



Infection Prevention and Control Roundtable with Acute Care Facilities

3-28-24



ACHOO TEAM



Reach out to us!

Our team:

- Deputy Commissioner: Massimo Pacilli
- Medical Director: [Stephanie Black, MD](#)
[Do Young Kim, MD](#)
- Projects Administrator: [Shane Zelencik](#)
- Project Manager: [Maria Bovee](#)
- Infection Preventionist (IP):
 - [Andrea Castillo](#)
 - [Karen Branch-Crawford](#)
 - Kim Goitia (Dialysis, outpatient settings, FQHCs Settings)
- Public Health Administrator (PHA):
 - [Romualdo Chavez](#)
 - [Maggie Li](#)

Major role: Build infection control capacity across healthcare facilities in Chicago

ACHOO Email: cdphaiar@cityofchicago.org

ACHOO Phone: 312-744-1100

NEW: ACHOO HAN page: [Acute Care Facilities HAN \(\[chicagohan.org\]\(http://chicagohan.org\)\)](#)



Agenda

- Background, Epidemiology, and Outbreak Update
- CDPH Efforts and Outreach
- Guidelines for Management of Measles in Healthcare Settings
- Discussion and Q&A:
 - Lessons Learned from hospitals



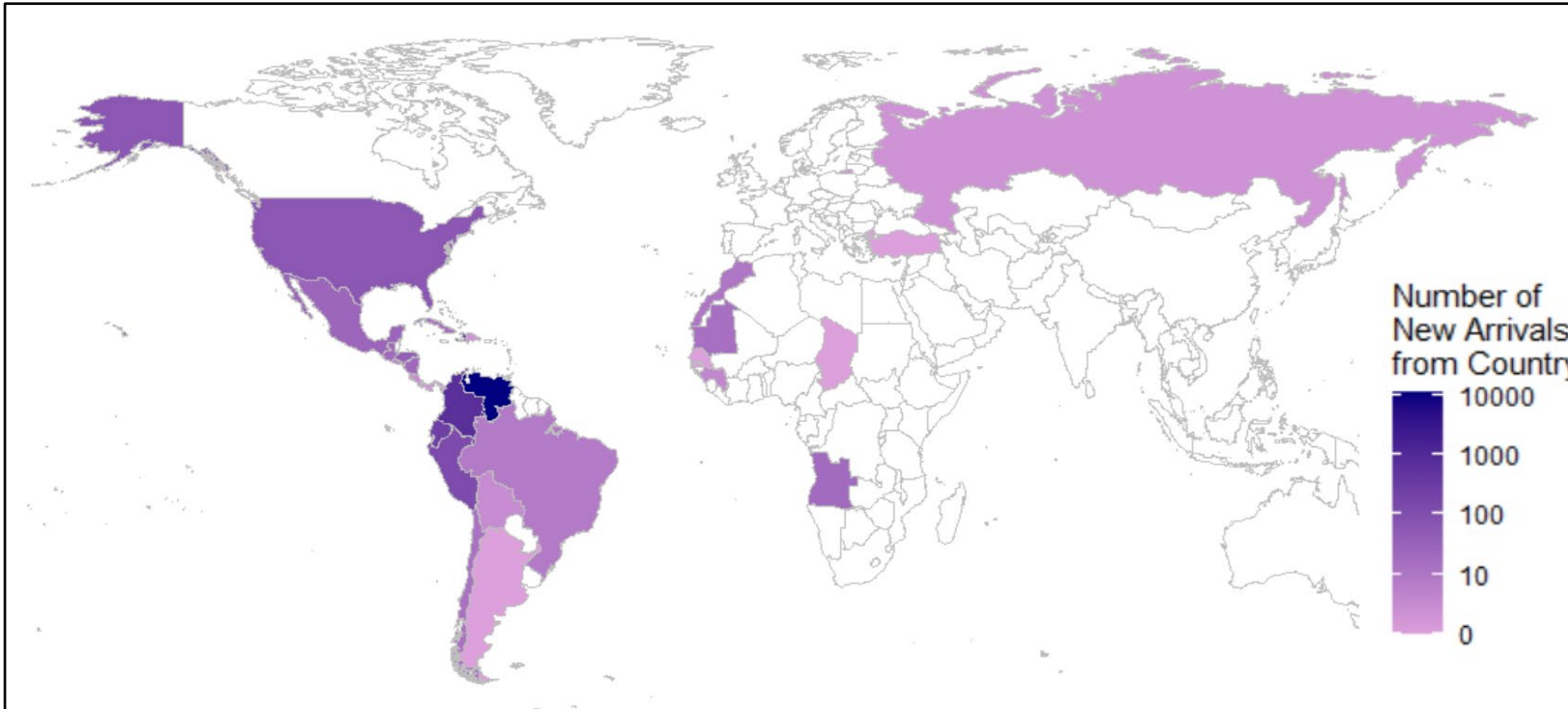
Thank you for your incredible collaboration and communication with our team!

Thank you for all the **pertinent and critical information** many of you have been providing regarding patient clinical picture, isolation procedures, family/visitors, discharge plans, and all the necessary components for public health follow-up on EACH case and contacts of cases.





Since 2022, Chicago has welcomed over 35,000 migrants seeking asylum.



