

Table 1.

Table 1: Disposition of Employees Without Documented Rubella Immunity by Serological Immunity Status				
	Positive Rubella Titer	Negative Rubella Titer	No Rubella Titer Performed	Total
Employee Rubella Titers	2,856	770	383	4,009
Provided Proof Previous Rubella Vaccination		93	176	269
Vaccinated by Organization Task Force		531	53	584
Immunity Not Yet Documented		146	154	300

interfacing employees in departments considered higher risk were prioritized. These areas were the emergency, dermatology, infectious diseases, labor and delivery, obstetrics, and pediatrics departments. **Results:** At the onset of the initiative in June 2019, 4,009 employees lacked evidence of immunity. As of November 2019, evidence of immunity had been obtained for 3,709 employees (92.5%); serological evidence of immunity was obtained for 2,856 (71.2%), vaccine was administered to 584 (14.6%), and evidence of previous vaccination was provided by 269 (6.7%). Evidence of immunity has not been documented for 300 (7.5%). The organization administered 3,626 serological tests and provided 997 vaccines, costing ~\$132,000. Disposition by serological testing is summarized in Table 1. **Conclusions:** A measles preparedness strategy should include proactive assessment of employees' immune status. It is possible to expediently assess a large number of employees using a multidisciplinary team with access to a centralized database. Consideration may be given to prioritization of high-risk departments and patient-interfacing roles to manage workload.

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Poster Presentation

VIM-CRPA in West Texas: Developing a Regional Multidrug-Resistant Organism Containment Strategy for a Novel Bug

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Background: The Texas Department of State Health Services Healthcare Safety (HCS) Investigation Team began investigating a cluster of positive carbapenem-resistant *Pseudomonas aeruginosa* (CRPA) results in August 2017. These CRPA isolates contained the novel carbapenemase Verona integron-encoded metallo- β -lactamase (VIM). This cluster became an outbreak that spanned >2 years and involved multiple healthcare facilities in and around northern Texas. In response to positive results, infection control assessments were conducted, which exposed common infection control gaps including inadequate hand hygiene performance, environmental cleaning issues, and poor communication

during interfacility patient transfers. As part of the ongoing investigation efforts, a regional containment strategy was developed to prevent the spread of multidrug-resistant organisms. **Methods:** Beginning in October 2018, the HCS Investigation Team made site visits to participating facilities every 6 months to provide targeted infection control support and hand hygiene performance and environmental cleaning observations. An initial kick-off meeting was held in February 2019 for facilities to begin collaboration on the containment strategy. This strategy became known as BOOT, an acronym meaning: Being prompt in response to positive cases, Obtaining isolates for testing, Optimizing infection prevention, and Transferring patients using a designated form. An interfacility transfer form to reduce the risk of transmission of multidrug-resistant organisms when patients are transferred between healthcare facilities was developed by a work group that consisted of the local health department, the Public Health Region healthcare-associated infections epidemiologist, and multiple healthcare facilities. **Results:** Facilities have increased communication with other facilities and with the health departments since the implementation of the BOOT strategy. The local health department is contacted when facilities do not receive a transfer form, and follow-up is initiated to ensure appropriate understanding and compliance. Facility hand-washing rates and environmental cleaning results have improved with each visit, and access to alcohol-based hand sanitizing dispensers has increased in select facilities. **Conclusions:** The regional containment strategy is dynamic and ongoing, and changes are implemented as obstacles are encountered. Implementation has resulted in a successful decrease of positive VIM results in the local area by ~50% since the first half of 2019. This program has led to greater collaboration among healthcare facilities, health departments, and a neighboring state. This investigation and its products have been used as a model for the implementation of containment strategies in other regions of Texas. The HCS Investigation Team hopes to create and implement an interfacility transfer form that can be used in healthcare facilities statewide.

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VIM-Positive *Pseudomonas aeruginosa* Sink Colonization Dynamics in Patient Rooms of a Dutch Tertiary-Care Hospital

