Hawai‘i State Department of Health

Disease Outbreak Control Division

Measles Toolkit for School Settings

Version 3.0 September

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Introduction to the Measles Toolkit for School Settings

Hawai'i Department of Health (DOH) created this Measles Toolkit to provide guidance to school and childcare leaders, and medical personnel in these settings. School and childcare leaders and medical personnel play a pivotal role in prevention, reporting, identification and management of measles in their facilities. This information provided is aimed to equip these leaders with essential measles knowledge. DOH is providing these resources in partnership with schools and childcare settings to aid in decision making.

Measles (Rubeola) Information

What it is

Measles (Rubeola) is a very contagious rash illness caused by a virus. Some people think of measles as just a little rash and fever that clear up in a few days. However, measles can cause serious health complications.

Measles is highly contagious. If one person has it, up to 9 out of 10 people nearby will become infected if they are not protected.

The best protection against measles is Measles, Mumps, and Rubella (MMR) vaccine. MMR vaccine provides long-lasting protection against measles.

Signs and Symptoms

Measles symptoms appear 7-14 days after contact with the virus. Common measles symptoms include:

- High fever (may spike to more than 104° F)
- Cough, runny nose, red, watery eyes
- Rash (appears 3-5 days after symptoms begin). The rash usually begins as flat red spots that appear on the face at the hairline and spread downward to the rest of the body.
- Tiny white spots called Koplik spots may appear inside the mouth 2-3 days after the symptoms begin however these may not occur in every case

The fever, cough, runny nose and red, watery eyes usually start 7-14 days after a person has been exposed to measles but can start as long as 21 days after.

Common complications from measles include:

- Ear infections
- Diarrhea

Measles can cause severe illness and serious health complications in persons who are not vaccinated, especially in children younger than 5 years, adults older than 20 years, pregnant people, and changes to the immune system that make it harder to fight other infections. About 1 in 5 unvaccinated people in the U.S. who get measles are hospitalized.

Serious health complications from measles include:

- Hospitalization
- Pneumonia
- Brain swelling, which could lead to permanent brain damage
- Death
- Pre-term birth and low birth weight when pregnant people get measles
- Subacute sclerosing panencephalitis (SSPE): a rare progressive, disabling, and deadly brain disorder that results from a measles virus infection acquired earlier in life. SSPE generally develops 7 to 10 years after a person has measles, even though the person seems to have fully recovered from the illness.

How is measles spread

Measles spreads through the air when an infected person coughs or sneezes. The virus is so contagious it can stay in the air of an enclosed room up to 2 hours after the infected person has gone.
An infected person can spread measles to others from four days before developing the rash through four days afterward.

Diagnosis

A healthcare provider will observe signs and symptoms and will perform laboratory testing to find out if a person is infected with measles.

Treatment

There is no cure for measles and antibiotics are only useful for bacterial infection complications of measles after evaluation by a healthcare provider. Supportive treatments that may help a person with measles include:

- ensuring adequate intake of fluids and good hydration
- bed rest
- reducing fever

How to Prevent Measles

The best way to prevent measles is to get vaccinated at the recommended age with measles vaccine.

All children should receive two doses of the MMR vaccine which protects against three diseases: measles, mumps, and rubella. The first dose is given at age 12 - 15 months and the second dose at 4 - 6 years of age. An earlier MMR vaccine dose may be recommended during a measles outbreak, or during international travel.

All adults born in 1957 and after should have documentation of at least one MMR vaccination, unless they have had a blood test showing they are immune to measles or have had the disease. Certain adults at higher risk of exposure to measles (e.g., post-secondary school students, international travelers, and healthcare personnel) need a second dose of MMR vaccine, at least 28 days after the first dose.

Other Recommendations to Help Prevent Measles:

- Cover your mouth and nose with a tissue when you cough or sneeze and put your used tissue in the trash can. If you don't have a tissue, cough or sneeze into your upper sleeve or elbow, not your hands.
- Wash your hands often with soap and water. If a sink is not available, use hand sanitizer.
- Wear a mask and stay away from others
- Disinfect frequently touched surfaces, such as toys, doorknobs, tables, and counters. Standard household disinfectants will readily kill the measles virus.

People with symptoms of measles or who have been in contact with someone who has measles should CALL their healthcare provider immediately BEFORE going to a medical office or emergency room (ER). A person infected with measles can spread the disease before showing symptoms. If you think you might have measles, call ahead to before your visit your doctor or emergency department so they can make arrangements to help protects others from getting sick. Wear a mask before you leave your home.

Immunity against Measles

- Written documentation of adequate vaccines for measles, mumps, and rubella Measles Vaccine Recommendations | Measles (Rubeola) | CDC (2 doses of MMR vaccine for children after 12 months of age or 1 dose of MMR vaccine for adults) OR
- Laboratory evidence of immunity OR
- Laboratory confirmation of disease; OR Birth before 1957

Please note: On rare occasions, measles can occur in people who have been fully vaccinated.

