

Measles

Current Situation

Case and Contact Investigations

Immunization review

Communicable Disease Control | Indigenous Services Canada
August 2025





In the spirit of Truth and Reconciliation, Indigenous Services Canada (ISC), Alberta Region respectfully acknowledges that we are situated on Treaty 6, 7, & 8 territories, the traditional lands of First Nations and Métis people.

We appreciate and are thankful to play, work, and live along side First Nations and Métis people.

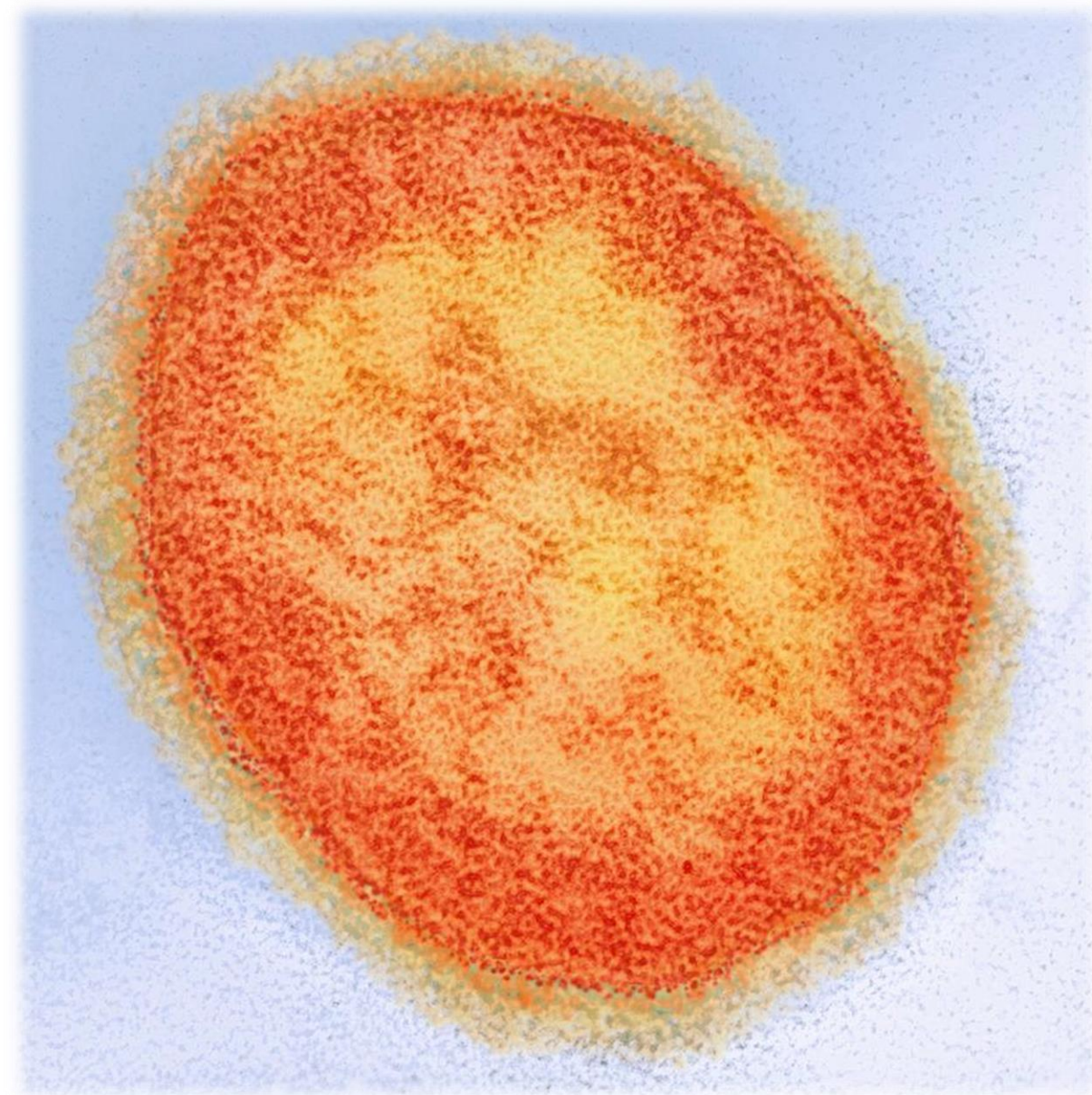
Land Acknowledgement



Outline

- What is measles?
- Measles current situation
- Clinical presentation of measles
- Measles Definitions
- Measles testing
- Case management
- Contact follow-up
 - Post exposure Prophylaxis (PEP)
- STRETCH BREAK
- Scenario
- Health Care Workers
- Infection Prevention and Control (IPC)
- Immunization
 - Scenarios

What is measles?



- Measles is caused by the measles virus, a member of the Paramyxoviridae family, genus Morbillivirus.
- **Highly contagious virus**
- **Spread by airborne and droplet route**
 - **Or by direct contact with respiratory secretions** of an infected person, and less commonly, by articles freshly soiled with respiratory secretions.
- **The virus can survive in the air for up to two hours in closed areas.**
 - The secondary attack rate is greater than 90% for susceptible persons.
- Other names for: red measles or rubeola
- Measles is not rubella or german measles

Current Situation: Alberta

Measles cases in Alberta to date:

➤ Confirmed Cases Total: 1691

- North Zone: 552
- Edmonton Zone: 23
- Central Zone: 108
- Calgary Zone: 50
- South Zone: 958

➤ Hospitalized:

- 2 currently
- 132 hospitalized total; 15 in ICU

➤ First Nations:

- 18 confirmed cases in 5 different First Nations
- 219 close contacts or PUI (as of Friday, 01 AUG)
- Many First Nations have had at least one close contact- often, an infant under 12 month and/ or Person Under Investigations (PUI)



Clinical Presentation

Measles is an acute, highly contagious viral disease with some or all the following prodrome signs and symptoms:

- fever >38.3 degree Celsius (oral),
- cough, runny nose (coryza) or red eyes (conjunctivitis)
- Koplik spots (clustered blue-white lesions on the buccal mucosa)

The prodrome is followed by:

- a generalized maculopapular rash 3–7 days after prodrome symptom onset and can last for 3–7 days. Rash often begins on face before spreads to rest of the body.

Complications:

- Most common in under 5 years, pregnant or immune compromised individuals.
- Pneumonia, otitis media, febrile seizures, croup, diarrhea, encephalitis.
- Disease in immunocompromised individuals may be more severe with a prolonged course, possibly without the typical rash.





The following information is available in the [Alberta Public Health Disease Management Guidelines](#) or the [Healthcare Providers | Alberta Precision Laboratories](#).

Information has been tailored by the ISC CDC team to meet the needs of First Nations in Alberta.

Measles Definitions and Testing

Case Definition: Confirmed Case

Laboratory confirmation of infection in the absence of recent immunization with a measles-containing vaccine.

AND:

- Molecular detection of measles virus or isolation by culture from an appropriate clinical specimen,

OR,

- Positive serologic test for measles Immunoglobulin M (IgM) antibody in a person who is either epidemiologically linked to a laboratory-confirmed case or has recent exposure to an area of known measles activity,

OR,

- Seroconversion or a significant rise (e.g., fourfold or greater) in measles Immunoglobulin G (IgG) titre by any standard serologic assay between acute and convalescent sera,

OR,

- Clinical illness (D) in a person who is epidemiologically linked to a laboratory-confirmed case of measles.

Case Definition: Probable & Suspect Case

Probable Case: In the absence of both recent immunization with a measles-containing vaccine and laboratory confirmation of disease

- Clinical illness in a person with either an epidemiologic link to a non-laboratory-confirmed case of measles or has recent exposure to an area of known measles activity.

Suspect Case: A person for whom public health or a medical practitioner has a suspicion, based on symptoms and/or exposures, that they may be a measles case, but for whom there is not yet enough information to either classify as a confirmed or probable case or to rule out as a measles case



Diagnosis

- **Measles is usually diagnosed based on clinical presentation, exposure history, and laboratory testing.**
- If an epidemiological link to an already laboratory confirmed case has been established, laboratory testing is not necessary to meet case definition. However, it is extremely valuable to have genotyping information on clusters/outbreaks to support public health surveillance and so testing should be considered.
- Genotyping helps determine the probable origin of the case and can distinguish between vaccine strains and wild-type virus.
 - NOTE: Alberta Precision Laboratory (APL) genotypes positive measles specimens to determine if vaccine related. Samples that are identified as wild type are referred to the National Microbiology Laboratory (NML) for genotyping and surveillance.

