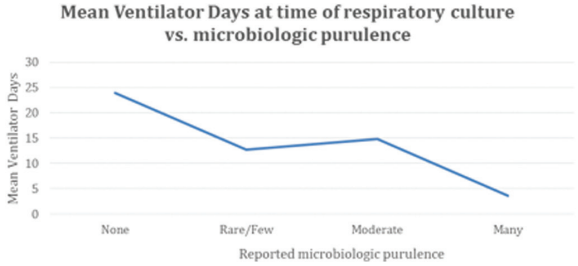
Conclusion. MP was an independent predictor of antibiotic use for positive endotracheal aspirate cultures, but was not associated with clinical symptoms or increased respiratory support. MP varied with ventilator-days at time of sampling. MP assessments lack intra- and inter-facility standardization and should be interpreted with caution when used as a rationale to prescribe antibiotics.



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

275. Evaluation of Vancomycin Prescribing Quality in Hospitalized Pediatric Patients

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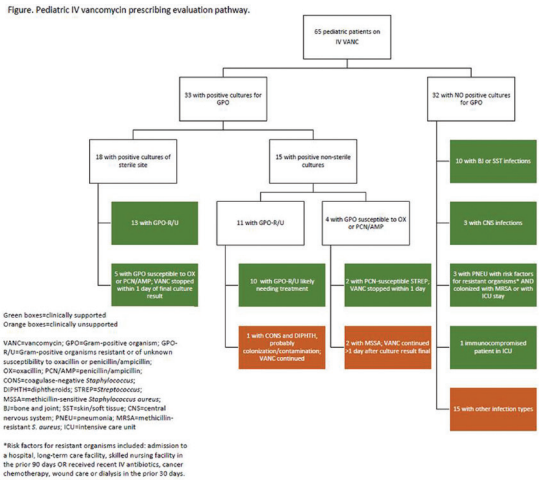
Background. Vancomycin is the most common antimicrobial drug administered to hospitalized patients, including children >90 days old, although the prevalence of β-lactam antibiotic resistance among Gram-positive pathogens is relatively low in children. Reducing inappropriate vancomycin use in children can reduce harm from antibiotic-associated adverse events and antimicrobial resistance (AR). We developed an approach to evaluating pediatric intravenous (IV) vancomycin prescribing quality using medical record data.

Methods. Hospitals in three Emerging Infections Program (EIP) sites (CA, NM, and TN) were recruited to participate. Patients <18 years who received IV vancomycin in 2013 were identified through pharmacy records, excluding those on IV vancomycin solely for surgical prophylaxis. Trained EIP staff collected medical record data. We created a prescribing quality evaluation pathway using data on infection type, signs, symptoms, penicillin allergy, and AR risk factors. Clinically supported prescribing events were those with a positive culture for a Gram-positive organism with β-lactam resistance or unknown susceptibility; severe penicillin allergy; bone, joint, skin/soft tissue or central nervous system infection; pneumonia with AR risk factors; or events where vancomycin was stopped within 1 day of culture results for an oxacillin or penicillin/ampicillin-susceptible organism.

Results. Sixty-five patients in 12 hospitals were evaluated. The median age was 7 years (interquartile range [IQR] 4–14), and median hospital stay was 7 days (IQR 3–16). The median vancomycin treatment length was 3 days (IQR 2–6); 41 patients (63%) received ≥3 days. Vancomycin use was clinically supported in 47 patients (72%) and unsupported in 18 (28%) (figure). Most unsupported use was for infections lacking microbiology data and for which vancomycin would not usually be indicated, such as pneumonia without AR risk factors (9/18, 50%).

Conclusion. The use of IV vancomycin was not supported for >25% of children, indicating opportunities to improve prescribing and reduce unnecessary vancomycin use. Further analysis will utilize this prescribing pathway to evaluate the most recent prevalence survey data to identify areas to target stewardship interventions.



