



Features

Chroniques

Janice Hamilton is a freelance writer living in Montreal.

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Quebec's Ice Storm '98: "all cards wild, all rules broken" in Quebec's shell-shocked hospitals

Janice Hamilton

In brief

THE REMARKABLE ICE STORM that brought life to a standstill in most of Eastern Ontario and Quebec in January had a huge impact on medical services. Hospitals that lost power found themselves serving as shelters not only for patients but also for staff members and nearby residents. Doctors' offices were forced to close and a large number of operations were cancelled. The 2 articles that follow detail the huge impact the "ice storm of the century" had on health care.

En bref

LA TEMPÊTE DE VERGLAS SPECTACULAIRE qui a paralysé la majeure partie de l'est de l'Ontario et du Québec en janvier a eu un impact énorme sur les services médicaux. Les hôpitaux qui sont tombés en panne de courant se sont trouvés à servir d'abris non seulement pour les patients mais aussi pour les membres de leur personnel et des résidents des environs. Les cabinets de médecins ont été forcés de fermer leurs portes et l'on a annulé un nombre énorme d'interventions. Les deux articles qui suivent décrivent en détail l'impact énorme que la «tempête de verglas du siècle» a eu sur les soins de santé.

Despite the cold and stress and days without power, Ice Storm '98 was basically an inconvenience for my family. I wish other Quebecers were as lucky.

For us the power went out Jan. 6 and didn't come back on permanently for a week. My kids were off school for 2 weeks, and for a while we were told to boil water because the city's filtration plants had been knocked out. Even the most mundane chores — finding an ATM or a gas station with power — became major challenges.

For others, especially the elderly and people with pre-existing health and psychosocial problems, the news was much bleaker. The storm and its lengthy aftermath created an unusual situation that saw the province's hospitals and health care providers facing challenges they had never before seen. The end result is disaster-management lessons that can be shared across Canada.

At its worst, the 5 days of freezing rain left more than 1.4 million homes and businesses in southwestern Quebec without power. The ice buckled dozens of hydro towers and thousands of trees died, cracking under the weight of 2 or 3 tonnes of ice. By the end of January at least 21 deaths had been directly linked to the storm, in Quebec, including 6 from carbon monoxide poisoning and 4 from hypothermia. Fires caused by candles and overheated fireplaces and a variety of accidents claimed the rest.

There were innumerable cases of frostbite and fractures, and at least 10 homeowners were seriously injured by falls while clearing ice from their roofs. For some, the problems — anxiety and post-traumatic stress — were less visible but may have a more lasting impact than physical injuries.

"Many people were just not aware of the storm's dangers," says Dr. Luc Boileau, director of public health for the Montérégie region, southeast of Montreal. "Some tried to stay home in the cold and we had to inform them of the dangers."



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A nurse helps an elderly patient at a Montreal shelter during the height of January's ice storm

At least 700 cases of carbon monoxide poisoning involving more than 1000 people were reported to the provincial poison control centre, and Boileau says many more likely went unreported. The Montérégie region, which has 1.3 million inhabitants in small cities and rural areas, was one of most badly damaged areas and accounted for most cases of poisoning. The hyperbaric chamber at Hôpital du Sacre-Cœur de Montréal — 1 of 2 in the province — was used to treat 45 victims of carbon monoxide poisoning during the first 9 days of the crisis.

Most of these emergencies occurred after people ran gas-driven generators in their garages or basements — they were concerned they might be stolen — or lit barbecues indoors. The most serious incidents took place before the media warned that these practices were dangerous.

The danger posed by days of cold and darkness forced police to launch unprecedented house-to-house checks. Many people had already moved in with friends or relatives or into 1 of 250 emergency shelters. Some people were still coping well in their blacked-out homes, but police had the power to force those who appeared to be in danger to leave. They rescued many seniors who were living alone in freezing apartments.

In Montreal, Constable Elizabeth Kraska was present when a blacked-out, 14-storey apartment building was evacuated in the middle of the night. “Fire inspectors found a taxi driver asleep in his car in the garage, with the engine running,” she recalls. “And on the 14th floor, a gush of heat came out of an apartment. The tenant was wearing shorts and heating the place with his barbecue. When he refused to turn it off, the inspectors called in the police and we evacuated the building.”