Measles Testing in Alberta

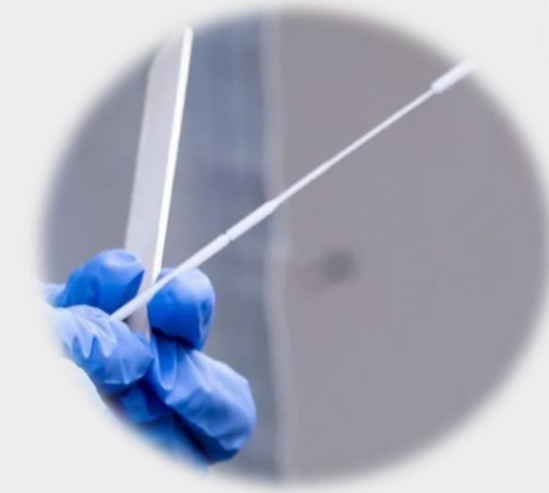
Refer to APL Lab bulletins and/or test directory for most up to date information: [Healthcare Providers | Alberta Precision Laboratories](#)

Measles NAT PCR

- Most effective from rash onset to 7 days later (symptomatic clients)
- **Specimens needed:**
 - Nasopharyngeal or throat swab in UNIVERSAL TRANSPORT MEDIUM and/or URINE in a sterile specimen container.

Measles IgM and Measles IgG

- IgM ordered for acute symptoms
- IgG usually ordered to confirm immunity.
- **Specimens needed:**
 - Serology. Using a gold-top serum separator tube.



Currently measles NAT urine and NP, measles IgM & IgG serology is recommended for all suspect cases.

***** Remember airborne and contact/droplet precautions*****

Measles Laboratory Requisition

The ISC CDC team is available to assist you with obtaining and filling out a laboratory requisition for measles virus testing and/or measles immunity testing.

ALBERTA PRECISION		Serology and Molecular Testing Requisition		Scanning Label or Accession # (lab only)		
Edmonton Phone 780.407.7121 Fax 780.407.3864 Calgary Phone 403.944.1200 Fax 403.270.2216 Microbiologist/Virologist-on-Call 780.407.8822 Microbiologist/Virologist-on-Call 403.944.1200 Refer to APL Test Directory for detailed information: http://ahsweb.ca/lab/apl-td-lab-test-directory For Zoonotic Infections (eg. Mosquito-borne, tick-borne) use Form 20087 (Zoonotic Testing Requisition)						
Patient	PHN	Expiry: _____	Date of Birth (dd-Mon-yyyy)			
	Legal Last Name		Legal First Name		Middle Name	
	Alternate Identifier	Preferred Name	☐ Male ☐ Female	☐ Non-binary ☐ Prefer not to disclose	Phone _____	
	Address		City/Town		Prov _____ Postal Code _____	
Provider(s)	Authorizing Provider Name (last, first, middle) Dr.Sarin, Christopher		Copy to Name (last, first, middle)		Copy to Name (last, first, middle)	
	Address 630, 9700 Jasper Ave Edmonton, T5J 4C1		Phone 780-218-9929		Address _____	
	CC Provider ID	CC Submitter ID #13196	Legacy ID #63486	Phone _____	Phone _____	
	Clinic Name FNIHB- Indigenous Services Canada		Clinic Name		Clinic Name	
Collection	Date (dd-Mon-yyyy)	Time (24 hr)	Location	Collector ID	Outbreak (EI) if applicable (yyyy-###)	
Specimen/Type Source - Specify						
☒ Blood ☐ Bone Marrow		Fluid ☐ CSF ☐ Auger Suction ☐ Bronchoalveolar Lavage (BAL) ☐ Eye (Aqueous) ☐ Eye (Vitreous) ☐ Nasopharyngeal ☒ Urine		Swab ☐ Buccal ☐ Mouth ☐ Cervical ☒ Nasopharyngeal ☐ Eye (specify) _____ ☐ Lip ☐ Rectal ☐ Lesion (specify) _____ ☐ Throat ☐ Urethral		
Tissue ☐ Autopsy (specify) _____ ☐ Biopsy (specify) _____		Other ☐ Stool ☐ Other (specify) _____				
☐ CMV IgG (LAB467) ☐ EBV Panel (LAB1731) ☐ HSV IgG (LAB507) ☒ Measles IgG (LAB657) ☐ Mumps IgG (LAB160) ☐ Parvovirus IgG (LAB4309) ☐ Rubella IgG (LAB49602) ☐ VZV IgG (LAB162) ☐ CMV IgM (LAB4255) ☒ Measles IgM (LAB4313) ☐ Mumps IgM (LAB4307)		Hepatitis A ☐ HAV IgG (LAB601402) ☐ HAV IgM (LAB79802) Hepatitis B ☐ HBsAg (LAB47103) ☐ HBsAb (LAB47203) ☐ HBcAb, Total (LAB124202) ☐ HBcAb, IgM (LAB54902) ☐ HBeAg (LAB908002) ☐ HBeAb (LAB79602)		☐ Echinococcus (LAB1234) ☐ Toxoplasma (LAB3758) ☐ Schistosomiasis (LAB1235) ☐ Strongyloides (LAB19528) Bacterial Serology ☐ Brucella (LAB6003) ☐ Diphtheria antitoxin (LAB6012) ☐ M. pneumoniae (LAB799) ☐ Syphilis (LAB1197) ☐ Tetanus antitoxin (LAB6038) Fungal Serology		☐ Bordetella Panel (LAB923) ☐ CSF Viral Panel (LAB4153) ☐ Enteroparechovirus (OP 0421837) ☐ Eye Panel Conjunctivitis (LAB4156) ☐ Eye Panel Chorioretinitis (LAB4152) ☐ Gastroenteritis Viral Panel (LAB1901) ☐ Hepatitis C RNA (LAB1834) ☐ HSV/VZV (OP 0421955) ☐ HIV 1 Qualitative (LAB919) ☒ Measles Virus (LAB4313) ☐ Mumps Virus (LAB4307)

Incubation Period & Communicability

Incubation Period:

- *Time from exposure to first signs of disease is approximately 10 days with a range of 7–18 days. The incubation period from exposure to rash onset averages 14 days but the rash can appear as late as 19–21 days from infection.*
 - *Note: Individuals who receive immunoglobulin (Ig) for post-exposure prophylaxis (PEP) may have a prolonged incubation period if they develop disease despite PEP*

Period of Communicability:

- *Infectious from 4 days prior to onset of the rash (day 0) to 4 days after the appearance of rash.*
 - *Note: Individuals who are immunocompromised* may have prolonged excretion of the virus in respiratory secretions and can be contagious for the duration of their illness*

**Definition of immunocompromised: Refer to Canadian Immunization Guide*
[Immunization of immunocompromised persons: Canadian Immunization Guide - Canada.ca](#)

Isolation vs Quarantine



Isolation = Case

Isolation period definition:

- Period of time the confirmed or probable case must isolate from all public settings. The individual cannot attend childcare, school or work outside of the home until determined to be no longer infectious.
- Based on rash onset date. 4 days before rash onset and 4 days after rash onset. Rash is day zero.
- Note: If no rash or unknown rash onset date: Consult ISC CDC or MOH.

➤ **Example:**

Rash onset: Aug 12.

Isolation period: 08 AUG- 16 AUG end of day.

Isolation lifted on 17 AUG.



Isolation vs Quarantine



Quarantine = Contacts

Quarantine period definition:

- Period of time the susceptible contact must be excluded from all public settings. The individual cannot attend childcare, school or work outside the home.
- Excluded from the 5th day after their first exposure to the end of the 21st day after the last exposure. Or until immunity is confirmed or PEP received.

➤ **Example:**

First contact 02 AUG. Last contact 04 AUG.

Quarantine period: 07 AUG- 25 AUG (end of day).

Quarantine lifted on 26 AUG.





The following information is based on the [Alberta Public Health Disease Management Guidelines](#) and has been tailored by the ISC CDC team to meet the needs of First Nations in Alberta.

Case Management

Case Management

Goals:

- Isolate case to prevent further spread
- Identify symptoms, symptom onset date and rash onset date
- Identify source of infection
- Identify any potential contacts during infectious period
 - High risk- individuals under 1 year of age, pregnant, immunocompromised
 - May qualify for Post-Exposure Prophylaxis (PEP)
 - Household contacts
 - Other close contacts
 - Workplace/School/Daycare
 - Social gatherings- weddings, powwows, sports tournaments etc
 - Travel (local and beyond)



Alberta Public Health Disease Management Guidelines

Measles

Refer to the Alberta Public Health Disease Management Guidelines to guide your practice: [Notifiable disease guidelines | Alberta.ca >> Measles](#)

Case Management

Public Health Management

Key Investigation

- Confirm that the individual meets the case definition.
- Obtain history of illness, including onset date of signs and symptoms and determine period of communicability.
- Determine the occupation of the case e.g., Health Care Worker (HCW).^(E)
- Determine possible transmission settings (e.g., childcare settings, homeless shelters, overcrowded housing, and health care settings) during the period of communicability.
- Determine measles specific immunization history including:
 - number of doses,
 - date administered,
 - where person was immunized (e.g., out-of-country), and
 - if not immunized, determine reason why.
- Determine the possible source of infection including:
 - recent contact with a confirmed, probable, or suspect case,
 - recent travel history (during the incubation period),
 - recent immigration from an area with known [endemic disease](#), and
 - members of the same household with similar symptoms
- Facilitate collection of all appropriate specimens.
 - Blood, urine, and nasopharyngeal (NP) swab collection is recommended for all potential measles cases.
 - NOTE:** many laboratory collection sites do not collect NP swabs
 - See [Laboratory Testing for Measles](#) for details on timing of samples.
- Identify [contacts](#) that have had an exposure to the case during the period of communicability and assess their immunization history.
 - Risk of transmission is directly related to the proximity and duration of contact and intensity of the exposure.
- Flights: consult MOH for guidance. Refer to [Management of Contacts](#) for more information.

