



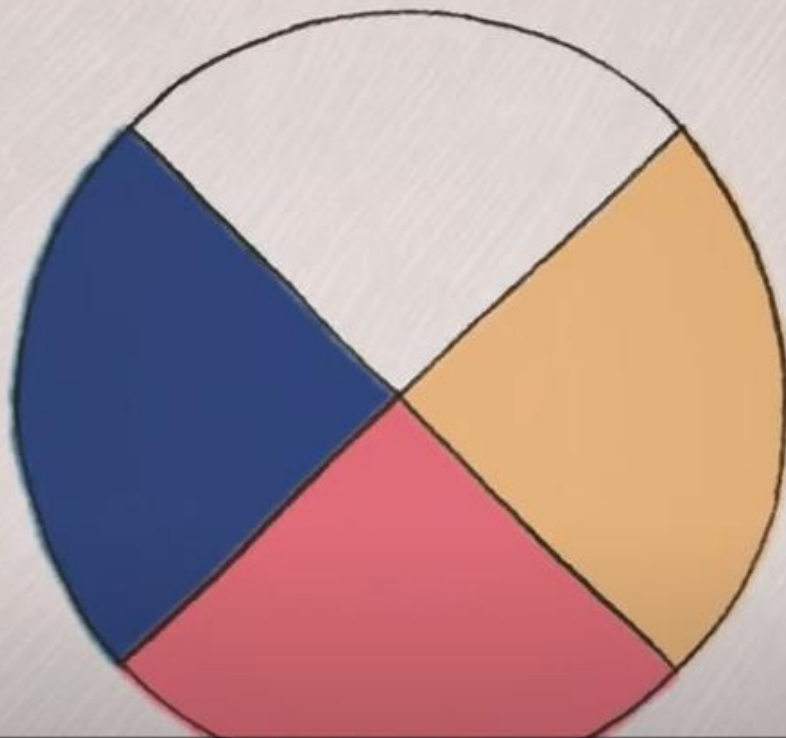
# Immunization Basics

Answering your questions about immunization in children and in pregnancy

MCH/FASD/CPNP Circle Discussion

October 15, 2025





Long ago, our people used traditional medicines to treat sickness and to maintain our health.

Play (k)



0:03 / 4:50



## Vaccines: A First Nations Childhood Immunization Video for Expectant Parents

<https://www.youtube.com/watch?v=priQZXY04EE>



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## How do vaccines work?

- By teaching the immune system how to recognize viruses and bacteria that are harmful
- Just like teaching our children how to keep themselves safe from other harmful things, vaccines teach the immune system how to build protection that is specific to bad germs

