

Population Attributable Fraction (PAF) of Antibiotics Among Patients with a Respiratory Diagnosis.

	Pre Intervention		Post Intervention		PAF
	Probability of Diagnosis	For a given diagnosis, Probability of Receiving Antibiotic	Probability of Diagnosis	For a given diagnosis, Probability of Receiving Antibiotic	
Sinusitis	2.36%	92.04%	1.08%	97.01%	2.76%
Bronchitis	9.03%	15.47%	7.25%	16.98%	0.41%
Pharyngitis	12.02%	50.21%	11.73%	44.69%	1.95%
URI	49.56%	17.04%	51.36%	9.43%	8.87%
AOM	19.41%	83.90%	18.29%	81.12%	3.56%
OME	9.70%	60.57%	11.02%	45.11%	2.23%
Pneumonia	0.61%	69.37%	0.31%	83.38%	0.41%

diagnostic frequencies and prescription rates for each diagnosis. The PAF is the estimated fraction of antibiotic prescriptions that would have changed under a population-level intervention. **Results:** In month-adjusted analyses, diagnoses of pneumonia and OME decreased after the intervention: odds ratio (OR), 0.46 (95% CI, 0.31–0.68) and OR, 0.81 (95% CI, 0.67–0.99), respectively. In addition, URI diagnoses increased: OR, 1.05 (95% CI 1.00, 1.11). We did not detect changes in the diagnosis rates of sinusitis, AOM, bronchitis, and pharyngitis post intervention. The intervention effect on the PAF for antibiotics prescriptions was consistently positive but relatively small in magnitude. PAF was highest for URIs (PAF, 8.87%), followed by AOM (PAF, 3.56%) and sinusitis (PAF, 2.76%), and was lowest for pneumonia and bronchitis (PAF, 0.41% for both). **Conclusions:** Our analysis found minimal evidence overall of diagnostic shifting after a stewardship intervention using audit and feedback in these pediatric clinics. Small changes in diagnostic coding may reflect more appropriate diagnosis and coding, a positive effect of audit and feedback, rather than intentional negative diagnostic shift.

Funding: None

Disclosures: None

Doi:10.1017/ice.2020.937

Presentation Type:

Poster Presentation

Observational Bias Within Hospital-Wide Hand Hygiene Program

Amy Marques, Brigham and Women's Hospital; Robert Tucker, Brigham and Women's Hospital; Michael Klompas, Harvard Medical School

Background: Hand hygiene (HH) is critical to prevent hospital-acquired infections. Running a successful HH program requires valid and accurate HH data to monitor the status and progress of HH improvement efforts. HH data are frequently subject to variable forms of bias, for which considerations must be made to enhance the validity of HH data. **Objective:** We assessed the extent to which observers may be prone to report more favorable HH rates when observing healthcare workers from the same professional group versus members of other job categories. **Methods:** We analyzed HH data from 48,543 electronically collected observations conducted by frontline healthcare workers in a 793-bed acute-care hospital from January 1, 2019, through July 31, 2019. All auditors received training on HH observations and proper use of the data collection application. Compliance data were sorted into peer versus nonpeer observations by profession. We compared HH compliance rates for members of each professional group when monitoring peers versus nonpeers. We further stratified results by ancillary professions (central transport, unit associates, food services, pharmacy,

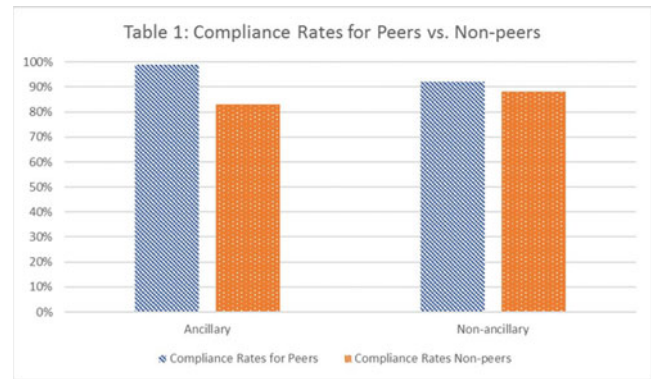


Fig. 1.