Table 1: Definition of Contact

Definition of Contact

Any persons who have had an exposure to the case during the period of communicability such as:

- living in the household with the case, or
- had face-to-face contact with the case, or



[Notifiable disease
guidelines | Alberta.ca](#)

Management of a Case

- Provide information about disease transmission and measures to minimize transmission.
- Hospitalized cases should be managed in accordance with hospital infection prevention and control guidelines.
- Isolation of Confirmed and Probable Cases:
 - The MOH **shall** isolate cases from all public settings, for example, they cannot attend childcare, school or work outside of the home until determined to no longer be infectious.
- Isolation of Suspect Case:
 - The MOH **may** also isolate suspect cases (including those that refuse testing or testing is not done) from all public settings, e.g., they cannot attend childcare, school, or work outside of the home, during the period of communicability if there is a high suspicion of measles disease.

Management of Contacts

- Confirm exposure history and the time since last exposure to the case.
 - The zone MOH assesses the exposure risks in open settings (e.g., retail facilities such as pharmacies or grocery stores) where cases were present while infectious. This may include, but is not limited to, estimations of the:
 - number of susceptible contacts,
 - presence of high-risk individuals (i.e., immunocompromised, pregnant, infant),
 - type of exposure (e.g., proximity to case, duration of exposure), and
 - public health resources available.
- Assess for signs and symptoms,
 - Facilitate [specimen collection](#) as necessary, mindful of infectious period and appropriate infection prevention and control precautions.
- Determine immunization history (i.e., type of vaccine, number of doses and date of administration), including presence of high risk conditions and offer immunization as per the [A/P](#) recommendations.
- Assess for **susceptible contacts** (see [Figure 1: Assessing Measles Contact Susceptibility](#)).
 - The MOH shall exclude susceptible contacts of probable and confirmed cases from all public settings e.g., they cannot attend childcare, school or work outside of the home.⁽¹²⁾ The MOH **may** also exclude susceptible contacts of suspect cases if there is a high suspicion of measles.
 - susceptible contacts are excluded from the 5th day after the first exposure (day zero) to the 21st day after the last exposure, or until they demonstrate an acceptably low risk for infecting others (through serology and/or post-

Case Management Steps



1. **Positive result received by ISC CDC team or CHN notifies CDC**
 2. **ISC CDC confirms meets case definition and submits ISC and provincial notifications:**
 - a. Notifies ISC MOH team
 - b. Sends FMP notification to PPHS (*formerly Alberta Health*)
 - c. IPC and WHS notifications if applicable
 3. **ISC CDC contacts CHN via phone call and follow up email and shares the following:**
 - a. Client demographics and background
 - b. Isolation period (4 days prior to rash onset date to 4 days after rash onset date)
 - c. Attaches Case Management Form
 - d. Attaches Contact Tracing Spreadsheet
 - e. Attaches lab requisitions
 - a. Symptomatic close contacts
 - b. Immunity check (measles IgG)
- 

Case Management Steps



4. **CHN contacts case and completes investigation as per the Alberta Public Health Disease Management Guidelines >> Measles:**
- a. Advise of verbal isolation order based on rash onset date. Written order available from ISC MOH if necessary
 - b. Case management form: determine source of infection
 - c. Identify any susceptible and not susceptible close contacts and completes contact tracing spreadsheet.
 - d. Follow up of any close contacts living on that First Nation.
 - e. Any close contacts identified as living on another First Nation or off-reserve- notify ISC CDC
 - f. Send completed Case management form and Contact tracing spreadsheet to ISC CDC
 - g. Complete NDR and submit to CDC
 - h. Wellness Checks and Isolation lift
- 

Once the isolation period has ended, and provided they feel well, the CHN is responsible for contacting the client to lift the isolation order.

Case Management Steps

5. ISC CDC follows up with close contacts living on another First Nation or off Reserve

- a. Refer to CHN in another First Nation
- b. Refer to PCA (*formerly AHS*) for any close contacts or locations off reserve

6. Documentation

- a. ISC CDC documents in CDOM
- b. Health centre documentation

Resources:

- [Measles Contacts List](#) (OneHealth)
- [Measles Case Management Form](#) (OneHealth)
- [Notifiable disease guidelines | Alberta.ca](#) >> Measles

Close Contact	Last Name, First Name	DOB (YYYY-MM-DD)	PHN	Gender (M/F)	Phone #	Vulnerability Group (C)	
						Under 1 Year of Age	

[illegible]

- **NEW** [Measles and Pregnancy Poster](#) - June 2025
- **NEW** [Measles Contact Information Poster](#) - May 2025
- [ISC Measles Vaccine Poster](#)
- [Patient Symptoms Poster](#)



The following information is based on the [Alberta Public Health Disease Management Guidelines](#) and has been tailored by the FNIHB CDC team to meet the needs of First Nations in Alberta.

Contact Tracing

Contact Definition

Any persons who have had an exposure to the case during the period of communicability:

- Living in the household with the case
- Had face-to-face contact with the case
- Shared confined air space or was in the same confined air space as the case within a two-hour period after the case had left (e.g., doctor's offices, laboratories, classrooms). There is no minimum time that the case or contact must have been present in the room.
- Attends the same school or facility as a case, including all students, staff and volunteers.



Contacts: Susceptible vs Not Susceptible



Not Susceptible Close Contact:

- Any individual born before 1970 and is not immunocompromised or a health care worker. (HCW).
- Any Individual born in or after 1970 with the following:
 - 2 documented doses of measles containing vaccine, both given after one year of age and a minimum of 4 weeks apart.
 - Laboratory evidence of prior measles disease
 - Laboratory evidence of measles immunity (positive measles IgG serology)

Susceptible Close Contact:

- Any individual born in or after 1970 without adequate protection
- Health care workers at any age without adequate protection
- Immunocompromised individuals at any age- refer to the Canadian Immunization Guide - Canada.ca for list of conditions

Contact Tracing: Not-Susceptible Contact

- **Instruct to self-monitor for symptoms until 21 days after their last exposure to the case.**
 - If there is ongoing exposure, self-monitor for symptoms until 21 days after the date the case is no longer infectious.
- **If symptoms do arise, contact should call the health center or measles hotline at 1-844-944-3434 right away and immediately self-isolate.**
- Document. Ensure ISC CDC aware of contact.