- **86% from Venezuela**
- 7% from Colombia
- 2% from Ecuador
- 1% from Peru
- 1% from Haiti



CDPH has successfully completed vaccination campaign at NA shelter, now expanding to other shelters and the Landing Zone



- CDPH vaccinated all 889 eligible people 3/8-3/11 (0 refused)
- NA shelter will reach $\geq 95\%$ herd immunity within 3 weeks of vaccination

- Campaign expanded to 6-8 priority shelters with 20+ potential exposures

- CDPH exploring potential for rollout of mass vaccination to remaining shelters with state and city partners
- Also exploring possibility of non-shelter mass vaccination

- Vaccinations now required to enter shelter
- New Arrivals receiving vaccine at Intake Center at Landing Zone

**Many more vaccinated now
(4800 shelter residents as of 03/26/24)**



Measles Dashboard

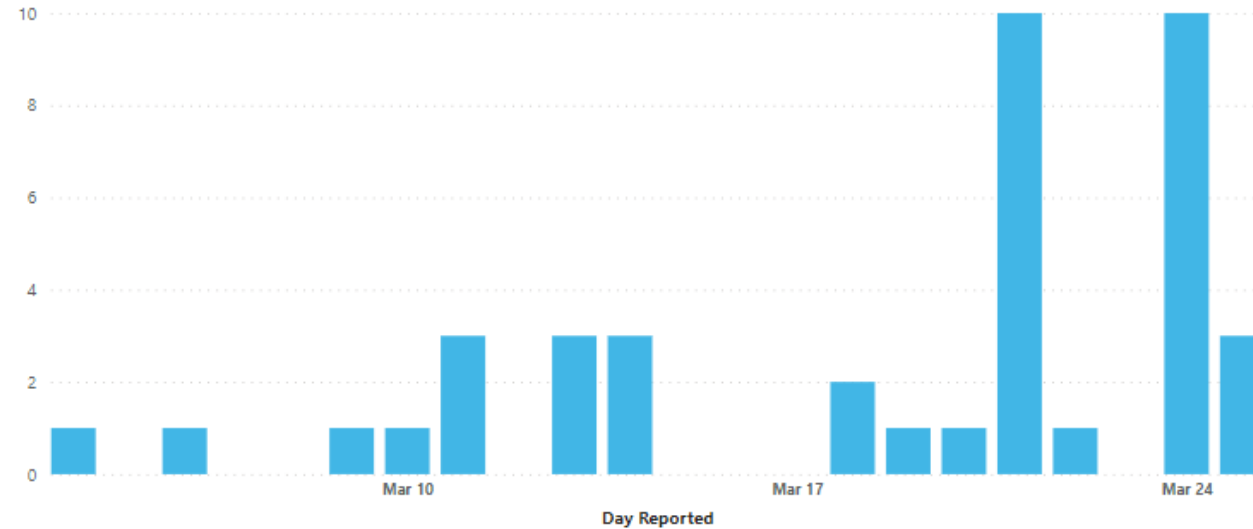
Data last updated 3/28/2024

Data are updated daily at 8 a.m. All data are provisional and subject to change.

Cases of Measles in 2024 Among Chicagoans



Cases by Date Reported



Cases by Age Group

Age Group	Count	%
0 - 4 years	28	68%
5 - 17 years	3	7%
18 - 49 years	9	22%
50+ years	1	2%



Transmission of Measles

- The virus is transmitted by **direct contact with infectious droplets or by airborne spread** when an infected person breathes, coughs, or sneezes.
- Measles **virus can remain infectious in the air for up to two hours** after an infected person leaves an area.
- Patients are **contagious starting four days before through four days after rash onset** (with rash onset dating being day zero).
- Measles vaccination is **highly protective** against measles acquisition.
- Measles after vaccination—especially after only 1 dose, can occur but is **milder and less contagious**.

