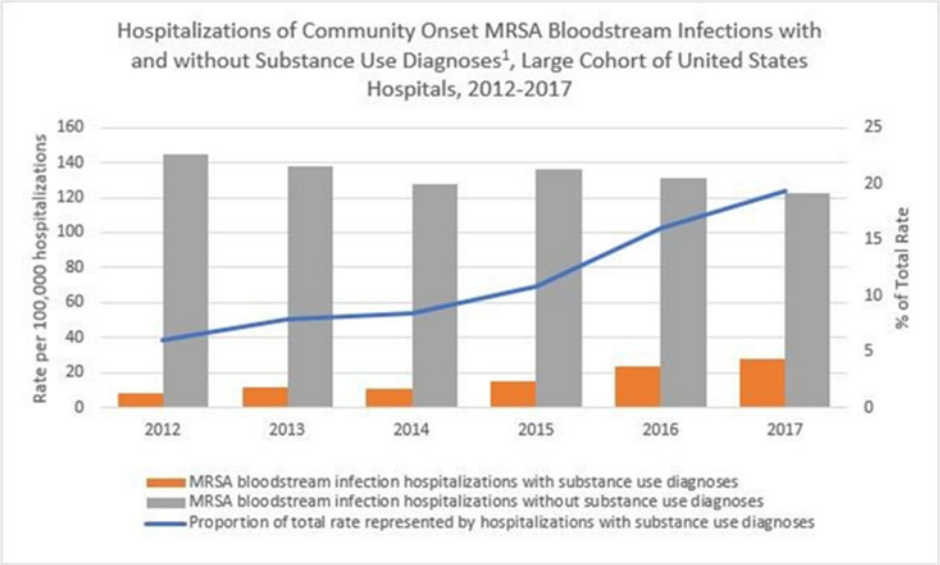
Figure 1.



[1] Substance use diagnoses: opioids, cocaine, amphetamines, stimulants, hallucinogens, and other unspecified drug use

MRSA: Methicillin Resistant *Staphylococcus aureus*

CO: Community Onset

Fig. 1.

Among patients not leaving against medical advice, CO BSI patients with substance-use diagnoses had longer lengths of stay (median, 11 vs 9 days), lower in-hospital mortality (9% vs 14%), and higher hospitalization costs (median, $22,912 vs $17,468) compared to patients without substance-use diagnoses. **Conclusions:** Although the overall CO MRSA BSI rate remained unchanged from 2012 to 2017, infections with substance use diagnoses increased >3-fold, and infections without substance use diagnoses decreased. These data suggest that the emergence of MRSA associated with substance-use diagnoses threatens potential progress in reducing the incidence of CO MRSA infections. Additional strategies may be needed to prevent MRSA BSI in patients with substance-use diagnoses, and to maintain national progress in the reduction of MRSA infections overall.

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Presentation Type:
Poster Presentation

Successful Control of a Norovirus Outbreak in a Chilean Pediatric Intensive Care Unit

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Background: Noroviruses are nonenveloped, single-stranded RNA viruses belonging to the *Caliciviridae* family; they cause high-profile outbreaks in healthcare settings, due to their contagiousness, prolonged viral shedding, and ability to survive in the environment. **Methods:** Description of a norovirus outbreak in a pediatric ICU with multibed rooms. We report the epidemiology, molecular diagnosis, and control. **Results:** In August and September 2019, an outbreak of acute gastroenteritis affected 13 patients and 26 healthcare workers at an intensive care unit of Roberto Del Río Children's Hospital, which consists of 22 beds in a multibed-room format. Patients manifested self-limited non-dysenteric diarrhea; other symptoms were vomiting (54%) and fever (23%). Healthcare workers reported diarrhea, nausea, vomiting, fever, malaise, and abdominal cramps. The mean age of the patients was 1 year old, all diaper users. The average days of diarrhea in patients was 4 days (2–6 days). There were 87 exposed patients, with an attack rate of 14.9% and 107 exposed staff, with an attack rate of 24.3%. Rotavirus and bacterial etiology were ruled out, and norovirus was subsequently diagnosed in 10 of 13 patients using qRT-PCR; 80% (8 of 10) corresponded with GII norovirus and 20% with a GI (2 of 10). Control measures included enforcement of standard precautions, strict adherence to contact precautions (use of gloves and gowns), hand hygiene before and after patients contact, and mask use if exposure to vomitus. Healthy staff were assigned for patients care. Environmental disinfection twice daily with 1.000 ppm sodium hypochlorite solution was encouraged and supervised with focus on cleaning high-touch surfaces, such as bathrooms, sinks, tables, floors and patient-care items. Active and prospective surveillance were conducted to search for new cases. Infection control practices were coupled with education to staff, patients, and visitors. The outbreak was controlled on September 18, 2019, after 23 days and several interventions,

with complete recovery in all cases. **Conclusions:** We concluded that timely detection of a norovirus outbreak in a healthcare facility is imperative for effective infection control, especially in a multibed-room setting, because of the extended viral shedding in children and the transmission route that included aerosolized viral particles in vomitus. Molecular methods offer a rapid and definitive way to establish etiology, but these tests may not be accessible. Direct contact with infected children and contaminated surfaces and patient-care items were relevant risk factors in this outbreak (which involved both patients and healthcare workers) and contributed with its length.