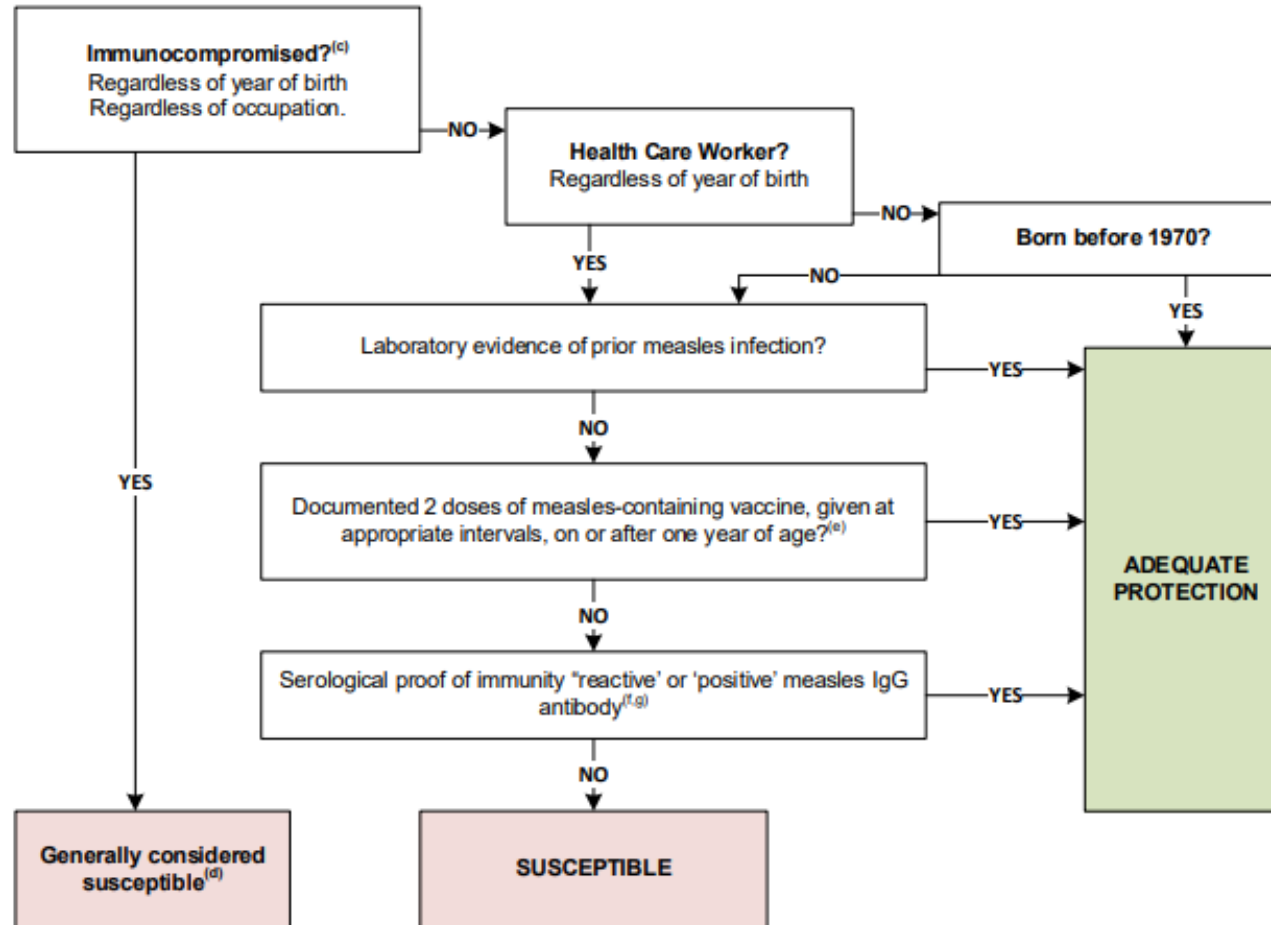
Contact Tracing: Susceptible Contact

- **Verbal exclusion order (shouldn't go to public places, work, school, etc.)**
 - 5 days after first exposure up to and including 21 days from last exposure; or
 - Until the individual can provide X2 documented doses of measles containing vaccine, minimum of 4 weeks apart and both doses over the age of 1 year of age; or
 - Serologic evidence of immunity (positive measles IgG)
 - Client receives PEP
 - Document exclusion order
- **Determine if susceptible contact qualifies for PEP**
 - MMR
 - Immunoglobulin (IG)

Assessing Susceptibility

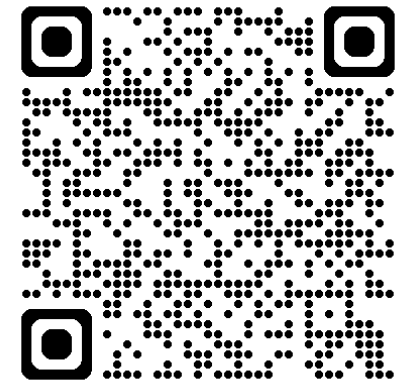
Figure 1: Assessing Measles Contact Susceptibility

Assessing Measles Contact Susceptibility^(a,b)



From the [Notifiable disease guidelines | Alberta.ca](https://www.alberta.ca/notifiable-diseases-guidelines.aspx) >> measles, pg 12.

If you are unsure at any point about susceptibility, **please reach out to an ISC CDC team member.**

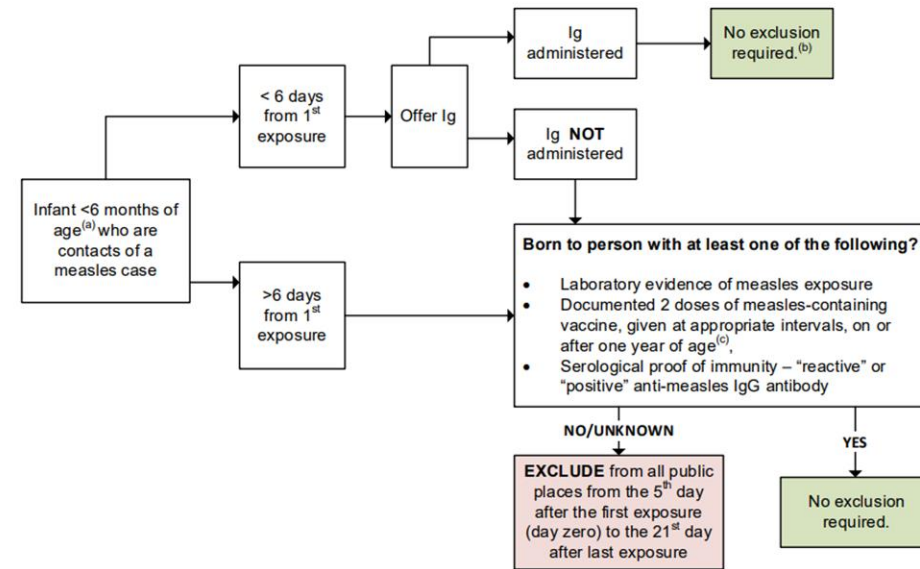


Contact Tracing: Susceptible Contact

➤ Contacts under 6 months of age

- Offer IG regardless of maternal immunity.
- Infants born to mothers with evidence of immunity do not need an exclusion order, regardless if IG given.
- Infants born to mothers without evidence of immunity and refuse IG, must be excluded.

Figure 3: Post-Exposure Prophylaxis and Exclusion Recommendations for Infants < 6 Months of Age ^(12,16)



^(a) The susceptibility of infants <6 months of age is determined by maternal immunity. Infants born to those without evidence of immunity are considered susceptible.⁽¹³⁾ Infants born to those with evidence of immunity are generally considered to be immune due to passive antibody transfer, therefore exclusions are not required. However, Ig is recommended as a precaution for this high-risk group due to potential for waning maternal antibodies.

^(b) Although infants who are born to those with immunity may have some protection through maternal antibodies, Ig should be offered to all contacts of measles case under 6 months of age if time permits.

^(c) There is no expiry on IgG positive results.

From the [Notifiable disease guidelines | Alberta.ca](#) >> measles, pag15.

Contact Tracing: First Steps

- Once close contact(s) are identified, reaches out and assesses the following:
 - Confirm exposure history and the time since last exposure to the case
 - Assess for symptoms: *does the client meet suspect or probable case definition?*
 - Determine if they have adequate protection from measles OR are susceptible to measles. This includes determining if they are *high-risk*:
 - Immunocompromised individuals with conditions listed in the Canadian Immunization Guide
 - Pregnant persons
 - Infants under 6 months of age
 - Determine PEP eligibility
 - Determine if the client is a healthcare worker (*more to come in next sections on HCWs*)



Post-Exposure Prophylaxis/PEP

What is Post Exposure Prophylaxis?

PEP when given to susceptible contacts, in the appropriate timeframe, can modify or prevent disease.

Two types:

- MMR (susceptible contacts >6 months of age and no contraindications to live vaccines)
 - 0-72 hours after first exposure
- Immunoglobulin (IG)
 - Up to 6 days after first exposure
 - For high-risk susceptible contacts only



Post-Exposure Prophylaxis: MMR

MMR vaccine:

- Primary prophylactic intervention for all susceptible, immunocompetent contacts 6 months of age and older.
- Offer up to 72 hours after first exposure
- Follow [AHS Immunization Program Standard Manual \(IPSM\)](#) >> *Biological product information* >> *Measles* for further guidance:

Post-exposure:
• Measles ◦ Susceptible contacts of a measles case should receive either MMR, MMR-Var (12 months to 12 years of age only) or immunoglobulin (IG) depending upon the time-lapse from exposure, age and health status. ◦ Susceptible immunocompetent contacts (without contraindications) 6 months of age and older should receive measles-containing vaccine. Administer the vaccine within 72 hours of exposure and do not delay pending serology results. This includes children between 12

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Standard # 07.270
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Priorix	M-M-R II
	and 18 months of age who have received 1 dose of vaccine and are considered up-to-date for age, ensuring the minimum interval since the previous dose. ▪ If MMR vaccine is contraindicated or if more than 72 hours since exposure has elapsed, IG may be indicated. See Immune Globulin Biological Page. ▪ If MMR vaccine is administered more than 72 hours after exposure, it may not provide protection against the current exposure but would offer protection against subsequent exposures. Note: ▪ As an outbreak control strategy during a measles outbreak, the Medical Officer of Health may recommend MMR vaccine for children 6 months up to and including 11 months of age. ▪ Not all HCW require measles serology post-exposure. Most HCW have robust measles immunity assessments upon hire, and if those records meet current criteria for measles immunity, there is no need to request serology following an exposure. ▪ For disease investigation, contact assessment and reporting requirements, refer to Alberta public health disease management guidelines: measles.

Post-Exposure Prophylaxis: IG

Immunoglobulin (IG):

Consider IG for the following susceptible contacts:

- Immunocompromised or HIV infected individuals
- Non-immune Pregnant individuals
- Infants 6-12 months of age who cannot receive MMR vaccine within 72 hours
- All infants < 6months of age
- Follow [AHS Immunization Program Standard Manual \(IPSM\)](#) >> *Biological product information* >> *Immune Globulin* for further guidance.

