RHIhub
Rural Health Information Hub

ruralhealthinfo.org

Your *First* **STOP** for
Rural Health
INFORMATION

Rural Measles Response: Lessons Learned from the Field

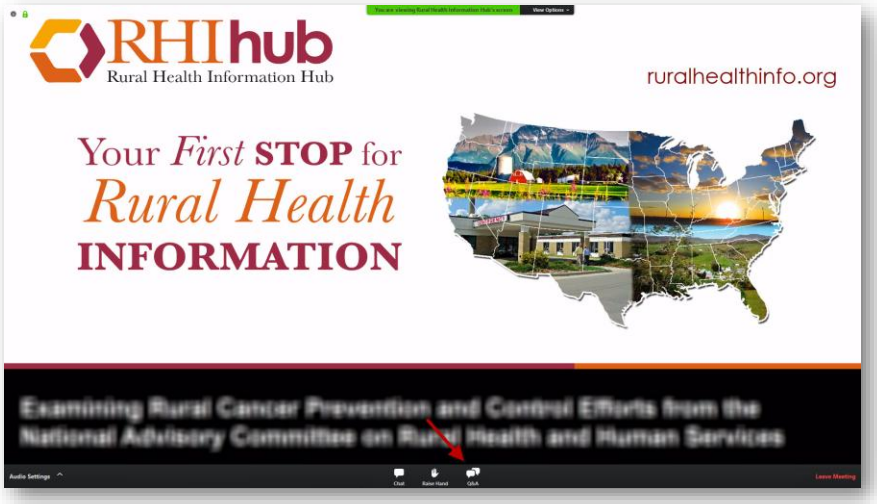
1

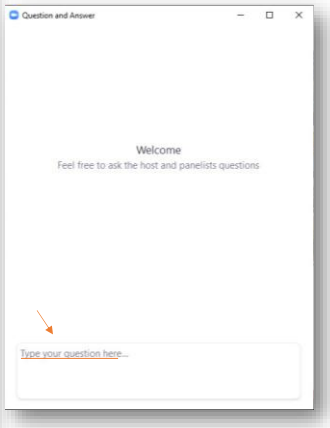
Housekeeping

- Slides are available at ruralhealthinfo.org/webinars
- Technical difficulties please visit the Zoom Help Center at support.zoom.us

2

If you have questions…





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Featured Speakers

Sara Oliver, MD, MSPH, Deputy Division Director for Science, Division of Viral Diseases; Senior Science Advisor, CDC Measles Response; Medical Officer, National Center for Immunizations and Respiratory Diseases

Anna Jones, MD, MPH, Epidemic Intelligence Service Officer, Utah Department of Health and Human Services, Centers for Disease Control and Prevention

Sarah Present, MD, MPH, Health Officer, Clackamas County Public Health Division, Tri-County Health Officer Team

Leila Myrick, MD, PhD, Family Medicine Physician, Seminole Hospital District

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Responding to measles: public health support for clinical partners

Anna Jones, MD MPH

EIS Officer, Utah DHHS

Department of Health & Human Services

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Patient | RHI Central Clinic | Dashboard | Chart | Reports

TODAY'S APPOINTMENT SCHEDULE

APPOINTMENT TIME	PATIENT NAME	VISIT REASON	STATUS
08:00 AM	Alice Smith	Consultation	Completed
09:00 AM	Bob Johnson	Follow-up	In Progress
10:30 AM	Carol Davis	Flu Shot	In Progress
11:30 AM	Dares White	Consultation	Checked-in
01:00 PM	Diarie Smith	Consultation	Checked-in
02:00 PM	Mario Davis	Flu Shot	Checked-in
04:00 PM	Fiona Garcia	Acute Concern: ***FEVER and RASH***	Waiting