# How do vaccines work?

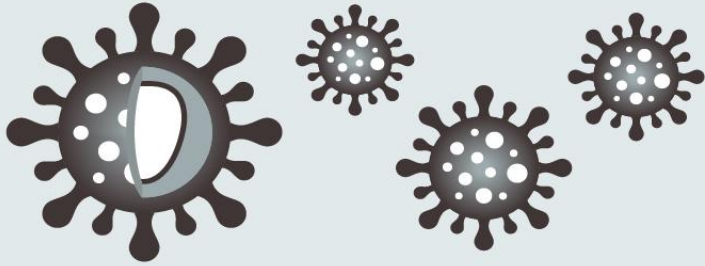


# How do vaccines work?



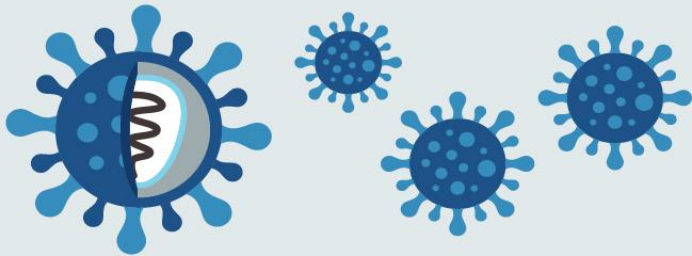
# FOUR WAYS TO MAKE A VACCINE

## INACTIVATED VACCINES

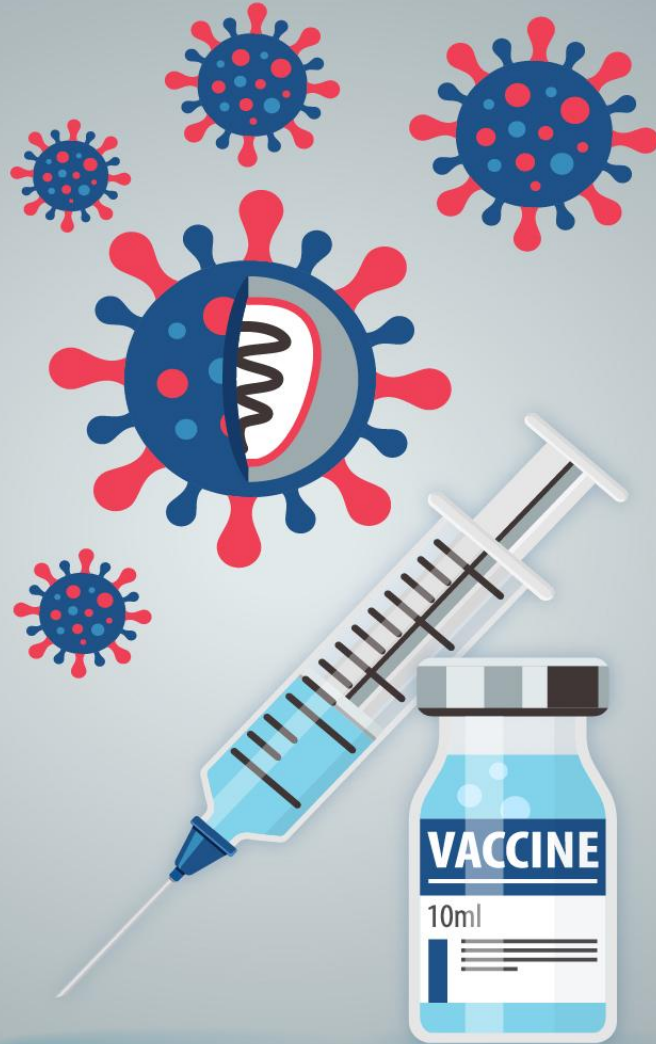


Use a killed virus to trigger an immune response.

## ATTENUATED VACCINES



Use a weakened virus to trigger the immune response.

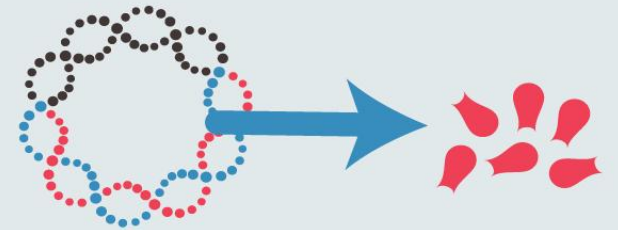


## SUBUNIT VACCINES



Use only a portion of a virus to teach the immune system to recognize the whole virus.

## NUCLEIC ACID VACCINES



Use virus DNA or RNA to enable human cells to manufacture portions of a virus to trigger the immune response.

