

# **Clark County 2016 Antibigram**

**2017 HAI Conference**

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# Overview

- **Brief description of antibiogram**
- **Demo of online Clark County 2016 Antibiogram**

# What is AntibioGram?

- An overall profile of organisms' susceptibility to a panel of antibiotics

**HOSPITAL INPATIENT ANTIBIOGRAM 2016, CLARK COUNTY**

Organism	Antibiotics																												
	Amoxicillin-clavulanic acid	Ampicillin	Ampicillin-sulbactam	Cefazolin	Cefepime	Cefotaxime	Ceftazidime	Cefuroxime	Chloramphenicol	Ciprofloxacin	Clindamycin	Daptomycin	Erythromycin	Genamycin	Genamycin-High (high potency 5µg)	Levofloxacin	Mecillinam	Mercopenem	Nitrofurantoin	Oxacillin	Penicillin G	Quinupristin-dalfopristin	Rifampin	Sitrepromycin-high	Tetracycline	Trimethoprim-sulfamethoxazole	Vancocin		
<b>Gram Positive</b>																													
Enterococcus faecalis	95.3	96.2	96.4			5.3				60.9	1.4	97.3	21.8	4.2	60.1	63.8	94.6			90.1	0.9	95.6			54.7	7.2	18.8	65.9	85.6
Enterococcus faecium	14.5	10.2	11.9			1.6				5.6	8.2	87.2	3.2	46.1	94.6	7.2	94.5			29.1	0.9	8.5			5.6	53.1	10.9	20	16.5
Enterococcus sp.	73.8	73.4	85.5			8.2				90	11.5	100	27.9	90.2	95.5	50	95.7			82	6.6	71.9			68.9	64.6	28.4	88.5	82.7
Staphylococcus aureus	75.5	32.7	91.8	55.4		58.9				49.5	71	99.5	38.3	90.9		54.6	99.6			98.1	54.7	14.9	99.2	98.7		92.9	97.1	99.9	
Coagulase negative staphylococcus	87.3	34.6	96.6			41.7				43	60.4	98.2	28.2	70.6		45.8	97.9			97.1	40.5	13.4	97.9	95.7		80.4	61.2	99.7	
Staphylococcus lugdunensis	93.5	80.6	94.1			90.3				87.5	94.1	100	64.7	88.6		88.6	100			100	91.4	62.9	100	100		88.6	90.6	100	
Staphylococcus saprophyticus	95.6	77.8	97.8			73.3				93.3	73.3	95.6	46.7	93.3		93.3	91.1			95.6	80	60	82.2	95.6		73.3	95.6	97.8	
Streptococcus pneumoniae	94.9	0			89.7	92.9	93.3	87.2	96.7				69.2			99.1		88								82	67.3	100	
<b>Gram Negative</b>																													
Acinetobacter baumannii	26.1	2.6	2.6	19	6.4	0	9.3	9	32.5	8	1.7	0	8.2	0	17.8	23.4	9.2	11.9	0.3						11.2	0	20.3	22.3	
Citrobacter freundii	97.4	8.2	44.6	65.4	78.9	16.6	93.4	79.8	79.7	78.5	67.8	3	89.2	95.8	95	91	89.2	96.9	90.4						90.8	80.3	0	93.4	86.3
Enterobacter aerogenes	90.8	7.4	18.8	50.7	72.9	13	81.3	64.5	68.6	70.2	53.1	2.2	82	89.7	93.4	85.3	81.2	90	25.7	48.8	77.8	77.5				86.8	85.6		
Enterobacter cloacae	99	3.2	11.5	29.6	69.5	4.5	87.6	69	77.3	75.1	35.6	0	93.2	91.3	97.1	98.5	95.7	99	28.3	74.6	85.2	85.6				96.3	91.1		
Escherichia coli	99.3	79.4	48.4	55.5	90	87.3	91.8	91.4	92.5	91	87.4	41.6	72.8	99.2	88.9	99.4	73.4	99.4	96.8	44.4	96.9	70.8				88.8	87.3		
Klebsiella oxytoca	98.1	76.2	3.9	63.2	81.1	55.3	90.4	89.1	93.2	86.8	75.1	40.4	89.3	96.7	92.5	97.1	92.2	97.2	83.1	45	89.3	82.8				91.8	87.4		
Klebsiella pneumoniae	85.1	49.3	3.8	62.1	76.6	80.3	73.5	84	72.9	75.3	67.5	46.9	70.4	85.4	82.3	70.5	73.1	86	40.6	34.4	76.3	69.4				72.8	70.6		
Morganella morganii	96.2	16.4	3.1	6.8	56.4	10.9	85.8	51.2	59.4	82.2	16.7	6.2	49.4	95.7	67.1	50.9	53.7	95.6	2.1		88.9	31.2				77.8	50.6		
Pseudomonas aeruginosa	92.5	2.2	1.1	2.8	56.3	0.3	59.9	2.4	68.8	14.2	1.1	0	61	0	69.2	41.3	57.7	58.7	0.8	60.8	65.5	0				86.3	4.4		
Stenotrophomonas maltophilia	0		0.6	5.3	2.3	0.6	5.3	0	41.1	1.8	0		32.7	0	30.4			88.5	0							0	98.5		
Proteus mirabilis	93.8	88.6	66.6	79.6	74.1	83	89.3	92.4	90.7	91.4	87.4	67.4	54.6	97.8	72.6	87.9	59.1	98.6	1.2	62.2	96.8	1			72.9	58.5			
Providencia sp.	73.6	4	5.6	12.4	73.4	5.5	44.5	45.9	32.7	57	23.9	5.3	19.4	89	33.2	42.8	25.4	93.9	0.5	40.5	43.2	2.9			29.9	34.4			
Serratia marcescens	98.1	0	7.7	8.3	66.1	0	88.4	49.4	63.3	71.1	0		91.5	97.4	97.3	93.4	98.6	98.6	1.7						64.5	22.3	0	95.5	97.2

**Note:**  
1. Each organism with the percent susceptible (%S) to the corresponding antimicrobial agent is presented in one row.  
2. The %S for each organism/antimicrobial combination was generated by including only the first isolate of that organism recovered from a given patient during the time period analyzed.  
3. Susceptibility greater than or equal to 90% is highlighted in green, 60% - 89% in orange, and less than 60% in red.  
4. Empty cells indicate that susceptibility testing for that specific organism is not recommended or testing data was not available or the number of isolates is less than thirty (<30) for valid reporting.  
5. Clinical and Laboratory Standards Institute (CLSI) performance standards for antimicrobial susceptibility testing were applied.

# Why Do We Need Antibiogram?

- **Problem of Antibiotic Resistance**
  - In U.S. 2 million people become infected with bacteria that are resistant to antibiotics, and at least 23,000 people die each year as a direct result of these infections.
- **Empiric Antimicrobial Treatment**
- **Antibiotic Resistance Pattern**
- **Antimicrobial Stewardship Program**
  - The Joint Commission's Antimicrobial Stewardship Standard became effective on January 1, 2017.

# Clark County 2016 Antibigram

- **Data Source**

- Inpatient and outpatient data from two healthcare system laboratories, two hospital laboratories and one commercial laboratory in Clark County

- **Time Frame**

- January 1, 2016 to December 31, 2016

- **Data Inclusion Criteria**

- Bacterial isolates from all sources collected for diagnostic purposes
- Final, verified test results from the first isolate per person
- Organisms with testing data for  $\geq 30$  isolates are included

# Demo

- <http://www.southernnevadahealthdistrict.org/stats-reports/antibiogram>

# Questions? Comments?



## Contact Information

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