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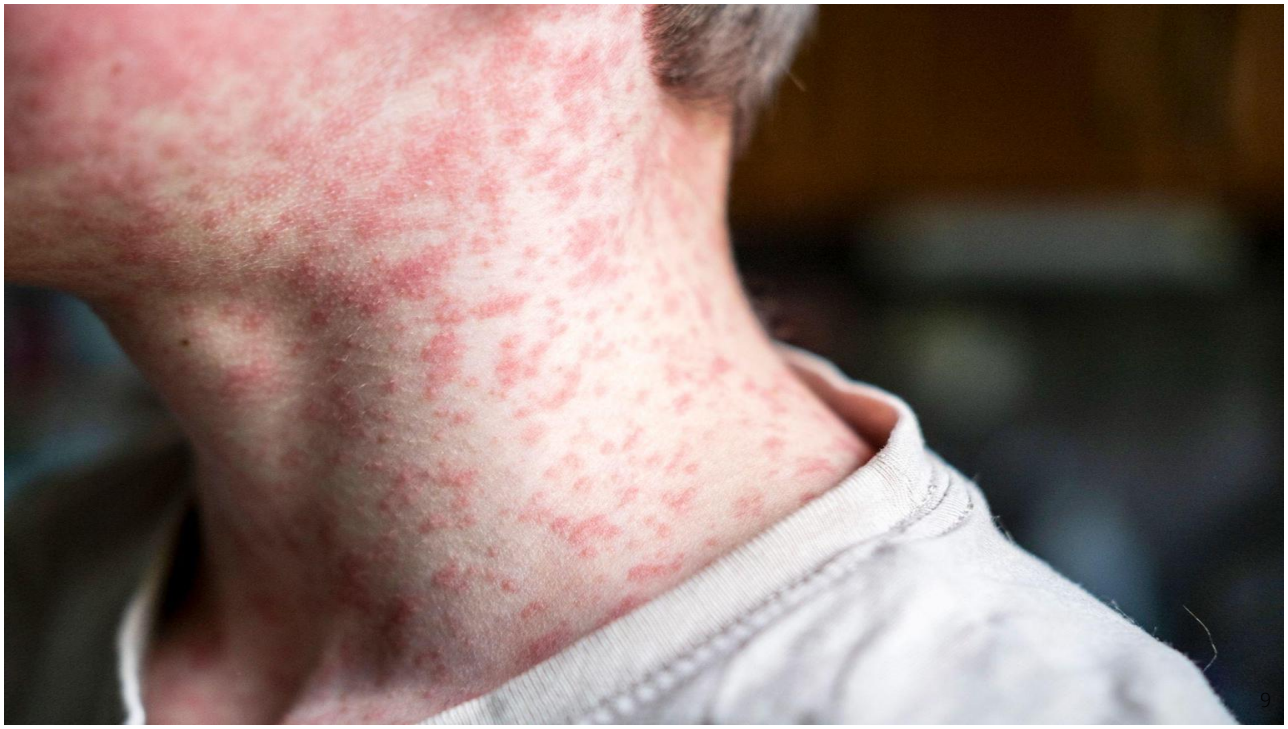

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What to do if you suspect measles

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What to do if you suspect measles

1) Stop and put on a N95 mask or respirator
Do not rely on your vaccination status!

11

What to do if you suspect measles

1) Stop and put on a N95 mask or respirator
2) Assess patient immunity
Vaccination status, titers (IgG), history of measles infection

12

What to do if you suspect measles

1) Stop and put on a N95 mask or respirator
2) Assess patient immunity
3) **Record their risk factors**
    Travel, exposures

13

What to do if you suspect measles

1) Stop and put on a N95 mask or respirator
2) Assess patient immunity
3) Record their risk factors
4) **Review symptoms**
    Timing, fever, rash, 3 Cs, and the K

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What to do if you suspect measles

1) Stop and put on a N95 mask or respirator
2) Assess patient immunity
3) Record their risk factors
4) Review symptoms
5) **Ask about any recent new medications and antibiotics**

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Isolate the |

16

Call public health to notify and get help

17

What can public health do?

18

What can public health do?

- **Facilitate measles testing**

19

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- **Help identify and contact people who were exposed**

20

What can public health do?

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- Alert health systems of possible additional patients to implement appropriate protections

21

What can public health do?

- Facilitate measles testing
- Help identify and contact people who were exposed
- Alert health systems of possible additional patients to implement appropriate protections
- Help administer post-exposure prophylaxis(PEP)

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23

24

Addressing a healthcare facility exposure

1) Who was exposed?

25

Addressing a healthcare facility exposure

1) Who was exposed?
2) Who is a priority for PEP?

26

Addressing a healthcare facility exposure

1) Who was exposed?
2) Who is a priority for PEP?
3) What kind of PEP do they need?

27

Who was exposed?

- **Consider the time patient was in the waiting room and/or clinic and time window after patient vacated the space**

28

Who was exposed?

- **Consider the time patient was in the waiting room and/or clinic and time window after patient vacated the space**
- **Assess for other patients, staff, and visitors as able**

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Who is a priority for PEP?

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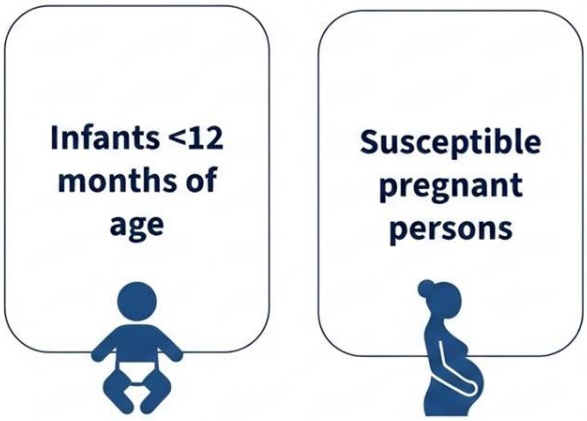
Who is a priority for PEP?



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Who is a priority for PEP?

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Who is a priority for PEP?

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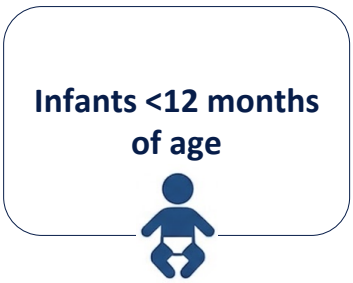
What kind of PEP do they need?