phlebotomy, rehabilitation services, and respiratory therapy) versus nonancillary professions (doctors, nurses, physician assistants, patient care assistants). **Results:** Of 12,488 ancillary observations, 7,184 (57.5%) were peer observations and 36,055 were nonancillary observations, of which 15,942 (44.2%) were peer observations. The percentage of peer-to-peer observations versus nonpeer observations varied by profession, ranging from 96% of central transport workers and 91% of environmental services observations to 21% of patient care assistants and 34% of physician's assistants. Average compliance rates for peer versus nonpeer observations in ancillary groups were 98% (95% CI, 98.7%–99.2%) versus 83% (95% CI, 82.5%–84.5%). Average compliance rates nonancillary groups were 92% (95% CI, 92.0%–92.8%) for peers versus 88% (95% CI, 87.8%–88.7%) for nonpeers (Table 1). **Conclusions:** We documented a propensity for some categories of healthcare workers to record discrepant rates of HH compliance when observing members of the same peer group versus others. This effect was more pronounced amongst ancillary versus nonancillary services. This study adds to the literature of potential sources of bias in HH monitoring programs. Operational changes in HH program data collection may be warranted to try to mitigate these biases such as increasing the frequency of validation exercises conducted by nonaffiliated observers, weighting peer versus nonpeer observations differently, or switching to automated electronic monitoring systems.

Funding: None

Disclosures: None

Doi:10.1017/ice.2020.938

Presentation Type:

Poster Presentation

Occupational Exposure to Varicella Zoster in a Tertiary-Care Healthcare Setting

Zachary Yetmar, Mayo Clinic, Rochester, Internal Medicine; Debra Apenhorst, Mayo Clinic Rochester; Priya Sampathkumar, Mayo Graduate School of Medicine; Elena Beam, Mayo Clinic Rochester

Background: Disseminated varicella zoster virus (dVZV) infection is a feared complication of varicella zoster virus (VZV) reactivation in immunocompromised patients. The CDC recommends contact and airborne precautions for localized VZV in immunocompromised patients until dissemination has been ruled out. Pre-emptive isolation can be problematic for medical centers without access to negative-pressure rooms. When we identify a case of dVZV at our facility, we perform an investigation to identify occupational exposures. **Methods:** We conducted a retrospective, descriptive review of occupational exposure investigations related to dVZV from

January 2016 to December 2018. We collected baseline characteristics of the dVZV patient, and we evaluated whether the exposure occurred due to a delay in diagnosis or a progression from “localized” to disseminated VZV disease. **Results:** We identified 21 immunosuppressed patients with dVZV whose infection resulted in an occupational exposure during the specified study period. Average age was 58.6 years, with 10 males and 12 females. The immunocompromised patients included 11 with hematologic malignancy, 5 with solid-organ malignancy, 3 with rheumatologic disease on immunosuppressive therapy, and 2 with a solid-organ transplant. Most of the exposures (72.7%) occurred in an inpatient setting. The exposures resulted from either delayed recognition of dVZV or delayed initiation of appropriate precautions for all of the immunosuppressed patients. Two additional exposures occurred as a result of a change from “localized” to “disseminated” VZV. These patients whose diagnosis changed from localized to dVZV were considered previously immunocompetent, and dissemination took place 2 days after seeking healthcare evaluation. **Conclusions:** Most occupational exposures to varicella zoster are the result of delayed initiation of appropriate isolation precautions due to delayed diagnosis of dVZV infection or failure to recognize the need for instituting precautions in disseminated disease. Instituting preemptive airborne precautions for immunocompromised patients with localized varicella zoster would be unlikely to reduce occupational exposures.

Funding: None

Disclosures: Consulting fee- Merck Priya Sampathkumar

Doi:10.1017/ice.2020.939

Presentation Type:

Poster Presentation

Occupational Health Hazards Among Medical Waste Handlers in Ahmadu Bello University Teaching Hospital Zaria Northwest Nigeria

Mary Onoja-Alexander, Kogi State State University Anyigba; Dr. Usman Zakari, Ahmadu Bello University Teaching Hospital, Zaria; Onoja Alexander, Department of Chemistry, Kogi State University Anyigba; Ahmad Umar, Ahmadu Bello University; Emmanuel Ajumoka, Department of Community Medicine Ahmadu Bello University Teaching Hospital, Zaria; Chinedu John-Cemillus Igboanusi, Department of Public Health Headquarters and Division of Medical Services & Hospital, Nigerian Army Adekunle Fajuyi Cantoment, Ibadan, Nigeria; Alhaji Aliyu, Department of Community Medicine, Ahmadu Bello University Zaria

