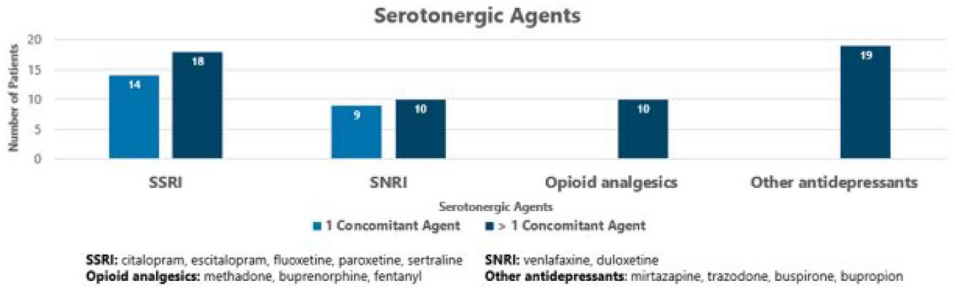
Serotonergic Agents (Figure 1)



SSRI: citalopram, escitalopram, fluoxetine, paroxetine, sertraline **SNRI:** venlafaxine, duloxetine
Opioid analgesics: methadone, buprenorphine, fentanyl **Other antidepressants:** mirtazapine, trazodone, buspirone, bupropion

Baseline Characteristics (Table 1)

	1 Concomitant Agent (n = 23)	≥2 Concomitant Agents (n = 27)
Age, mean, y (SD)	62 (17)	60 (16)
Male, no. (%)	13 (56)	6 (22)
LOS, median, d (IQR)	7 (5 – 21)	8 (4 – 21)
Duration of concomitant inpatient therapy, median, d (IQR)	3 (1 – 5)	2 (1 – 4)
Comorbidities, no. (%)		
Prior delirium/AMS	2 (8)	1 (4)
Substance use disorder	3 (13)	5 (19)
CKD/ESRD	10 (43)	8 (30)
Stroke	4 (17)	4 (15)

syndrome as defined by the Hunter serotonin toxicity criteria, which were retrospectively applied to each patient based on medical-record documentation. We compared patients receiving 1 versus multiple serotonergic agents. Secondary outcomes included duration of hospitalization and adverse outcomes based on concerns for serotonin syndrome such as need for rescue, ICU admission, or change in medication. **Results:** Of the 50 included patients from a convenience sample, 27 (54%) were on linezolid and >1 serotonergic agent. Patients had similar baseline characteristics (Table 1). The most common concomitant agent used was an SSRI. Other agents that predispose patients to serotonin syndrome included opioid analgesics and other classes of antidepressants (Fig. 1). Serotonin syndrome occurred within 48 hours in 1 patient on an SNRI and a continuous fentanyl drip. There was no need for rescue or ICU admission due to serotonin syndrome. No patients were readmitted due to serotonin syndrome, and no differences were observed in hospital lengths of stay. **Conclusions:** Exposure to a single serotonergic agent combined with receipt of linezolid was not associated with any cases of serotonin syndrome. Exposure to multiple serotonergic agents was not associated with a high incidence of serotonin syndrome. This small series supports previous reports demonstrating relative safety of linezolid given with serotonergic agents and encourages review of interruptive drug–drug interaction alerts for linezolid within the electronic ordering system.
Disclosures: None

Antimicrobial Stewardship & Healthcare Epidemiology 2023;3(Suppl. S2):s32–s33
doi:10.1017/ash.2023.260

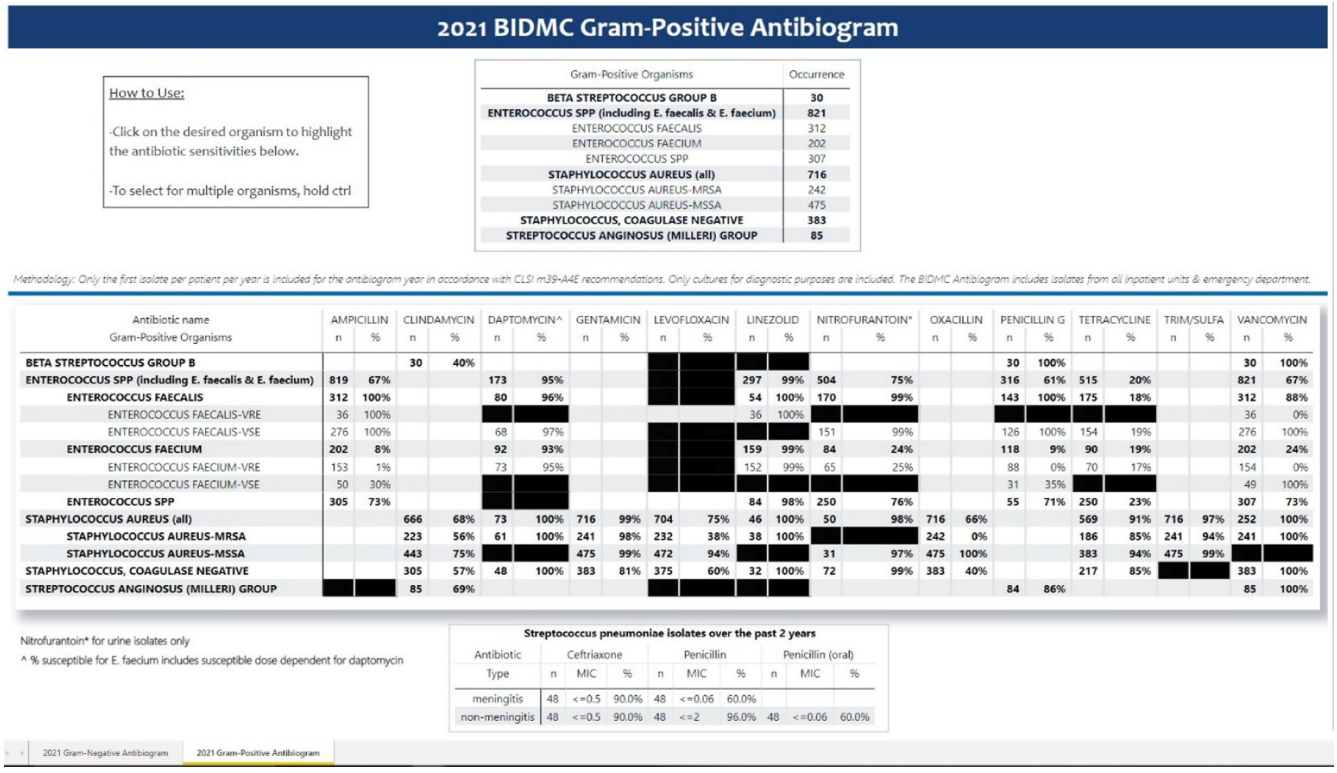
Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: Antibiotic Stewardship