Immune Globulin

BIOLOGICAL PAGE



Section 7	Biological Product Information	Standard # 07.250	
Created and approved by	Provincial Immunization Program Standards and Quality		
Approval date	March 1, 2013	Revised	May 30, 2025

	IMIG GamaSTAN	IVIG Canada has a number of IVIG preparations available
Manufacturer	Grifols Therapeutics LLC – distributed by Grifols Canada Ltd.	• Gammagard® S/D (Takeda Canada Inc.) • Gammagard Liquid® (Takeda Canada Inc.) • Gamunex® (Grifols Therapeutics LLC) • IGIVnex® (Grifols Therapeutics Inc.) • Octagam® 5% (Octapharma)
Biological Classification	Passive: Immune Globulin	Passive: Immune Globulin
Indications for Use of Provincially Funded IG in Measles Post-Exposure	Measles post-exposure: • Measles PEP is recommended for individuals not expected to have immunity to measles following exposure to measles. • Previous immunization status, history of measles infection, birth year, and in some cases, use of measles serological testing (IgG), can be considered to determine measles immunity and PEP eligibility. • When indicated, PEP should be provided as soon as possible, preferably within 72 hours but up to six days after exposure. • Susceptible contacts should receive either measles-containing vaccine or Immune Globulin (IG) depending upon the time from exposure, age and health status. See Table 1 below. ○ Immune globulin (IG) is offered to eligible contacts as outlined in the Alberta Public Health Disease Management Guidelines: Measles. Refer to provincial guidelines as well as zone processes for follow-up of notifiable diseases. The following individuals are expected to have measles immunity:	

Post-Exposure Prophylaxis: IG

Immunoglobulin (IG):

- Consult ISC CDC or MOH on-call for any client who qualifies for IG
- MOH approval required for all doses
- IMIG (*under 30 kg*)
 - Can be given at some FN health centres, most PCA Public Health, most acute care sites.
 - ISC CDC will assist with coordination
- IVIG (*30 kg or more*)
 - Must be given in hospital
 - Consult with ISC CDC/MOH on call

IMIG GamaSTAN		IVIG Canada has a number of IVIG preparations available	
• Routine testing for laboratory evidence of measles immunity is not recommended for the general population.			
Table 1			
The following recommendations are adapted from the National Advisory Committee on Immunization's 2025 Updated <i>recommendations on measles post-exposure prophylaxis</i> . For disease investigation, contact assessment and reporting requirements refer to Public Health Notifiable Disease Management Guidelines – Measles.			
Population	Time Since Exposure		
	≤ 72 hours	73 hours to 6 days	
Infants less than 6 months of age	IMIG ^{1,2}		
Immunocompetent infants 6 to under 12 months of age ³	MMR vaccine ^{4,5}	IMIG ^{1,2}	
Susceptible immunocompetent individuals 12 months of age and older ⁶	Measles-containing vaccine	Measles-containing vaccine ⁷	
Susceptible pregnant individuals	IVIG ^{8,9}		
Immunocompromised and HIV infected individuals	Refer to Appendix A for PEP strategies		
1. Unless contraindicated, individuals who receive IG should receive routine immunization with measles-containing vaccines after the specified interval. See Standard for Recommended Immunization Schedules 03.110 Section 7. 2. If IM injection volume is a major concern, or recipients weigh >30 kg, or if access to IVIG is more feasible than access to IMIG, IVIG can be administered. 3. For immunocompetent children 6 months to under 12 months of age who have previously received a dose of MMR, options include a dose of MMR within 72 hours of exposure or IMIG within 6 days of exposure if seronegative for measles; clinical judgement should be used. Two doses of a measles-containing vaccine (given at least 4 weeks apart) would still be required after 12 months of age for long term protection. 4. Two additional doses of measles-containing vaccine administered after 12 months of age (given at least 4 weeks apart) are required for long-term protection.			

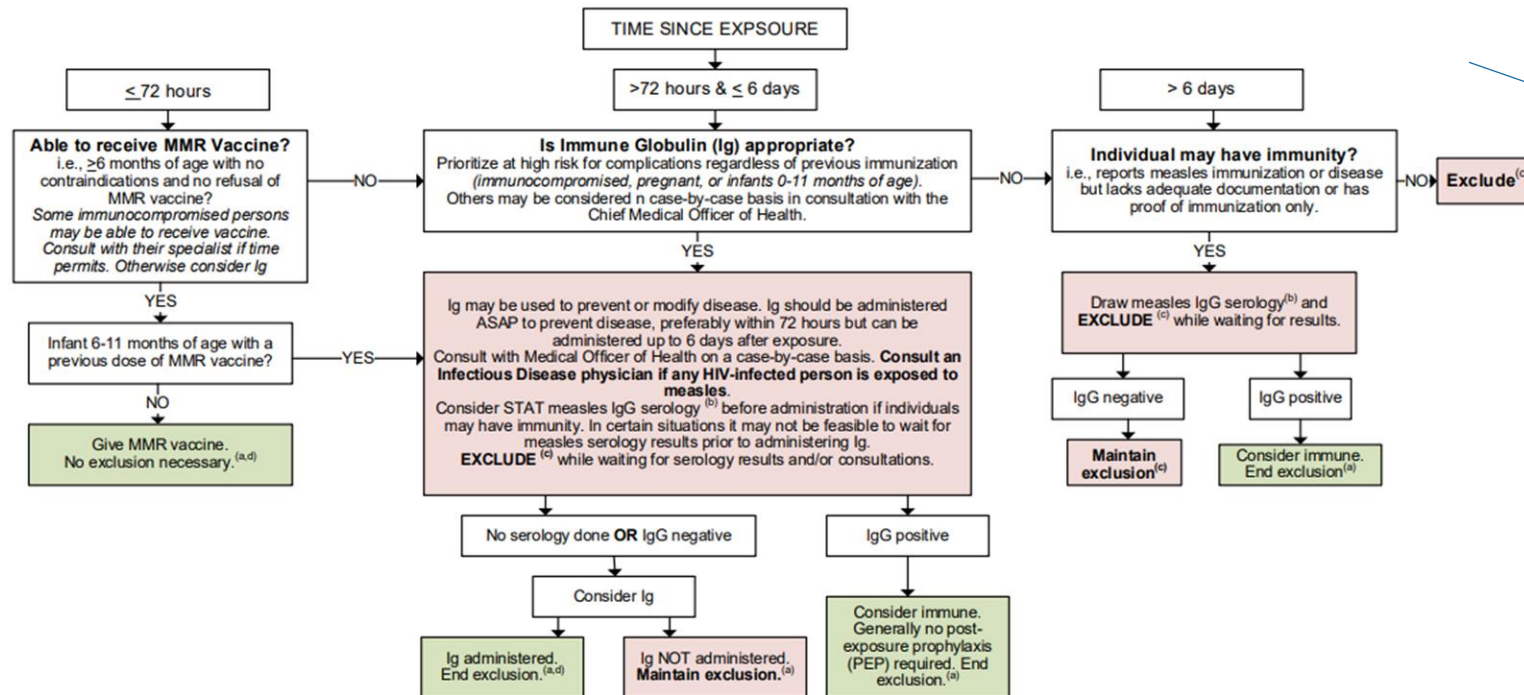
From the
Immunization
Program Standards
Manual | Alberta
Health Services >>
Immune Globulin
Bio page. Consult
**ISC CDC team
member for all
contacts who
qualify for PEP.**



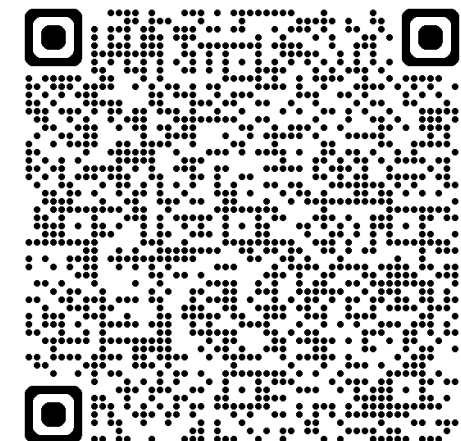
Contact Tracing: Susceptible Contact



Figure 4: Post-Exposure Management of Susceptible Members of the Public (Non-HCWs)⁽¹⁷⁾



From the [Notifiable disease guidelines | Alberta.ca](#) >> measles, pag16.
Consult ISC CDC team member for all contacts who qualify for PEP.



^(a) Counselling regarding signs and symptoms of measles disease and self-reporting is recommended for all contacts, regardless of serology results and administration of post-exposure prophylaxis.

^(b) Positive IgG serology in the following asymptomatic susceptible contact can be considered proof of immunity:

- 6-11 months of age and received a dose of measles containing vaccine ≥ 14 days before exposure.
- Individuals who have serology completed >7 days after exposure should be confirmed to be asymptomatic before being considered immune.

NOTE: Do not draw measles IgG serology for infants under 6 months of age, or for infants 6-12 months of age whose only protection is from maternal antibodies (i.e., unimmunized), because a positive result may not be reliable.