The injury toll mounts

After the freezing rain stopped and people ventured outside, hospitals faced a flood of patients with fractures, sprains and head injuries resulting from falls on slippery sidewalks. Between Jan. 6 and 18, the Montreal General Hospital alone dealt with 57 storm-related fractures and performed about 60 emergency orthopedic operations. Some people suffered minor cuts when hit by falling ice. The Montreal Children's Hospital reported a 30% increase in ice-related injuries compared with last year.

Dr. Françoise Chagnon, director of professional services at the Montreal General, which is part of the McGill University Health Centre and a level-one trauma centre, notes that the downtown hospital's emergency room was no busier than usual at the height of the crisis because there was no immediate medical disaster related to the storm. In fact, there were fewer victims of vehicle accidents to treat than normal because bars and other businesses were shut down and many highways around the city were closed. However, more patients arrived at the emergency department because their respirators weren't functioning or oxygen cylinders had to be recharged.

“I was personally bracing myself in case something happened,” Chagnon recalls. “There was a potential for fires or explosions because there were thousands of troops and hydro workers in the field. Luckily, these things did not occur.”

The real medical impact of the storm did not become visible until late January, several weeks into the crisis and after things started returning to normal. “There were exacerbations of emphysema, chronic bronchitis and asthma, mainly in the elderly, with infectious components. While some of that is seasonal, I suspect that unheated homes may have been a factor.”

There were also numerous cases involving cardiac problems, although Chagnon couldn't say how many were storm-related. Dr. Yves Langlois, medical coordinator at Hôpital du Haut-Richelieu in Saint-Jean-sur-Richelieu — its catchment area is in the “triangle of darkness,” where power disappeared completely for more than 3 weeks — is certain that the large increase in the number of patients with cardiac problems seen at his hospital was attributable to the storm.

“One man who had a heart condition worked really hard bringing wood into his house and he died of a heart attack while cranking his generator,” Langlois says, adding that some patients became sicker because they didn't take their usual medications. “I got calls last week from 2 patients who went to stay in Quebec City and forgot to take their medication along. But the files were at my office and, without power, I had no access to the computer.”

(Because so many people were displaced by the storm,



the Quebec Order of Pharmacists told members to furnish refills for a week's supply of medication even if the customer didn't have a prescription bottle.)

When influenza A outbreaks occurred in 3 emergency shelters that housed elderly people in the Montérégie region, steps were taken immediately to prevent the virus from spreading. People who were sick were kept isolated from other shelter residents, health care workers and those at risk of complications from the flu were vaccinated, and visitors were asked to wear masks.

Psychiatric problems appear

The number of psychiatric problems increased as the crisis progressed, especially in areas like Montérégie where so many lives were disrupted for so long. "Although most people will have normal reactions of irritability and insomnia," says Boileau, "these will probably resolve by themselves a few days or weeks after the power comes back. But a small percentage of people will probably need help."

The Quebec Order of Psychologists set up a hot line to help the public cope. At first people called because of a growing sense of isolation: parents complained that young children were having nightmares and that teenagers were being difficult. Then volunteers, police and firefighters, as well as spouses of those who were away for long hours helping others, started to feel the strain.

"People were calling in with normal symptoms of post-traumatic stress," says psychologist Pascale Lemaire, who

specializes in employee assistance programs. "They were experiencing fatigue and sleeping problems, and had difficulty concentrating."

At the Montreal General, a multidisciplinary stress-reduction team was created to help staff deal with their own concerns. For 2 weeks the hospital also set aside a peaceful room where staff could "recharge their batteries."

Care in a crisis

At the peak of the crisis, delivering health care in blacked-out areas was a major problem. In the Notre-Dame-de-Grace section of Montreal, the clinic at the Centre Local de Santé Communautaire (CLSC) was left in the cold because its generators only supplied enough power to provide lights and phones, but it was busier than normal and stayed open extra hours. As the prolonged outage continued in the Montérégie region, CLSCs and private clinics obtained generators that allowed them to provide primary care.

At the height of the crisis, hospital routines were totally disrupted: elective surgery and clinics were cancelled, and ambulances were too busy to provide inter-hospital transfers. Within the triangle of darkness, hospitals operated on generators for almost 3 weeks.

Several Montreal hospitals experienced periodic power outages lasting several hours, and the contamination of the water supply created additional work. At the Montreal General, warning labels had to be put on every tap in the building. At the Lakeshore General Hospital, where the

Shelter from the storm

Thousands of people flocked to emergency shelters when their homes became unliveable during Quebec's January ice storm. Caring for the health and psychosocial needs of these shelter residents was not part of any emergency measures plan, says nurse Charline Dupuis, program coordinator of general services at the Centre Local de Santé Communautaire (CLSC) in Montreal's Notre-Dame-de-Grace neighbourhood, but that's just what her CLSC was called upon to do.

