TB: fighting a forgotten disease

Noah Papatsie was working as a television producer in Iqaluit when a minor mishap changed his life.

“My coworker put a light on and it popped right in front of me,” he recalls. “Right there, I lost sight in my right eye.”

The doctor at a local hospital told him that the accident couldn’t have caused blindness. It took six months to get a second opinion from specialists in Ottawa. Papatsie was shocked to learn that he had active tuberculosis (TB) — the infectious disease usually attacks the lungs but can also affect other organs, including the eyes.

There was no way of knowing how long Papatsie had been contagious. And because Nunavut outsources all TB testing to nearby provinces, it took agonizing weeks for those back home to find out if they too were infected.

Papatsie is now TB-free, but totally blind. If he had been diagnosed earlier, he says, “I would still see today.”

Canada has about 1600 new TB cases each year — relatively few compared to the hundreds of thousands of cases in countries where the disease remains a top killer. But it’s precisely because TB is so rare in Canada that we’re ill-equipped to quickly diagnose and ultimately eradicate the disease.

Many Canadians, including doctors, think of TB as disease of the distant past, says Dr. Maureen Mayhew, a physician in clinical medicine and public health at the BC Centre for Disease Control. “In the 1940s, TB was common enough that people would consider it whenever you had a cough,” she says. “Now someone can be coughing for six weeks and we often don’t think of TB.”

Part of the problem is that cases have become concentrated in marginalized populations. About three out of four cases in Canada involve immigrants, often from places where TB is rife. One in five people with active TB is Aboriginal, typically living in the North where overcrowding, malnutrition, high smoking rates and other risk factors prevail.

Both groups present unique challenges to prevention and early diagnosis, and Canada’s failure to rise to those challenges is partly why the decline in TB has slowed in recent years, says Mayhew. Now, “in order to reduce the already low rates we need to do something different.”

BC is taking aim at latent TB cases — people who are infected, but not yet contagious or symptomatic. About 5%–10% of these dormant cases will later become active TB, although individual risk is tough to predict, says Mayhew.

Most immigrants undergo screening for active TB before they enter Canada, but the program only detects an estimated 4.5% of cases. This suggests that some people are slipping through the cracks with latent TB, which later may become active. These individuals are also difficult to capture for a second round of screening, because from their perspective they’ve already been cleared, says Mayhew.

The BC Centre for Disease Control recently released videos in six languages to help health workers explain latent TB to patients. Work is also underway to integrate screening into care for patients at higher risk of developing active TB, including people with HIV or diabetes.

Aboriginal and Northern communities face different challenges to TB control. In Nunavut, where TB rates rival those in high-incidence countries like Bangladesh and Ethiopia, it can take up to a month for test results to arrive from a lab outside the territory.

Potentially infectious patients often return to their communities while they wait for a diagnosis, says Dr. Gonzalo Alvarez, a scientist and staff respiratory at the Ottawa Hospital. In addition, physicians in the south may not readily recognize the disease, says Dr. Madhu-
kar Pai, associate director of the McGill International TB Centre in Montréal.

In March, Nunavut announced $1.5 million for a slate of new TB initiatives, including an awareness campaign, a community educator, term nurses for areas with new active cases and a laboratory technician to run a new DNA testing unit in Iqaluit.

A recent *CHEST Journal* study coauthored by Alvarez and Pai showed that the Xpert MTB/RIF unit could identify the TB bacteria’s genetic code in less than two days with 85% accuracy. Operating the unit in Iqaluit’s hospital cut the average wait for diagnosis by up to 37 days. The *World Health Organization* endorsed the use of this new test in 2010.

“These patients are usually feeling terrible — they have weight loss, night sweats, fever and chronic cough,” says Alvarez. “Being able to start treatment the next day instead of next month will make a world of difference.” — Lauren Vogel, *CMAJ*