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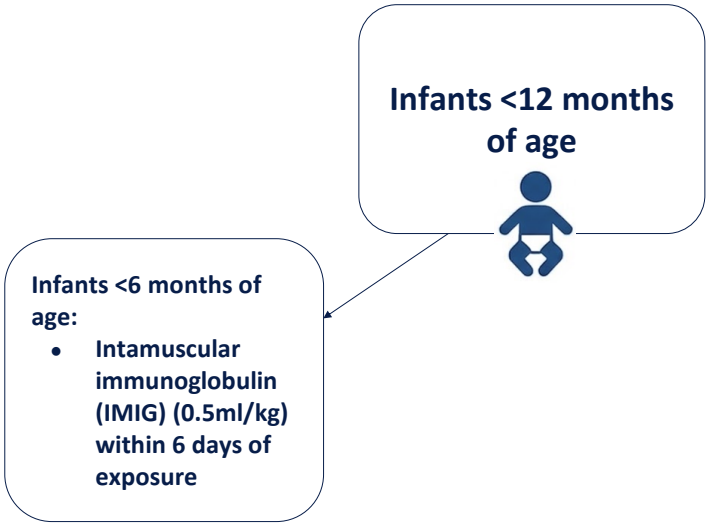

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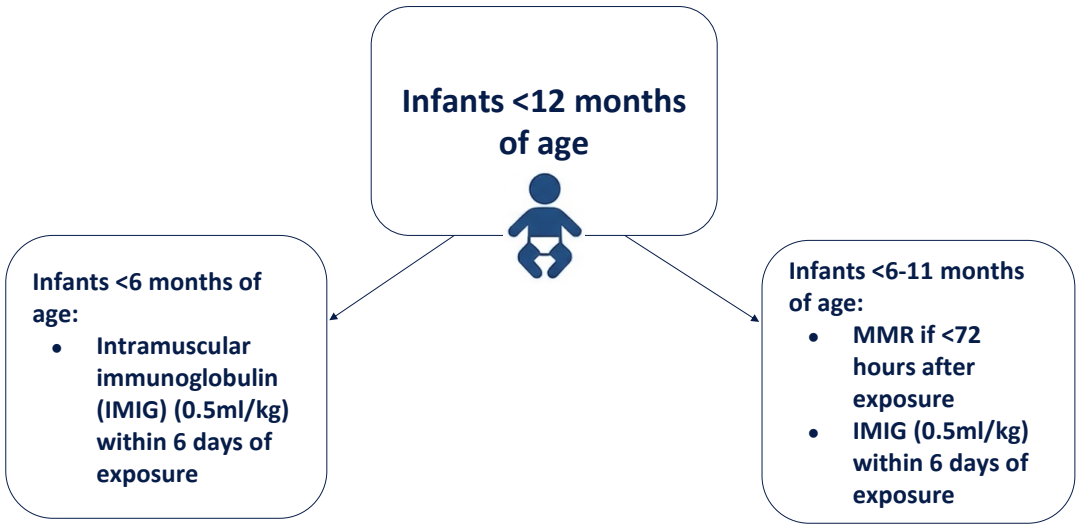

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What kind of PEP do they need?

Infants <12 months of age

IMIG dosing can be challenging for larger infants

Infants < age:

- Int immunoglobulin (IMIG) (0.5ml/kg) within 6 days of exposure

nonths

:72 hours after exposure

- IMIG (0.5ml/kg) within 6 days of exposure

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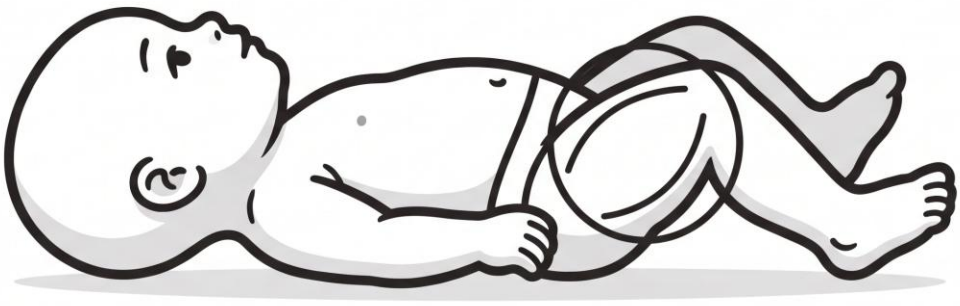
What kind of PEP do they need?



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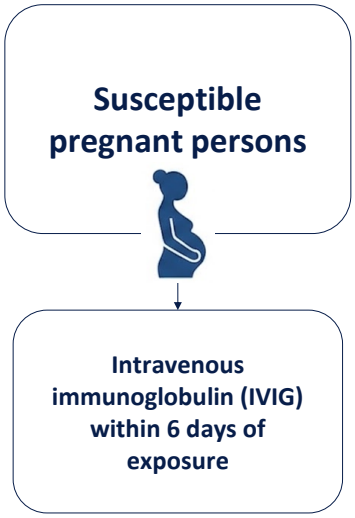

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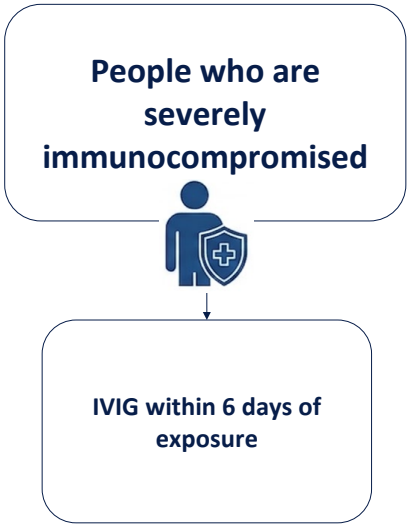

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What kind of PEP do they need?

