

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.

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Observational Bias Within Hospital-Wide Hand Hygiene Program

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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,

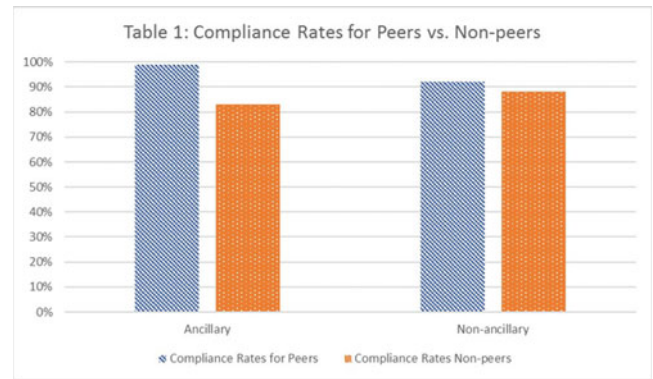


Fig. 1.

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.

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

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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