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Background: In hospitals, Verona integron-encoded metallo- β -lactamase (VIM)-positive *Pseudomonas aeruginosa* (VPPA) frequently colonize sink drains. Sink use has been shown to disperse VPPA to other surfaces surrounding sinks, creating a potential transmission source. **Objective:** Because VPPA have been isolated from sinks and patients within our hospital, we analyzed colonization dynamics in 2 sinks identified as VPPA hot spots between 2012 and 2018. **Methods:** One sink was in an intensive care unit (ICU) patient room and the other was in a gastrointestinal surgery (GIS) patient room. ICU patients were screened for VPPA on admission, at discharge, and weekly during hospitalization. GIS patients were screened for VPPA only on clinical indication. In this study, patient and sink isolates were typed at 8 loci using multiple-locus variable-number tandem repeat (VNTR) analysis (MLVA). **Results:** Overall, 19 sink isolates from the ICU room were included. In 2013, VPPA isolates with identical VNTR genotypes ("clone B," VNTR nos. 2-4-8-4-4-5-10-[-2]) were found in the wash basin, aerator, drain, and siphon. The drain plug was replaced in August 2013, but B was isolated from the drain 1 month later. Every year between 2014 and 2018, clone B and other closely related genotypes were recovered from this drain. In 2018, clone B was also found on the wash basin and counter. No positive patients were identified in this room until 2016, when a patient acquired clone B 6 days after admission. From the GIS room, 6 sink isolates and 4 patients' isolates were included. In 2012, clone B was found on the wash basin and sink drain plug. Also, 3 VPPA-positive patients stayed in this room in 2012: at discharge, 1 patient was colonized by "clone A," VNTR numbers 6-7-8-5-9-8-6-1. Furthermore, 2 other patients screened positive for clone B prior to admission in 2012, so they likely acquired VPPA elsewhere. The drain plug was replaced in 2013, and no VPPA was found again until 2017, when 2 VPPA-positive patients stayed in this room: 1 was already a carrier of clone B, and the other was a carrier of clone B 1 day after admission. No positive sink cultures were found until January 2018, when closely related B isolates were recovered from the wash basin, drain, and drain plug. **Conclusions:** Between 2013 and 2018, clone B persisted in the ICU room sink. In the GIS room sink, clone B may have disappeared after 2012, but it was reintroduced by known carriers. However, few patients became colonized after being admitted to these rooms, even when

VPPA were discovered on surfaces outside the sink drain (ie, the wash basin and counter).

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What's in a Handshake? Exploring the Best Form of Greeting to Prevent Hand to Hand Spread of Viruses

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Background: Respiratory and enteric viruses are highly contagious pathogens that can be spread by contaminated hands and surfaces. We hypothesized that alternatives to handshake greetings that reduce the time and surface area of hand contact would be associated with decreased transfer of viral particles. **Methods:** In a simulation of hand-contact greetings, volunteers (N = 22) used a keyboard contaminated with the benign bacteriophage MS2 and then performed a handshake and fist bump with additional volunteers. To assess viral transfer, hands were cultured for MS2, and plaque-forming units (PFU) were compared for the different types of hand contact. Additional simulations (N = 10) were conducted to compare viral transfer with the fist bump versus a cruise tap greeting (ie, a modified fist bump involving single knuckle contact). **Results:** The handshake greeting resulted in significantly greater transfer of MS2 than the fist bump (1.31 vs 0.54 log₁₀ PFUs, $P < .001$) (Fig. 1A), but the frequency of transfer of virus was high for both greetings (91% transfer by handshake vs 59% by fist bump). The cruise-tap greeting did not result in reduced transfer of viral particles in comparison to the fist bump (Fig. 1B), and the frequency of transfer remained high (70%). **Conclusions:** The fist-bump and cruise-tap greetings could potentially reduce transmission of viruses in comparison to the handshake, but transfer occurred frequently, even with these

Figure. Comparison of bacteriophage MS2 transfer by different greeting methods.

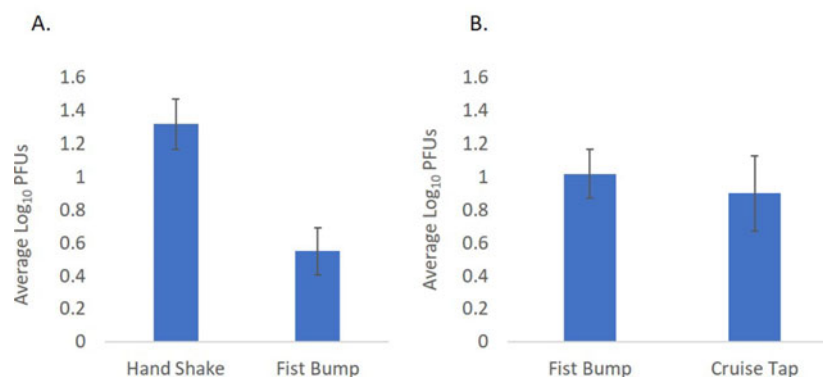


Fig. 1.