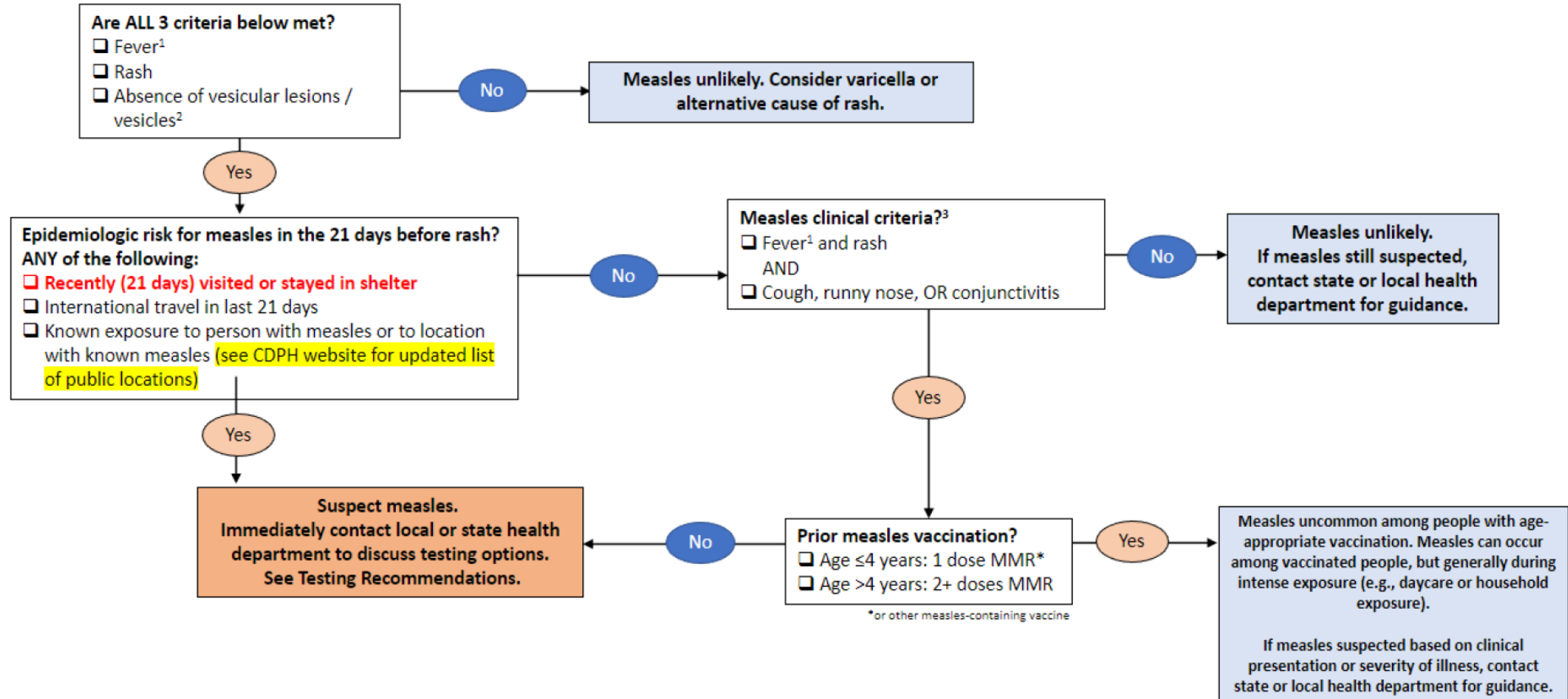
★ Measles is Highly Contagious

- Highly contagious; **approximately 9 out of 10 nonimmune persons with close contact to a measles patient will develop measles**
- Fever + cough, runny nose, red eyes + rash
- Incubation = 10–14 days
- 1 in 5 people will be **hospitalized**



Measles Screening Algorithm: General Community

START HERE





Footnotes for Algorithm

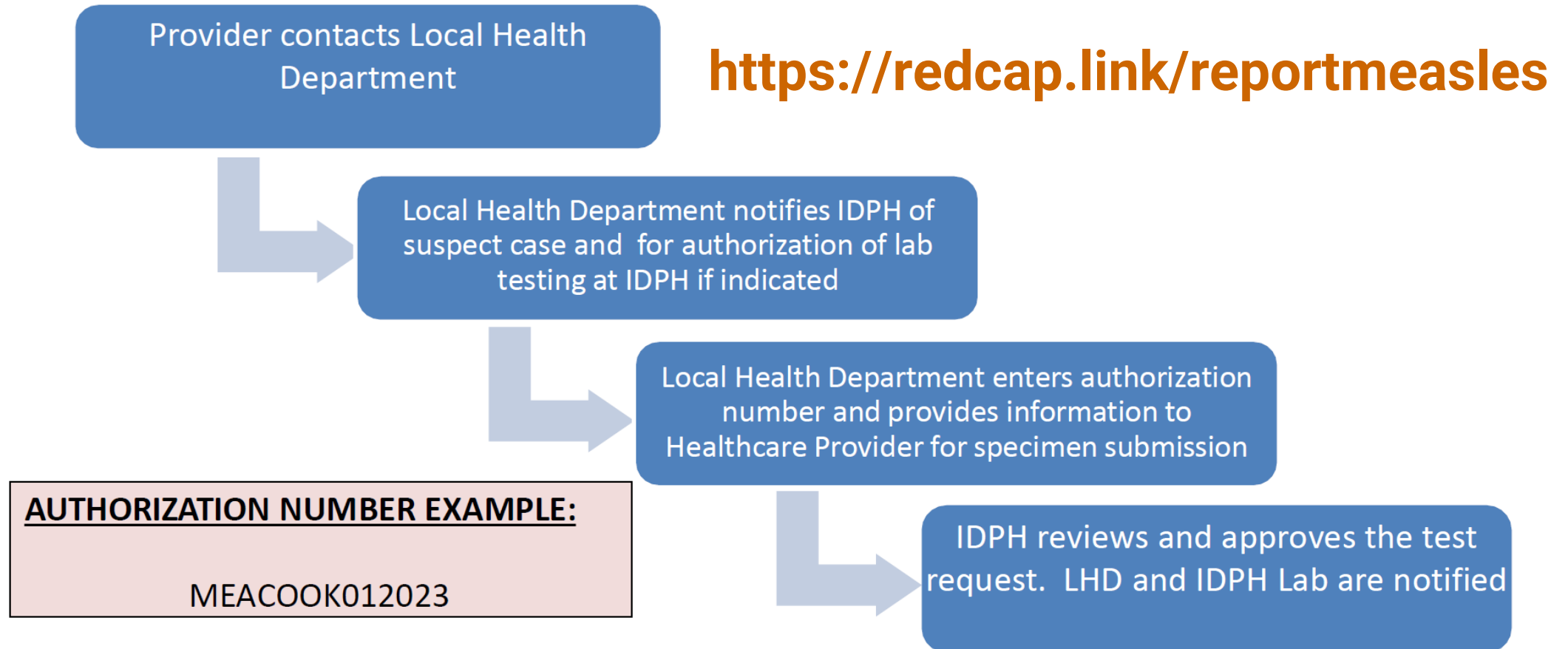
1. Either a measured or patient/family-reported fever is adequate; fever may not be measured at the time of healthcare evaluation due to normal fluctuation or to use of antipyretics (e.g., ibuprofen).
2. **A vesicular rash is not consistent with measles, and should prompt consideration for other causes of rash (e.g., varicella/chickenpox)**
3. Measles clinical criteria (per CSTE* case definition) include ALL the following:
 1. Generalized maculopapular rash
 2. Fever
 3. Cough, coryza (runny nose), or conjunctivitis (also known as the “3 C’s”)