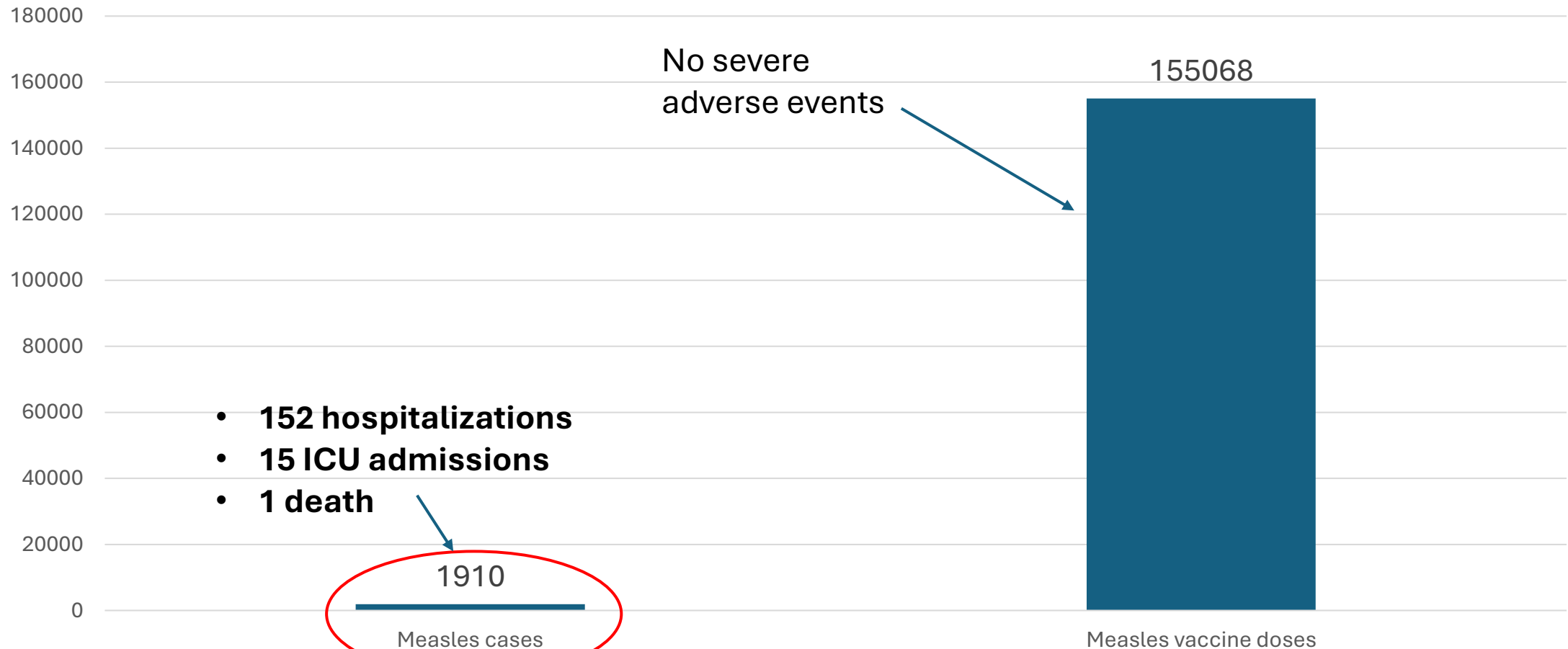


The University of Arizona  
Health Sciences

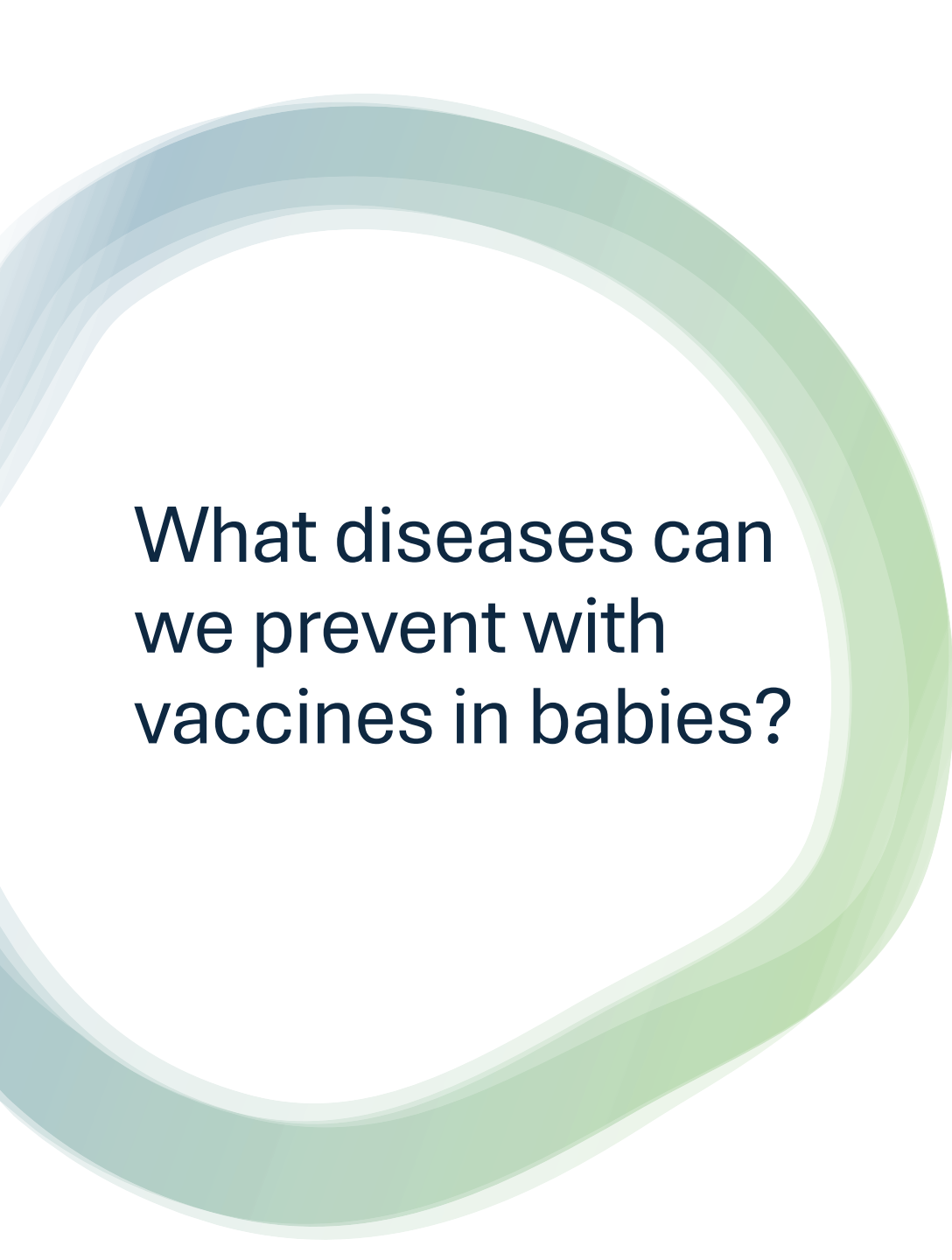
# How do we check the safety of vaccines?

