MRSA for stewardship or other purposes, receipt of nasal P-I should not be a deterrent. However, the fact that most patients remained culture-positive after 4-13 applications raises concerns that P-I is less effective than mupirocin for clearing nasal colonization. We recommend using quantitative cultures to further investigate the effectiveness of nasal P-I.

Disclosures. **All Authors**: No reported disclosures

855. Significance of Invasive Infections due to Methicillin Sensitive *Staphylococcus aureus* in the neonatal population

Mariawy Riollano, MD[1]; Deena Altman, MD, MS[2]; shanna kowalsky, DO[3]; Stephanie Pan, MS[4]; [1]Icahn School of Medicine at Mount Sinai Hospital, Astoria, New York; [2]The Mount Sinai Hospital, New York, New York; [3]Mount Sinai Hospital, New York, New York; [4]Icahn School of Medicine at Mount Sinai, New York, New York

Session: P-37. HAI: Gram-positives (MRSA, MSSA, VRE)

Background. Staphylococcus aureus is a well-known cause of hospital acquired infections. *Methicillin resistant staphylococcus aureus* (MRSA) colonization is a recognized risk factor for invasive infections. The neonatal population in the intensive care unit (NICU) is particularly vulnerable to these types of infections, resulting in high mortality and morbidity. However, only scant data is available to establish the risk for invasive disease in patients with *Methicillin sensitive staphylococcus aureus* (MSSA). As a result, surveillance and prevention strategies are only address for MRSA colonization. Here, we describe the clinical characteristics of *S. aureus* colonized patients identified in late 2018 during transmission events in a single center NICU. As a result of the targeted surveillance investigation for MRSA infection control measures, *S. aureus* colonization was stratified, and we were able to compare the differences in invasive disease between MRSA and MSSA.

Methods. This is a retrospective chart review of the 47 colonized patients identified during October 2018- January 2019 SA transmission events in single center NICU. Risk factors, clinical characteristics, and the hospital course of these cases, including the proportion of invasive illness were reviewed.

Results. We found that most clinical characteristic, risk factors, and hospital course were the same between MRSA and MSSA colonized infants (p values > 0.05). Additionally, there was no difference in the proportion of invasive infection between MRSA and MSSA colonized patients (p value > 0.05). The type of invasive infections identified were SSTI, bacteremia, and osteomyelitis.

Conclusion. The proportion of invasive infection was the same in MSSA and MRSA colonized patients. This data provides us with supportive material for future recommendations of infection control measures for MSSA colonized patients.

Disclosures. **All Authors**: No reported disclosures

856. Assessment of Hand Hygiene amongst Health Care Professionals at Jimma University Medical Center

Leigh R. Berman, BS[1]; Meredith Kavalier, MD[2]; Beshea G. Deressa, MSc, MPH[3]; Daniel Yilma, MD, PhD[3]; Getnet Tesfaw, MSc[3]; Daniel Shirley, MD, MS[4]; [1]University of Wisconsin School of Medicine and Public Health, Madison, Wisconsin; [2]University of Wisconsin Hospitals and Clinics, Madison, Wisconsin; [3]Jimma University, Jimma, Oromiya, Ethiopia; [4]University of Wisconsin-Madison School of Medicine and Public Health, Madison, Wisconsin

Session: P-38. HAI: Hand Hygiene/Transmission-Based Precautions

Background. Lack of hand hygiene (HH) amongst healthcare workers (HCWs) contributes to healthcare associated infections and the spread of multidrug-resistant organisms. We assessed HCW HH knowledge, attitudes, and compliance using WHO tools and applied the Systems Engineering Initiative for Patient Safety (SEIPS) model in interviews to help guide and increase sustainability of HH interventions.

Methods. We conducted a cross-sectional study at Jimma University Medical Center (JUMC) in Jimma, Ethiopia. We assessed HCW's HH knowledge and attitudes using questionnaires adapted from WHO resources via systematic sampling. Observations of HH practices at WHO's 5 Moments of HH were conducted by non-identified, trained observers via systematic sampling. 22 semi-structured interviews were conducted via convenience sampling with HCWs using an interview guide based on the SEIPS model.

Results. We observed 1,386 HH moments and found a compliance rate of 9.38%, with compliance highest after contact with patient surroundings (27.92%) compared to the other four HH moments (1.77 - 9.57%). Of 251 survey participants, 13.6% had prior HH training and 69.9% reported routine HH compliance. The average knowledge score was 61.4%, with no significant difference between participants that identified as trained vs untrained (p=0.41). 68% of interview participants stated they were unaware of JUMC's Infection Prevention and Control (IPC) team and are more likely to perform HH if a patient appears infectious. Interview participants cited multiple barriers to HH (table 1).

