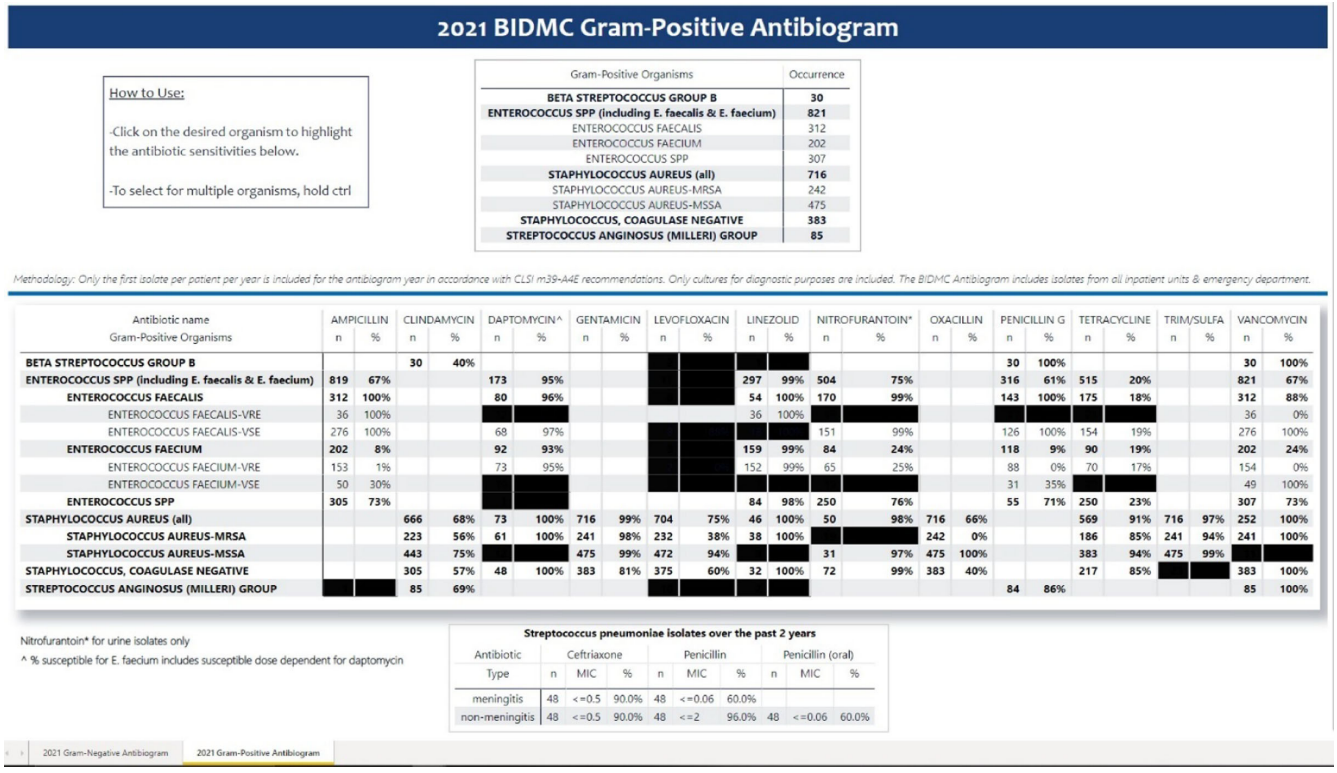


2021 BIDMC Gram-Positive Antibiogram

How to Use:

-Click on the desired organism to highlight the antibiotic sensitivities below.