- Vaccines have to be tested in many ways before they are licensed for use
- Active safety monitoring happens for all vaccines
- Most vaccines given to children have been in use for many years, and have decades of safety data
- Vaccines can cause things like pain at the injection site and allergic reactions, but the risks of having a vaccine-preventable disease are much higher

# Risk comparison example – measles in 2025



73% of cases in children, 92% of cases not fully immunized



What diseases can we prevent with vaccines in babies?

- Vaccines offered to babies at 2, 4, and 6 months protect against:
  - Diphtheria
  - Pertussis
  - Tetanus
  - Polio
  - Haemophilus influenza type b (Different from influenza virus!)
  - Pneumococcal bacteria
  - Meningococcal bacteria
  - Rotavirus

Worried  
about  
immune  
system  
capacity?



Worried  
about  
starting so  
young?



# Borrowed immunity - RSV

- RSV is a virus that can make babies really sick.
  - It usually spreads in the winter
  - Last year in Alberta, 810 babies needed hospital care after RSV infection and one baby died
- For some high-risk babies, there is an injectable antibody (nirsevimab) that can protect them for about 6 months
- Some provinces offer this to all babies. In Alberta, high-risk babies who are born prematurely or who have health issues can get this injection.

# What diseases can we prevent with vaccines in toddlers?

- Vaccines given to toddlers at 12 and 18 months protect against:
  - Measles
  - Mumps
  - Rubella
  - Varicella (chickenpox)
  - Boosters for the bacteria on the previous slide
- Babies 6 months and older can get influenza and COVID vaccine yearly in the fall