Additional Resources:

- Hawai'i Department of Health Disease Outbreak Control Division/Measles
- Centers for Disease Control and Prevention Measles (Rubeola):
- Centers for Disease Control and Prevention Measles Vaccination
- Prevention of Measles, Rubella, Congenital Rubella Syndrome, and Mumps, 2013: Summary Recommendations of the Advisory Committee on Immunization Practices (ACIP)

Measles (Rubeola) Glossary

Case: Any individual (suspected or confirmed) who is identified as having symptoms of measles.

Cleaning is done with soap, water, and scrubbing. Cleaning removes germs, dirt, and impurities from surfaces. Cleaning alone can remove most types of harmful germs (like viruses, bacteria, parasites, or fungi).

Confirmed: A person with fever and rash who has been medically diagnosed by a healthcare provider with the measles virus and has either a positive laboratory test for measles (nasopharyngeal swab (NP) or blood test IgM) or has had contact with a known person with confirmed measles.

Contact time: How long a disinfectant needs to stay wet on a surface in order to be effective. Contact times can range from as little as 15 seconds for common hand sanitizer, to as long as 30 minutes for chlorine mixtures used in laboratories.

Disinfecting: is done with stronger bleach solutions or other chemical products. These chemicals destroy any remaining germs on surfaces after cleaning. Clean surfaces before you disinfect them. Disinfect surfaces when someone is sick or at higher risk of getting sick.

Exposed: A person who has come into contact with or been in a classroom or enclosed space where an individual diagnosed with measles has been. Exposed persons are at risk of contracting the virus by breathing in the air and or touching surfaces, especially if they are not immunized.

Incubation period: the time passed between a person being infected (when the germ enters the person's body) and the first signs of illness.

MMR (measles, mumps, rubella): The U.S. vaccine to protect against measles, mumps, rubella infection.

Non-Immune: A person who has not received adequate measles vaccine (2 doses of MMR vaccine for children after 12 months of age or 1 dose of MMR vaccine for adults – see: Measles Vaccine Recommendations | Measles (Rubeola) | CDC) or does not have evidence of a previous measles infection.

Onset date: The date the signs and symptoms of the illness started.

Outbreak: The occurrence of multiple, confirmed measles cases in a specific area or population, typically within a short period of time, indicating widespread transmission.

Proof of Immunity: Written documentation of adequate vaccines for measles, mumps, and rubella Measles Vaccine Recommendations | Measles (Rubeola) | CDC (2 doses of MMR vaccine for children after 12 months of age or 1 dose of MMR vaccine for adults) OR Laboratory evidence of immunity; OR Laboratory confirmation of disease; OR Birth before 1957.

Suspected: A person who shows symptoms consistent with measles but has not yet been confirmed by laboratory testing or medical diagnosis by a healthcare provider.

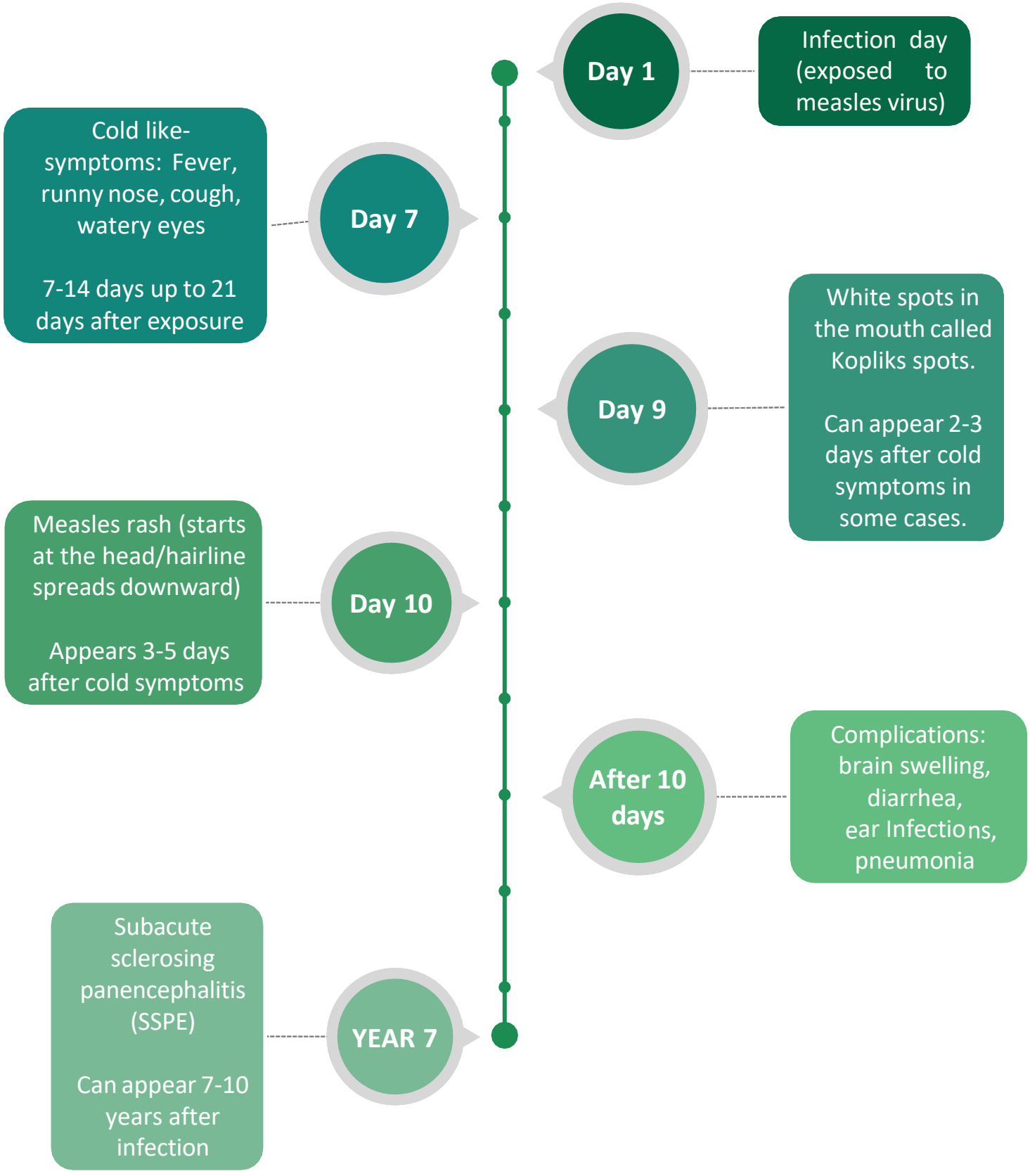
Preparing for Measles in a School Setting