At the shelter, nurses from the CLSC evaluated residents' complaints while physicians, including regular CLSC staff and volunteers who live in the area, visited 3 times a day. The nurses ensured that people received needed medication on time. When they didn't have the medication with them, a volunteer went to the home to get it or a pharmacy delivered it.

The shelters housed many elderly people, as well as people with mental health problems or who are intel-

lectually challenged, and families with small children, babies and adolescents. "A good proportion of the elderly were not very mobile," says Dupuis. "They live independently but need some support at home, so we had to provide that support in the shelter." She says the elderly found it especially difficult to adjust to being in a room with 250 people. The CLSC's mental health nurse worked the evening shift, since the nighttime produced the most anxiety.

CLSC staff also tried to ensure that residents and volunteers stayed healthy. Signs in the bathrooms reminded people to wash their hands, and nurses asked people with bad colds to wash their hands and stay away from small children. The advice continued as people prepared to leave: on their way home, they received instructions about the food items they could keep and the food that would have to be thrown out because of the power failure.



water eventually turned out to have been unaffected, water had to be boiled because the 250 cases of bottled water that were ordered never arrived. Meanwhile, during and after the storm twice the usual number of ambulances were arriving at the hospital, which serves Montreal's West Island suburbs.

Many patients had a hard time getting to hospital. One of Montreal family physician Perle Feldman's patients, who was in early labour, had lost power and lived on a street littered with fallen trees. Feldman described the situation in an email sent to fellow family physicians. "Somehow [the woman's] brother had commandeered a taxi and brought it to the end of her roped-off block. With her husband's support and her 2 little girls clinging to her they managed to pick their way down the treacherous street to the taxi, which then sped off to the Jewish [General Hospital] with the recklessness shown only by taxi drivers envisioning scenes from sitcoms."

Feldman also discovered the difficulty of visiting a patient at home during a blackout. "The streets were completely black and it was hard to find the right address. We ended up climbing up and down these mounds of ice to shine our flashlights at the street numbers. When we found the house there was a tree blocking the stairs, which were encased in ice. We hauled ourselves up to the door. The grandmother was in her bed — fever, cough, pleuritic pain — so it was easy to see she had pneumonia. Wrote a prescription, ate some kugel, got to Laval."

Communications director Gillian Ross MacCormack says the Montreal General created an emergency measures control centre to deal with problems. "This was the first time the hospital has ever needed to set up such an elaborate centre for such a long period. Between 25 and 30 people staffed it 24 hours a day."

To ensure that nurses would be available to work, and to alleviate some of their personal concerns, centre coordinators set up a shelter for staff, their children and dependent family members living at home, and about 100 people a night slept there. This meant opening an unused part of the hospital, providing 3 free meals a day to the people who stayed there, and supervising the children. Meanwhile, some staff physicians camped out in their offices for the duration.

All hospitals in the blacked-out areas shared a serious

problem: patients who were ready to be discharged couldn't be released because there was no electricity in their homes. Some hospitals relieved the pressure by transferring these patients to nearby facilities, such as a veterans' hospital and a former military college. The Montreal General, where many beds have been closed in recent years, reopened half a wing for these patients.

Shelters and hospitals were also swamped by an influx of people from home-care programs and nursing homes.

In the Montréalégie area, says Langlois, it will take time to resettle these people in the community; some no longer want to return home.

All the unusual services provided by hospitals during the crisis required extra help. Many employees did double shifts and Montrealers responded generously to media pleas for volunteers at some hospitals.

Lessons for next time

During the crisis, executive director Gilles Lanteigne says the Lakeshore General Hospital found itself providing a variety of support services. "We provided food to group homes for mentally handicapped people. These are preventive services because if the people in the group homes hadn't had food, they would have ended up in a shel-

ter or at the hospital. These types of support services are something we are going to look at and plan for."

In retrospect, says the Montreal General's Chagnon, things worked out well. "The crisis allowed us to manage without the constraints of budget. All cards were wild, all rules were broken. Everybody was geared to achieving quality of care for the community — not just medical, but also social and psychological care. . . . Our strength was in our people. All of a sudden, we had flexibility in job descriptions. We were able to mobilize and reassign staff to where the work was needed."