^(c) Exclude from all public places from the 5th day after the first exposure to the 21st day after last exposure

^(d) Post-exposure prophylaxis is not 100% effective. Advise clients to avoid unnecessary contact with individuals at high risk for complications until 21 days after their last exposure

Contact Tracing: Measles IgG

Measles IgG serology:

- For asymptomatic susceptible close contacts with:
 - One documented dose of measles containing vaccine; or
 - Strong verbal history of measles vaccine
- Recommend measles IgG serology
 - Considerations include
 - Will serology delay PEP?
 - Infectious period
 - Maintaining IPC
- Consult with the FNIHB CDC team who will help arrange testing.



Suspect or Person Under Investigation

- Symptomatic contacts or Person Under Investigation (PUI) should be managed as per Case Management section if determined to meet probable or suspect case definition.
- Facilitate specimen collection as necessary
 - Consider infectious period
 - Appropriate IPC measures
- Symptomatic contacts
 - A positive measles IgG needs to be interpreted with IgM and NAT PCR tests to determine if the results indicate immunity or disease
- **Consult with ISC CDC or MOH on call**





5 min stretch break. After the break, we will walk through scenario on case and contact management

5 min Stretch Break!

Scenario: Offering PEP

- Mom and siblings exposed to measles on 04 AUG at the hospital emergency department.
- 2 siblings- 5 months old and the other is 2 years.
- Mother has X2 documented doses of MMR vaccine. The 2 year old is unvaccinated.
- What do you offer for PEP and what do you offer for vaccine?
- What about exclusion?



Scenario: Offering PEP

- Mom and siblings exposed on 04 AUG at the hospital emergency department
- 2 siblings- 5 months old and the other is 2 years. 2-year-old is unvaccinated.
- Mother has X2 documented doses of MMR vaccine.
 - Mother is not susceptible; monitor for symptoms only X21 days = 25 AUG (end of day)
- What do you offer for PEP and what do you offer for vaccine?
 - IMIG offered for 5-month-old. No exclusion needed as mother is not susceptible and this client under 6 months. Last day to offer IMIG: 10 AUG. MMR vaccine is recommended once client is 12 months. Remember minimum of 6 month spacing between IMIG for measles and a live vaccine.
 - MMR vaccine offered for 2 year old. If receives PEP- no exclusion. Last day to offer MMR: 07 AUG. Recommended 2nd dose of measles containing vaccine in minimum of 4 weeks.
- What about exclusion? No exclusion for either child if receives PEP. If neither receive PEP, 2 year old must exclude 09 AUG (day 5)- end of day 25 AUG (day 21)



- WHS/OHS responsible for Identification and management of exposed Health Care Workers* (HCWs)
- Where there is no identified WHS/OHS program, ISC CDC will work with a designate from the health centre to coordinate identification and management of exposed staff.

*See [Immunization of workers: Canadian Immunization Guide - Canada.ca](#) for HCW definition.

Contact Tracing: Health Care Workers (HCW)

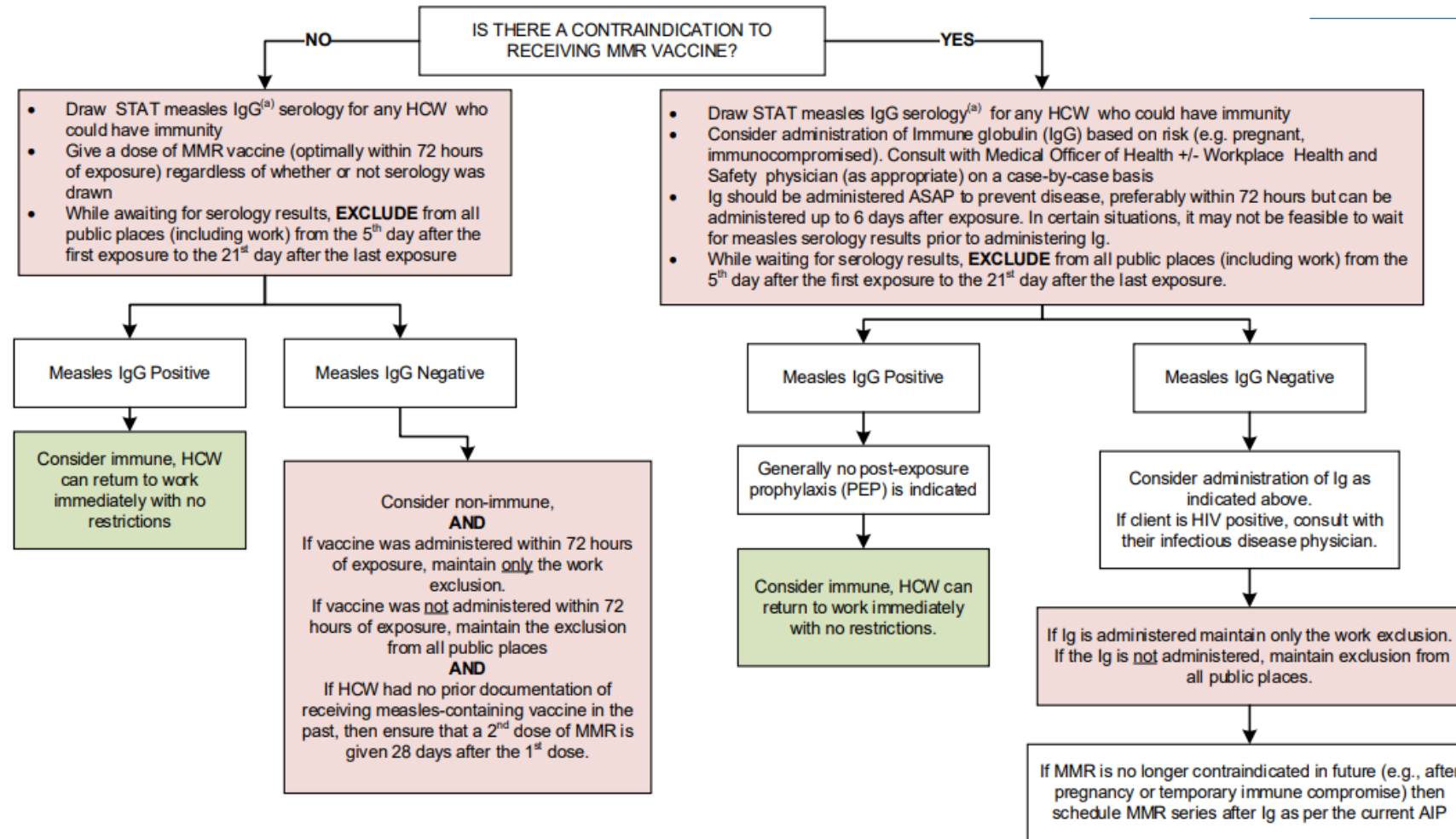


HCWs, regardless of their year of birth, are considered susceptible unless they have:

- Documentation of two doses of a measles containing vaccine, given prior to exposure, at the appropriate ages/intervals, OR
- Laboratory confirmation of previous measles infection, OR
- Serological proof of immunity (positive measles IgG).

Contact Tracing: Healthcare Workers

Figure 5: Post-Exposure Management of Susceptible Health Care Workers (HCW) ⁽¹²⁾



From the [Notifiable disease guidelines | Alberta.ca >>](#)
measles, pg 17.
Consult **ISC CDC team** for any questions related to HCWs.

^(a) A positive IgG results in an asymptomatic contact can be considered proof of immunity
NOTE: Individuals who have serology completed >7 days after exposure should be confirmed to be asymptomatic before being considered immune.



The following information is intended to assist with infection and prevention and control (IPC).
ISC CDC team is available to assist.

Infection Prevention and Control

Infection Prevention and Control (IPC)

Planning:

- Ensure all health care workers (HCW)*, including individuals who provide medical transportation, are up to date with X2 documented doses of measles containing vaccine or evidence of immunity.
- Access to masks and handwashing
- Signage and communication regarding symptoms of measles at health centre- See [One Health](#) for resources
- Consider alternate wait areas for appointments
- Schedule clients with fever and rash illness or who are susceptible contacts of cases for the last appointment of the day. Ensure exam room has a door that can be closed.
- Refer symptomatic clients to measles hotline [1-844-944-3434](tel:1-844-944-3434) for assessment
- Resources:
 - [MOH Measle IPC Memo April 2025](#)
 - [MOH Memo: Measles Immunizations for Health Care Workers](#)

**HCW definition: Includes all hospital employees, other staff who work or study in hospitals (e.g., students in health care disciplines, volunteers and contract workers), and other health care personnel (e.g., those working in clinical laboratories, nursing homes, home care agencies and community settings) who are at risk of exposure to communicable diseases because of their contact with individuals or material from individuals with infections both diagnosed and undiagnosed*

[Immunization of workers: Canadian Immunization Guide - Canada.ca](#)

Infection Prevention and Control (IPC)

Client Care:

- Where possible, only not susceptible staff should provide care to known or suspect measles cases.
- If a client presents with symptoms, have client put on a procedure mask and place in private clinic room with door closed.
- All HCW managing/assessing/entering a room with known or suspect measles are recommended to wear a fit-tested N95 mask as part of airborne precautions; regardless of immune status.
- Notify any health care facility to which the client will be referred (e.g., lab, acute care facility) prior to sending client for testing, assessment or treatment.
- Where possible, arrange for home collection of lab specimens for symptomatic individuals.
- Public transportation should not be used by cases, suspected cases or susceptible contacts of cases while infectious or potentially infectious.