Other susceptible close contacts

MMR if <72 hours after exposure

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What kind of PEP do they need?

Some states may also recommend IG for older children and/or adults not in the other priority categories

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PEP considerations

Timing is challenging

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PEP considerations

- Timing is challenging

Administration of immunoglobulin can be logistically complex

44

PEP considerations

- Timing is challenging
- Administration of immunoglobulin can be logistically complex

Use of IMIG or IVIG delays administration of live vaccines

45

PEP considerations

- Timing is challenging
- Administration of immunoglobulin can be logistically complex
- Use of IMIG or IVIG delays administration of live vaccines

Use of IMIG or IVIG may require a longer quarantine time

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Thanks!

Department *of* Health
& Human Services

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Acknowledgements

- **Utah DHHS**
- **CDC EIS program**

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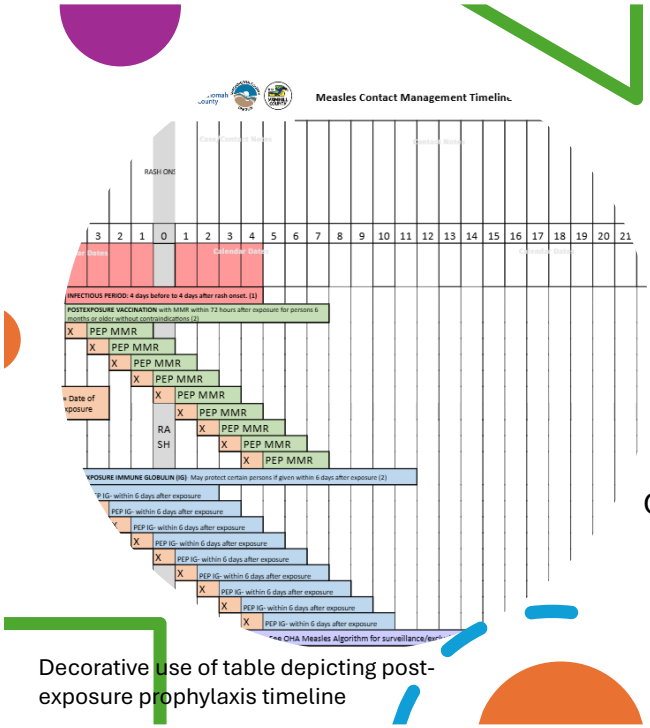

Decorative use of table depicting post-exposure prophylaxis timeline

Rapid Response to Agricultural Exposure to Measles

Sarah Present MD, MPH
Health Officer
Clackamas County Public Health Division
Clackamas County, Oregon

Clackamas County
Public Health Division

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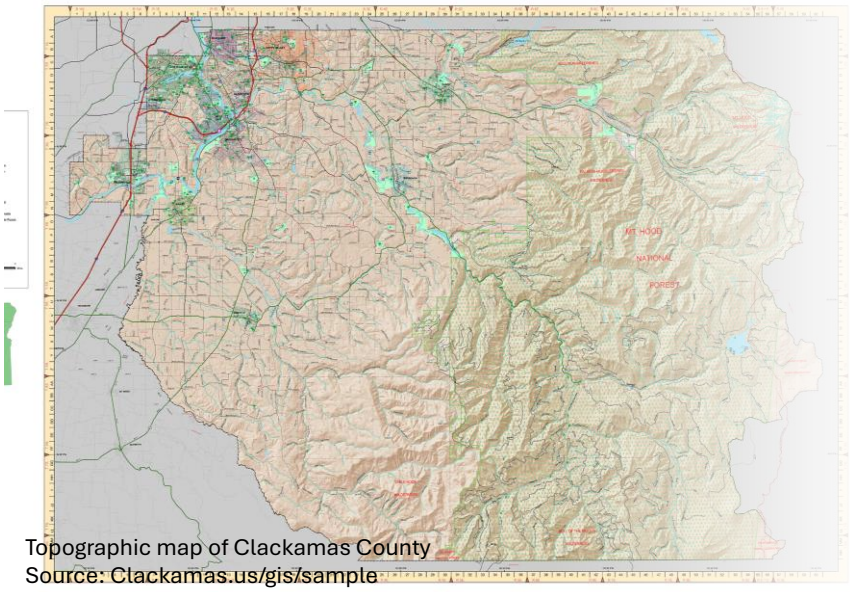
Setting: Clackamas County, Oregon



Topographic map of Clackamas County
Source: Clackamas.us/gis/sample

- Located in northwest Oregon, one of 3 counties in Portland metro region
- 1,879 square miles: urban, suburban, rural, and wild areas
- Forest, timberland, farmland
- Agriculture, nurseries, greenhouses, wood manufacturing.
- Many employ H-2A workers in addition to resident farm workers in certain seasons

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Background: Public Health Preparedness and Response Capabilities

Staff and program cuts with loss of ARPA funding and other flat public health funding in setting of increasing costs