The crisis was also a reminder that a hospital has to be able to function at different speeds. "That's the nature of providing health care," Chagnon reflects. "It's unpredictable, it's seasonal and it's got all kinds of social factors. Also, we have to keep in mind the ability to transform spaces rapidly for different purposes." In the Montreal General's case, some clinical wards that had been closed for years had not been converted to laboratory or office space so it was easy to transform them back into active wards.

Canapress photo



Damage like this left more than 1 million households without power in early January. By the end of the month, there were still more than 50 000 homes without power.



For Langlois, the crisis had at least one positive outcome: private-practice physicians who are not normally seen in Hôpital du Haut-Richelieu collaborated closely with the hospital and CLSC by agreeing to visit shelters in remote areas. "We formed new bonds with these physicians and with the CLSCs," he says.

Boileau was also pleased with the quality of health care he witnessed during the crisis. "I was very impressed by

the mobilization of people at the local and regional levels. There was never a problem of availability of workers. We never felt we were alone: we were always reassured someone would be here to help us."

In the end, everyone agrees that it was the people, both professionals and volunteers, many of whom had no power in their own homes, who were the health care heroes of the ice storm of '98. ?

Eastern Ontario braces for poststorm stress

Christopher Guly

At the height of the ice storm that ravaged Eastern Ontario in early January, Joseline Sikorski remembers her town of Winchester looking as if it had been hit by a bomb. The town of 3000 residents, which is about 50 km southeast of Ottawa, had no electricity and many homes had neither phone nor water. No one ventured out to negotiate the ice-covered sidewalks. The only people seen were in their vehicles, queued up waiting for fuel. They needed cash or a credit card because the automated banking machines were also down. "It was like something out of a science fiction movie," she says.

Sikorski is CEO of the community's medical lifeline, the 80-bed Winchester District Memorial Hospital, which felt the full impact of the storm. The hospital, which serves a catchment area with about 24 000 residents, lost power for 3 consecutive days and was forced to function with the help of a generator. Because it was one of the few buildings in the community to have heat and electricity, the hospital opened about 16 additional beds to provide shelter for elderly residents of nearby long-term-care facilities. Care was provided by the hospital's 38 physicians, some of whom lived in homes that had lost their power.

Sikorski, a nurse by training, and her staff camped out at the hospital to ensure they were available for any emergency. She says the worst part was enduring the feeling that they were on their own. "There really needs to be a regional perspective in looking at dealing with an emergency like this," she reflects. "Everyone plans in isolation."

At one point the hospital's phones no longer worked. A patient had a heart attack and needed to be transferred to the Ottawa Heart Institute. Fortunately, the Ontario Provincial Police were able to notify the institute that the man was on his way.

But the crisis could have been worse, says Dr. Robert Bourdeau, medical officer of health for the Eastern Ontario District Health Unit, which includes Winchester. "Our biggest concern was not to turn an emergency into a real disaster," explains Bourdeau, who saw staff members deployed to the 50 shelters operating in the region. Among other things, they helped ensure that food served to the shelters' temporarily homeless residents was safe. "When the shelters opened everybody wanted to chip in and bring food, but that raised questions as to whether the food was cooked or not and how it was handled," says Bourdeau.

In one shelter, which was serving hundreds of meals daily, health inspectors discovered that ventilation in the kitchen had been shut off to conserve energy, causing a buildup of gas from the stove. Fortunately no one who sought refuge in the shelter experienced carbon monoxide poisoning, but several cases were reported in the area in the storm's wake. "I must say that there was no medical crisis," says Bourdeau. "If there will be any crisis, it will come with post-traumatic stress syndrome."

That hunch is shared by Bourdeau's colleagues. "What we're dealing with now and are going to continue dealing with is the whole stress and mental health issue," says Dr. Robert Cushman, chief medical officer of health in the Ottawa-Carleton region. "We're seeing a lot of people stressed, with some at the edge about to flip."

Cushman says most cases reported so far involved people with a history of psychiatric illness. "The stress caused by the storm has driven them over the edge and manifests in the worst aspects of their illness through elements of agitation and anxiety."

To deal with an anticipated increase in the number of cases of post-traumatic stress, the Royal Ottawa Hospital sent letters to family physicians advising them how to treat patients experiencing anxiety and depressive-like conditions. "What the storm has done is uncover some problems," says Dr. Marv Lang, director of clinical services at the psychiatric facility. "People who went

Christopher Guly is a freelance writer living in Hull, Que.

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