-To select for multiple organisms, hold ctrl

Gram-Positive Organisms	Occurrence
BETA STREPTOCOCCUS GROUP B	**30**
ENTEROCOCCUS SPP (including E. faecalis & E. faecium)	**821**
ENTEROCOCCUS FAECALIS	312
ENTEROCOCCUS FAECIUM	202
ENTEROCOCCUS SPP	307
STAPHYLOCOCCUS AUREUS (all)	**716**
STAPHYLOCOCCUS AUREUS-MRSA	242
STAPHYLOCOCCUS AUREUS-MSSA	475
STAPHYLOCOCCUS, COAGULASE NEGATIVE	**383**
STREPTOCOCCUS ANGINOSUS (MILLERI) GROUP	**85**

Methodology: Only the first isolate per patient per year is included for the antibiogram year in accordance with CLSI m39-A4E recommendations. Only cultures for diagnostic purposes are included. The BIDMC Antibiogram includes isolates from all inpatient units & emergency department.

Antibiotic name / Gram-Positive Organisms	AMPICILLIN n	AMPICILLIN %	CLINDAMYCIN n	CLINDAMYCIN %	DAPTOMYCIN^ n	DAPTOMYCIN^ %	GENTAMICIN n	GENTAMICIN %	LEVOFLOXACIN n	LEVOFLOXACIN %	LINEZOLID n	LINEZOLID %	NITROFURANTOIN* n	NITROFURANTOIN* %	OXACILLIN n	OXACILLIN %	PENICILLIN G n	PENICILLIN G %	TETRACYCLINE n	TETRACYCLINE %	TRIM/SULFA n	TRIM/SULFA %	VANCOMYCIN n	VANCOMYCIN %
BETA STREPTOCOCCUS GROUP B			**30**	**40%**													**30**	**100%**					**30**	**100%**
ENTEROCOCCUS SPP (including E. faecalis & E. faecium)	**819**	**67%**			**173**	**95%**					**297**	**99%**	**504**	**75%**			**316**	**61%**	**515**	**20%**			**821**	**67%**
ENTEROCOCCUS FAECALIS	**312**	**100%**			**80**	**96%**					**54**	**100%**	**170**	**99%**			**143**	**100%**	**175**	**18%**			**312**	**88%**
ENTEROCOCCUS FAECALIS-VRE	36	100%									36	100%											36	0%
ENTEROCOCCUS FAECALIS-VSE	276	100%			68	97%							151	99%			126	100%	154	19%			276	100%
ENTEROCOCCUS FAECIUM	**202**	**8%**			**92**	**93%**					**159**	**99%**	**84**	**24%**			**118**	**9%**	**90**	**19%**			**202**	**24%**
ENTEROCOCCUS FAECIUM-VRE	153	1%			73	95%					152	99%	65	25%			88	0%	70	17%			154	0%
ENTEROCOCCUS FAECIUM-VSE	50	30%															31	35%					49	100%
ENTEROCOCCUS SPP	**305**	**73%**									**84**	**98%**	**250**	**76%**			**55**	**71%**	**250**	**23%**			**307**	**73%**
STAPHYLOCOCCUS AUREUS (all)			**666**	**68%**	**73**	**100%**	**716**	**99%**	**704**	**75%**	**46**	**100%**	**50**	**98%**	**716**	**66%**			**569**	**91%**	**716**	**97%**	**252**	**100%**
STAPHYLOCOCCUS AUREUS-MRSA			**223**	**56%**	**61**	**100%**	**241**	**98%**	**232**	**38%**	**38**	**100%**			**242**	**0%**			**186**	**85%**	**241**	**94%**	**241**	**100%**
STAPHYLOCOCCUS AUREUS-MSSA			**443**	**75%**			**475**	**99%**	**472**	**94%**			**31**	**97%**	**475**	**100%**			**383**	**94%**	**475**	**99%**		
STAPHYLOCOCCUS, COAGULASE NEGATIVE			**305**	**57%**	**48**	**100%**	**383**	**81%**	**375**	**60%**	**32**	**100%**	**72**	**99%**	**383**	**40%**			**217**	**85%**			**383**	**100%**
STREPTOCOCCUS ANGINOSUS (MILLERI) GROUP			**85**	**69%**													**84**	**86%**					**85**	**100%**