Actions Schools Can Take BEFORE Measles Occurs

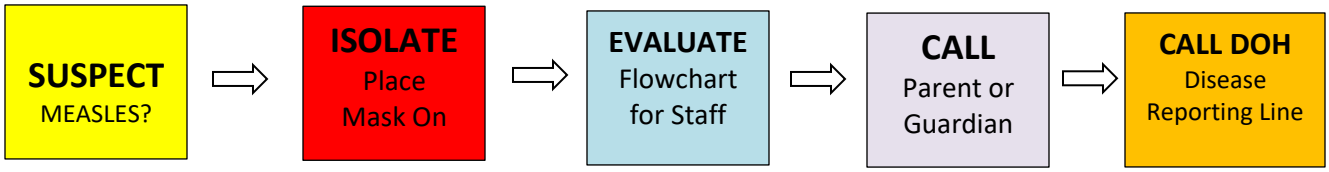
1. Identify and Notify At-Risk Individuals
   - Maintain an up-to-date list of students without documentation of two (2) doses of MMR (measles-mumps-rubella) vaccine. This includes those with medical or religious exemptions.
   - Ensure adults/staff keep their personal vaccination records up-to-date and accessible to support future risk assessments when needed. Encourage all adult/staff to be fully vaccinated against measles.
   - Ensure emergency contact list for parents/guardians and adult staff are up-to-date and accessible.
2. Promote Vaccination
   - Communicate at the beginning of the year and with newly accepted students, parents/guardians and staff about the importance of staying up to date on their immunizations. DOH also recommends communicating at the end of the 6th grade year about the upcoming 7th grade immunization requirements.
   - Reinforce that two doses of the MMR vaccine are 97% effective at preventing measles.
   - Refer parents/guardians and staff to their primary care provider to determine current risk and next steps.
3. Strengthen General Health Messaging
   - Encourage proper respiratory hygiene, including covering coughs and sneezes.
   - Promote frequent handwashing with soap and water; if a sink is unavailable, use hand sanitizer.
   - Remind families and staff to stay home when sick.
4. Enhance Cleaning Protocols
   - Regularly disinfect high-touch surfaces, such as doorknobs, tables, and counters.
   - Use EPA-registered disinfectants with demonstrated efficacy against respiratory pathogens (refer to "Cleaning and Disinfecting Guidance for Schools and Classrooms" section for more information).
5. Monitor for Symptoms and Prepare for Action
   - School can prepare for outbreaks by drafting an emergency operations plan with an infectious disease section.

- Understand your school's outbreak risk profile based on the MMR immunization coverage. To view outbreak simulator (link here: https://epiengage-measles.tacc.utexas.edu/).
- Educate staff on measles symptoms including early symptoms can seem like a common cold and include high fever, cough, runny nose, red, watery eyes and rash by sharing guidance, handouts, and flyers included in this guidance.
- Be watchful for students and adult staff who may come to school with fever and other signs and symptoms of measles.
- Identify a designated private room where symptomatic students/adult staff can wait for transportation arrangement of caregiver or parental pickup visible to a supervising adult. If possible, isolate each student/adult staff in separate rooms.
- Ensure your school has a supply of masks to give to child/adult staff with measles symptoms. In addition, school staff know the location where the inventory of masks are stored.
- If measles is suspected, advise families to contact their healthcare provider, urgent care, or emergency room before arriving to prevent further spread.
- Encourage students and families to practice proper hand washing techniques, use of hand sanitizer and utilizing a mask to prevent potential spread.
- Designate specific persons within the school setting who are responsible for: communication with Hawai'i Department of Health and dissemination of information to the parents/guardians, staff.
- If a suspected or confirmed measles case is identified in the school setting, immediately notify the school leadership, parent/guardian and the Department of Health (DOH).
- School leadership should then work with DOH to determine appropriate messaging. Be prepared to provide school information to health department about the school's layout and the ventilation.

