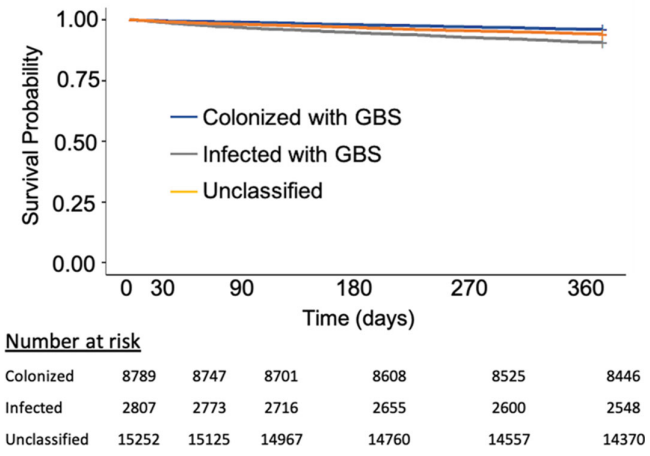

Number at risk

Colonized	8789	8747	8701	8608	8525	8446
Infected	2807	2773	2716	2655	2600	2548
Unclassified	15252	15125	14967	14760	14557	14370

Figure 1.

December 31, 2017, with monomicrobial urine cultures growing ≥100,000 colony-forming units of GBS. Urinary tract infection (UTI) cases were defined as urinalysis positive for leukocyte esterase and pyuria (≥10 white blood cells), an *International Classification of Diseases* (ICD) code for UTI, and an antibiotic prescription. Cases with colonization were defined as negative for leukocyte esterase and pyuria, no ICD code for UTI, and no antibiotic prescription. Cases not meeting either definition were deemed unclassifiable. We compared demographics, comorbidities, and all-cause mortality among these 3 groups. **Results:** Over the 10-year study period, 26,848 veterans had 30,740 urine cultures positive for GBS. Applying the definitions above, there were 2,807 cases of infection, 8,789 cases of colonization, and 15,252 cases that were unclassifiable. Patients with a GBS UTI were slightly older compared to those who were colonized, with a higher Charlson comorbidity index and greater burden of chronic renal disease (Table 1). Individuals with infection versus colonization had 30-day mortality rates of 1% and 0%, respectively, and 1-year mortality rates of 9% and 4%, respectively (Figure 1). **Conclusions:** The association of a greater burden of illness among veterans who met our definition of UTI compared to colonization might be more reflective of providers' responses to patients with chronic medical conditions rather than a difference in GBS as a cause of UTI. Overall, the prospect of a urine culture that grows GBS does not appear to be associated with adverse long-term outcomes.

Funding: No
Disclosures: None

Antimicrobial Stewardship & Healthcare Epidemiology 2021;1(Suppl. S1):s36–s37
doi:10.1017/ash.2021.67

Presentation Type:
Poster Presentation
Subject Category: Antibiotic Stewardship

Assessing Baccalaureate Nursing Students' Antibiotic Stewardship Knowledge Using Virtual Standardized Patient Simulations

