THE GLOBE AND MAIL

Routine vaccination rates for children, teens in Canada dropped dramatically since start of COVID-19 pandemic

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A nurse prepares a whooping cough vaccine in a May 10, 2012, file photo.

MATTHEW RYAN WILLIAMS/THE NEW YORK TIMES

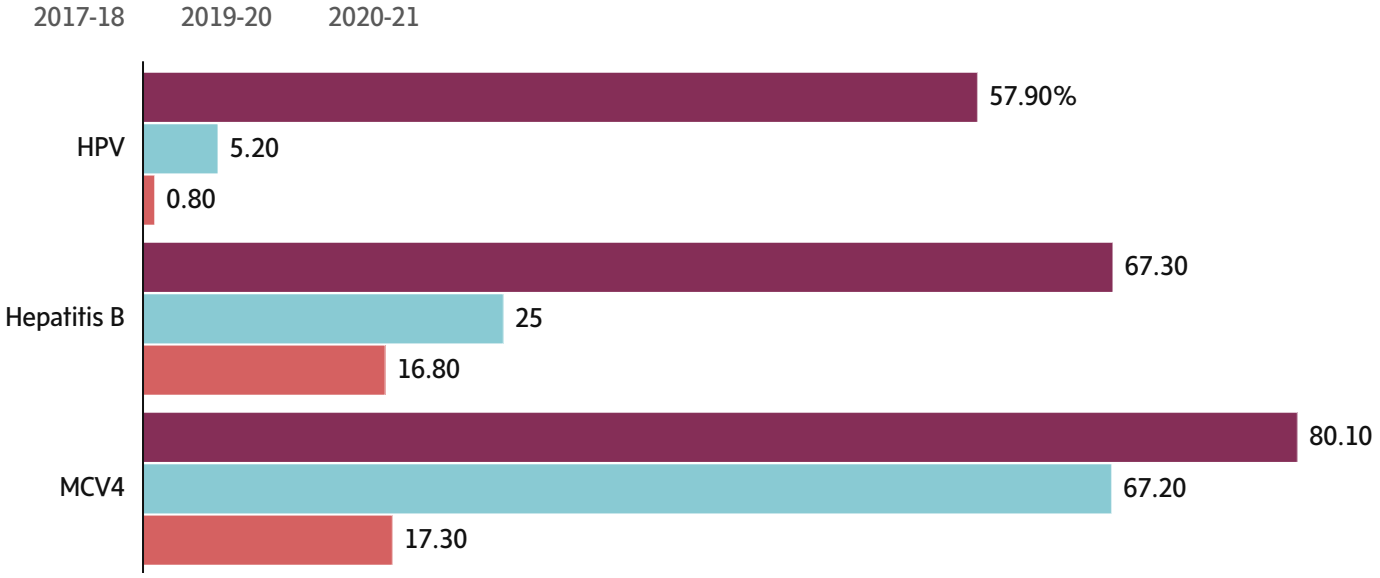
As students across the country embark on what many hope will be the most typical school year since the start of the pandemic, physicians and public-health experts are increasingly concerned about a major increase in the number of young people unvaccinated against potentially serious infectious diseases.

Pandemic-related disruptions, including school closings and reduced access to physicians' offices, resulted in a substantial drop in vaccine uptake among children and adolescents. That, combined with the widespread return to in-person learning, an increase in travel to areas where viruses like measles are still spreading and the rise of misinformation, could set the stage for an increase in outbreaks in schools.

"There's no question that the pandemic has disrupted students from getting vaccines," said Vinita Dubey, associate medical officer of health with Toronto Public Health. "If any infectious disease comes into the school setting, it can spread quite quickly."

Ontario coverage estimates for school-based immunization programs

For 12-year-olds



THE GLOBE AND MAIL, SOURCE: IMMUNIZATION COVERAGE REPORT FOR SCHOOL- BASED PROGRAMS IN ONTARIO

DATA SHARE

Only 55 per cent of Toronto students are up to date on the nine routine vaccines that protect against polio, measles, whooping cough and other illnesses that are included under the province's immunization act, Dr. Dubey said. The nine are required for children to attend school, unless they receive an exemption. It's possible the 55-per-cent figure underestimates vaccine coverage, as public-health officials in Ontario rely on parents to report their children's vaccination status and the ability of officials to track routine vaccination status has been hampered by a focus on COVID-19.