Typical Timeline of Measles Symptoms



Actions to Take Immediately if a Student or Adult/Staff Member has Measles



Oahu (Disease Reporting Line): (808) 586-4586
Maui (Disease Reporting Line): (808) 984-8213
Kauai District Health Office: (808) 241-3563
Hawaii (Hilo Disease Reporting Line): (808) 933-0912
Hawaii (Kona Disease Reporting Line): (808) 322-4877

After hours on Oahu (Physician's Exchange): (808) 600-3625
After hours on Neighbor Islands: 1 (800) 360-2575 (Toll free)

Suspected Case: A person who shows symptoms consistent with measles but has not yet been confirmed by laboratory testing or medical diagnosis by healthcare provider.

Confirmed Case: A person who has been medically diagnosed by a healthcare provider with the measles virus, has symptoms and has a confirmed laboratory test for measles (e.g., nasopharyngeal or blood tests). Or a person has symptoms plus contact with someone with known measles.

Immediately Isolate Any Person Suspected of Having Measles

- If the person i s identified while i n a group setting immediately remove the individual away from everyone else and **place a mask** (if 2 years or older) on their face.
- Ideally, the person should be removed to a room by themselves. Keep the door closed and windows to the outside open. If a room is not available, designate a space outdoors away from students and staff.
- In the Early Child and Education Center (ECE) setting, an isolated child should be monitored at all times and cared for in an age-appropriate manner while in isolation (e.g. diaper changes, feeding).
- The suspected or confirmed person must stay home away from others and avoid all public spaces, including school, daycare, work, social gatherings, sports, shopping malls and recreational activities.
- Isolation should continue until they are no longer contagious which is 4 days after the start (onset) of the rash.

Contact parent/guardian of the suspected student to come pick them up

Questions to ask parent/guardian:

- Recent travel (international or domestic known measles outbreak area within the past 21 days?)
- What date did symptoms begin?
- What symptoms do they have?
- Any recent sick contacts or contact with international traveler?
- Has the sick individual received the MMR vaccine before?

Instruct an adult staff member with measles symptoms to isolate at home. If they are unable to leave school immediately, have them wait in the designated isolation space until transportation is arranged. Encourage adult staff member to seek medical care.

Notify the appropriate branch of Hawai‘i Department of Health

Oahu (Disease Reporting Line): (808) 586-4586
Maui (Disease Reporting Line): (808) 984-8213
Kauai District Health Office: (808) 241-3563
Hawaii (Hilo Disease Reporting Line): (808) 933-0912
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After hours on Oahu (Physician’s Exchange): (808) 600-3625
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- If a student or staff member is suspected or confirmed to have measles, **immediately contact DOH**. Public health officials will assist in identifying and notifying those who may have been exposed.
- Ensure all affiliated school-health staff are aware of the situation.
- Gather information about school’s layout and ventilation to share with the health department

Identify Exposed, Non-immune Students.

- If the Hawai‘i Department of Health identifies a confirmed case in your school, the school administrator is required to exclude all exposed non-immune students and staff from attendance.
- If a case of measles is confirmed, use the “PRINCIPAL TO PARENT NOTIFICATION LETTER”. School administrators will consult with DOH prior to distributing notification letter to the school community (students, staff, those affected).
- Hawai‘i Department of Health will conduct contact tracing investigation that will involve interviewing the parent/guardian and/or staff about how the person with measles is doing, their immunization status, potential places where they may have been (sports, music, any activity prior to illness), travel history and contact information. Personal information is kept confidential, however information such as locations where someone might have been exposed may need to be shared to prevent others from becoming ill.
- Refer to Flow chart/Chart tables for time periods for exclusion from school below.

Additional actions:

- School staff who monitor an isolated child or adult staff should monitor for measles symptoms
- Inform families and caregivers that someone at their student's school has had measles symptoms and let them know if their student has been exposed. Ask them to watch for measles symptoms in their student and other household members for 21 days (even if they are immune).
- Ask school staff to watch for measles symptoms in themselves and students for 21 days and seek medical care if symptoms develop.
- Instruct parent/guardian of the child to have medical evaluation before returning to the Early Care and Education Center (ECE)

Stay Alert: Seek emergency care if the person who is sick gets rapidly worse or if they experience trouble or pain when breathing or coughing, dehydration, a fever or headache that won't go away, confusion, decreased alertness or severe weakness, blue color around the mouth, or low energy.

*NOTIFY staff at healthcare facility or healthcare provider your concerns for measles BEFORE arrival to hospital or clinic so that they can make arrangements to prevent spread. Place a mask on the sick person before leaving the house.