Mary Lou Manning; Monika Pogorzelska-Maziarz; David Jack and Lori Wheeler

Background: According to the Centers for Disease Control and Prevention, the single most important factor leading to the development of antibiotic resistance (AMR) is the use of antibiotics. Studies indicate that up to 50% of hospitalized patients receive at least 1 antibiotic, half of which are inappropriate. The outpatient setting accounts for >60% of antibiotic use and over half of these prescriptions are inappropriate. Antibiotic stewardship programs improve appropriate antibiotic use, reduce AMR, decrease complications of antibiotic use, and improve patient outcomes. Building a nursing workforce with necessary AMR and antibiotic stewardship knowledge and skill is critical. Nursing graduates can translate knowledge into practice, promoting the judicious use of antibiotics to keep patients safe from antibiotic harm. **Methods:** Third-year baccalaureate nursing students enrolled in a fall 2020 health promotion course at an urban university affiliated with an academic medical center participated. Students received a 3-hour lecture on antibiotics, AMR and antibiotic stewardship nursing practices and actively engaged in antibiotic stewardship simulations using standardized patient (SP) encounters. The SP participants were specifically trained for these activities. Simulations included a 30-minute brief before and a 60-minute briefing after the activities. All activities occurred via video conferencing. Case scenarios, developed by the authors, focused on penicillin-allergy delabeling of an adolescent prior to elective surgery and appropriate use of antibiotics in managing pediatric urinary tract infections and acute otitis media (AOM). Before-and-after tests were used to assess the impact on AMR and antibiotic stewardship knowledge. **Results:** Over a period of 4 days, all enrolled students (n = 165) participated in 1 three-hour virtual simulation session. Using Zoom video conferencing with multiple breakout rooms, the activities were easily managed. During the simulations, students often struggled with reading an antibiogram and applying the concept of "watchful waiting" in AOM management. Significant differences were found in before-and-after test results, with significant improvement in students' general and specific knowledge and awareness of antibiotics ($P < .01$). During the debriefing sessions, students reported increased awareness related to their role in advancing the judicious use of antibiotics. **Conclusions:** Initially, we planned to conduct in-person SP simulations. Due to the COVID-19 pandemic, faculty and students demonstrated remarkable flexibility and resilience as we successfully converted to a virtual format. Virtual lecture and SP simulations, followed by debriefing, was an effective approach to educate baccalaureate nursing students about AMR and their role in antibiotic stewardship. Areas for course content improvement were identified.

Funding: No
Disclosures: None

Antimicrobial Stewardship & Healthcare Epidemiology 2021;1(Suppl. S1):s37
doi:10.1017/ash.2021.68

Presentation Type:
Poster Presentation
Subject Category: Antibiotic Stewardship

How the COVID-19 Pandemic Affected Antimicrobial Prescribing Practices at a Tertiary-Care Healthcare System in Detroit, Michigan

Angela Beatriz Cruz; Jennifer LeRose; Avnish Sandhu and Teena Chopra

Background: Inappropriate antimicrobial use continues to threaten modern medicine. The ongoing pandemic likely exacerbated this problem because COVID-19 presents similarly to bacterial pneumonia, confusion exists regarding treatment guidelines, and testing turnaround times (TATs) are slow. Our primary object was to quantify antimicrobial use changes during the pandemic to rates before the crisis. A subanalysis within the COVID-19 cohort was completed based on SARS-CoV-2 status. **Methods:** The pre–COVID-19 period was January–May 2019 and the COVID-19 period was January–May 2020. Subanalyses were used to explore differences in antibiotics use between persons not under investigation (non-PUIs), SARS-CoV-2–negative PUIs, and SARS-CoV-2–positive PUIs. Non-PUI patients were those without respiratory symptoms and/or fever. The χ^2 and Wilcoxon signed rank-sum tests were used for analysis. **Results:** During the 2019 and 2020 study periods, 7,909 and 7,283 patients received >1 antimicrobial, respectively (Figure 1). Overall, antibiotic therapy per 1,000 patient days increased from 633.1 before COVID-19 to 678.5 during COVID-19, a 7.2% increase (Table 1). Notably, broad-spectrum respiratory antibiotics demonstrated a significant increase between pre–COVID-19 and COVID-19 cohorts ($p < 0.001$). Of the 7,283 patients within the COVID-19 cohort, 34.7% (n = 2,532) were PUI and 13.8% (n = 1,002) of these patients tested SARS-CoV-2 positive. Again, broad-spectrum respiratory antibiotics use was significantly increased for COVID-19 patients ($p < 0.001$). Of note, the proportion of patients receiving respiratory antibiotics steadily decreased over time ($R^2 = 0.99$). **Conclusions:** There was a significant increase in antibiotic use during the COVID-19 pandemic. Encouragingly, antimicrobial use