That means it's difficult to determine how much vaccination rates have changed since the start of the pandemic, as public-health resources were shifted to the pandemic response. The most recent data in Nova Scotia is from the 2018-19 school year. In B.C., the most recent

data comes from the 2019-20 school year, which was partially disrupted. Ontario's complete report on the 2020-21 school year is set to be published this fall.

But the figures that are available suggest major gaps in vaccine coverage.

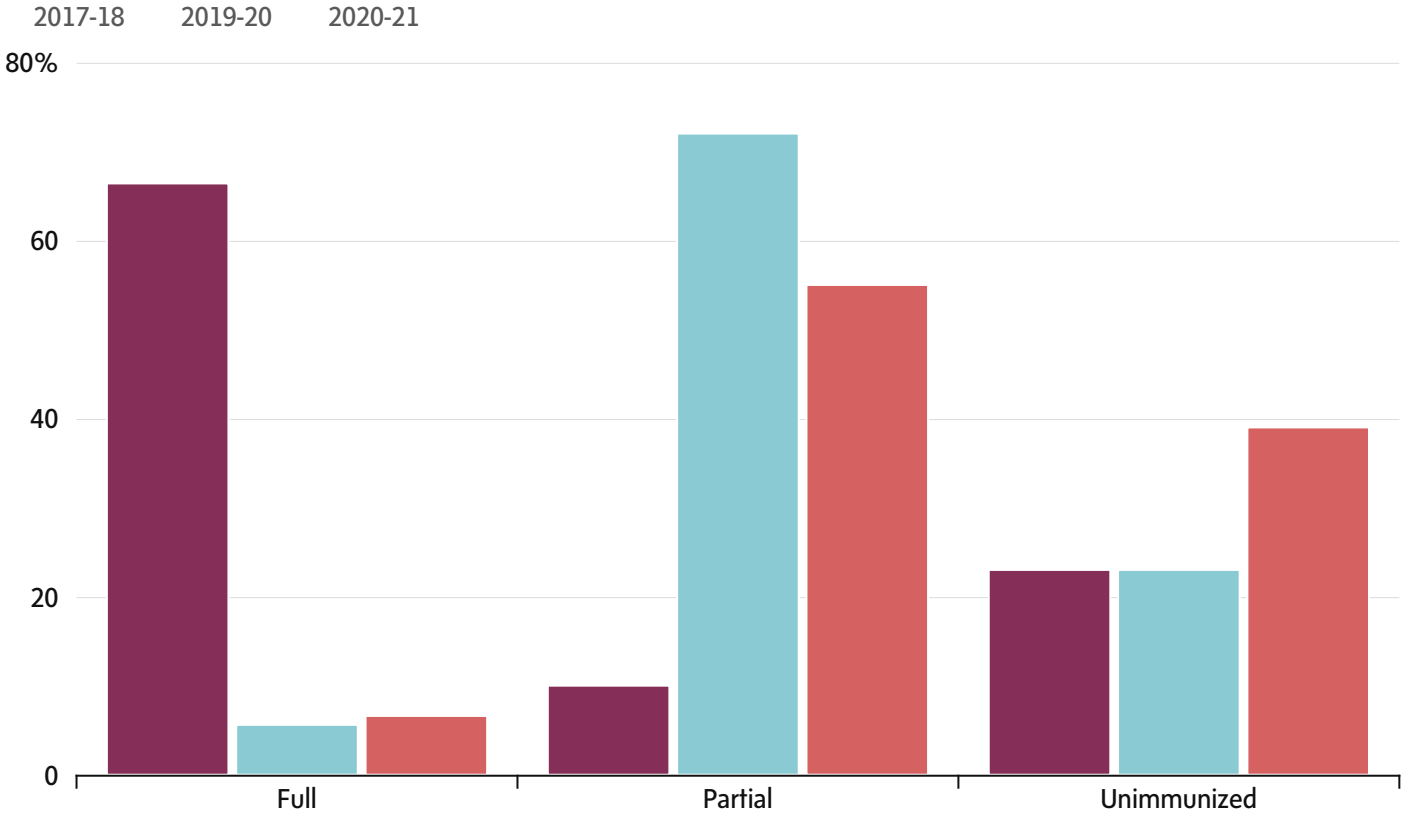
In Saskatchewan, only 73 per cent of two-year-olds are vaccinated against measles and whooping cough, according to a provincial report released in August, compared with 81 per cent in 2018. There needs to be a 95-per-cent coverage rate in order to prevent outbreaks of measles.