Heightened mistrust in public health early post-pandemic, and decreasing vaccination rates across the population

Rising measles cases around the country

Institutional knowledge of our rural communities and mobile vaccination capabilities from COVID response

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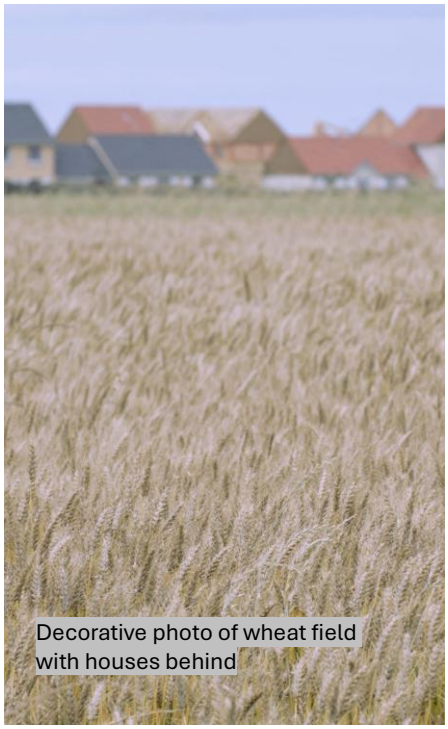

Decorative photo of wheat field with houses behind

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Situation: Imported Measles Case in H-2A Worker

- Report of suspect measles in H-2A worker staying in congregate farm housing
  - Case 1: had been seen x 2 in local ED, mentioned to them a measles outbreak in home country, tested through private lab (5-day delay)
  - Case 2: symptom onset on day of case 1 test result
- Through interview, determined a 3rd worker had been index case, ill while on transport from Mexico through California and to Oregon/Washington.
- Risk factors: close living conditions, unknown vaccination status, and barriers to care.

Response: Isolation and Quarantine

- Farm had an otherwise unused house where the cases could isolate
- Quarantine challenges:
  - Potential impact on farm operations—did not require all to fully quarantine, but limited any off-farm activities
  - Direct discussions with potentially exposed resident employees as well as immunity reviews, unable to confirm susceptibility or immunity of most temporary workers
  - Not feasible to do direct active monitoring of all exposed workers, found trusted onsite leader as single point of communication.

photo of Public Health staff at a mobile clinic

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Response: MMR vaccination clinics

- The response included coordination with farm management, rapid vaccine procurement, and deployment of multidisciplinary staff.
- Education about measles and safety of the Measles, Mumps, Rubella (MMR) vaccine was delivered in group settings, followed by individual screening, testing of symptomatic individuals, and vaccination as appropriate.
- Infection prevention measures, including personal protective equipment (PPE) and isolation protocols, were implemented throughout.

photo of Public Health staff at a mobile clinic

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Response: MMR vaccination clinics

- Partnered with Oregon Health Authority (OHA) and Multnomah County Health Department (MCHD) to address staffing and vaccine needs.
- A total of over 150 vaccinations were administered with 2 individuals tested.
- Overall, approximately 250–300 individuals were screened and provided education across the three clinics.

photo of Public Health staff at a mobile clinic

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Response After Action Review

photo of Public Health staff at a mobile clinic

- Strengths:
  - Interagency Collaboration
  - Staff Adaptability
  - Employer Engagement
    - Importance of the right amount of information to the right audiences to maintain trust and limit stigma.
    - Trusted messengers were engaged
- Areas for Improvement:
  - Pre-deployment Respirator Fit Testing
  - Clinical Staffing Planning
  - Bilingual Staffing Capacity
  - Build on and increase partnerships with clinical services and other healthcare partners to increase vaccination capacity

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What HealthCare Providers Can Do

- Recognize the risk of measles and other vaccine preventable diseases in any community.
- Plan early for exposures-ensure staff vaccination and respirator training are up to date.
- Coordinate with partners and local public health department early.
- Know how to test, report, and plan for airborne evaluations and education on isolation.
- Recognize and address how stigma is affecting your communities and their interactions with healthcare.

photo of Public Health staff at a mobile clinic

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Leila Myrick, MD, PhD
Seminole Health District
Family Medicine/Obstetrics

When Measles Hits:

Rapid Clinic Operations, Accelerated MMR, and Effective Public Outreach

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Rapid Operational Changes To Reduce Exposure

- How do you quickly identify and separate patients that could have measles from those who do not?
- How do you get people tested (or titers checked) while minimizing exposures?
- How do you clean/turnover rooms when measles can infect up to 2 hours after an infected person has left the room?

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How Do You Quickly Identify And Separate Patients That Could Have Measles?

Screen on the phone. Screen at the door.	1) Do you have rash? 2) Are you immunized? 3) Have you been exposed? Patients with positive screen wear mask right away and are put in room right away (or wait in car until room is available)
Segregate lobby & waiting areas	Is your lobby already separated into well vs sick areas? If not, how would your clinic implement this quickly if needed? Segregate by location? Time of day?