LHD Measles Testing Authorization Process

- All specimens sent to IDPH lab require pre-authorization from IDPH.

<https://dph.partner.illinois.gov/communities/communicabledisease/default.aspx>



Link to request Measles Test

<https://redcap.link/reportmeasles>



CDPH Suspect Measles Report and Testing Request Form

This form is to report suspect cases and request testing for CHICAGO residents only.

All measles specimen submissions to the IDPH lab must be authorized by CDPH, and receive an authorization number prior to sending.

Find the measles testing decision tree on the [Chicago HAN measles page](#).

To request public health testing, please complete this form to facilitate authorization. Health Department staff will e-mail you to confirm approval for measles testing, and provide initial steps for specimen collection and instructions for isolation. **Test requests received outside business hours (8:00am-5:00 pm, 7 days a week) will be reviewed at the start of the following business day.**

Promptly collect a specimen (see [instructions](#)); however, DO NOT SUBMIT A TEST WITHOUT CDPH APPROVAL.

This system REPLACES provider reporting of suspected cases and testing authorization through 311. DO NOT call 311 or 312-743-7216 to report. If you have other urgent questions, please call 311 (or 312-744-5000, if outside the city but regarding a Chicago resident) and request to speak to the Medical Director on-call.



Minimize Potential Measles Exposures

Before arrival to a healthcare setting:

- Notify, **don a facemask**
- **EMS should notify EDs in advance** when transporting a patient with known or suspected measles

Upon arrival to a healthcare setting:

- Triage stations to rapidly identify and isolate patients with measles
 - Facilitate adherence to respiratory hygiene and cough etiquette
 - **Train and provide visual alerts**
 - Discharge home to isolate instructions
 - Hand hygiene
 - Place facemasks by alerts
-
- [Interim Measles Infection Prevention Recommendations in Healthcare Settings | CDC](#)





Adhere to Standard and Airborne Precautions: Patient Placement, HCP, Duration, Manage movement



- **Mask patient, move to Airborne Infection Isolation Room (AIIR)** and adhere to Standard and Airborne isolation precautions.
 - At least 6 (existing facility) or 12 (new construction) air changes/hour
 - Direct exhaust of air to the outside
 - Air may be returned to the air handling system if all air is directed through HEPA filters
- If AIIR not immediately available, place patient in a private room with the door closed until they can be moved to an AIIR. Add high efficiency particulate air (HEPA) filtration if possible.
 - When an AIIR is in use for a patient on Airborne Precautions, **monitor air pressure daily** with visual indicators (e.g., smoke tubes, flutter strips), regardless of the presence of differential pressure sensing devices (e.g., manometers).
- **While awaiting testing, medically stable patients can be discharged to their homes, if they are able to isolate there.**
- **Isolation must continue until 4 days AFTER the rash onset date.**

  **Contagious Period**





Discharge of Patients after Infectious Period: Main Contacts at Shelters

For patients residing in the Halsted Shelter:

Hospitals discharging residents can reach out to the onsite manager, Patricia Thomas, to coordinate their return. She is easiest to reach via email but can also be reached by phone. Here is her and the night manager's contact info:

Daily On-Site Managers

7:00 a.m. - 7:30 p.m.

Patricia Thomas

(772) 646-2757

Halsted2241@gmail.com

7:00 p.m. - 7:30 a.m.

Daniel Dennett

(956) 655-4070

Halsted2241@gmail.com

For patients residing in Best Western:

Hannah Chi is currently coordinating the return of residents to BW. Her email is Hannah.Chi@illinois.gov. You can also CC Dr. Quinlan (Kyran.P.Quinlan@illinois.gov) and Dr. Spencer (Hillary.Spencer@illinois.gov) so they are aware as well.