A study published in the journal Vaccine in March, using data from Toronto-based primary-care electronic health records, found that among children under two, the up-to-date vaccination rate dropped to 67 per cent at the end of 2020 from 71 per cent before the pandemic.

While there's been a decrease in vaccine uptake among babies and young children, experts say the biggest drop appears to be for vaccines that are typically delivered in schools: the human papillomavirus, hepatitis B and meningococcal vaccines.

HPV vaccine coverage during the COVID-19 pandemic

For school-based vaccines in Alberta



THE GLOBE AND MAIL, SOURCE: SCHOOL IMMUNIZATION COVERAGE DURING THE COVID-19 PANDEMIC: A RETROSPECTIVE COHORT STUDY

In Alberta, HPV vaccination coverage dropped to 6.6 per cent in 2020-21 from 66 per cent in 2017-18, according to data from a preprint study based on provincial health data.

In Ontario, less than 1 per cent of 12-year-olds had received their HPV shots, which help prevent cervical cancer, in the 2020-21 school year, compared with 58 per cent in the 2018-19 year, according to a report from Public Health Ontario. Uptake of the hepatitis B vaccine dropped to 16.8 per cent in 2020-21 from 25 per cent in 2019-20. And uptake of the meningococcal disease vaccine dropped to 17.3 per cent in 2020-21 from 67.2 per cent in 2019-20.

Experts say these lapses in vaccine coverage need urgent attention given the risk for new outbreaks of vaccine-preventable illness. Last week, Toronto Public Health confirmed three cases of invasive bacterial meningococcal disease – which causes serious, often fatal, illness – among individuals who were born in countries that don't provide immunization against the disease. One has died and the Toronto agency is advising unvaccinated individuals 20 to 36 to get immunized.

While school closings and other pandemic disruptions are believed to be the driving factor in lower vaccination rates, there are concerns that misinformation and disinformation may also be playing a role.

Dr. Dubey pointed to HPV vaccine misinformation, which was prevalent before the pandemic and contributing to a lower overall uptake.

"The HPV vaccine is probably one of our most impactful vaccines," she said. "Yet the rates for that vaccine are one of our lowest and a lot of that has been the role that misinformation has played when that vaccine rolled out."

Shannon MacDonald, who has been studying vaccine uptake during the pandemic, said there is a group of people who are opposed to vaccines, and it will be difficult to change their minds. But for many, gaps in coverage come down to life circumstances that make getting to a vaccine appointment a major challenge.

"I would say even before the pandemic, when you looked at who was behind in the vaccines, it was not people who were adamantly opposed to vaccines. It was people who

had busy lives, lots of kids, maybe complex lifestyles where housing is transient or jobs are scarce," said Dr. MacDonald, who is an associate professor in the faculty of nursing at the University of Alberta. "Those are the folks who have every intention of getting their kids vaccinated but are challenged by it."

Making sure those children catch up on their vaccines will depend on making them easy for families to access, Dr. MacDonald said, such as through in-school clinics.

A new global outbreak of monkeypox and reports of polio in New York state and London underscores the importance of ensuring more young people get up-to-date on their immunizations, said Manish Sadarangani, director of the Vaccine Evaluation Center at the BC Children's Hospital Research Institute.

"We live in a global society and movement between different parts of the world is very easy and very common," he said. "Everything is everyone's problem."

Noah Ivers, a family physician at Women's College Hospital in Toronto, said it will be a challenge to get vaccine programs back on track, as provinces like Ontario lack a vaccine registry that would allow health authorities to quickly see who is behind on their vaccines.

"I think we do have a lot of logistical and also communications-related work ahead of us to catch up," he said.

But provinces were able to quickly create vaccine registries to track the administration of COVID-19 vaccines, which experts say shows a similar system could be set up for routine childhood immunizations.

"We have shown we can build these information systems. I think there's no reason why this can't be done across the whole population," Dr. Sadarangani said.