Infection Prevention and Control (IPC)

Cleaning and Disinfection:

- After the client has left:
- Keep the room door closed for a minimum of 2 hours to allow the air to be cleared of airborne particles.
- If entry is required before minimum settle time has been reached, staff must wear a fit-tested N95 respirator (regardless of immune status), and door must remain closed.
- The room may be entered after the air clearance time has lapsed.
- Measles can remain active on surfaces or objects for up to two hours
- Room surfaces and equipment cleaning/disinfection is required using approved products and procedures.
- Commercial disinfectant that has a Drug Identification Number (DIN) and a virucidal claim.
 - Caviwipes, Super Sani Cloths and Oxivir TB
 - Follow the indicated contact time found on the product label.

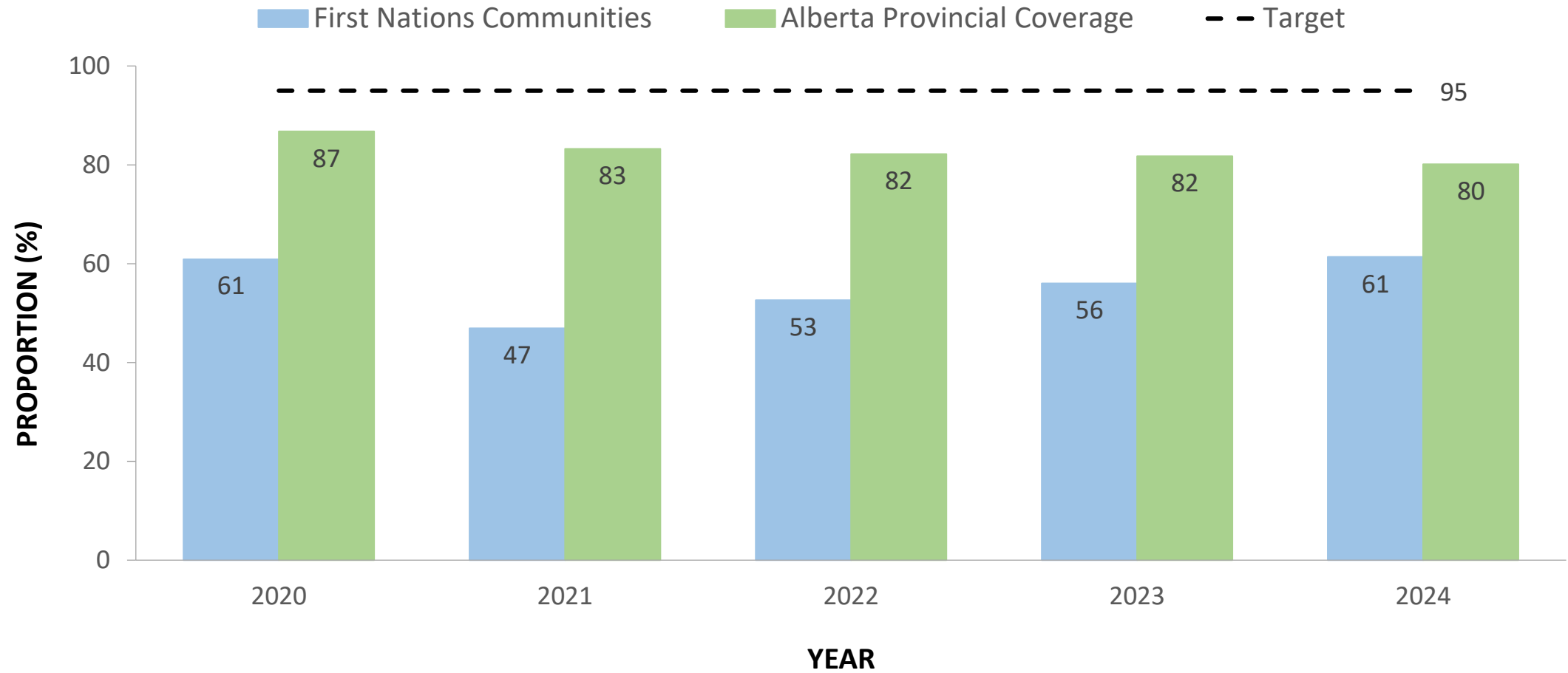


The following information is intended to assist with measles immunization. Further direction can be found on the [Immunization Program Standards Manual | Alberta Health Services](#)

The ISC CDC team is available to assist as needed.