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

276. Vancomycin Utilization in a Neonatal Intensive Care Unit

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Background. The collaboration between antimicrobial stewardship program (ASP) and NICU has implemented key strategies including antibiotic restriction, audits and direct feedback, education, standardized guidelines for neonatal sepsis, and discontinuation of vancomycin at 48 hours if cultures are negative for resistant Gram-positive cocci (GPC). We aimed to evaluate the use of vancomycin in our NICU after implementing key changes in 2016, and determine further areas of improvement.

Methods. Retrospective chart review was conducted in NICU patients who received vancomycin between January 1, 2017 and December 31, 2017. The use of vancomycin for surgical prophylaxis was excluded. The outcome measures were the use of vancomycin according to the guidelines and its deviations, monitoring of drug levels, renal function, microbiological, and clinical outcomes. Utilization of vancomycin was also evaluated by days of therapy (DOT) per 1,000 patient-days.

Results. There were 336 vancomycin courses administered to 176 infants. Most of vancomycin use (252/336, 75%) was discontinued at 48 hours. Of these, no infants developed invasive Gram-positive infections requiring reinitiating of vancomycin. Among those with continued vancomycin courses, more than half (45/84, 54%) occurred in the absence of evidence of resistant GPC infections. Commonly stated reason for continuation of vancomycin was the infants' severity of illness. Of the total 319 troughs drawn, 24 (7.5%) had subtherapeutic (<5) trough whereas 61 (19%) had supratherapeutic (>15). Acute kidney injury (increase in serum Cr ≥ 1 time baseline) was found in 6 courses (1.8%), in which four courses (67%) received vancomycin for 48 hours or less. Vancomycin utilization in year 2017 was 61.5 per 1,000 patients/day which has decreased compared with those of previous years 2015–2016 (71.7 and 72.3, respectively).

Conclusion. The majority of vancomycin use was consistent with our existing guidelines. However, most of our use was for 48 hours, questioning the value of empirical vancomycin for suspected sepsis in our NICU. More judicious use of vancomycin could be improved if subsets of high-risk patients could be identified for initiation of empirical vancomycin.

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

277. Assessment of a Pharmacist-Driven Voriconazole Clinical Practice Guideline in a Children's Hospital

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Background. The objective of the study was to measure effectiveness of a voriconazole clinical practice guideline (CPG) in a pediatric hospital. An interdisciplinary team was convened to develop a CPG to standardize initial voriconazole dosing, appropriate use and timing of therapeutic drug monitoring (TDM), and dose modifications based on measured drug concentrations. To operationalize the CPG, pharmacists with advanced training in pharmacokinetics were granted authority to order laboratory evaluations and make dose adjustments.

Methods. After 6 months, the initial CPG was reviewed and modified to refine TDM recommendations. Adherence to the guideline and ability of the CPG to achieve target voriconazole trough concentrations were assessed before and after the revision. Patients in the analysis included those admitted to a large free-standing children's hospital and receiving voriconazole for confirmed, probable, or presumed fungal infection from April 1, 2015 to December 31, 2016 (25 subjects, median age 10 years).

Results. The study showed that the use of TDM increased following implementation of a CPG from 42% to 100% with improved timing of TDM to reflect concentrations drawn at steady state. Of the patients receiving TDM, achievement of voriconazole concentration in the therapeutic range increased from 70% to 100% with the CPG; however, there was no improvement in the time to reach target concentration. We observed an inability of American Academy of Pediatrics-recommended doses to reach target concentration in 53% of patients, with doses based on pharmacist judgement performing as well as published dosing.

Conclusion. We conclude that a pharmacist-driven voriconazole CPG improved monitoring and achievement of therapeutic concentrations in our children's hospital. Analysis of effectiveness of our voriconazole CPG in conjunction with pharmacist feedback has been essential to improving patient outcomes and informing future guideline modifications.

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

278. Developing a Logistic Regression Model to Aid Clinicians Evaluate Outpatients and Predict Odds of Hospital Transfer in a Nicaraguan Pediatric Population: Comparison of Epidemiological Models to Predict Hospitalization with a Focus on Antimicrobial Stewardship.

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