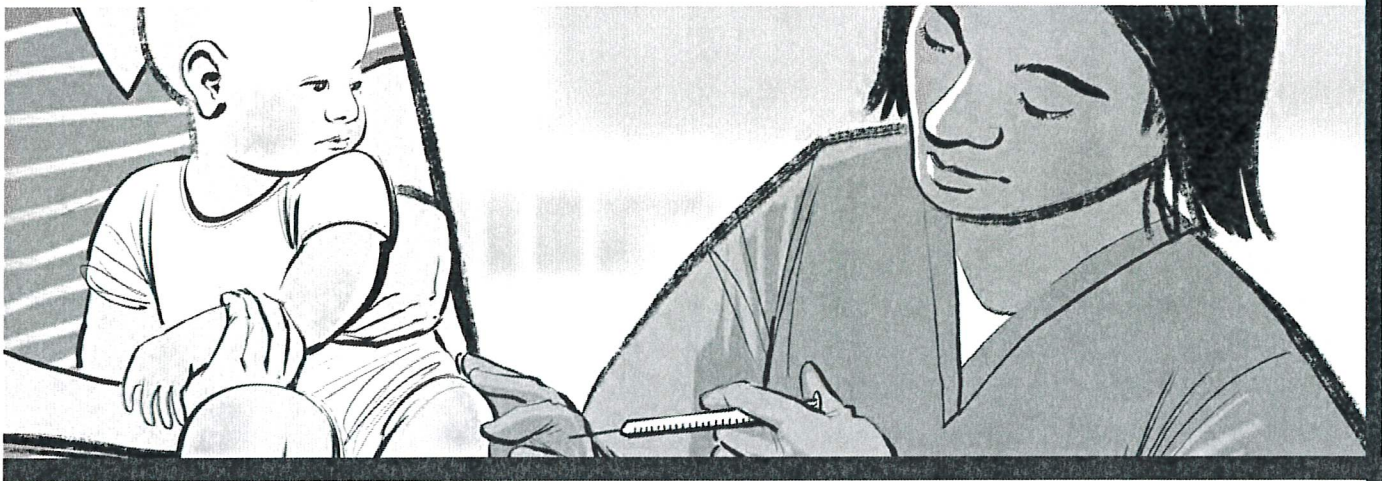




# NATIONAL MEASLES

– BACK IN THE SPOTLIGHT



A disease that was once eliminated in Canada has returned to threaten our wellbeing again. That disease? Measles.

As of March 16, 31 instances of the illness had been reported across the country. That's more than double the number that occurred last year. Quebec had the most cases – 21 – followed by Ontario with eight. British Columbia and Saskatchewan had one case each. It is the largest flare-up in Canada since 2019.

## GOING VIRAL

Granted, 31 cases doesn't sound like a lot. But health officials warn that the nation could be in for a "sizeable outbreak" of the potentially dangerous disease. The reason? Measles is highly contagious. It is easily spread by coughing or sneezing. It often infects others before the original carriers even know they are sick.

Measles can mimic a cold or flu at first, then a rash develops. Rare, more serious complications include pneumonia, brain inflammation, seizures, deafness, brain damage, and death.

## MEASLES VACCINE

Measles is still common in many developing countries – particularly in parts of Africa and Asia. Globally, the disease is the fourth leading cause of death in children under five.

Before the widespread use of vaccines, measles was a common childhood disease in Canada, too. But we've been using a safe vaccine that protects against it for more than 50 years. Because of the vaccine, Canada was declared measles-free in 1998.

Globally, vaccinations have reduced measles deaths by 80 percent in the past two decades, the **World Health Organization**

## VACCINE RISKS

Vaccines can cause side effects but the vast majority of the time these are mild and harmless. Side effects can include a slightly swollen or sore arm, a low fever, and temporary discomfort.

There is less than a one in one million chance of an allergic reaction to a vaccine. To protect against the very rare chance of a life-threatening allergic reaction, parents are asked to stay in the clinic with their child for 15 to 20 minutes after vaccination, so the child can receive medical treatment if required.

(WHO) reports. Between 2000 and 2021 alone, they prevented around 56 million deaths.