Exceptions to 21 days of Exclusion from School for Exposed, Non-immune **CHILD.**

- A child with Zero doses of MMR vaccine may return to school immediately **IF** they receive their first documented dose of MMR within 72 hours of exposure. A child with **ONE** documented MMR dose may return to school upon receiving a 2nd dose of MMR vaccine as long as it is 28 days after the first dose, or upon showing evidence of a scheduled appointment to receive the second dose within an appropriate amount of time.

Exceptions to 21 days of Exclusion from school for Exposed, Non-immune **ADULT/STAFF**

- An adult with **Zero** doses of MMR vaccine may return to school/work immediately if they receive their first documented MMR dose within 72 hours of exposure.

Immunity Against Measles

- Written documentation of adequate vaccines for measles, mumps, and rubella Measles Vaccine Recommendations | Measles (Rubeola) | CDC (2 doses of MMR vaccine for children after 12 months of age or 1 dose of MMR vaccine for adults) OR
- Laboratory evidence of immunity OR
- Laboratory confirmation of disease; OR Birth before 1957

****BE AWARE: In the event of an outbreak, DOH may require adults/staff with only ONE dose of MMR vaccination to ensure immunity to measles by providing:**

- **Documentation of completion of 2nd dose of MMR according to DOH guidelines**
- **An MD attestation form stating the adult is immune because they have received 2 doses of MMR or had the measles virus**
- **Documentation of a blood test (measles antibody titer) that shows the adult has immunity against measles****

NOTE: IN THE EVENT OF AN OUTBREAK, THE DEPARTMENT OF HEALTH MAY SUSPEND PROVISIONAL ENTRY FOR THOSE WITHOUT UP-TO-DATE VACCINATIONS. THIS INCLUDES THE POSSIBILITY OF REVOKING RELIGIOUS EXEMPTIONS

Refer to Hawai‘i Administrative Rules (HAR) 11-57-6.2 for more details about provisional entry rules.

Evaluating a Person with a Rash when there is NO Local Measles Transmission

DOH Disease Reporting Line	
Oahu Disease Reporting Line	(808) 586-4586
Maui District Health Office	(808) 984-8213
Kauai District Health Office	(808) 241-3563
Big Island District Health Office (Hilo)	(808) 933-0912
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After hours on neighbor islands	(800) 360-2575 (toll free)

START HERE

Needs ALL 3:
- Fever
- Spotty, red rash
- No blisters

No → Measles **UNLIKELY**

Yes

If the provider still suspects measles after arriving at below, discuss with DOH Disease Reporting Line

Risks for Measles in the 21 days before start of rash? **ANY of the following**:
- International travel in last 21 days
- Domestic travel in last 21 days to an area with known measles transmission
- Known exposure to measles

No → **Typical Symptoms of Measles**:
- Fever and Rash **AND**
- Cough, runny nose, OR red eyes

No → **Measles NOT likely.** Consider other causes.

Yes

Yes

Received MMR vaccine in the last 21 days?