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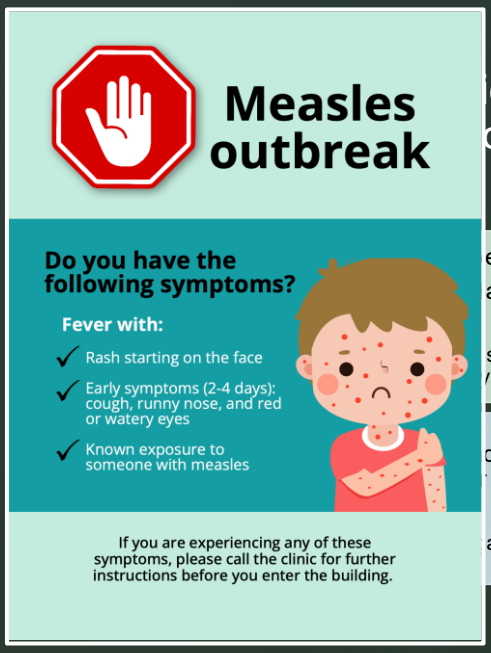

ckly Identify And Separate

61

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MEASLES

RUBEOLA

Measles is a highly contagious respiratory virus that causes febrile rash illness. Measles has been eliminated (no sustained circulation) in the United States for decades. However, there can still be measles cases, as **it is easily imported by unvaccinated travelers and can spread in under-immunized communities.**

DISEASE COURSE

The incubation period is typically 11–12 days from exposure to measles virus until the first symptoms appear (prodromal symptoms). A rash follows the prodromal symptoms 2–4 days later and usually lasts 5–6 days. Measles is infectious 4 days before and 4 days after rash onset.

SYMPTOMS

Prodromal: Fever, cough, coryza, or conjunctivitis. Koplik spots (tiny white spots inside the mouth) may also appear 2–3 days after symptoms first appear.

Rash: A maculopapular rash (rash of both flat and raised skin lesions) begins on the head and face and then spreads downward to the neck, trunk, arms, legs, and feet. The spots may become joined together as they spread from the head to the body.
Fever may spike to more than 104° F when rash appears.

COMPLICATIONS

Most common complications: Diarrhea and otitis media.
Most severe complications: Pneumonia, encephalitis, and death. Patients may require hospitalization.
Children younger than 5, adults older than 20, pregnant women, and immunocompromised persons are at most risk of serious complications

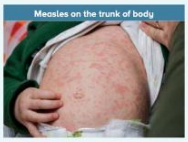
WHAT TO DO IF YOU HAVE A SUSPECTED CASE

1. Immediately mask and isolate the patient in a room with a closed door (negative pressure room if available). Follow standard and airborne precautions.
2. Only allow health care workers with presumptive evidence of measles immunity* to attend the patient; they must use N-95 masks.
3. Evaluate the patient and order measles confirmatory testing (collect a throat or nasopharyngeal swab for RT-PCR and serum for IgM measles testing).
4. Contact infection control if available at your facility.
5. Immediately report this suspected case to your local and/or state health department.

For questions regarding specimen collection, storage, and shipment, please visit https://www.cdc.gov/measles/php/laboratories/

RESOURCES

Measles information for health care providers: https://www.cdc.gov/measles/hcp/clinical-overview/
Measles vaccine recommendations: https://www.cdc.gov/measles/hcp/vaccine-considerations/
Infection control guidelines for measles: https://www.cdc.gov/infection-control/hcp/measles/
Surveillance manual chapter on measles: https://www.cdc.gov/vaccines/pubs/surv-manual/chpt07-meas.html



* Presumptive evidence of measles immunity for healthcare workers (one of the following): documentation of two doses of measles containing vaccine, laboratory evidence of immunity (positive IgG), laboratory evidence of disease, or birth before 1957. Self-reported doses and a history of vaccination provided by a parent or other caregiver, or a clinical diagnosis of measles, should not be accepted.

Centers for Disease Control and Prevention
National Center for Immunization and Respiratory Diseases

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How Do You Get People Tested (Or Titers Checked) While Minimizing Exposures?

Swab patients for measles in the room rather than sending to lab

Only staff with documented immunity to collect swabs/perform testing (be prepared to mass check MMR antibody titers)

Mobile bus units and pop-up testing & vaccination sites (drive thru testing)

Would you like a measles swab with your order sir?