Nitrofurantoin* for urine isolates only

^ % susceptible for E. faecium includes susceptible dose dependent for daptomycin

Streptococcus pneumoniae isolates over the past 2 years

Antibiotic	Ceftriaxone			Penicillin			Penicillin (oral)		
Type	n	MIC	%	n	MIC	%	n	MIC	%
meningitis	48	<=0.5	90.0%	48	<=0.06	60.0%			
non-meningitis	48	<=0.5	90.0%	48	<=2	96.0%	48	<=0.06	60.0%

2021 Gram-Negative Antibiogram | 2021 Gram-Positive Antibiogram

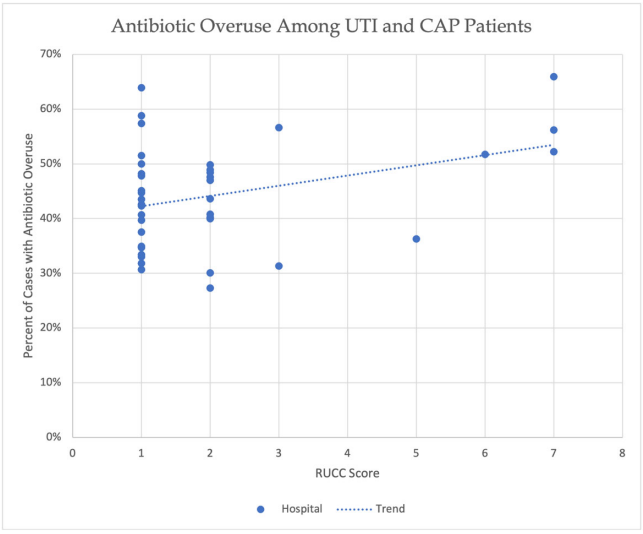
Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: Antibiotic Stewardship
Creating an electronic antibiogram using visualization software: Easily updatable and removes the need for yearly manual review
Ashley Dauphin; Christopher McCoy; Robert Bowden; Matthew Lee; Howard Gold and Ryan Chapin

Background: Previously, our hospital manually built a static antibiogram from a surveillance system (VigiLanz) culture report. In 2019, a collaboration between the antimicrobial stewardship team (AST) and the infection control (IC) team set out to leverage data automation to create a dynamic antibiogram. The goal for the antibiogram was the ability to easily distribute and update for hospital staff, with the added ability to perform advanced tracking and surveillance of organism and drug susceptibilities for AST and IC. By having a readily available, accurate, and Clinical and Laboratory Standards Institute (CLSI)–compliant antibiogram, clinicians have the best available data on which to base their empiric antibiotic decisions. **Methods:** First, assessment of required access to hospital databases and selection of a visualization software (MS Power BI) was performed. Connecting SQL database feeds to Power BI enabled creation of a data model using DAX and M code to comply with the CLSI, generating the first isolate per patient per year. Once a visual antibiogram was created, it was validated against compiled antibiograms using data from the microbiology laboratory middleware (bioMerieux, Observa Integrated Data Management Software). This validation process uncovered some discrepancies between the 2 reference reports due to cascade reporting of susceptibilities. The Observa-derived data were used as the source of truth. The antibiogram prototype was presented to AST/IC members, microbiology laboratory leadership, and other stakeholders to assess functionality. **Results:** Following feedback and revisions by stakeholders, the new antibiogram was published on a hospital-wide digital platform (Fig. 1). Clinicians may view the antibiogram at any time on desktops from a firewall (or password)–protected intranet. The antibiogram view defaults to the current calendar year and users may interact with the antibiogram rows and columns without disrupting the integrity of the background databases or codes. Each year, simple refreshing of the Power BI antibiogram and changing of the calendar year allows us to easily and accurately update the antibiogram on the hospital-wide digital platform. **Conclusions:** This interdisciplinary collaboration resulted in a new dynamic, CLSI-compliant antibiogram with improved usability, increased visibility, and straightforward updating. In the future, a mobile version of the antibiogram may further enhance accessibility, bring more useful information to providers, and optimize AST/IC guidelines and education.
Disclosures: None