# What diseases can we prevent with vaccines in pregnancy?

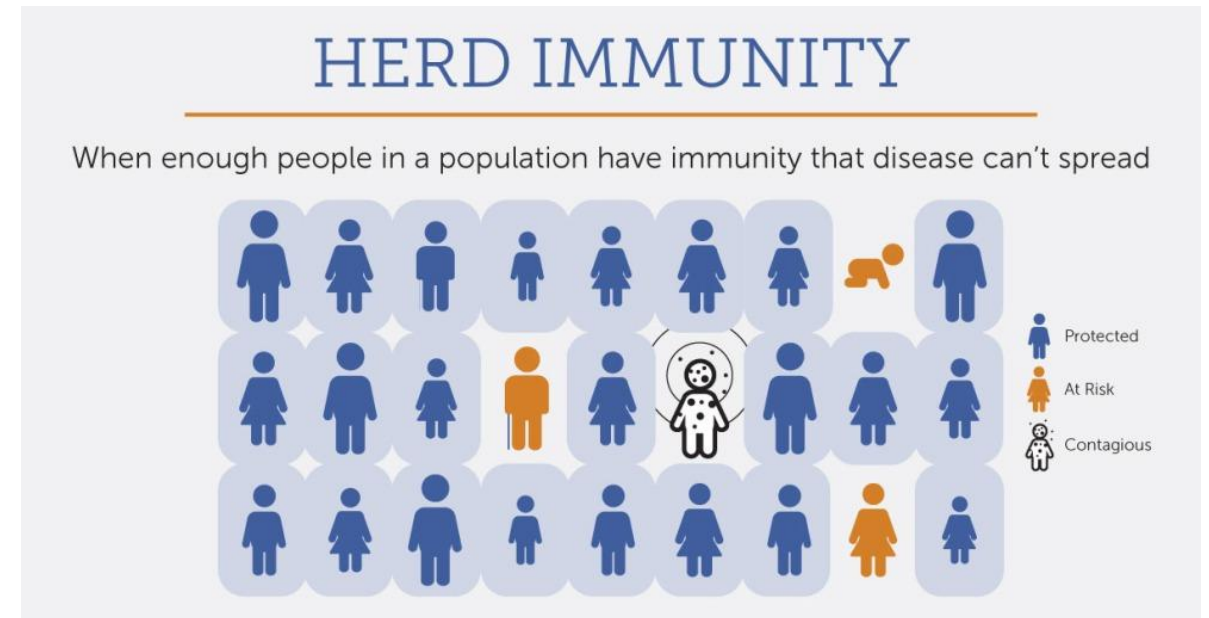
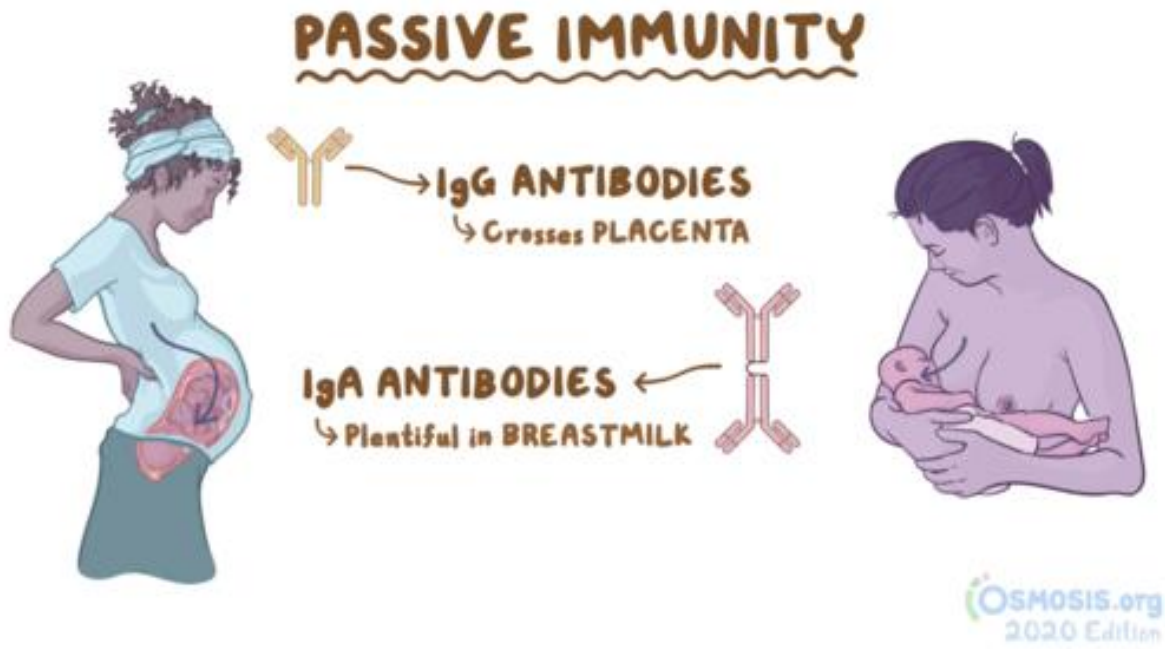
## Not all vaccines can be given in pregnancy

- For example, measles vaccine is not recommended during pregnancy, so it is important to get those vaccines before becoming pregnant

## Recommended vaccines in pregnancy include:

- Tetanus/diphtheria/pertussis in 3<sup>rd</sup> trimester (to protect baby from pertussis)
- Influenza in the fall
- COVID-19 in the fall

# How do vaccines in pregnancy work?



# Other Resources

- [https://www.nccih.ca/Publications/lists/Publications/ICG/Guide-to-Immunization\\_EN\\_2022-09-07\\_Plains%20Cree\\_Web.pdf](https://www.nccih.ca/Publications/lists/Publications/ICG/Guide-to-Immunization_EN_2022-09-07_Plains%20Cree_Web.pdf)
- [https://www.nccih.ca/Publications/Lists/Publications/Attachments/10397/Guide-to-Immunization\\_EN\\_Web\\_2022-09-07.pdf](https://www.nccih.ca/Publications/Lists/Publications/Attachments/10397/Guide-to-Immunization_EN_Web_2022-09-07.pdf)