Table 1

Table 1. Barriers to HH within the SEIPS 5 components of the work system

SEIPS Category	Barriers
Tools & Technology	Shortages of water, soap, functional sinks, alcohol hand rub
Person	Inadequate HH training, lack of awareness
Organization	Lack of HH monitoring
Task	High workload
Environment	Location of HH materials, too few HH posters

Conclusion. Baseline HH compliance and knowledge were low despite perceived compliance and regardless of prior HH training. Relatively higher compliance after patient contact may be due to perceptions of patient infectiousness. Utilizing the SEIPS model as an adjunct to WHO HH guidelines has provided actionable items upon which the JUMC IPC team can focus to improve HH practices: providing a sustainable supply of alcohol hand rub, ongoing HH education targeting knowledge deficits, and enhanced IPC presence and HH monitoring.

Disclosures. Meredith Kavalier, MD, University of Wisconsin-Madison Global Health Institute (Grant/Research Support)

857. Contact Precautions as a Barrier to Hand Hygiene: PDSA to Improve Compliance with Gloved Hand Hygiene

Pamela Bailey, DO, MPH[1]; Jo Dee Armstrong-Novak, BA[1]; Kaila Cooper, RN[1]; Michael Stevens, MD, MPH[1]; Gonzalo Bearman, MD, MPH[1]; Michelle Doll, MD, MPH[1]; [1]Virginia Commonwealth University Health System, Richmond, Virginia

Session: P-38. HAI: Hand Hygiene/Transmission-Based Precautions

Background. Full compliance with personal protective equipment (PPE) is challenging, with multiple barriers noted: adherence to appropriate PPE, lack of knowledge of appropriate PPE, added time to workflow, and appropriate donning/doffing techniques of PPE to avoid self-contamination. Recent studies note that nurses tend to batch care to achieve more while in the room. A hand hygiene technology system alerted MRICU nurses to difficulties performing WHO's Five Moments of hand hygiene (HH) when in contact precaution PPE.

Methods. We implemented the 'Plan-Do-Study-Act' (PDSA) framework to address the MRICU team concerns. Six nurses were directly observed while providing bedside care to understand nursing workflow and barriers to HH while in contact precautions.

Results. All 6 nurses performed hand hygiene prior to entering the room and at the time of exiting the room. Once donning contact precautions, they had variable but low compliance with any additional HH opportunities. The average missed opportunities per encounter was 5.2 (range: 2-11). Moments that would require hand washing or sanitizer if nurse were not gloved were not met with changing gloves. An average of 9.8 tasks were achieved in each room (range: 3-18). On average, each visit was 16 (range: 4-30 minutes) minutes long.

Conclusion. There is significant opportunity for improved HH while in PPE. Nurses may be more aware of the "Five moments" when not wearing gloves in contact precaution rooms, but lose the trigger once the gloves are on in the contact precaution rooms. An education campaign to improve hand sanitizer usage with gloves is the next step in this PDSA. More prominent placement of glove boxes in the rooms will also serve as a trigger to remind nurses to change gloves after certain tasks. Limitations of this PDSA cycle include Hawthorne effect of the nurses knowing they were observed and potentially changing their workflow. We also only observed morning workflow; nurses on different shifts may have different workflow.

Disclosures. **All Authors**: No reported disclosures

858. Inter-rater Reliability of Hand Hygiene Observers with an Electronic Monitoring System

Pamela Bailey, DO, MPH[1]; Jo Dee Armstrong-Novak, BA[1]; Kaila Cooper, RN[1]; Michael Stevens, MD, MPH[1]; Gonzalo Bearman, MD, MPH[1]; Michelle Doll, MD, MPH[1]; [1]Virginia Commonwealth University Health System, Richmond, Virginia

Session: P-38. HAI: Hand Hygiene/Transmission-Based Precautions

Background. Hand hygiene (HH) is the bedrock of infection prevention. Knowing the limitations of hand hygiene observers, Virginia Commonwealth University Health System invested in technology to remotely monitor health care workers's (HCW) HH. Each hand sanitizer and soap dispenser in the patient care areas has a sensor, as well as each patient's bed and each HCW. As the HCW moves around the environment, the sensors detect whether or not HH was performed for each opportunity.