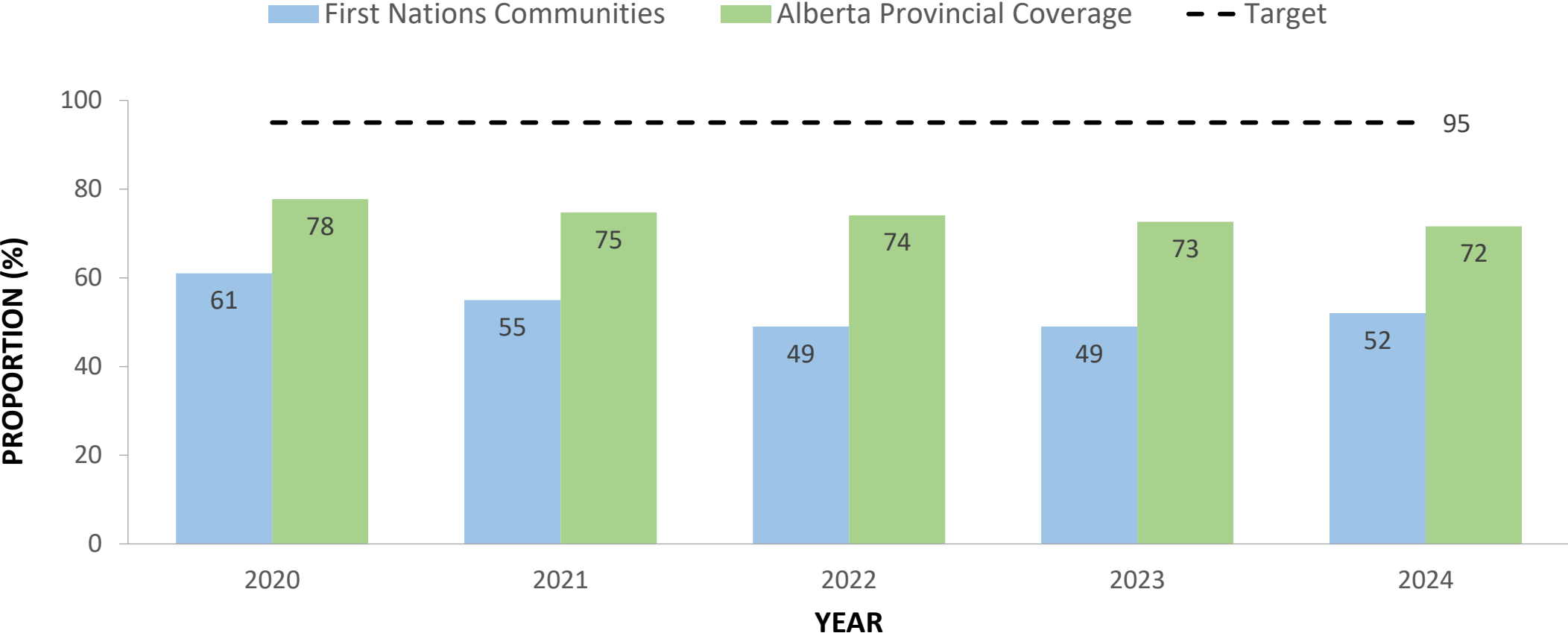
Immunization

Measles Immunization Rates Dose 1 by Age 2



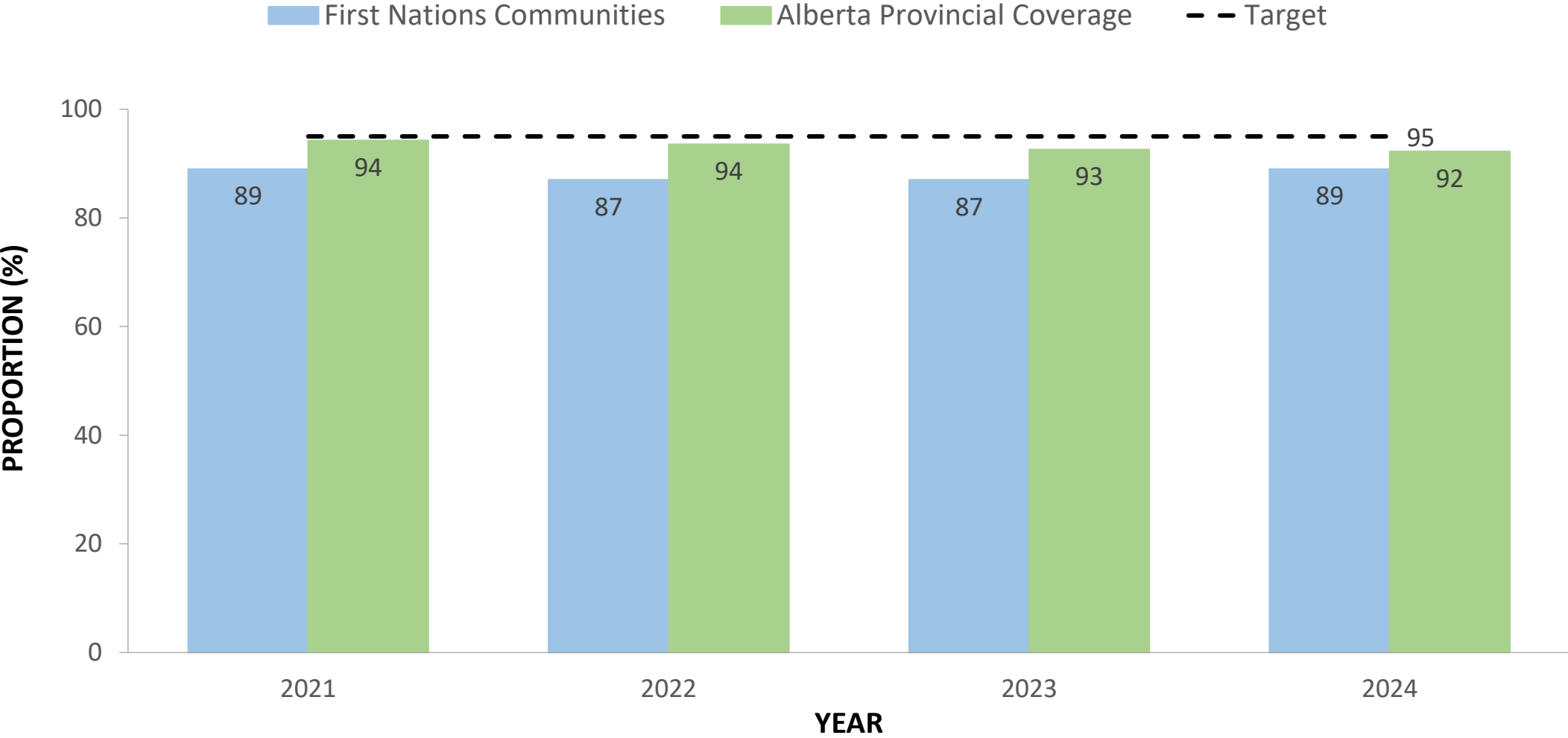
Measles Immunization Rates

Dose 2 by Age 7



Measles Immunization Rates

Dose 2 by Age 17



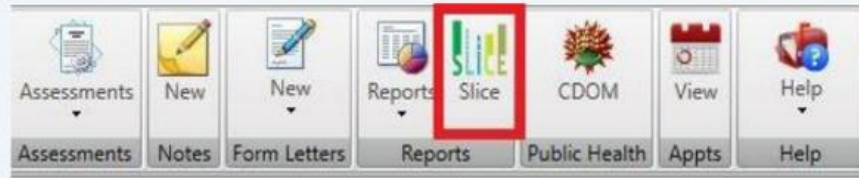
Key Points: Immunization Rates



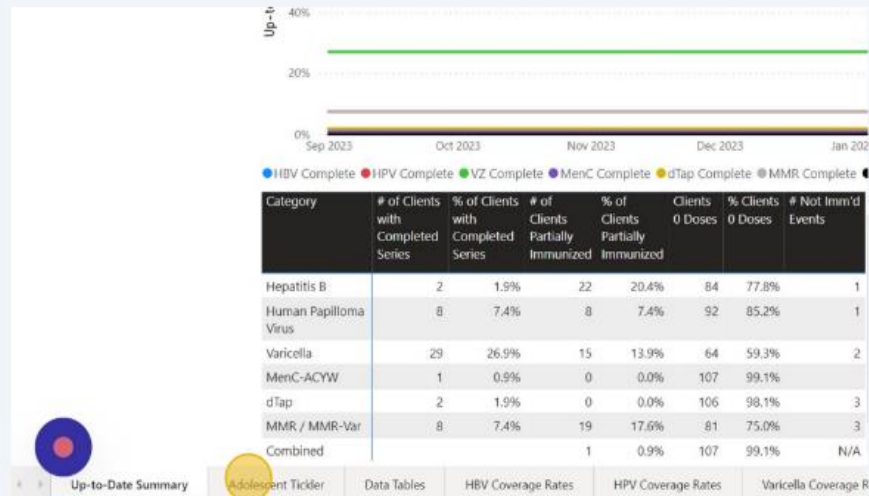
- First Nations communities tend to have lower rates than Alberta's provincial coverage
- Immunization targets (95% for herd immunity) are not being met
- Higher immunization coverage in older children (ages 10-17) and adults
- Lower immunization coverage in infants and young children (ages 2-7)

Accessing Immunization Data

1 In CHIP, click the SLICE button on the ribbon.



2 A new window will launch called SLICE. Select the Adolescent Immunization Report. Once the report has loaded, click on "Adolescent Tickler" on the bottom left side of the screen.



➤ There are How-To Resources available on OneHealth.

➤ For support, contact Okaki Helpdesk helpdesk@okaki.com

This is an example of the Adolescent Tickler (ages 10-17) within the SLICE Adolescent Report, but you can access other ages using the Search Tool Window in CHIP.

Measles Containing Vaccines

MMR: Priorix (GSK); MMR II (Merck)

MMR-Var: ProQuad (Merck); Priorix-Tetra (GSK)

- Live attenuated vaccines
- Route: Subcutaneous (SC)

The measles vaccine is highly effective:

- One dose- 85-95% effective
- Two doses- protection is almost 100%

Is it possible to get measles if you are fully immunized?

- Although uncommon, it is possible to get sick even if full immunized. This is called breakthrough infection. Symptoms will likely be milder.
- When more people are exposed to disease, more people get sick, even those immunized.



MMR Vaccine: Null doses

A dose of MMR vaccine between 6-11 months is currently recommended for:

- Travelling to or through areas where measles is circulating in Canada:
 - North zone
 - Central zone
 - South Zone
- Travelling to any country outside of Canada
- Candidates for solid organ transplant

- Any MMR- containing vaccine dose administered before 12 months of age should be repeated at 12 month of age or older with the appropriate intervals between doses.



MMR Vaccine: Null doses

A dose of MMR vaccine between 6-11 months is currently recommended for:

- Travelling to or through areas where measles is circulating in Canada:
 - North zone
 - Central zone
 - South Zone
- Travelling to any country outside of Canada
- Candidates for solid organ transplant
- Any MMR- containing vaccine dose administered before 12 months of age should be repeated at 12 month of age or older with the appropriate intervals between doses.
- Update CHIP as 'invalid dose'



MMR Vaccine: Spacing

For children 12 months up to and including 17 years:

- Routine schedule is 2 doses of MMR-Var at 12 and 18 months of age
- 2 doses can be offered minimum 4 weeks apart at any age in this cohort
- Refer to the [Immunization Program Standards Manual \(IPSM\)](#): MMR or MMR-Var biological page for further guidance.
- Refer to [Measles | Alberta.ca](#) for guidance related to current Alberta outbreak situation.



MMR Vaccine: Born before 1970

For individuals born before 1970:

- Generally considered immune. Vaccine not routinely recommended.
- For individuals travelling to or through areas where measles is circulating in Canada who do not have:
 - Documented history of 1 valid dose of measles containing vaccine.
 - History of lab confirmed measles disease
 - Serological evidence of immunity (positive measles IgG)
- Refer to the [Immunization Program Standards Manual \(IPSM\)](#): MMR biological page for further guidance.
- Refer to [Measles | Alberta.ca](#) for guidance related to current Alberta outbreak situation.



Immunization Scenarios:

Scenario 1:

Mom and 7-month-old baby live in Edmonton zone. Mom brings baby to health center for her 6 month immunizations. Baby has not medical conditions or allergies that mom is aware of. CHIP is merged with Netcare and baby received 2 month and 4 month old vaccines on schedule at Edmonton public health.

Mom shares with you that they are planning to visit family who live in south zone next month.

Would you recommend MMR vaccine?

If so, would this be a valid dose?



Immunization Scenarios:

Scenario 2:

A 63-year-old gentleman, born in 1962 presents wanting to get a measles vaccine. He is travelling to see his new grandchild in High Level, AB and he is worried about measles. On review of his immunization records, he has a MEA or measles(red) vaccine from 1983 MAY 12.

Do you recommend a MMR vaccine?



Immunization Scenarios:

Scenario 3:

A 57-year-old client presents at your clinic. She has started working as a security guard at a hospital in the town close by. Her birthday is Jan 15, 1968. She is nervous about measles but says she hates needles and never gets sick. You check her CHIP record and she has a dose of MMR in 1984 Dec 12.

Do you recommend a MMR vaccine?





Thank you for your teamwork
in Public Health Follow-up!



Questions or Comments?
Email Melissa and Laura
ab.cdc@sac-isc.gc.ca