	NON-PUI (n = 4,751)	PUI, PCR NEGATIVE (n = 1,530)	PUI, PCR POSITIVE (n = 1,002)	p-value
Male, n (%)	2,234 (47.0)	792 (51.8)	506 (50.6)	0.002
Race, n (%)				
Black	3,306 (70.0)	1,090 (71.2)	787 (78.5)	**<0.001**
White	407 (8.6)	104 (6.8)	49 (4.9)	
Other/Unknown	1,038 (21.9)	336 (22.0)	166 (16.6)	
Age, median (IQR)	59.0 (26.0)	61.0 (26.0)	67.0 (19.0)	**<0.001**
Expired, n (%)	224 (4.7)	163 (10.7)	341 (34.0)	**<0.001**
Length of Stay, days, median (IQR)	6.0 (6.0)	7.0 (9.0)	9.0 (10.0)	**<0.001**
Patients that Received Specific Antibiotics, n (%)				
Cefepime	1,052 (22.1)	497 (32.5)	385 (38.4)	**<0.001**
Ceftriaxone	1,431 (30.1)	579 (37.8)	601 (60.0)	**<0.001**
Doxycycline	782 (16.5)	396 (25.9)	528 (52.7)	**<0.001**

Table 1. Baseline characteristics and antimicrobial prescribing stratified by COVID-19 status.

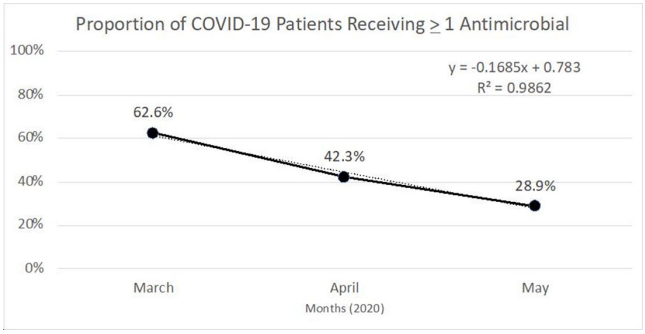

Figure 1.

decreased over time, likely due to (1) faster TATs, (2) real-time education to clinicians and subsequent de-escalation of unnecessary antimicrobials, and (3) development of treatment guidelines as new research emerged.

Funding: No
Disclosures: None

Antimicrobial Stewardship & Healthcare Epidemiology 2021;1(Suppl. S1):s37–s38
doi:10.1017/ash.2021.69

Presentation Type:
Poster Presentation
Subject Category: Antibiotic Stewardship
Evaluation of Penicillin Allergy Prevalence and Antibiotic Prescribing Patterns for Patients within the Emergency Department
Ashlyn Norris; Lindsay Daniels; Nikolaos Mavrogiorgos; Kalynn Northam; Mildred Kwan; Gary Burke and Renae Boerneke

As the point of entry into healthcare for many patients, the emergency department (ED) is an ideal setting in which to assess penicillin (PCN) allergies. An estimated 10% of the United States population has a reported PCN allergy; however, few studies have evaluated the prevalence and impact of PCN allergies on antibiotic selection within the ED. Patients with a documented PCN allergy are more likely to be exposed to costly alternative broad-spectrum antibiotics that have higher rates of adverse events, including *C. difficile* infections. We sought to determine the prevalence of PCN allergies within the UNC Medical Center ED. Key secondary outcomes included the percentage of patients with a documented PCN allergy who (1) received alternative antibiotics (carbapenems, aztreonam, fluoroquinolones, clindamycin, vancomycin), (2) received β-lactam antibiotics and experienced an allergic reaction during their ED visit, and/or (3) had received a β-lactam antibiotic during a past hospitalization or ED visit without their chart being appropriately updated. A retrospective evaluation included patients aged >18 years with a documented PCN allergy who were discharged from the ED between January 1, 2017, and December 31, 2019. Over the study period, there were 14,635 patient encounters with a documented PCN allergy that comprised 8,573 unique patients. The prevalence of PCN allergies was 14.3% for all ED encounters. PCN allergy–labeled patients received alternative antibiotics in 59.4% of ED encounters in which antibiotics were prescribed. Of the 454 β-lactam antibiotics (62 penicillins, 380 cephalosporins, 12 carbapenems) administered to PCN allergy-labeled patients within the ED, there were zero allergic reactions. Also, 18.6% of PCN allergy-labeled patients had received and tolerated a β-lactam antibiotic during prior hospitalizations or ED visits (1.7% penicillins, 14.4% cephalosporins, 2.6% carbapenems) without appropriate updated documentation to reflect β-lactam antibiotic tolerance. These findings confirm the utilization of non–β-lactam antibiotics in PCN allergy-labeled patients, highlighting the importance of accurate and updated allergy documentation in the electronic medical record. These findings also demonstrate the need for improved allergy documentation and protocols to proactively assess penicillin allergy labels while in the ED.