Yes → **Likely** a reaction to MMR vaccination

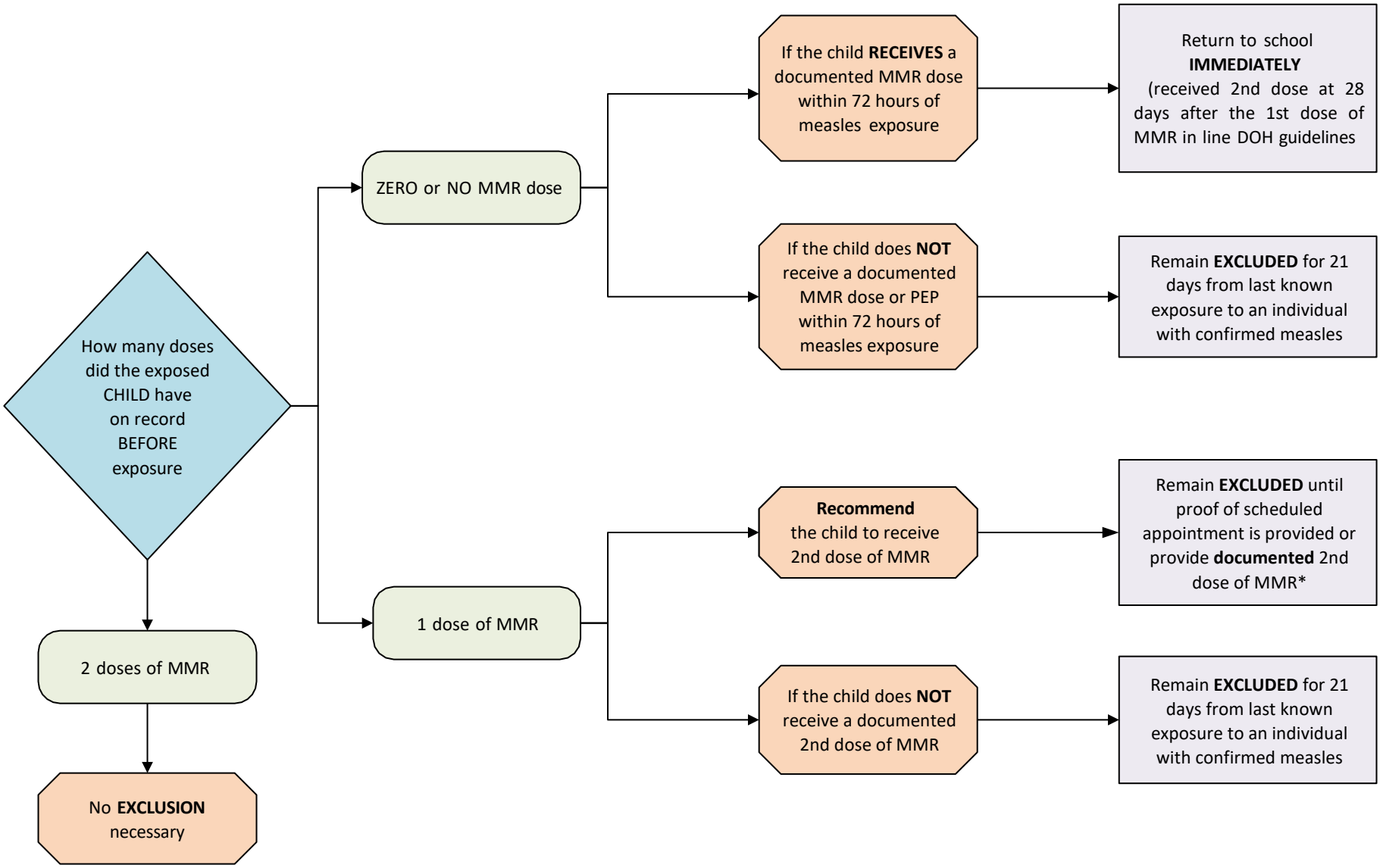
No

Suspect Measles?
Isolate ill person and IMMEDIATELY contact DOH Disease Reporting Line

No ← **Prior measles vaccination?**
- Age ≤6 years: 1 dose MMR
- Age >6 years: 2+ doses MMR

Yes → Measles is uncommon among people with age-appropriate vaccination. Measles can occur among vaccinated people, but generally during intense exposure (e.g. daycare or household).

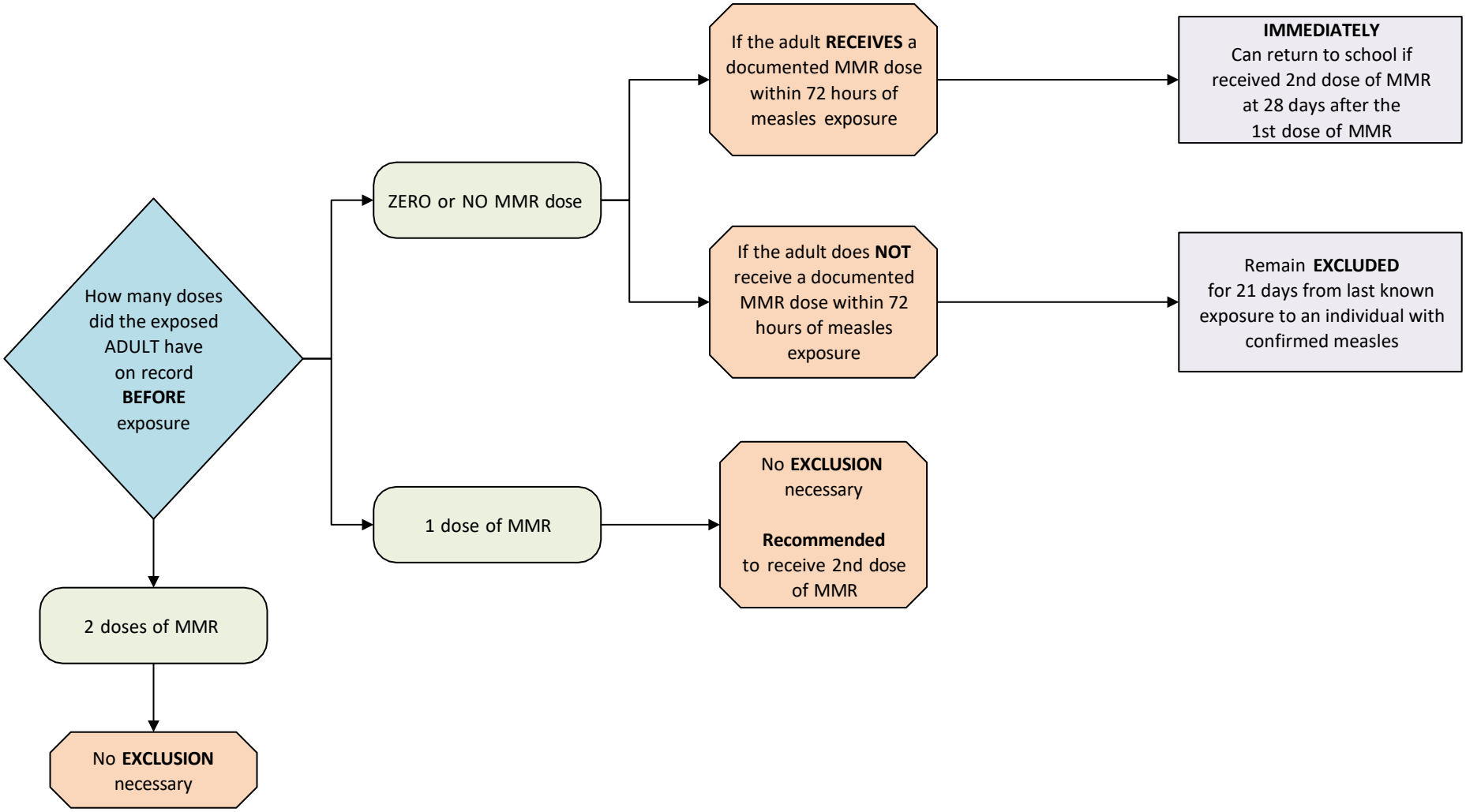
Flow Chart: EXCLUSION From School for CHILD Exposed to Measles