Antimicrobial Stewardship & Healthcare Epidemiology 2023;3(Suppl. S2):s34
doi:10.1017/ash.2023.262

Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: Antibiotic Stewardship
Identifying the relationship between hospital rurality and antibiotic overuse
Hannah Hardin; Valerie Vaughn; Andrea White; Jennifer Horowitz; Elizabeth McLaughlin; Julia Szymczak; Lindsay Petty; Anurag Malani; Scott Flanders and Tejal Gandhi

Background: Antibiotic overuse and the resulting patient outcomes span all hospitals. However, although antibiotic stewardship can improve antibiotic use, effective stewardship programs require expertise and an infrastructure that are not present in all hospitals. Rural hospitals have less access to resources, infectious disease expertise, and participation in academic research. Thus, we compared antibiotic overuse at discharge between rural and nonrural hospitals for patients diagnosed with community-associated pneumonia (CAP) or urinary tract infection (UTI)—the 2 most common hospital infections. **Methods:** To determine whether antibiotic overuse at discharge was higher among rural versus nonrural hospitals, we analyzed data from a 41-hospital prospective cohort of patients treated for CAP or UTI between July 1, 2017, and July 30, 2019, in Michigan. Antibiotic overuse was defined as treatment that was unnecessary (ie, patient did not have an infection), excessive (ie, duration >4 days for CAP), or included suboptimal fluoroquinolone use (ie, safer alternative available). Overuse was determined based on patient risk



factors, symptoms, allergies, diagnostic results, and time to stability. Hospital rurality was defined using the Rural–Urban Continuum Codes (RUCC) score. We defined rural as a score ≥4 and very rural as a score of 7–9. We used *t* tests to compare the mean percentage of patients with antibiotic overuse at discharge between nonrural and rural (and very rural) hospitals. **Results:** Across 41 hospitals, we included 23,449 patients with CAP or UTI. There were 5 rural (and 3 very rural) hospitals with 2,039 (and 1,082) patients. Antibiotic overuse at discharge was present in 43.1% of patient cases in nonrural hospitals, 52.5% in rural hospitals ($P = .04$ vs nonrural) and 58.1% in very rural hospitals ($P = .007$ vs nonrural). Compared to nonrural hospitals, the mean percentage of cases with antibiotic overuse at discharge in rural hospitals was 9.4% higher (15.1% higher in very rural hospitals). Results were similar in a subgroup analysis of only patients with UTI (47.0% in rural vs 37.5% in nonrural, mean difference, 9.5%; $P = .03$) but were not statistically significant in patients with CAP (53.8% vs 48.0%, respectively; mean difference, 5.8%; $P = 0.23$). **Conclusions:** In this retrospective study, rural hospitals—especially very rural hospitals, had higher rates of antibiotic overuse at discharge than nonrural hospitals. Our findings suggest that antibiotic stewardship interventions tailored toward the unique differences in infrastructure, resources, and needs of rural hospitals are essential to community health.
Disclosures: None

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doi:10.1017/ash.2023.263

Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: Antibiotic Stewardship
Validation of antibiotic stewardship metrics for genitourinary infection management in Veterans Affairs outpatient settings
Jordan Braunfeld; Matthew Samore; Jacob Crook; McKenna Nevers; Kelly Echevarria; Ben Brintz; Matthew Goetz and Karl Madaras-Kelly