## HERD IMMUNITY

So with such an effective vaccine available, what's behind the latest measles outbreak in Canada? Health officials say new

## DEFINITIONS

**WORLD HEALTH ORGANIZATION (WHO):** a United Nations agency to coordinate international health activities and to help governments improve health services



# NATIONAL MEASLES

– BACK IN THE SPOTLIGHT

cases occur when unvaccinated travellers become infected overseas and bring the virus home with them. The disease then spreads because not enough Canadians are vaccinated.

If 95 percent of the population gets the measles vaccine, the virus can't spread because it can't find anyone to infect. This is called 'herd immunity.' It's important because not everyone can be vaccinated. Infants are too young. Patients with weakened immune systems can't get it either. But if there's herd immunity, these people have a tiny chance of coming into contact with the virus.

## TROUBLE IN THE HERD

Yet in 2021, just 79 percent of Canadian children were fully vaccinated by their seventh birthday. At that level, the disease can still spread. Worldwide, immunization levels dropped to their lowest in 15 years during the COVID-19 pandemic.

Not surprisingly, with fewer people protected, more are contracting measles. Cases of the illness increased by an estimated 18 percent globally in 2021-2022. Worse, deaths from the disease in 2022 were 40 percent higher than in 2021.

Africa, where 28 countries are experiencing outbreaks, has been hardest hit. Six nations in the Eastern Mediterranean, two in Southeast Asia, and one in Europe also had outbreaks. In Europe there were 940 cases in 2022, compared to 42,000-plus in 2023. Globally, 1.8 million children missed measles vaccine doses between 2020 and 2022.

## A NEW HEALTH THREAT

Why would parents not want to protect kids from diseases such as measles? Explanations vary. Some people don't vaccinate for religious reasons. Others, known as 'anti-vaxxers,' distrust drug companies. Or they believe **debunked** theories found on Facebook, YouTube, and elsewhere that link vaccines to conditions like autism. These social media lies can contribute to measles' spread.

WHO says vaccine hesitancy is one of the top ten threats to global health. Low vaccination rates could reverse years of progress made in tackling preventable diseases.

"It's a war around the truth and... a major public health crisis," says Dr. Fuyuki Kurasawa at Toronto's York University.

## VACCINES AT WORK

In Canada, a standard MMR vaccine protects against three diseases in one shot: measles, mumps, and rubella. It contains small doses of weakened forms of all three viruses. The vaccine can't give you those diseases. The dose just triggers your immune system to create antibodies (proteins that destroy disease germs). The antibodies destroy the vaccine viruses just as they would the disease viruses.

The antibodies stay with you for a long time. They remember how to fight off the virus. Then, if the real disease enters your body, the antibodies fight it off before it has a chance to make you sick.

Other vaccines prevent cervical cancer, diphtheria, hepatitis B, pertussis (whooping cough), varicella (chicken pox), pneumonia, polio, and tetanus.

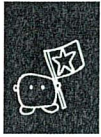
What's the solution? Health officials say they must up their own social media game using factual, short, catchy messages and videos with audience appeal.

Dr. Theresa Tam, Canada's Chief Public Health Officer, says we have to stop the dangerous comeback of measles here and globally.

"We need to do more," she says. ★

## DEFINITIONS

**DEBUNK:** to cause to be no longer believed or valued



**COMPREHENSION QUESTIONS**

1. Explain what **measles** is. How does it usually spread?

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2. What are the symptoms and complications of this disease?

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3. Explain how a **vaccine** works.

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4. What are the risks of getting a vaccine?

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5. How many measles deaths have vaccines prevented worldwide?

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6. What percentage of people need to be vaccinated for herd immunity to occur?

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7. Why is herd immunity important to prevent the spread of disease? Explain.

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8. What happened to global immunization rates during the COVID-19 pandemic?

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9. What happened to Canadian immunization rates in recent years?

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10. How many measles cases were reported in Canada in mid-March? Which province had the most?

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**QUESTIONS FOR FURTHER THOUGHT**

1. Before the development and widespread use of vaccines, many illnesses like measles were common in children. According to the World Health Organization, millions of deaths have been prevented by the use of vaccines. Today, there is a growing distrust of the medical community and the need to be vaccinated. As you see it, what factors may have contributed to this vaccine hesitancy? Explain.