****NOTE: IN THE EVENT OF AN OUTBREAK, DOH MAY REVOKE RELIGIOUS EXEMPTIONS AND/OR SUSPEND PROVISIONAL ENTRY FOR THOSE WITHOUT UP-TO-DATE VACCINATIONS)****

Refer to HAR 11-157-6.2 Provisional Attendance period

Flow Chart: EXCLUSION From School for ADULT Exposed to Measles



****Be Aware: In the event of a significant outbreak, DOH may require adults/staff with ONE dose of MMR, to have a 2nd dose****

Chart Table: Exclusion From School for CHILD Exposed to Measles

Isolation for child who was **Exposed** to someone with confirmed measles	▪ Exclusion and isolation at home depends on age, immune status and if the individual receives post-exposure prophylaxis. For further guidance determining exclusion, see below.
Child with **None or Zero** doses of MMR Vaccine	**Exclusion 21 days unless** they receive **1 dose** of MMR vaccine within 72 hours after exposure. ▪ If 1st dose of MMR vaccine is received within 72 hours of exposure as post-exposure prophylaxis, the child may return to school **IMMEDIATELY**. ▪ A 2nd dose of MMR vaccine is strongly recommended, at minimum 28 days after their first dose or according to the DOH guidelines.
Child with **One dose** of MMR vaccine	• **Excluded** until proof of scheduled appointment for 2nd dose of MMR is provided (appointment card) * • May **Return to school** when documentation is provided of receiving 2nd dose of MMR as long as it is 28 days after the first dose or according to DOH guidelines.
Child with **Two doses** of MMR vaccine	• **No EXCLUSION necessary**

Note: The same information on the flow chart and chart table are presented in different formats

***HAR §11-157-6.2 Provisional Attendance.**

STAY ALERT: Even if an exposed person is NOT excluded, they should monitor for symptoms (fever, cough, red eyes, rash) for 21 days after exposure to the individual with measles. Families and staff should be vigilant in recognizing symptoms to prevent further spread. Encourage parent/guardians to contact their child's healthcare provider if they have questions.

Chart Table: Exclusion from School/Work for ADULT Exposed to Measles

Adult with **None or Zero** doses of MMR Vaccine	**Exclusion 21 days unless** the adult receives 1 dose of MMR vaccine within 72 hours after exposure. ▪ If 1 dose of MMR vaccine is received within 72 hours of exposure as post-exposure prophylaxis, the adult/staff may return to school **IMMEDIATELY**. **Recommend a 2nd dose of MMR vaccine at minimum 28 days after their first dose according to DOH guidelines.

Adult with One or Two doses of MMR vaccine	▪ **No EXCLUSION**

****BE AWARE: IN THE EVENT OF A SIGNIFICANTOUTBREAK, DOH MAY REQUIRE ADULT/STAFF WITH ONE DOSE OF MMR, TO HAVE A 2ND DOSE****

The flow chart and chart table content are the same information presented in different formats

STAY ALERT: Even if an exposed person is NOT excluded, they should monitor for symptoms (fever, cough, red eyes, rash) for 21 days after exposure to the individual with measles. Families and staff should be vigilant in recognizing symptoms to prevent further spread. Encourage parent/guardians to contact their child's healthcare provider if they have questions.

Additional Resources:

CDC Catch-up Immunization Schedule for Children and Adolescents

Cleaning Guidance for Schools when a Confirmed Measles Case is Identified

Measles is primarily spread by air, but it is possible to contract measles by touching surfaces contaminated with the virus. This risk decreases after the person with measles left the enclosed room for 2 hours.

Daily cleaning and sanitizing surfaces and objects that are touched often, such as desks, chairs, light switches, countertops, doorknobs, computer keyboards, hands-on learning items, faucet handles, phones, gym equipment and toys. It is highly recommended that classrooms or other areas the suspected individual occupied receive standard cleaning and disinfection at the end of the day.