MMR Can Cause a Self-limited Rash

- MMR can cause a short-lived febrile rash syndrome that is not contagious to others
- Differentiating measles from an MMR reaction in the setting of an outbreak can be challenging, especially if MMR was given to prevent measles after an exposure
 - Serology cannot differentiate measles infection from measles vaccination
 - Molecular testing (MeVA) **can** differentiate measles from an MMR reaction



Rash or URI Panels May Detect Vaccine Reactions

- Some commercial labs nationally have begun offering measles rRT-PCR as part of a viral exanthem or upper respiratory infection panel
- Positive results for measles have so far only detected vaccine reactions
- Clinicians should be aware that measles PCR can detect vaccine-derived measles virus 14+ days after MMR vaccination





Ensure all HCP have presumptive Evidence of Immunity to Measles

- **Written documentation of vaccination with 2 doses** of measles virus-containing vaccine (the first dose administered at age ≥ 12 months; the second dose no earlier than 28 days after the first dose); OR
- **Laboratory evidence of immunity** (measles immunoglobulin G [IgG] in serum; equivocal results are considered negative); OR
- **Laboratory confirmation of disease**; OR
- Birth before 1957.
- Consider vaccinating HCP born before 1957 who do not have other evidence of immunity to measles.
- During a measles outbreak, 2 doses of measles virus-containing vaccine are recommended for all HCP, regardless of year of birth.



Transport

- **Limit transport of patients with known or suspected measles** to essential purposes, such as diagnostic and therapeutic procedures that cannot be performed in the patient's room or in the facility.
- When transport within the facility is necessary, the patient should **wear a facemask** if tolerated.
- Use a transportation route and process that includes **minimal contact with persons not essential for the patient's care**.
- Notify HCP in the receiving area of the **impending arrival** of the patient and of the precautions necessary to prevent transmission.
- When transport outside the facility is necessary, **inform** the receiving facility and the transport vehicle HCP in advance about airborne precautions being used.





Manage Exposures

For HCP **with presumptive evidence of immunity** to measles who have had an exposure to measles:

- Postexposure prophylaxis is not necessary.
- Work restrictions are not necessary.
- Implement daily monitoring for signs and symptoms of measles infection for 21 days after the last exposure; have awareness that previously vaccinated individuals may have a modified disease presentation.

For HCP **without presumptive evidence of immunity** to measles who have had an exposure to measles:

- Administer postexposure prophylaxis in accordance with CDC and ACIP recommendations.
- **Exclude from work from the 5th day after the first exposure until the 21st day after the last exposure**, regardless of receipt of postexposure prophylaxis.
- HCP who received the first dose of MMR vaccine prior to exposure may remain at work and should receive the second dose of MMR vaccine, at least 28 days after the first dose.
- **Implement daily monitoring** for signs and symptoms of measles infection for 21 days after the last exposure.



Control Measures: Post Exposure Prophylaxis (PEP)

PEP within the target window may provide measles protection or modify the clinical course of disease among susceptible people



MMR

- Should be given within 72 hours (3 days) of initial measles exposure
- Vaccination can be given after this window, but would only be expected to protect from future exposures and is not considered “adequate PEP”

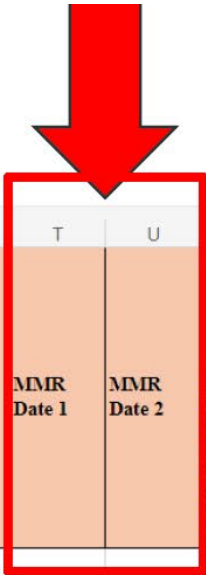


Immunoglobulin

- Needs to be given within 6 days of initial exposure
- Can be given intramuscularly (IMIG) or intravenously (IVIG)
 - IVIG should be prioritized for adults at high risk of severe disease

★ Healthcare line list template

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	
1	Last Name	First Name	Role	DOB	Age	Address	City	ZIP Code	State	Phone 1	Phone 2	Date(s) of Exposure	Location of Exposure	Were standard and airborne precautions maintained during all patient interactions? (Y/N)	Immunocompromised? (Y/N)	Birth before 1957? (Y/N)	Documented laboratory evidence of immunity (measles immunoglobulin G [IgG] in serum)? (Y/N)	Documented MMR vaccination? (Y/N)	No. of MMR doses	MMR Date 1	MMR Date 2	IMMUNE, NON-IMMUNE, OR 1 DOSE OF MMR	PEP indicated (Y/N)	PEP received (Y, N, N/A)	If PEP received, what/where/when	Furlough? (Y/N)	
2																											
3																											
4																											
5																											
6																											
7																											
8																											
9																											





Hospitalizations

- To date (as of 03/28), the majority of the hospitalized patients with measles have had few identified* high-risk exposures in hospitals.
 - Low risk exposures: Patient transported to the ED via EMS Call Ahead
 - High risk exposures: Patient Self referred to the ED
- ***CDPH IPs are not always aware** and thus we send you a notification to confirm if high risk or low risk exposure
- However, we have identified patients self-referred to ED and urgent care clinics
- **Ensure your ED, urgent care and ambulatory clinics** have triage protocols in place and everyone is educated on screening procedures.