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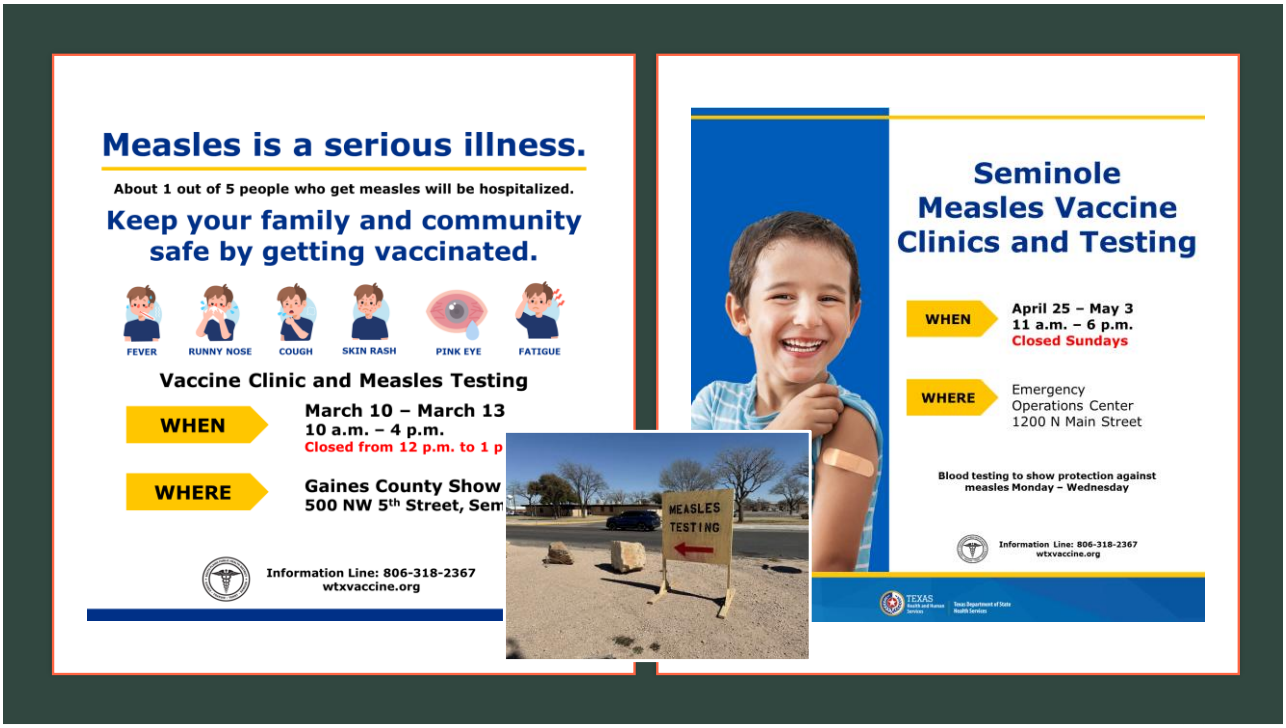

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How Do You Turnover Rooms When Measles Can Infect 2 Hours After A Person Has Left The Room?

- Answer: you don't
  - Must wait 2 full hours before putting another pt in the same room
- Things that can help minimize transmission:
  - Increasing frequency of cleanings in common areas/lobby
    - Fast efficient cleaning system (ie - Clorox 360)
  - Separating well vs sick patients as much as possible
  - Full PPE available in all patient care areas
  - Restricting # of visitors for admitted patients
  - MMR vaccination!!

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Accelerated MMR Vaccination

— Goal: Get everyone 2 doses asap! —

6-11 mo	Give an early dose of MMR (does not count towards 2-dose series)
12-47 mo	Give MMR #1, followed by MMR #2 in 28 days (pt is now complete on series)
48+ mo	Give routine second dose of MMRV

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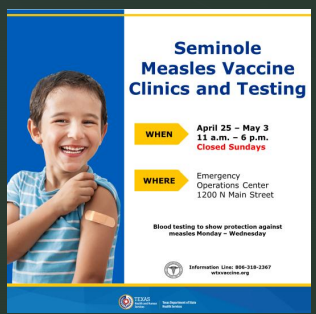
We campaigned hard for MMR vaccination



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We campaigned hard for MMR vaccination

….a little too hard.

Surely in the face of an outbreak our anti-vax population will reconsider and get vaccinated …….WRONG.

Refused vaccination even more

Stopped coming to hospital/clinic unless critically ill

”Measles Parties” to catch measles on purpose

Misconceptions like “measles isn’t that bad, catching it will make my child’s immune system stronger”

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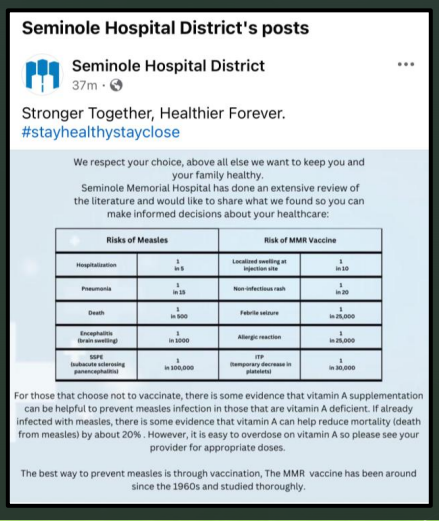
Strategies To Improve Public Outreach

1) Social Media



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Strategies To Improve Public Outreach

1) Social Media
2) Radio Show Q&A with Doc

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Strategies To Improve Public Outreach

1) Social Media
2) Radio Show Q&A with Doc
3) Townhall Meetings

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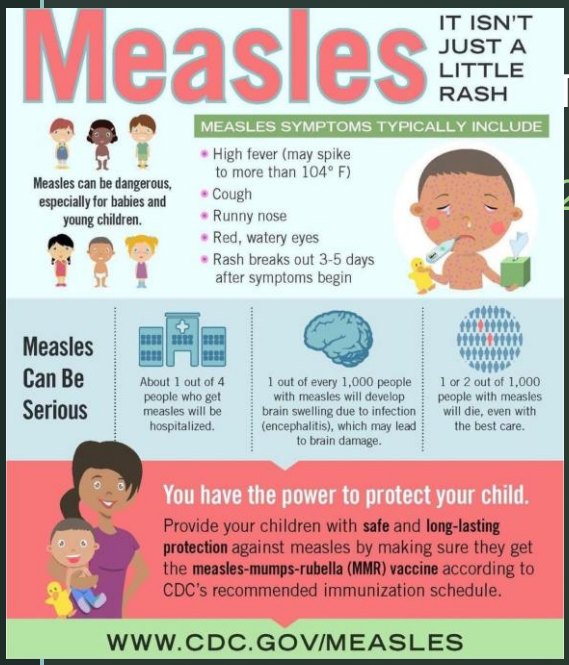

