UNIVERSITY OF CINCINNATI MEDICAL CENTER
UC Health, Cincinnati, Ohio
2017 Antibiogram Preparation Information

General

- The UCMC Antibiograms for 2017 have been compiled using WHONET software from the World Health Organization.
- Only first isolates from patients in UCMC inpatient locations or from the UCEC are included in these antibiograms.
- The primary susceptibility platform employed for testing in 2017 was the Biomerieux Vitek® 2 System.
- The drugs included in this antibiogram report are the drugs routinely tested and reported at UC Health. These drugs are selected based on a combination of the following: CLSI recommendations, the UC Health formulary, and availability of these drugs on the commercial susceptibility panels.
- Drugs not tested or not indicated for a given source or organism are left blank.
- Only organisms with 20 or more isolates are included on the antibiogram. CLSI recommends using 30 isolates as the cutoff, so those between 20 and 30 are shaded.

Gram Negative Antibiogram

- Beginning May 1, 2017, the UC Health Microbiology laboratory began applying updated interpretive criteria for cephalosporins when tested against *Enterobacteriaceae*. This change aligned our susceptibility testing interpretations for these organism/drug combinations with the current recommendations from CLSI. Additionally, this lowering of breakpoints eliminated the need for the phenotypic confirmatory testing for extended-spectrum beta-lactamases (ESBLs) that has been previously required for the interpretation of cephalosporins tested against *Escherichia coli*, *Klebsiella pneumoniae*, *Klebsiella oxytoca* and *Proteus mirabilis*. For the purpose of this antibiogram generation, these updated clinical breakpoints were applied retrospectively to all *Enterobacteriaceae* isolates from 2017 to calculate a cumulative profile.

Gram Positive Antibiogram

- Results for *Staphylococcus aureus* are presented in aggregate and broken down based upon MRSA/MSSA.
- The isolates included in the report do not include MRSA Surveillance Screen cultures or Staphylococcal pneumonia Nasal Swab cultures.
- Staphylococci may possess a resistance mechanism to lincosamides that is induced by exposure to macrolides. All *Staphylococcus* species are routinely screened for inducible clindamycin resistance. When this resistance is found, the interpretive result is modified to Resistant and no MIC value is reported.
- Results listed for *Staphylococcus epidermidis* are based on isolates identified to species; this does not represent an aggregation of results for all coagulase-negative staphylococci.

University of Cincinnati Medical Center | 2017 Antibiogram | 01/01/2017 – 12/31/2017

Gram Negative Organisms | Emergency & Inpatient | Percent Susceptible

Gram Negative Organism (# of patient isolates)	Ampicillin/Sulbactam	Ampicillin	Cefazolin*	Cefepime	Ceftriaxone	Ciprofloxacin	Gentamicin	Levofloxacin	Meropenem	Piperacillin/Tazobactam	Tobramycin	Trimethoprim/Sulfamethoxazole
Acinetobacter baumannii (39)	92	0	0	56	5	72	80	72	80	54	85	85
Citrobacter freundii (39)			0	95	63	90	97	90	97	76	92	90
Citrobacter koseri (diversus) (37)			95	100	100	97	100	97	100	97	100	97
Enterobacter aerogenes (60)			16	98	74	97	98	97	100	74	98	97
Enterobacter cloacae complex (179)			0	94	69	94	96	94	98	74	94	89
Escherichia coli (1183)	53	46	79	95	90	75	92	75	100	95	91	71
Klebsiella oxytoca (88)	47	0	31	100	89	95	94	97	99	86	93	92
Klebsiella pneumoniae (405)	78	0	88	97	91	92	95	93	99	92	92	90
Morganella morganii (22)	5	0	0	100	96	77	91	82	100	100	91	82
Proteus mirabilis (187)	84	76	69	98	97	73	89	75	100	100	90	73
Providencia stuartii (23)	48	0	0	100	100	38	0	38	100	100	0	86
Pseudomonas aeruginosa (385)	0	0	0	89	0	82	88	76	85	91	94	0
Serratia marcescens (73)			0	100	93	97	99	97	100		89	99
Stenotrophomonas maltophilia (62)								84				90

*Cefazolin values reflect the percentage of Non-Resistant isolates using an MIC breakpoint of ≤ 4 µg/mL

Gram Positive Organism (# of patient isolates)	Ampicillin	Cefotaxime	Ceftriaxone	Clindamycin	Doxycycline	Erythromycin	Levofloxacin	Linezolid	Oxacillin	Penicillin-G	Tetracycline	Trimethoprim/Sulfamethoxazole	Vancomycin
Enterococcus faecalis (267)	99				28	6	74	96			29		95
Enterococcus faecium(95)	13				26	2	10	97			18		25
Staphylococcus aureus (870)				75	98	37	72	100	51		95	95	100
S. aureus- MRSA (442)				69	96	12	50	100	0		93	93	100
S. aureus- MSSA (453)				81	99	62	93	100	100		97	98	100
Staphylococcus epidermidis (192)				50	87	26	55	100	29		83	51	100
Staphylococcus lugdunensis (25)				84	100	80	100	100	68		100	100	100
*Streptococcus pneumoniae** (68)				75		51	100	100			81	81	100
non-meningitis therapy interpretations		97	98										
meningitis therapy interpretations		83	76							57			
Streptococcus viridans group (82)	81	91	97	78		60	88	100		72	59		100

**Streptococcus pneumoniae* MIC interpretations for Cefotaxime, Ceftriaxone, and Penicillin-G vary based on achievable drug levels in the CSF versus blood. Percentages were calculated by applying both sets of interpretations to all 68 isolates.