Extra Slides

# Other Resources

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<https://www.immunize.ca/questions-and-answers>

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<https://caringforkids.cps.ca/handouts/immunization>

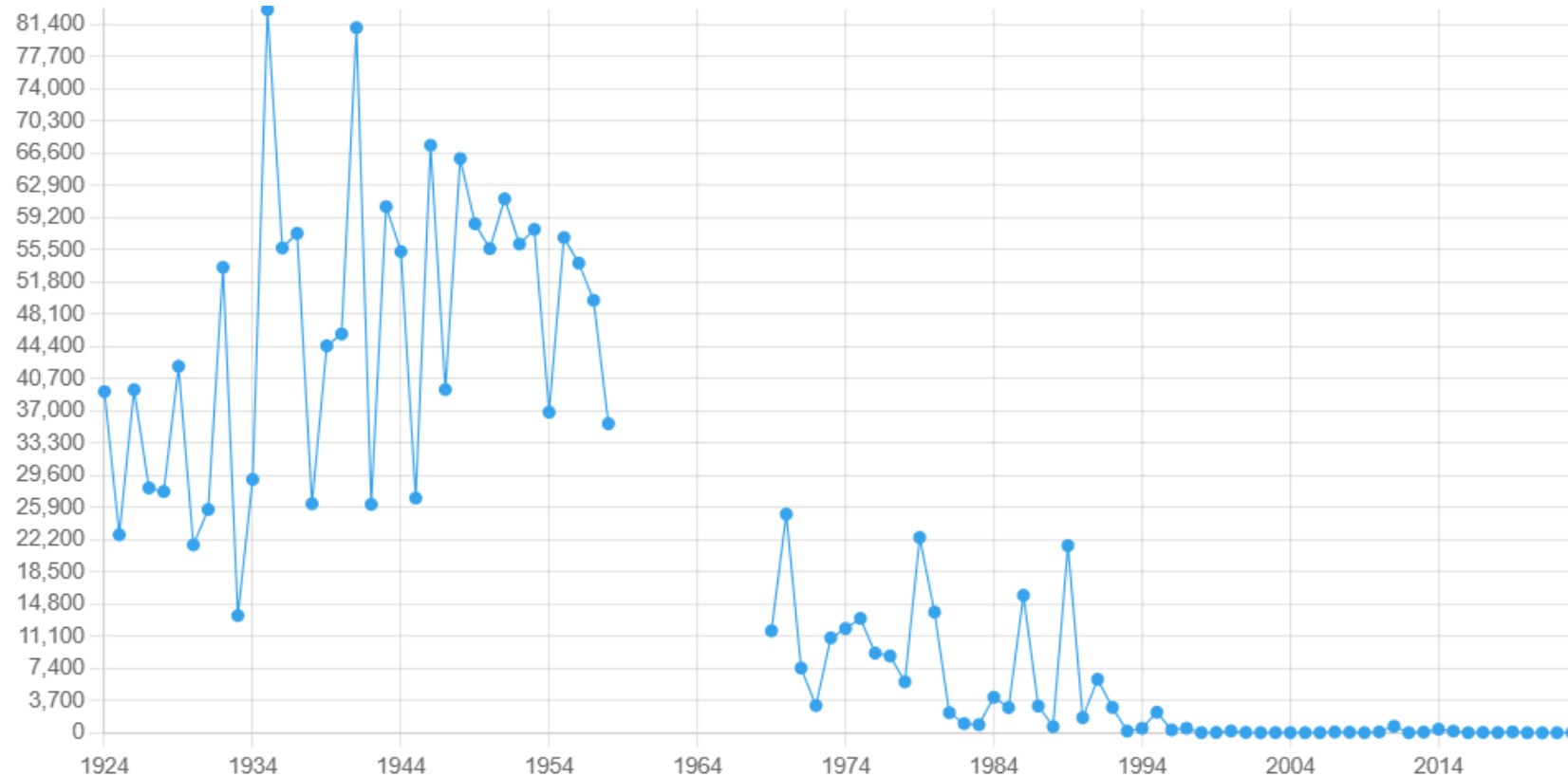
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<https://www.canada.ca/en/public-health/services/publications/healthy-living/parent-guide-vaccination.html>