Syndromic Surveillance

- IDPH has requested health departments perform syndromic surveillance to identify suspect measles patients who visited EDs (done via ESSENCE).
- CDPH is reaching out to EDs (charge nurses and IPs if unable to reach charge nurse) when we are notified of a suspect patient that should be evaluated for measles.
- To avoid unnecessary calls to hospitals, we are cross-checking the information we receive from IDPH with our internal databases so we can have as much information as possible before we call.
- Please help us inform your teams CDPH is calling and to collaborate with us 😊



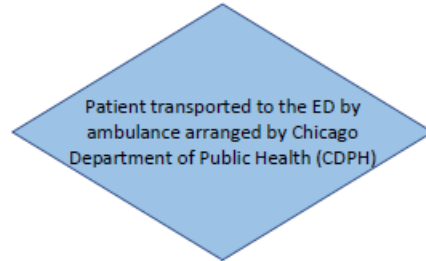
★ Lessons Learned...and Learning



- Developing materials (screening algorithms to identify suspect cases, visual alerts)
- Educating and training staff
- Managing/updating employee vaccination records
- Managing exposures (notification to HCWs, patients/visitors, follow-up needed)
 - Contact tracing
- Managing isolation needs
- Availability of airborne isolation rooms and prioritizing patients
- Managing discharge needs
- Managing lab results and communication within your teams
- Reporting of cases
- Funding/personnel shortages/vaccination costs
- Other topics



Example of ED Measles SOP

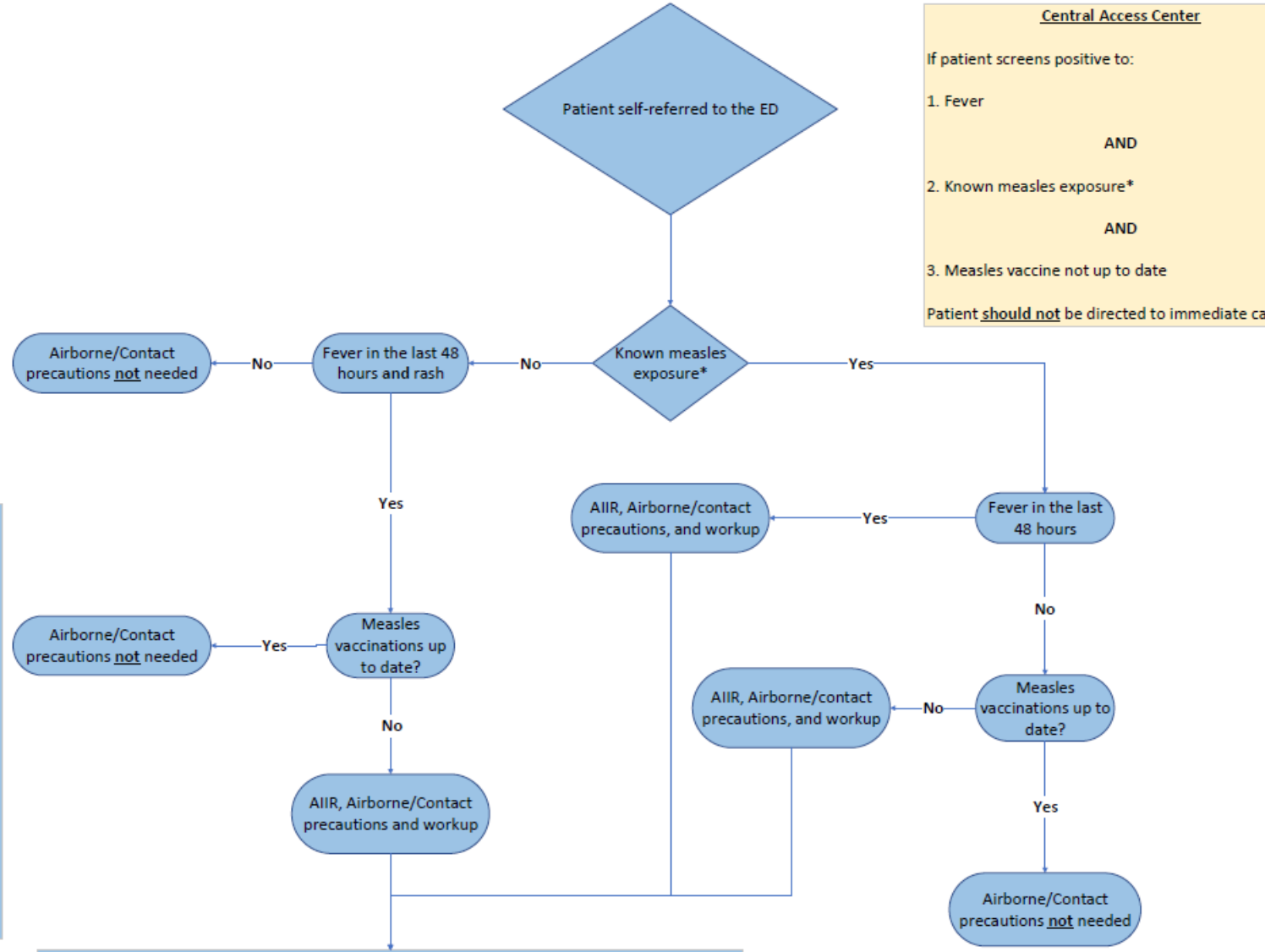


- *Known Measles Exposure**
- 1. Resides at 2241 S. Halstead Ave shelter
 - OR
 - 2. CPS school exposure
 - OR
 - 3. Known measles exposure in past 21 days