Funding: No
Disclosures: None

Antimicrobial Stewardship & Healthcare Epidemiology 2021;1(Suppl. S1):s38
doi:10.1017/ash.2021.70

Presentation Type:
Poster Presentation
Subject Category: Antibiotic Stewardship
Impact of an Inpatient Nurse-Initiated Penicillin Allergy Delabeling Questionnaire
Lauren Dutcher; Hilary Bediako; Christina Harker; Aditi Rao; Kristen Sigafus; Keith Hamilton and Olajumoke Fadugba

Background: Penicillin allergy is the most common drug allergy, with ~10% of all patients in the United States reporting a penicillin allergy. A penicillin allergy label is associated with the use of inappropriate or broad-spectrum antibiotics, worse patient outcomes, increased bacterial resistance, and increased healthcare costs, yet no studies have explored the unique role nurses may play in allergy delabeling through history taking as a part of broader antimicrobial stewardship efforts. Here, we describe the impact of using an inpatient nurse-initiated penicillin-allergy questionnaire. **Methods:** We implemented a nurse-driven intervention focused on penicillin allergy delabeling in inpatient noncritical care units (surgery, neurology, medicine, oncology, and cardiovascular medicine) at an academic hospital from July 9, 2019, to July 24, 2020. Patients with a penicillin allergy listed in the electronic health record (EHR) were identified and invited to participate. The intervention consisted of a questionnaire administered by nurses who elicited details of penicillin allergy history. If a patient was deemed eligible for penicillin allergy removal, nurses requested approval from both the patient as well as a physician member of the study team. **Results:** In total, 306 patients with a penicillin allergy label were identified in the EHR, of whom 242 patients were eligible for and agreed to participate in the delabeling interview (Figure 1). Of the 34 (14%) of 242 patients potentially eligible for delabeling by the questionnaire based on their history, the study physicians agreed with delabeling for 23 (68%) of 34 patients. Of these 34 patients, 18 (53%) agreed with delabeling (pending physician approval), and 16 (47%) of these 34 patients were ultimately

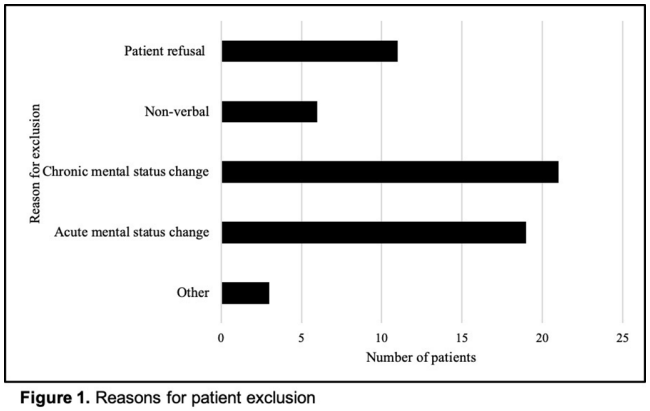

Figure 1. Reasons for patient exclusion