# Videos on vaccines

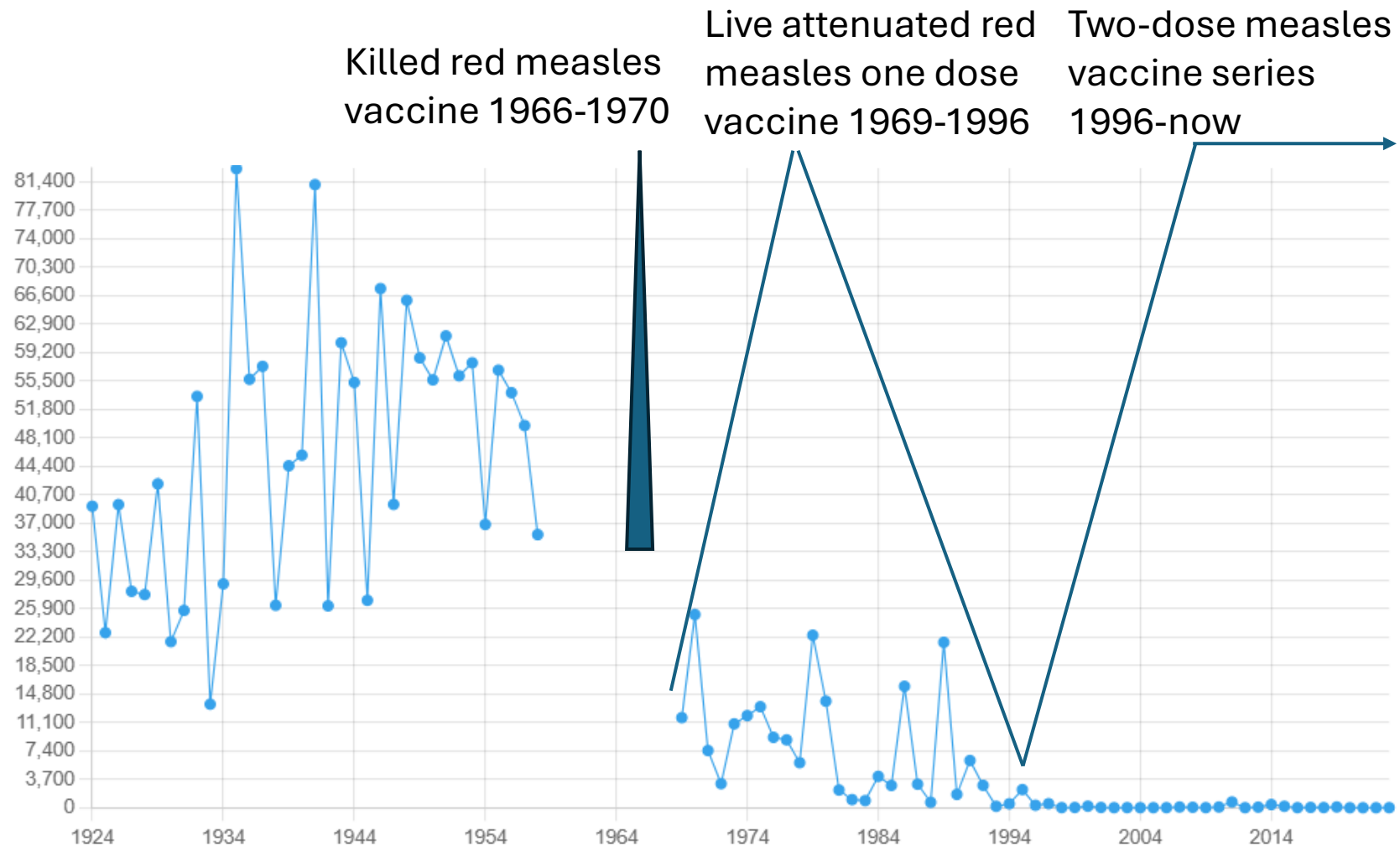
- [Why get a vaccine if it isn't 100% effective? A raincoat metaphor - Sci Ani](#)
- [How do vaccines work? A castle metaphor - Sci Ani](#)
- [Is 'natural immunity' better than vaccine immunity? A fire drill metaphor](#)
- [Are vaccines that are developed quickly safe? A cake metaphor](#)
- [Why take a vaccine if I'm at low risk from the illness? A speed limit metaphor](#)