- **Testing Process**
1. IP&C will be in contact with CDPH to receive confirmation code for measles testing
 2. Place orders for HCID measles testing (PCR and IgM only, no IgG)
 3. Collect specimens from patient
 - Nasopharyngeal or oropharyngeal swab for RT-PCR (Regular COVID/RVP swab kit)
 - Flocked swab in VTM/UTM (do not use cotton tip swabs)
 - Blood in red top tube for serologic testing
 4. Ensure name, DOB, and time/date of collection are recorded on sample with initials of individual collecting sample
 5. Tube specimen in biohazard bag to laboratory for submission

1. Charge nurse will be notified in advance by CDPH with suspected measles diagnosis and estimated time of arrival
 - Charge will collect make/model and license plate of vehicle
2. ED will page IP&C on call
3. ED will notify security to direct patient to ambulance bay
 - Provide make/model and license plate of vehicle
4. Upon arrival to ambulance bay patient and caregiver will keep mask on
 - If unable to wear mask, place blanket/cloth over patients face
5. Patient and caregiver will be escorted into ED by ED staff. ED staff escorting patient will need to be wearing N-95 mask, gowns, and glove.

ED Measles SOP



Central Access Center

If patient screens positive to:

1. Fever
- AND
2. Known measles exposure*
- AND
3. Measles vaccine not up to date

Patient should not be directed to immediate care



Example of Measles SOP (continued from previous slide)

***Measles Immunity

Evidence of measles immunity includes one or more of the following:

Patient

- 1-6 year olds - 1 dose of MMR vaccine
- > 6 year olds - 2 doses of MMR vaccine
- Laboratory evidence of immunity or prior disease

*First dose of MMR vaccine administered after first birthday
Last dose of MMR vaccine received must be given >21 days prior to presentation*

Healthcare Worker

1. Written documentation of at least 2 doses of MMR vaccine
2. Laboratory evidence of immunity or prior disease

Healthcare workers whose immunity status is unknown should consult with Employee Health Services

1. Patient will be roomed in Airborne Infection Isolation Room (AIIR) and placed in Airborne/Contact Precautions.
2. Evaluation by measles-immune healthcare provider - If there is clinical suspicion/uncertainty, page IP&C to confirm need for testing with CDPH**.
3. Limit care of patient to HCWs who are measles immune***
4. After exam room is vacated, close door and leave room unoccupied by patients/families and non-immune HCWs until room turnover time has elapsed
5. Consider post-exposure prophylaxis for exposed, unvaccinated patients. Page IP&C for guidance.

If admitted:

If patient meets admission criteria, patient needs to be masked/covered during transport, placed in AIIR and continue Airborne/Contact precautions in unit

Discharge:

Page IP&C to determine workflow with CDPH

ED Room Turnover:

- AIIR, Trauma Rooms
- Triage
- Regular Exam Rooms
- EVS to follow regular cleaning protocol after discharge/transfer

Airborne/Contact Precautions

For pathogens transmitted by small particles that travel long distances in the air and by contaminated hands and objects:

Use for:

- Measles (Rubeola), Varicella disease (chicken pox or disseminated herpes zoster)
- Herpes zoster (shingles in immunocompromised patients)

What to do:

- Notify the Facilities Services Department and check if negative air pressure is active and functioning, then place patient in AIIR
- Keep doors closed to maintain negative air pressure
- If patient has suspected or confirmed measles, varicella, or zoster, only immune healthcare workers can enter
- Parents/approved visitors may wear a surgical/procedural mask
- PPE: Wear a fit-tested personal respirator (N-95) or PAPR, gloves and gown



Thank you for participating!

Next Meeting (Teams): Thursday, April 18, 2024:

Solving the HAI Equation, Rebecca Battjes, MPH, CIC, FAPIC, Infection Prevention Senior Clinical Advisor, North America



  Interested in CEUs?

Acute Care Roundtable CEU Request

<https://redcap.link/achsurvey>





Additional Slides/Resources

(not presented during the meeting)





Our Services

Our team consists of Infection Prevention Specialists, Epidemiologists, a Project Manager, a Projects Administrator, and Medical Directors who provide the following assistance:

- IP&C Guidance and Training
- Infection Control Assessments and Responses (ICARs)
- Epidemiology Support
- IP&C Roundtable
- Our partnerships and site visits are meant to be educational, constructive, non-regulatory, and non-punitive
 - We work with you to resolve any identified opportunities
 - These services are not in response to citations or complaints



Reporting Case Report (CRF) Forms

CDPH requires additional epidemiologic information for certain cases in addition to the reporting requirement. By providing this information to CDPH, it allows us to have a better understanding of this patient and how to limit the spread of further transmission for certain multi-drug resistant organisms.

