

Presentation Type:

Oral Presentation - Top Poster Abstract

Subject Category: Outbreaks**Ice, Ice, Maybe? Legionella-based Improvements in Environmental Patient Safety**Carrigan Hayes¹, Antonisha Seay², Ioana Chirca², Leigh Ann Kelly¹ and Delrico De Guzman¹¹AdventHealth Orlando and ²Adventhealth

Background: Following the identification of *Legionella pneumophila* by next generation sequencing (NGS) testing in an immunocompromised patient in June 2024, an extensive environmental sampling initiative was launched to determine possible contamination sources. **Method:** The water management team was immediately notified and performed initial testing on the unit where the positive case was identified, in which six ice and water machines, two showers, and four sinks were all sampled from two inpatient oncology units. **Result:** Only 4 of the 270 identified ice machines were tested every quarter. Since there was no randomization in the testing, this did not provide an accurate representation of the effectiveness of the hospital's water management system. The results identified an ice machine located in a low traffic area of the unit which resulted positive for *Legionella pneumophila*. **Conclusion:** Our findings led to the identification of the implicated ice machine in a low traffic area of the unit as our primary source, highlighting the need for more robust water monitoring practices across high-risk areas. When interviewing the nursing team, it was mentioned that the patient frequently requested ice chips to consume due to oral lesions, and nursing flow confirmed the impacted ice machine was the source of the patient's ice chips. In response, we expanded water testing protocols from 4 (1%) to 22 (8%) randomized ice machines in quarter three testing, resulting in the identification of 10 of the 22 machines testing positive for *Legionella*, a 45.5% positivity rate. This allowed us to change our water testing program moving forward to include 120% more ice machines in the quarterly testing program. We also implemented a phased approach to address the low flow machines throughout the hospital that are at risk of bacterial production in which we are gradually installing flow meters and monitoring usage for approximately one to two months per machine. Machines that are deemed low flow will be removed from the unit. We aim to reduce low flow ice machines on the inpatient units by 50% by the end of quarter 4 in 2025. These changes have reinforced our commitment to patient safety by limiting pathogen exposure and operating from an infection prevention standpoint. This investigation underscores the critical role of environmental monitoring and ongoing assessment of water-related equipment in healthcare settings.

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Subject Category: Outbreaks**Contact Tracing and Prevention of Secondary Measles Transmission in a Pediatric Acute Care Hospital — Los Angeles County, July 2024**Jordan Braunfeld¹, Edahrline Salas², Lingao Oliver-Donn², Kathy Trigueiro², Karyn Wong², Michael Smit², Susan Wu³, Christine Benjamin⁴, Sherry Yin⁵, Zachary Rubin⁶, Andrea Kim⁷ and Nava Yeganeh⁸¹Centers for Disease Control and Prevention; ²Children's Hospital Los Angeles;³Children's Hospital Los Angeles/USC Keck School of Medicine; ⁴LA CountyDepartment of Public Health; ⁵Los Angeles County Department of PublicHealth and ⁶David Geffen School of Medicine at UCLA

Background: Measles cases have been increasing in the United States and globally. However, the nonspecific presentation and ability to mimic and coexist with other common infections can delay diagnosis. During July 2024, a 12-year-old patient fully vaccinated for measles with recent international travel was admitted to an acute care pediatric hospital with fever, rash, mouth sores, and cough and initially thought to have a common

viral infection. Rash progression during hospitalization prompted measles polymerase chain reaction (PCR) testing, which was positive. The hospital rapidly conducted contact tracing and infection prevention (IP) efforts, including quarantine, symptom monitoring, and postexposure prophylaxis (PEP) administration, to prevent secondary measles transmission. **Methods:** The patient was placed on airborne isolation ~24 hours after presentation, pending measles testing results. After notification of the positive PCR test, hospital IP staff performed unit walkthroughs and reviewed security footage to retrace the patient's movements. Staff determined the patient was transported for an echocardiogram, chest radiograph, and walked about the emergency department before isolation. Findings were used to identify contacts requiring quarantine, immunity testing, and PEP. Contacts were notified and those within the PEP window period who were immunocompromised or without presumptive evidence of immunity were offered PEP. All contacts were monitored for development of measles infection. **Results:** Within 36 hours, 158 staff contacts and 90 contacts among patients and visitors were identified, including 9 infants and 24 patients with incomplete measles immunization. At completion, the investigation identified 350 contacts, including 187 staff, 73 patients, and 90 visitors. The hospital administered PEP to 24 staff, 21 patients, and 6 visitors in accordance with American Academy of Pediatrics Redbook recommendations. Among 51 PEP recipients, 2 patients received intramuscular immunoglobulin, 8 patients received intravenous immunoglobulin, and 41 contacts, including all staff and visitors receiving PEP, received MMR vaccine. Six staff members who had no evidence of immunity were furloughed from work for 21 days after index patient contact. No secondary infections were reported. **Conclusions:** A single measles case resulted in 350 contacts among patients, visitors, and hospital staff, exemplifying the broad reach measles can have in healthcare settings. This event highlights the need for a high level of suspicion to promptly identify, isolate, and test possible measles patients. Secondary transmission can be prevented through thorough and coordinated investigations to identify all contacts at the facility, rapidly placing contacts without immunity in quarantine, and mobilizing resources to ensure timely PEP administration to eligible contacts.

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Subject Category: Patient Safety**Do Health Inequities Increase Risk For Healthcare Associated Infections In Acute Care Settings?**Michael Vollmer¹, Cristine Lacerna², Kara Mullane³ and Frederick Cabasa⁴¹The Permanente Medical Group; ²Kaiser Permanente; ³Kaiser Permanenteand ⁴TPMG Kaiser Permanente

Background: The COVID-19 pandemic highlighted health inequities with rates of illness and outcomes among various populations. This project evaluates factors involved with health disparities in patients with identified hospital-associated infections (HAIs). Identifying and targeting these inequities as risk factors could reduce HAIs in affected groups. **Method:** We examined HAIs reported to National Health and Safety Network (NHSN) from a large integrated health network, including 21 acute care hospitals in Northern California. This data set included Methicillin-resistant *Staphylococcus aureus* (MRSA), *Clostridioides difficile* infection (CDI), and Vancomycin-resistant enterococci (VRE) infections, catheter-associated urinary tract infections (CAUTI), central line associated bloodstream infections (CLABSI), and surgical site infections (SSI) from 29 procedures. The analysis included 6,813 reported cases of HAI from 2019 to 2023. Data was stratified with equity, inclusion, and diversity risk factors, and employing multivariate regression analysis to calculate odds ratios for infection. **Result:** Spanish-speaking patients had increased odds ratios for CLABSI (1.8, $p=0.003$), CAUTI (2.08, $p<0.0001$). **Conclusions:** The study identifies those with Spanish as preferred language, using interpreters, or family or friends as interpreters, as all having a higher risk for acquiring an HAI. These differences remain after