Canadian hospitals rise to the occasion during isotope shortage

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The initial notice came late and the news quickly got grimmer, according to radiologists like Dr. Andrew Ross of the Halifax, Nova Scotia–based Queen Elizabeth II Health Sciences Centre. Ross had entered his hospital's nuclear medicine department on a Wednesday last December expecting business as usual. Instead, he learned that the hospital's medical isotope supply would be suspended the following Monday.

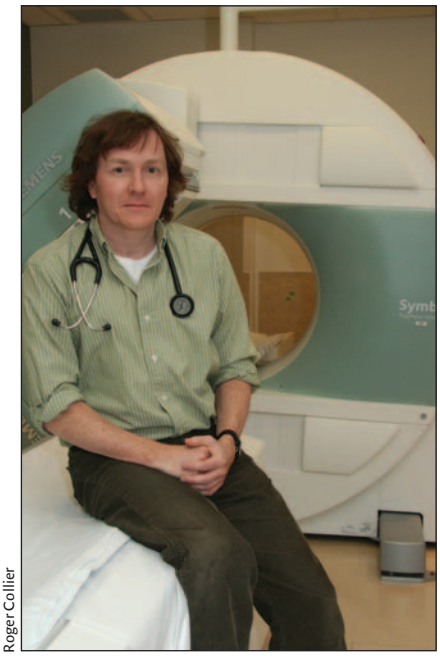
There had been no advance warning whatsoever from Atomic Energy of Canada Ltd., the company that runs the country's only isotope-producing nuclear reactor, that there was a possibility that the isotope supply would be interrupted. So Ross had no chance to develop a contingency plan and, like many others in Canada's nuclear medicine community, was left scrambling to manage a crisis. Without isotopes, the radioactive substances used to diagnose ailments such as heart disease and cancer, his department would function about as well as a pen without ink.

A week later, Ross, like many other Canadian physicians, learned he could be without isotopes for a month. "First it was no news. Then it was bad news," Ross recalls. "And then it was real, real bad news." Eventually, the crisis ended sooner than expected after Parliament ordered Atomic Energy of Canada Ltd. to reopen its reactor. But while the politicians were haggling over the solution, Canada's nuclear medicine community was left scrambling.

In Ross' mind, they acquitted themselves admirably and demonstrated remarkable resilience. Large hospitals shared dwindling supplies with small hospitals. Nuclear medicine staffs worked tirelessly to accommodate patients. The challenge posed by the shortage, though formidable, didn't cripple nuclear medicine departments — it united them. "It was very heartwarming to see the nuclear medicine team come together," Ross says. "A lot of times the people we work with day in and day out don't get the credit they deserve."

Hospital staff were relentless in their search for alternative sources of isotopes, Ross adds. When supplies were procured, the nuclear technologists who perform the imaging tests volunteered to work extra shifts even though Christmas lay just around the corner. "That's not necessarily the time of year when people want to be in the hospital working hard."

The crisis also served to educate the public about the importance of nuclear medicine, by bringing it out of the "back corridors" of the hospital, Ross says. "The public certainly knows a heck of a lot more about isotopes now than they did just a few months ago."



Roger Collier

Dr. François Raymond and his Ottawa staff worked evenings and weekends during the isotope shortage.

Some cities, though, were not as affected by the shortage. Hospitals in Calgary, Alberta, receive isotopes from the Netherlands and suffered no interruption in nuclear medicine services. Vancouver hospitals that depend on the Canadian reactor for isotopes obtained them from nearby hospitals supplied by foreign producers.

Nuclear medicine departments in Ontario weren't so lucky. During the first week of the crisis, the nuclear medicine division of Hamilton Health Sciences saw its workload reduced by almost 80%. But over the course of the 3-week shortage, by doggedly pursuing isotope sources and repeatedly rescheduling patients, the staff was able to complete about half as many diagnostic exams as they had during the same period the year earlier.

"They absolutely rose to the challenge and made it happen on behalf of the patients in the Hamilton area," says Dr. Karen Gulenchyn, Hamilton Health Sciences' chief of nuclear medicine. "The really important people were the booking clerks. They were the ones who called and recalled and dealt with the patients."

Gulenchyn and her colleagues also worked with Alberta's Cross Cancer Institute to establish a protocol for performing bone scans using sodium fluoride, which the Hamilton Health Sciences could itself produce, instead of the isotope technetium-99m. Health Canada approved the initiative, although by then, the nuclear reactor in Chalk River, Ontario, was set to return to service. Still, says Gulenchyn, the effort was not in vain, as it provided further proof of her team's dedication to mitigating the effects of a bad situation. "We didn't just sit back with our feet up in the coffee room. We were working all the way through it. There were a lot of positives and we have to look at that as well."

Nuclear medicine physicians in Ottawa, Ontario, were left scrambling to serve patients during the shortage as well and, thanks to a committed staff and an understanding public, managed to cope — but it wasn't easy. Dr. François Raymond, Ottawa Hospital's clinical director of nuclear medicine, describes last December as "hell for everybody." But Raymond offers nothing but praise for his staff, who worked evenings and weekends without complaint to accommodate as many patients as possible with the hospital's withering isotope supply. "I think everybody working in health care has to have some empathy. And they showed empathy big time." — Roger Collier, *CMAJ*

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