# Measles cases in Canada, 1924-2023



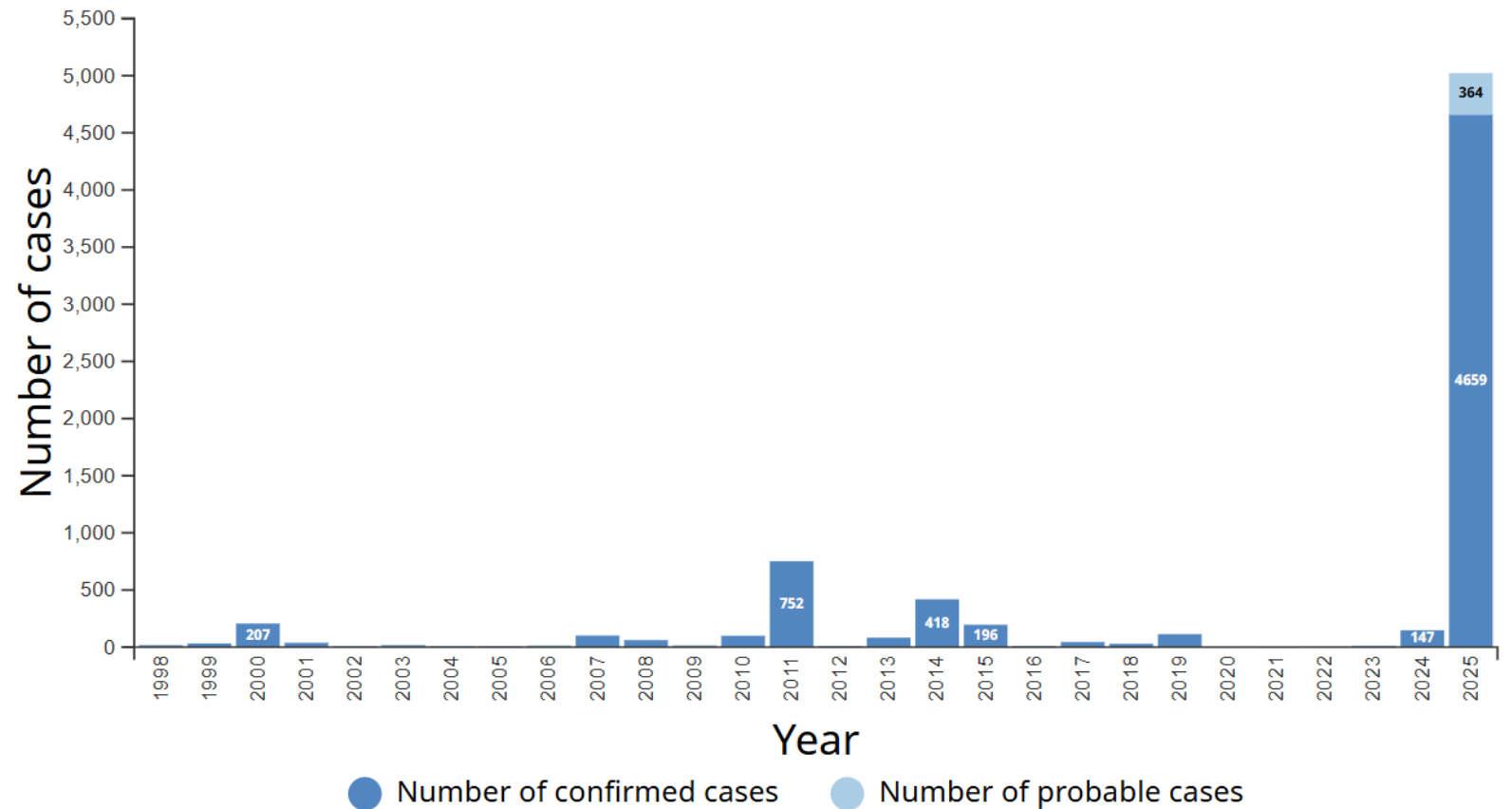
<https://diseases.canada.ca/notifiable/charts?c=pl>

# Measles cases in Canada, 1924-2023



<https://diseases.canada.ca/notifiable/charts?c=pl>

# Measles Cases in Canada, 1998-2025



<https://health-infobase.canada.ca/measles-rubella/>