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Successful Diagnostic Stewardship for *Clostridioides difficile* Testing in Pediatrics

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Background: As many as 40% of infants aged ≤12 months and 10%–28% of children aged 13–24 months are colonized by *Clostridioides difficile*. The IDSA and the SHEA recommend that testing should never be routinely recommended for infants ≤12 months of age and should not be routinely performed for children 1–2 years of age unless other causes are excluded. We report implementation of *C. difficile* diagnostic stewardship at 2 children's hospitals. **Methods:** We implemented age-based restrictions for *C. difficile* testing at hospital A (~200-bed, free-standing, children's hospital) and hospital B (~100-bed children's hospital within a larger hospital). Both sites are part of the same multicampus institution, and both used nucleic acid amplification testing to detect *C. difficile* throughout the study. In May 2018, we implemented an electronic order set for *C. difficile* that provided alerts to avoid testing young infants and patients with recent use of laxatives, stool softeners, or enemas, but providers could order *C. difficile* testing at their discretion. In October 2018, we implemented a more restrictive diagnostic stewardship algorithm for *C. difficile*. No testing was allowed for infants aged ≤12 months. Approval pediatric infectious diseases staff was required to test children aged 13–24 months. Pathology resident approval was required to test children aged ≥24 months who had received laxatives, stool softeners, or enemas within ≤24 hours. Clinical microbiology laboratory supervisors reinforced rejection of nondiarrheal stool specimens for testing. Providers at both campuses were informed about the new testing guidelines by e-mail. We compared the number of tests sent and positive cases of healthcare facility-onset *C. difficile* (HO-CDI) by age strata before and after the implementation of the restrictive testing algorithm. **Results:** After the intervention, the number of tests in infants significantly declined; 2 infants aged ≤12 months and 4 infants aged 13–24 months were tested for *C. difficile* (Table). After the intervention, the number of tests per month declined at hospital A, as did the number of HO-CDI cases at both hospitals. Rejections of nondiarrheal stools significantly increased after the intervention ($P < .001$). **Conclusions:** *C. difficile* diagnostic stewardship for children was successfully implemented using a rule-based alert system in the electronic health record. This intervention was associated with a reduced number of tests sent and cases of HO-CDI. This strategy was cost-saving and prevented misdiagnosis, unnecessary antibiotic therapy, and overestimation of HO-CDI rates.

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Successful Response to a Measles Exposure in a Pediatric Clinic Utilizing Measles, Mumps, and Rubella (MMR) Vaccine Prophylaxis

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Background: To be effective, postexposure prophylaxis (PEP) must be administered promptly after measles exposure. MMR vaccine is recommended within 72 hours of exposure. Immunoglobulin (IG) is recommended for infants aged <6–12 months, susceptible individuals, and severely immunocompromised people within 6 days of exposure. MMR vaccine is readily available, less expensive, and more easily administered than IG, and it provides long-term immunity. However, due to delays in diagnosis of measles cases, it is often not possible to administer MMR PEP to contacts within 72 hours. We describe an unvaccinated infant with fever and rash after recent international travel who presented to a pediatric outpatient clinic. Measles was promptly suspected, and specimens were collected for measles polymerase chain reaction (PCR) testing at the California Department of Public Health (CDPH) laboratory. PCR results confirming measles were obtained within 24 hours of the patient visit. **Methods:** A multidisciplinary team of medical, employee health, nursing, pharmacy and infection prevention staff was assembled. Electronic health records (EHRs) were used to identify exposed patients based on registration times, as well as to determine their MMR vaccination status and to identify any immunocompromising conditions. Exposed patients were notified either by e-mail or phone. Adult caretakers were interviewed to determine who accompanied the child to the clinic. Caretakers were questioned regarding their MMR vaccination status and the high risk to accompanying persons. The use of EHRs with data integration from other healthcare system helped validate and supplement vaccine statuses and medical histories of exposed family members. **Results:** In total, 128 persons were exposed; 31 staff (24%), 46 patients (36%) and 51 family members (40$). All 128 patients (100%) and family members were notified within 24 hours of case confirmation, and 44 of 128 (34%) required PEP. All staff had documentation of measles immune status. However, 1 of 31 staff (3%) needed PEP due to immunosuppression. MMR vaccine was given to 35 of 36 eligible persons (97%), except for 1 sibling who received IG due to delay in exposure identification. An additional 8 of 44 persons (18%) required IG due to age or immunosuppression. There were no secondary cases. **Conclusions:** MMR vaccine was used as primary PEP due to prompt suspicion for measles, early laboratory confirmation, and swift coordinated response using a multidisciplinary team. Leveraging EHRs helped rapidly