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

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Identifying the relationship between hospital rurality and antibiotic overuse

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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