To Improve Public Outreach

1) Social Media
2) Radio Show Q&A with Doc
3) Townhall Meetings
4) Flyers Around Town

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Meeting People Where They Are At:

- Reduce shame/stigma associated with vaccination or non-vaccination
- Encourage people to seek care when needed, you will not be turned away due to vaccination status
- Provide clear, evidence-based information regarding measles, measles vaccination, and "alternative" therapies (vitamin A)

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Meeting People Where They Are At: Vitamin A Controversy

- Updated vitamin A recommendations
  - Under the supervision of a healthcare provider, vitamin A may be administered to infants and children in the United States with measles as part of supportive management.
  - Under a physician's supervision, children with severe measles, such as those who are hospitalized, should be managed with vitamin A.
  - Also under physician supervision, if vitamin A is recommended, it should be administered immediately on diagnosis and repeated the next day for a total of 2 doses. Inappropriate dosing may lead to hypervitaminosis A. The recommended age-specific daily doses are:
    - 50,000 IU for infants younger than 6 months of age
    - 100,000 IU for infants 6–11 months of age
    - 200,000 IU for children 12 months of age and older

Available: Clinical Overview of Measles | Measles (Rubeola) | CDC & AAP Measles Frequently Asked Questions , accessed 3/18/2025

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Seminole Hospital District's posts

Seminole Hospital District
37m ·

Stronger Together, Healthier Forever.
#stayhealthystayclose

We respect your choice, above all else we want to keep you and your family healthy.
Seminole Memorial Hospital has done an extensive review of the literature and would like to share what we found so you can make informed decisions about your healthcare:

Risks of Measles		Risk of MMR Vaccine	
Hospitalization	1 in 5	Localized swelling at injection site	1 in 10
Pneumonia	1 in 15	Non-infectious rash	1 in 20
Death	1 in 500	Febrile seizure	1 in 25,000
Encephalitis (brain swelling)	1 in 1000	Allergic reaction	1 in 25,000
SSPE (subacute sclerosing panencephalitis)	1 in 100,000	ITP (temporary decrease in platelets)	1 in 30,000

For those that choose not to vaccinate, there is some evidence that vitamin A supplementation can be helpful to prevent measles infection in those that are vitamin A deficient. If already infected with measles, there is some evidence that vitamin A can help reduce mortality (death from measles) by about 20% . However, it is easy to overdose on vitamin A so please see your provider for appropriate doses.

The best way to prevent measles is through vaccination, The MMR vaccine has been around since the 1960s and studied thoroughly.

Meeting People Where They Are At: Vitamin A Controversy Cont.

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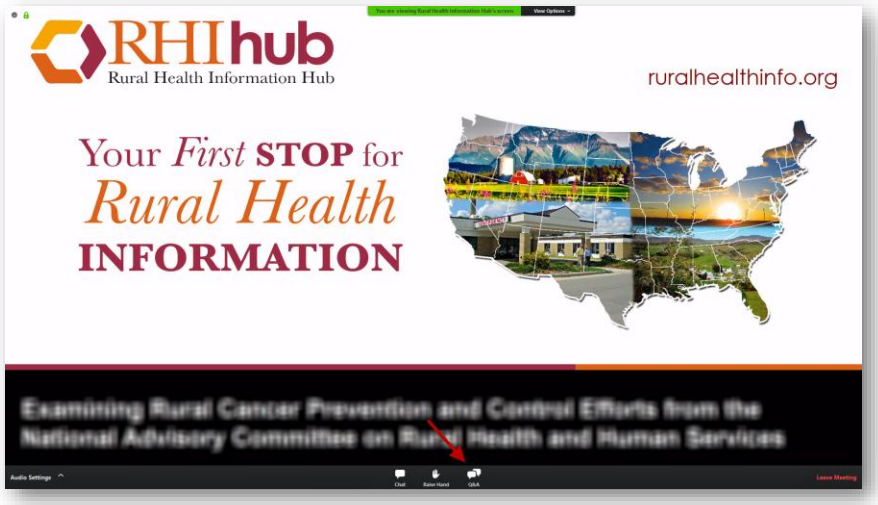
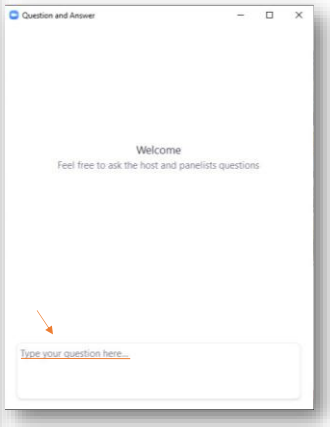
Questions?





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Thank you!

- Contact us at ruralhealthinfo.org with any questions
- Please complete webinar survey

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