



Canada's loss of measles-free status highlights public health gaps

Falling vaccination rates and a disjointed surveillance system have been blamed for a resurgence in measles in Canada. Paul Webster reports.

Following a series of measles outbreaks in isolated religious communities across Canada, and citing concerns about the coherence of Canada's national vaccination surveillance efforts, the Pan American Health Organization (PAHO) has revoked the country's measles elimination status. As a result, the PAHO says its entire Americas region has now lost its verification as free from endemic measles transmission. "We call on all countries to redouble their efforts to strengthen vaccination rates, surveillance, and timely response to suspected cases—reaching every corner of the Americas", Jarbas Barbosa, the PAHO's director, said in a press conference in Washington on Nov 10. "As a region, we have eliminated measles twice. We can do it a third time."

Canada first eliminated measles in 1998, following an intensive multiyear nationwide two-dose mass vaccination campaign. The Americas region was first declared free from rubella and measles in 2015—making it the first WHO region to achieve this status. However, Brazil and Venezuela subsequently lost their elimination status in 2019 and 2018, respectively, and only regained it after several years of intensified control efforts

Measles vaccination has prevented more than 6 million deaths across the Americas since 2000, the PAHO estimates. As of Nov 7, 12 593 confirmed measles cases have been reported across ten countries in the Americas this year, a 30-fold increase compared with 2024 according to the PAHO. Canada's measles outbreak began in October, 2024, in the province of New Brunswick and has since

spread nationwide, with more than 5000 confirmed cases reported. 28 deaths have been recorded this year across the Americas: 23 in Mexico, three in the USA, and two in Canada. Active outbreaks are ongoing in Canada, Mexico, the USA, Bolivia, Brazil, Paraguay, and Belize, mostly triggered by imported cases, the organisation explains. Transmission has primarily affected under-vaccinated communities, with 89% of cases occurring in unvaccinated

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individuals or those with unknown vaccination status. Children younger than 1 year are the most affected, followed by those aged 1–4 years.

The PAHO decision to revoke Canada's measles elimination status was taken by its eight-member Measles, Rubella, and Congenital Rubella Syndrome Elimination Regional Monitoring and Re-Verification Commission, which met in Mexico City in early November. The Commission, which is chaired by Jon Andrus, a global health professor at George Washington University in Washington, DC, USA, determined that endemic measles transmission has been re-established in Canada, where the virus has circulated for at least 12 months.

"Canada did not lose its status because of lack of effort", Andrus says. However, he explained, "transmission went more than 1 year with a genotype of measles virus that was the

same throughout". When a country has an importation that goes more than 1 year, they lose their measles-free status, Andrus added, while noting that in Canada's case, he saw "very good evidence that it came from Thailand" and "it's the same genome that keeps circulating month after month. It's the same virus that we were unable to stop".

Canada's outbreak, says Andrus, is driven by a measles genotype now found in ten countries throughout the Americas. It started in a Mennonite community in eastern Canada. "It entered a closely knit social network that was isolated, that has a history of, and was largely founded based on, their history of distrust of government."

All countries of Latin America and the Caribbean have seen declining vaccination rates since 2012, Andrus explains. "It was a steady decline, and then when COVID hit, that was a further blow...because immunisation campaigns that had been planned to improve coverage and other activities to help improve coverage and surveillance suffered." The COVID-19 pandemic significantly affected measles and rubella



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vaccination as well as surveillance, the PAHO says, noting that after the pandemic surged in March, 2020, the notification of suspected cases in the Americas decreased by 73% in comparison with 2019. In 2024, says the PAHO, regional coverage for the second dose of the measles, mumps, and rubella vaccine averaged 79%—well below the 95% needed to prevent outbreaks. In addition, only 31% of countries reached 95% or more coverage for the first dose, and just 20% achieved that level for the second dose.

Measles, Andrus emphasises, should be seen as a bellwether for future crises: “If a country cannot identify, rapidly respond to, and contain measles, how do you expect that country to rapidly respond and contain the next pathogen that’s part of a pandemic?”

In Canada’s case, Andrus added, despite excellent national laboratory pathogen investigation capabilities, high-quality vaccination surveillance is a perennial problem. “The data tends to be a bit old”, he says. “If you can have a standard registry that reports real-time data, that makes it so much easier for authorities to help local communities with the response needed when there’s importations, because importations are going to happen.”

Only about half of Canada’s provincial and territorial governments have joined a system established by Public Health Agency of Canada (PHAC) in 2023 for monitoring vaccination coverage, said Nicholas Janveau, national spokesperson for PHAC. Ontario, which is home to about 40% of the Canadian population, has not joined PHAC’s new system. Officials with the Ontario Ministry of Health did not respond when asked by *The Lancet* to explain Ontario’s non-participation. However, they do say that the measles outbreak in the province—which lasted nearly a year and totalled 2300 cases—is now over.

Janveau acknowledges that national vaccination surveillance

is problematic. “The challenges of creating a centralised national immunisation registry are rooted in the structural, legal, and operational realities of the country’s decentralised health-care system”, he explained. “Without uniform mandates to report immunisations to a registry—which only provinces and territories can legislate—a centralised registry risks incomplete data, reducing its effectiveness.”

At McGill University in Montreal, David Buckeridge, a professor of epidemiology and biostatistics, says calls for improvements to Canada’s vaccination surveillance system date back decades. “We don’t have a lot of people in leadership positions or

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in public health agencies with deep knowledge of technically how to build and maintain these systems”, he reflects, “and no politician wants to have a big announcement and say, ‘we created a new surveillance system’.” Meanwhile, Buckeridge adds, “there’s been a real erosion of trust between the public and public health systems”, and “there were major cuts recently at the Public Health Agency of Canada”.

Like Buckeridge, Ian Culbert, Executive Director of the Canadian Public Health Association, laments that electronic health records remain Balkanised and mismatched in Canada, a problem which impairs vaccination surveillance. “For the provincial management of health systems”, he says, “it’s one of their big failures”.

Canada’s measles troubles stem in large part from vaccination gaps, Culbert says. “For vaccines for infants, there is a growing concern

amongst new parents questioning how many vaccines are being given in a short period of time, although the science shows that it is safe.” And for Mennonite populations that are opposed to vaccines on a religious basis, Culbert says social realities are changing. “At one time Mennonite communities were isolated communities. They kept to themselves, and their interactions—especially the interactions of their children with the surrounding non-Mennonite communities—was limited. That is changing to a certain extent.”

Culbert also says that Canadian public health systems designed to track and prevent outbreaks are beleaguered. “The biggest factor is the pandemic”, he argues. “People couldn’t see doctors on a regular basis. A lot of family physicians shuttered their practices, and so their records and information about vaccination status were shuttered with them, especially if they couldn’t transfer their patients before they shuttered their practices. And school-based programmes were severely limited for at least 2 years.”

From a public health perspective, Culbert explains, “you have public health-organised agencies across the country who were working 24-7 for 2-plus years of the pandemic, and without a pause, they then went into mpox. Then they had to start doing catch-up on everything they were doing. It has been relentless”.

While describing high levels of burn-out and high levels of early retirement in public health systems, Culbert says government leaders are “actively distancing” themselves from public health because of pushback during the pandemic.

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