the bacterium *Acinetobacter baumannii* was sensitive to most antibiotics; but over the last 35 years, some *A. baumannii* strains have become resistant to virtually all antibacterial drugs. In some countries, infections with this organism have become a public health problem: *A. baumannii* is responsible for up to 10% of all gram-negative infections in intensive care units in Europe.

So what has changed?

Pierre-Edouard Fournier and colleagues recently attempted to answer this question when they compared the genomes of 2 strains of *A. baumannii*: one from an outbreak in France that is resistant to virtually all antibiotics versus one associated with human body lice that is extremely susceptible (*PLoS Genetics* 2006;2(1):e7). The resistant strain had caused 26% of the people infected with it to die (*J Clin Microbiol* 2003;41:3542-7).

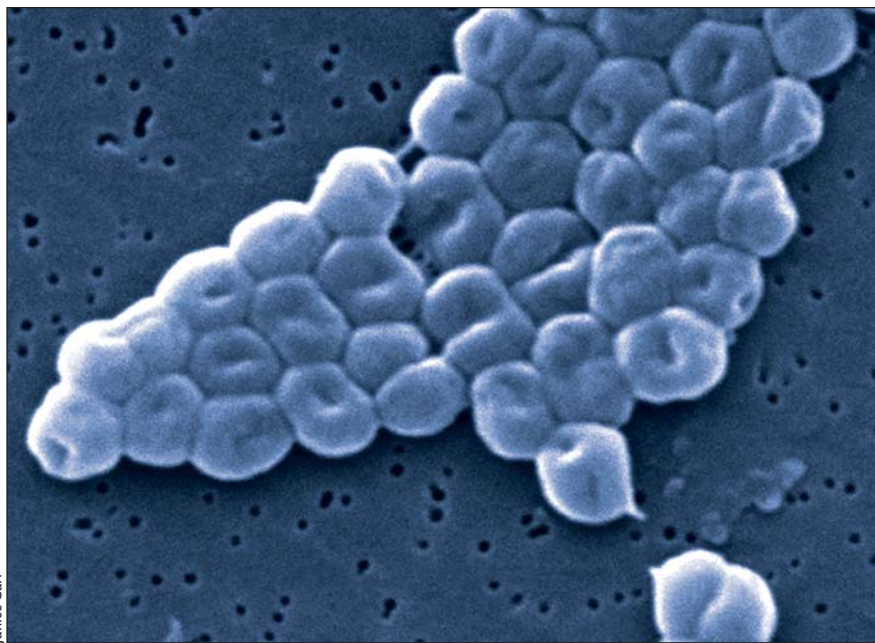
The scientists discovered that the genome of the resistant strain of *A. baumannii* possesses a chromosomal region — a so-called resistance island

— containing 45 genes that contribute to antibiotic resistance. Many of these genes are of types not seen before, and their various roles in antibiotic resistance still need to be verified.

Analysis of these "resistance" genes revealed similarities with species of *Pseudomonas*, *Escherichia* and *Salmonella*, which suggests that exchanges of genetic information have likely occurred. Since all of these bacteria are commonly found in aqueous environments in hospitals, Fournier and colleagues suggest that antimicrobial pressure in such settings probably promotes genetic exchanges between and among these pathogens. Moreover, the areas around the resistance genes seem to be primed to capture additional genes, which perhaps explains why the organism has been so quick to develop drug resistance.

Antibiotic resistance in human pathogens is a major clinical problem; genome comparisons will illuminate some aspects of how this occurs. Our understanding of these mechanisms is crucial to the development of novel agents to overcome these pathogens' defenses. —Compiled by David Secko, Vancouver

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A scanning electron micrograph of a cluster of gram-negative, nonmotile *Acinetobacter baumannii* bacteria, highly magnified ($\times 165\ 000$).