If there are multiple cases at a school, it is recommended routine cleaning of high-touch surfaces occurs daily. Everyday actions help keep students healthy by minimizing the spread of infections in school settings.

Additional Recommendations related to cleaning and sanitizing:

- Let the room air out for **at least 2 hours before cleaning begins** (if feasible).
- Unvaccinated individuals or those without documented immunity should not be involved in cleaning potentially contaminated areas when confirmed case has been identified.
- Cleaning personnel should wear a mask (for airborne particles) and disposable gloves (nitrile or latex).
- Improving air circulation by ventilating classrooms by opening windows and doors or using HEPA air purifiers (if available) can help.
- Dispose of all used personal protection equipment (PPE) and cleaning materials in trash. If an outbreak has been identified it is recommended that school settings:
    - Increase the frequency of cleaning for high-traffic areas and high-touched surfaces
    - Consider **daily** disinfection of classrooms while there is an active outbreak
    - Provide hand hygiene stations at entrances, classrooms, cafeterias, and other shared spaces.
- It is recommended to keep records of areas cleaned, dates, times, and products used and ensure custodial, and teaching staff are trained on these procedures
- Staff in Early Care and Education Centers (ECE) should clean surfaces regularly and follow recommended procedures for cleaning, sanitizing, and disinfecting after activities such as diapering, feeding, and contact with body fluids.

Additional Resources:

- EPA Disinfectants for Emerging Viral Pathogens (EVPs): List Q
- CDC How To Clean and Disinfect Early Care and Education Settings
- CDC Everyday Actions for Schools to Prevent and Control the Spread of Transmissible Infections
- CDC The Epidemiology and Prevention of Vaccine-Preventable Diseases, a.k.a. the "Pink Book
- CDC Preventing Spread of Infections in K-12 Schools
- CDC How to Read a Disinfectant Label

Vaccine Safety

Vaccination is currently the best defense against measles.

The MMR has been in use for more than 50 years, and it is safe. Vaccines, like any medicine, can have side effects. The potential risk of harm from measles infection is far greater than the potential risk from the measles vaccine.

In the United States, there are number of safeguards required by law to help make sure that all vaccines a community member receives are safe and held to high safety standards. Each vaccine goes through safety testing before it is licensed by the Food and Drug Administration (FDA) and recommended for use by the Centers for Disease Control and Prevention (CDC). After it is recommended for infants, children, or adults, the vaccine is still continuously monitored. Safety monitoring systems enable any new possible adverse effects related to a vaccine to be promptly evaluated.

Vaccination has one of the lowest risk profiles compared to many over the counter medications. When discussing vaccination or taking any medication prescribed by your provider, it is important to weigh risks and benefits with them. They will take into consideration your current circumstances and make medical recommendations that are right for you.

Vaccines are tested in labs for several years before being recommended for use. The FDA uses the information from these tests to decide whether to test the vaccine with people. Clinical trials are research studies designed to determine if a new treatment (drug/vaccine), test, or preventative method is safe and effective for use in humans. During clinical trials, people who volunteer get vaccinated and monitored. The information gathered helps determine if the vaccine is safe, what amount works best, and how the immune system reacts to it. Every batch of the vaccine is tested for quality and safety to make certain it works like it's supposed to, ingredients are pure, and it doesn't have any outside germs. There is continuous testing and monitoring of the vaccine during this process and afterwards.

Once the vaccine is recommended for use, FDA, CDC and other federal agencies continue to monitor its safety. The United States has one of the most advanced systems in the world for evaluating vaccine safety that involves using state-of-the-art technologies and systems working together to analyze the data by researchers. Here are some examples of systems that evaluate vaccine safety include:

- Vaccine Safety Datalink (VSD)
- Vaccine Adverse Event Reporting System (VAERS)
- Post-licensure Rapid Immunization Safety Monitoring System (PRISM)
- Clinical Immunization Safety Assessment Project (CISA)
- Biologics Effectiveness and Safety (BEST) System

Additional Resources:

- CDC Developing Safe and Effective Vaccines
- CDC About Vaccines for your Children
- U.S. Department of Health and Human Services (HHS) Vaccine Safety

Vaccine Information Sheet (VIS)

The Vaccine Information Sheet or VIS is a document that informs the person receiving the vaccine (recipient) or their parents or guardian about the benefits and risks of a vaccine they are receiving. The VIS was developed by the CDC and is required to be given prior to every dose of certain vaccines. The VIS can be accessed by visiting the "MMR Vaccine VIS: What You Need to Know" link.

Additional Website Resources

- CDC Measles (Rubeola)
- CDC Vaccine Information Sheet Measles, Mumps and Rubella Vaccine
- State of Hawai'i Department of Health Measles

NOTE to reader: Due to formatting issues, "Frequently Asked Questions (FAQs); List of Community Health Centers and Federally Qualified Healthcare Clinic (FQHC) by county; Reliable Sources of Immunization Information Where Parents Can Go to Find Answers; Informational Flyers and DOH Social Media Infographics were removed". These documents are located on the Department of Health Disease Outbreak Control Division measles webpage under "Information for Schools" section.