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2. An inference is a conclusion drawn from evidence. *A good inference is supported by evidence in the article and is consistent with known facts outside the article.* What inference(s) can you draw from the fact that the measles virus is still common in developing countries?

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3. The article suggests that in order to fight against misinformation online, health officials need to step up their game to deliver the facts in ways that appeal to audiences on social media. In what ways could this be done effectively? Give examples to support your ideas.

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# NATIONAL MEASLES

– BACK IN THE SPOTLIGHT

## QUESTIONS FOR ONLINE EXPLORATION

*Note:* The links below are listed at [www.lesplan.com/links](http://www.lesplan.com/links) for easy access.

1. What is measles?

<https://www.youtube.com/watch?v=RMg5aO1kXeY> [4:18] animation

<https://letstalkscience.ca/educational-resources/stem-explained/measles-and-measles-prevention>

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2. Review the history of measles:

<https://www.youtube.com/watch?v=8KSD-HFSq3Y> [11:53]

<https://www.who.int/news-room/fact-sheets/detail/measles>

What did you learn?

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3. Why is measles back in the spotlight?

<https://www.cbc.ca/news/health/what-to-know-about-the-measles-vaccine-from-who-should-get-one-to-how-long-immunity-lasts-1.7152266>

<https://www.cbc.ca/news/health/measles-may-be-spreading-in-some-canadian-communities-officials-warn-1.7131704>

[https://www.youtube.com/watch?v=PSk\\_ApKz9xE](https://www.youtube.com/watch?v=PSk_ApKz9xE) [2:00]

What questions do you have?

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4. Learn more about the measles vaccine and how misinformation has led to vaccine hesitancy:

[https://www.youtube.com/watch?v=PUK5x\\_yigtc](https://www.youtube.com/watch?v=PUK5x_yigtc) [7:49]

<https://www.youtube.com/watch?v=4oATiWvOgL4> [2:04]

How does the measles vaccine work?

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5. Why is measles so contagious?

<https://www.youtube.com/watch?v=gZx28D6I8aI> [10:16]

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6. Check out these infographics about measles:

<https://www.cdc.gov/measles/contagious-infographic.html>

<https://www.cdc.gov/measles/parent-infographic.html>

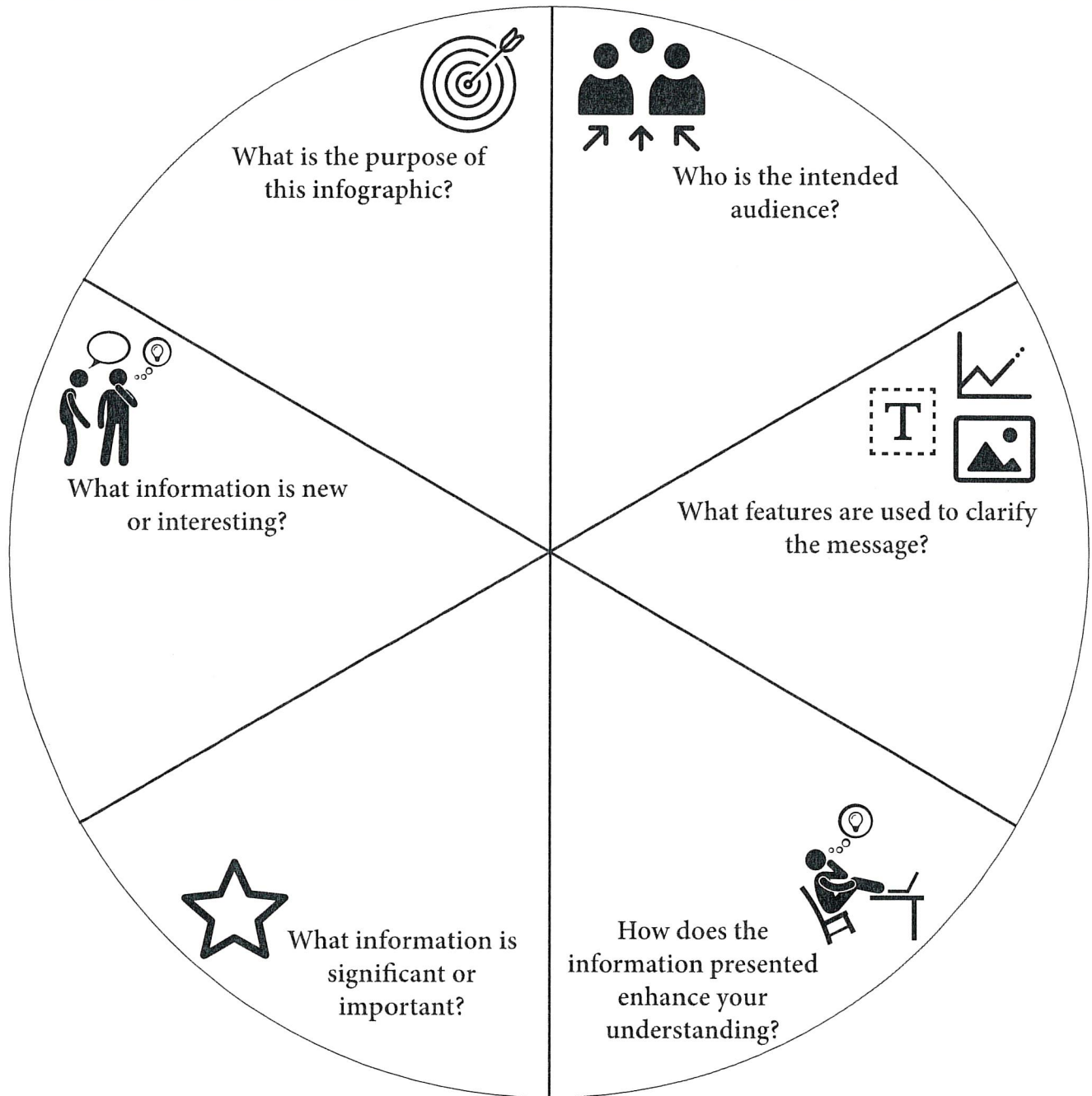
**INFOGRAPHIC**

# VACCINES WORK

		CASES THEN*	CASES NOW**	DECREASE
WHOOPING COUGH		17,777	2,340	87%
MUMPS		36,101	737	98%
MEASLES		53,584	37	MORE THAN 99%
DIPHTHERIA		8,142	5	MORE THAN 99%
RUBELLA		14,974	1	MORE THAN 99%
POLIO		2,545	0	100%

\* Average number of cases reported annually in Canada during the five years before routine vaccine use, or the closest possible five years where stable reporting was occurring.  
 \*\* Average number of cases reported annually in Canada from 2016 to 2020.  
 Some numbers are subject to change as reports are updated. For details about the data sources and methods, visit [Canada.ca/vaccines](https://Canada.ca/vaccines)

**ANALYZING AN INFOGRAPHIC**



What questions do you still have about the topic presented?

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**PUTTING IT ALL TOGETHER**

A. Write the letter that corresponds to the best answer on the line beside each question:

- \_\_\_\_\_ 1. What does the body's immune system produce when a person is vaccinated?  
a) antibiotics  
b) antibodies  
c) skin rash  
d) red blood cells
- \_\_\_\_\_ 2. If 95 percent of the population is immunized, this is called:  
a) herd immunity  
b) side effect  
c) incubation period  
d) vaccination hesitancy
- \_\_\_\_\_ 3. Which continent experienced the most severe measles outbreak in recent years?  
a) Africa  
b) North America  
c) Europe  
d) Asia

B. Mark the statements T (True) or F (False). If a statement is True, write one important fact to support it on the line below. If a statement is False, write the words that make it true on the line below.

\_\_\_\_\_ 4. **True or False?** Canada was declared free of measles in 1998.

\_\_\_\_\_

\_\_\_\_\_ 5. **True or False?** Serious allergic reactions to vaccines are common.

\_\_\_\_\_

\_\_\_\_\_ 6. **True or False?** A special measles vaccine is used to protect small babies.

\_\_\_\_\_

C. Fill in the blanks to complete each sentence.

7. Measles is often spread by coughing and \_\_\_\_\_ .

8. WHO = \_\_\_\_\_ Health Organization.

9. \_\_\_\_\_ reported the most measles cases in Canada in mid-March.

D. Respond to the following question in paragraph form. (*Use a separate sheet of paper if necessary.*)

10. What advice would you give a parent who is planning not to immunize his or her child? Give reasons to support your response.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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