For MDRO Reporting training (have a new IP? need a refresher?) questions and CRF completion requirements, please contact:

cecilia.pigozzi@cityofchicago.org





Gus E Turner, MPH
Project Firstline
Project Manager, CDPH



★ Project Firstline Overview

- Project Firstline is the Center for Disease Control's (CDC) National Training Collaborative for Healthcare Infection Control education
- Project Firstline (PFL) brings together more than 75 healthcare, academic, and public health partners to reach healthcare workers across the country
- PFL offers educational resources in a variety of formats to meet the diverse learning needs and preferences of the healthcare workforce

As of May 2022, Project Firstline and its collaborative partners have:



Developed **200+** educational products and training materials on healthcare infection control



Hosted **750+** educational events, reaching approximately **65,238** healthcare workers



Received **84 million+** views across the web and various digital platforms



Available Resources

- **Learn about Infection Control in Health Care:** CDC's Project Firstline provides innovative and accessible resources so all healthcare workers can learn about infection control in health care.
 - *Topics include 14+ foundational IP&C (e.g., hand hygiene, environmental services, ventilation, PPE, how viruses spread, etc.), Recognizing Risk using Reservoirs, Where Germs Live training toolkits, and more interactive resources.*
- **Lead an Infection Control Training:** Our facilitator toolkit is designed to work with your team's learning styles and busy schedules (10-, 20-, and 60-minute scripted sessions).
- **Access Infection Control Educational Materials:** Find short videos, fact sheets, job aids, infographics, posters, printed materials, interactive computer lock screens, and social media graphics to utilize at your facility on foundational IPC topics.
- **Earn Continuing Education:** Earn CEU's on CDC Train for PFL content.
- **Translated Resources:** IPC materials translated into Spanish & additional languages.





Infection Control Training Topics (Onsite/Virtual with IDPH CEU/CEC)

1. The Concept of Infection Control
2. The Basic Science of Viruses
3. How Respiratory Droplets Spread COVID-19
4. How Viruses Spread from Surfaces to People
5. How COVID-19 Spreads - A Review
6. Multi-Dose Vials
7. PPE Part 1 - Eye Protection
8. PPE Part 2 - Gloves & Gowns
9. Hand Hygiene
10. Virus Strains
11. PPE Part 3 - Respirators
12. EVS (Enviro Cleaning & Disinfection)
13. Source Control
14. Asymptomatic Spread of COVID-19
15. Ventilation

★ Print Materials & Jo

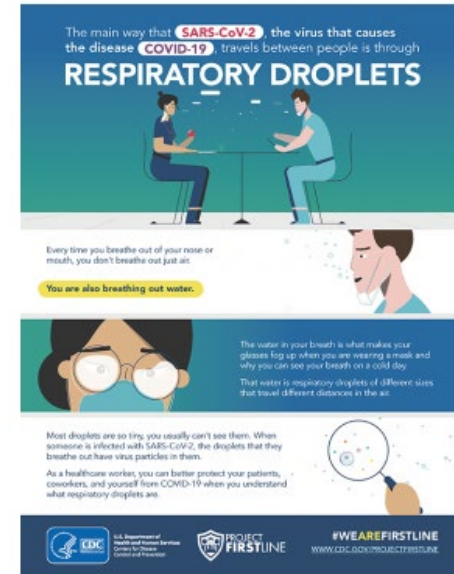
- Several print materials and job aids available on foundational IP&C topics.
 - Available for [free download](#) on CDC's website.
 - Including lock screens for staff computers.
- We are happy to offer professional printing support for poster requests!
 - Please see our team after the presentation to request print materials.
 - For remote guests, please email: projectfirstline@cityofchicago.org.



[How to Read a Disinfectant Label](#) [PDF - 1 Page]



[Water and Wet Surfaces Profile](#) [PDF - 1 Page]



[Respiratory Droplets Flyer](#) [PDF - 1 Page]



[What would you see? Poster](#) [PDF - 1 Page]



[Germs live in blood](#) [JPG - 1 Page]

**Germs are everywhere,
including on surfaces
and devices in the
healthcare environment.**

**Learn how to stop their spread:
WWW.CDC.GOV/PROJECTFIRSTLINE**



INFECTION CONTROL PROTECTS



You



Your Coworkers



Your Patients



Your community



**PROJECT
FIRSTLINE**

CDC's National Training Collaborative
for Healthcare Infection Prevention & Control



**The right infection
control actions
help stop germs
from spreading.**

Learn more:

WWW.CDC.GOV/PROJECTFIRSTLINE





2023 LEARNING NEEDS ASSESSMENT



WE WANT YOUR FEEDBACK TO DEVELOP NEW CONTENT!

- + CDPH is a proud partner of CDC's National IP&C Training Collaborative, Project Firstline.
- + We are working to identify priority IPC training needs among your frontline healthcare staff.
- + This brief survey (<10 minutes) helps us develop relevant content for you and your team.
- + These trainings will be developed for our Fall 2023 IPC webinar series (with free CEUs)!



Your Chicago Project Firstline Team

- **CDPH Infection Preventionist:** Your facility's main contact for all infection prevention and control questions.
 - *General contact information:*
cdphaiar@cityofchicago.org
- **PFL-CDPH Team:** Contact our team to learn about specific Chicago-based educational opportunities!
 - We offer many resources including virtual or onsite trainings, webinars, and job aides.
 - *CDPH Project Firstline email:*
projectfirstline@cityofchicago.org



Visit our [Chicago Health Alert Network \(HAN\)](#) page by scanning the QR code in the shield logo above to access resources and sign up for the newsletter to stay up to date on exciting new IPC resources!

**CDC'S PROJECT FIRSTLINE
YOUR CHICAGO TEAM**

-  projectfirstline@cityofchicago.org
-  www.chicagohan.org/hai/pfl
-  1340 S Damen Ave,
Chicago, IL 60608