Background: Diagnosis and management of suspected urinary tract infection (UTI) in outpatient settings has been shown to be suboptimal. We previously developed a set of stewardship metrics for UTIs based on electronic health record (EHR) data (*Antimicrobial Stewardship & Healthcare Epidemiology* 2022;2 suppl 1:S5–S6. doi:10.1017/ash.2022). A tier-based approach was used to more fully capture antibiotic use associated with genitourinary (GU) symptoms and diagnoses. Herein we report a preliminary analysis of validity and reliability of these metrics based on chart abstraction. **Methods:** The study cohort consisted of patients who visited Veterans Affairs emergency departments or primary care clinics between 2015 and 2022 and who had a GU diagnosis based on *International Classification of Disease, Tenth Revision* (ICD-10) codes, divided into 3 categories: tier 1 (antibiotics always indicated), tier 2 (antibiotics sometimes indicated), and tier 3 (antibiotics not indicated). Visits related to urological procedures, nontarget settings, or concomitant non-GU infections were excluded. Cases were randomly sampled for manual review from within 8 strata based on tier, use of antibiotics, and visit type. An infectious disease physician and pharmacist abstracted charts using a standardized data-collection instrument. Clinical judgments regarding diagnosis and treatment were recorded on a Likert scale without knowledge of how the patient was managed. The intraclass correlation coefficient (ICC) was used to estimate interrater reliability. **Results:** To date, 148 cases have been reviewed (50 by both reviewers). Mean (SD) age was 67.5 (15.3) years and 12.2% were female. In a majority of tier 1 and 2 visits in which antibiotics were given, the reviewers found evidence for GU infection (69.7%) and favored prescribing of antibiotics (60.6%) (Table). In contrast, most patients in the tier 3 category who received antibiotics were judged to have noninfectious conditions (eg, benign prostatic hypertrophy) and to not require antibiotics. In the subset of records examined by both reviewers, the interrater reliability of judgments of whether antibiotics were warranted was good (ICC = .704). **Conclusions:** This preliminary validation provides support for a tier-based approach for stewardship metrics for GU conditions that relies upon electronic data to identify patients for whom antibiotics are generally not indicated.
Disclosures: None

Tier	Antibiotic Prescribed	Cases reviewed (N)	Age (SD)	Female (%)	Reviewer diagnosed GU infection, N (%)	Reviewer recommended antibiotics, N (%)
1/2	Yes	33	63.1 (15)	8 (24.2)	23 (69.7)	20 (60.6)
	No	45	64.7 (18.3)	6 (13.3)	3 (6.7)	5 (11.1)
3	Yes	29	71.4 (13.1)	0	2 (6.9)	4 (13.8)
	No	41	71.5 (11.6)	4 (9.8)	1 (2.4)	0

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Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: Antibiotic Stewardship
Understanding clinician perspectives on antibiotic associated adverse events to inform feedback
Jerald Cherian; George Jones; Taylor Helsel; Zunaira Virk; Alejandra Salinas; Suzanne Grieb; Sara Keller; Pranita Tamma and Sara Cosgrove

Background: Feedback regarding antibiotic-associated adverse events (ABX-AEs) may assist clinicians with antibiotic decision making. We

Table. Categorization of Antibiotic-Associated Adverse Events by Degree of Clinical Concern

Prespecified Categorization	Votes (n)*		
Very Concerning	Very Concerning	Moderately Concerning	Mildly Concerning
Nephrotoxicity – Requiring dialysis	12	-	-
Clostridioides difficile infection – Severe	12	-	-
Neuropathy	12	-	-
Stevens-Johnson syndrome	12	-	-
Anaphylaxis	12	-	-
DRESS Syndrome	11	1	-
Moderately Concerning			
Nephrotoxicity – Not requiring dialysis	-	11	1
Clostridioides difficile infection – Non-severe	-	10	2
Hepatotoxicity	1	4	4
Encephalopathy	2	9	-
Seizures	7	5	-
Hemolytic anemia	-	10	-
Neutropenia	1	9	-
Thrombocytopenia	1	8	1
Prolonged QTc	1	10	-
Mildly Concerning			
Diarrhea, nausea, or emesis	-	1	10
Non-hives rash	-	-	10
Myositis	-	-	10

*Not all participants voted for each adverse event