Background: Occupational injuries are important public health issues, especially among healthcare workers. The medical waste handler is at risk of hazards posed by medical waste as well as from the environment. The aim of the study was to determine occupational hazards that hospital waste handlers in Ahmadu Bello University Teaching Hospital, Zaria, were exposed to and to assess their knowledge and practice of safety measures. **Methods:** A cross-sectional descriptive study was conducted among 79 medical waste handlers in Ahmadu Bello University Zaria using a multistage sampling technique. Data were collected using structured self-administered and interviewer administered questionnaire and analyzed using SPSS version 20 software with significance set at $P < .05$. **Results:** More than half of the respondents (56.4%) were men, and most (70.3%) had <5 years work experience. Most of the respondents (60.8%) had had an injury in the previous 6 months. The most common injuries were falling on a slippery floor (48.1%), contact/irritant dermatitis (40.5%), and 34.2% from stress. Only 45.6% received treatment following

injury at the work place. Most respondents (75.9%) were aware of safety devices, and more than half (51.9%) received their information from special safety training. More than half of the respondents (51.1%) had poor knowledge of use of safety devices, and 60% had special training in occupational safety. Most respondents (89.9%) used heavy-duty rubber hand gloves, but only 5.1% used aprons. Also, 82.3% of respondents used these devices regularly at work, and more than half of respondents (62%) had been immunized against hepatitis. Also, 65.8% practiced universal precautions. Occupational injury was higher among those aged 15–19 years (occupational injury rate, 75%) compared to those aged 34–39 years (occupational injury rate, 16%). A positive association was detected between gender and injury in the last 6 months; injury was more common among men (43%) than among women (15%).

Conclusions: Among respondents, there was a high level of injury and poor knowledge of the use of protective devices. Regular use of protective measures was not commensurate with the reported level of awareness. Concerted efforts are needed to ensure the safety of the medical waste handlers in his work place.

Funding: None

Disclosures: None

Doi:10.1017/ice.2020.940

Presentation Type:

Poster Presentation

Octenidine Body Wash and Nasal Gel Reduces MRSA Bacteremia

Brenda Ang, Tan Tock Seng Hospital; Angela Chow, Tan Tock Seng Hospital

Background: Methicillin-resistant *Staphylococcus aureus* (MRSA) is highly prevalent in Singapore hospitals. The Ministry of Health (MOH) has set a reduction of MRSA bacteremia as a key performance indicator for publicly funded hospitals, resulting in the adoption of various strategies to achieve this goal. Decolonization regimens have been implemented in different institutions with variable outcomes. In Tan Tock Seng hospital (TTSH), octenidine was chosen instead of chlorhexidine for its gentler action on the skin, and nasal octenidine was chosen instead of mupirocin (which has a high resistance rate) for nasal decolonization. **Methods:** All patients admitted to TTSH are screened for MRSA on admission. Patients who are either colonized or infected with MRSA are either placed in isolation rooms (when available) or are placed in cohorts in MRSA wards. The Department of Infection Prevention and Control (IPC) keeps a database of all patients with positive cultures for MRSA, including bacteremia. We used this database to implement and evaluate targeted strategies in such MRSA wards. In January 2018 we began a pilot project in 1 ward, whereby all patients had intranasal octenidine gel applied twice a day for 5 days, as well as daily octenisan baths throughout their stay in the ward. The outcome of interest was MRSA bacteremia occurring ≥ 3 days after admission. This quasi-experimental before-and-after study was conducted from January 2016 to September 2019 with January 2018 excluded as a washout month. **Results:** In total, 44 observational months (24 months before the intervention 20 months after the intervention) and 4,309 patients were included. In the preintervention period, 12 bacteremia cases occurred among 2,333 patients (0.5%); in the postintervention period, 4 MRSA bacteremia cases occurred in 1,976 patients (0.2%); RR, 0.49 (95% CI, 0.13–1.22), 1-sided $P = .07$. The rate of MRSA bacteremia was halved, but it