Assessing inpatient antibiotic use during COVID-19 surges with or without infectious diseases consultation

Nicole Tommasi; Shira Doron; Gabriela Andujar-Vazquez and Maureen Campion

Background: Throughout the COVID-19 pandemic, increased inappropriate antibiotic use (AU) drove concern for antimicrobial resistance. Antimicrobial stewardship efforts are critical for combatting antimicrobial resistance. Our objective was to compare AU between SARS-CoV-2 delta and omicron variant surge periods in COVID-19 patients hospitalized at Tufts Medical Center (TMC) in Boston. Infectious diseases consultation (IDC) was mandatory for patients diagnosed with COVID-19 throughout the SARS-CoV-2 delta variant surge. During the SARS-CoV-2 omicron variant surge, IDC was optional for certain patient populations. Instead, the antibiotic stewardship program (ASP) reviewed these patients for appropriate medical management. We hypothesized that AU would increase during the SARS-CoV-2 omicron variant surge compared to the delta variant surge due to optional IDC because IDC would reduce inappropriate AU for suspected viral pneumonia. **Methods:** Retrospective medical record review of patients hospitalized with COVID-19 during the SARS-CoV-2 delta and omicron variant surges was conducted. We collected data regarding vital signs, white blood cell count (WBC), length of stay (LOS), steroid use, IDC, and AU (defined as percentage of patients receiving at least 1 antibiotic dose), with a separate category for antibiotics commonly used for bacterial pneumonia (ampicillin-sulbactam, azithromycin, cefepime, cefpodoxime, ceftazidime, ceftriaxone, doxycycline, piperacillin-tazobactam, vancomycin). We determined that 71 patients from each group were needed to detect an absolute difference of 20% in AU between surges with 75% power, based on the CDC estimate that 80% of patients hospitalized with COVID-19 receive an antibiotic. Unpaired t tests and χ^2 analyses were conducted on demographic data. Inferential statistics assessed for differences between the 2 SARS-CoV-2 variant surges in AU and days of therapy (DOT), supplemental oxygen (SaO_2), steroid use, and IDC utilizing a Wilcoxon rank-sum test and logistic regression analyses. **Results:** Results showed no significant differences in AU between surges (38.0% during the SARS-CoV-2 delta variant surge vs 42.3% during the SARS-CoV-2 omicron variant surge; $P = .131$). Disease severity was not different between surges as measured by steroid use, initial WBC, and SaO_2. WBC was a predictor for AU in both surges (delta surge, $P = 0.007$; omicron surge, $P = .002$). Average LOS was higher throughout the SARS-CoV-2 delta variant surge for all patients (11.58 days during the delta surge, vs 5.97 days during the omicron variant surge; $P = .047$) and those who received antibiotics (18.44 days during the delta variant surge vs 6.70 days dring the omicron variant surge; $P = .210$). Total DOT was significantly longer during the SARS-CoV-2 delta variant surge for all antibiotics (463 DOT during the delta variant surge vs 277 DOT during the omicron variant surge; $P = .047$) and antibiotics commonly used for bacterial pneumonia (315 DOT during the delta variant surge vs 202 DOT during the omicron variant surge; $P = .021$). **Conclusions:** Making IDC optional for certain patient populations diagnosed with COVID-19 did not affect AU in a large, urban academic medical center with a comprehensive ASP.
Disclosures: None

Antimicrobial Stewardship & Healthcare Epidemiology 2023;3(Suppl. S2):s33
doi:10.1017/ash.2023.261



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

https://doi.org/10.1017/ash.2023.261 Published online by Cambridge University Press