

UConn HEALTH

JOHN DEMPSEY HOSPITAL
Farmington, Connecticut

2017 ANTIBIOTIC SUSCEPTIBILITY PROFILES for **INPATIENT** Bacterial Isolates

****GROUPED BY CULTURE SOURCES****

(data from 1/1/17 – 1/1/18)

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INPATIENT ANTIBIOTIC SUSCEPTIBILITY DATA:

Systemic (All Non-Urine Cultures) Gram-Positive Bacterial Isolates (Data represent % Susceptible only):

ISOLATE	# tested	Ampicillin	Amoxicillin/ Clavulanate	Cefazolin	Ceftriaxone	Clindamycin	Daptomycin	Erythromycin	Gentamicin	Gentamicin (500 mcg/ml synergy)	Levofloxacin	Linezolid	Oxacillin	Penicillin	Rifampin	Quinupristin/ Dalbopristin(Synercid®)	Tetracycline	Trimethoprim/ Sulfa	Vancomycin
E. faecalis	34	100	--	--	--	--	100	15	--	79	79	100	--	100	59	--	38	--	100
E. faecium (Vancomycin- susceptible) Jan 2016- Dec2017	10	80	--	--	--	--	100	30	--	100	50	100	--	80	40	--	70	--	100
E. faecium (Vancomycin- resistant)[#] Jan 2016- Dec2017	10	10	--	--	--	--	100	0	--	100	10	100	--	10	0	--	20	--	0
S. aureus (MSSA)	135	0	100	100	100	88 ^φ	100	57	100	--	91	100	100	26	99	99	91	98	100
S. aureus (MRSA)[*]	102	--	--	--	--	78 ^φ	100	3	98	--	20	100	--	--	97	100	93	96	100
S. epidermidis	53	0	38	38	39	70 ^φ	100	32	81	--	59	100	38	9	100	100	85	55	100
Streptococcus - Group B July 2016- Dec2017	38	100	--	--	100	56	100	19	--	--	97	100	--	100	--	--	20	--	100

S. pneumoniae																			
Jan 2016-	30	--	93	--	100	82	--	64	--	--	100	--	--	68	--	--	75	86	100
Dec2017																			

NOTES:

--Data from up to 2 years may be summarized to try to achieve sample sizes of ≥ 30 Inpatient isolates per CLSI recommendations

- approximately 50% of *Enterococcus faecium* were Vancomycin-Resistant

*- approximately 43% of *Staphylococcus aureus* were Methicillin-Resistant

ϕ - Clindamycin activity MUST be confirmed via a separately-ordered D-Test before using

INPATIENT ANTIBIOTIC SUSCEPTIBILITY DATA:

Systemic (All Non-Urine Cultures) Gram-Negative Bacterial Isolates (Data represent % Susceptible only):

ISOLATE	# tested	Amikacin	Ampicillin	Amoxicillin/Clavulanate (Augmentin®)	Aztreonam	Cefazolin	Cefuroxime	Ceftriaxone	Cefepime	Ceftazidime	Gentamicin	Levofloxacin	Meropenem	Piperacillin	Piperacillin/Tazobactam (Zosyn®)	Tobramycin	Trimethoprim/Sulfa
<i>Acinetobacter baumannii</i> / <i>haemolyticus</i> Jan 2016-Dec 2017	7	100	--	--	--	--	--	57	86	86	86	71	100	33	--	100	100
<i>Citrobacter freundii</i> Jan 2016-Dec 2017	11	100	18	25	64	0	64	64	100	64	91	82	100	25	64	91	64
<i>Citrobacter koseri</i> Jan 2016-Dec 2017	8	100	0	100	100	100	88	100	100	100	100	100	100	50	100	100	100
<i>Enterobacter aerogenes</i> Jan 2016-Dec 2017	19	100	05	0	84	0	63	79	100	74	100	100	100	89	84	100	100
<i>Enterobacter cloacae</i>	32	100	3	5	81	0	44	75	94	78	100	97	100	--	78	100	97
<i>Escherichia coli</i> **	95	100	47	--	81	80	79	81	81	81	87	68	100	--	98	84	75
<i>Klebsiella oxytoca</i> Jan 2016-Dec 2017	13	100	8	100	92	46	77	92	100	100	100	100	100	75	77	100	100
<i>Klebsiella pneumoniae</i> **	39	97	5	--	92	92	92	92	92	92	95	100	100	--	97	92	90
<i>Morganella morganii</i> Jan 2016-Dec 2017	14	100	7	25	100	7	21	93	93	100	71	71	100	75	100	86	64
<i>Proteus mirabilis</i> Jan 2016-Dec 2017	34	100	70	100	91	79	91	94	94	94	85	64	100	55	100	91	76

Pseudomonas aeruginosa	63	97	--	--	76	--	--	--	81	83	87	81	84	96	89	100	0
Salmonella species Jan 2016-Dec 2017	3	--	100	100	100	--	--	100	100	100	--	100	100	100	100	--	100
Serratia marcescens Jan 2016-Dec 2017	25	100	4	13	76	0	0	76	88	68	88	100	100	63	76	72	88

NOTES: Data from up to 2 years may be summarized to try to achieve sample sizes of ≥ 30 Inpatient isolates per CLSI recommendations

** - Prevalence of Extended-Spectrum Beta-Lactamases (ESBLs) was ~19% in *E. coli* and ~8% in *K. pneumoniae*

INPATIENT ANTIBIOTIC SUSCEPTIBILITY DATA:

Urinary Tract Culture Gram-Positive Bacterial Isolates (Data represent % Susceptible only):

ISOLATE	# tested	Ampicillin	Augmentin®	Cefazolin	Clindamycin	Daptomycin	Erythromycin	Gentamicin	Gentamicin (500 mcg/ml synergy)	Levofloxacin	Linezolid	Nitrofurantoin	Oxacillin	Penicillin	Rifampin	Quinupristin/Dalfopristin (Synercid®)	Tetracycline	Trimethoprim/Sulfa	Vancomycin
E. faecalis Jan 2016-Dec 2017	68	100	--	--	--	100	--	--	75	70	99	100	--	100	58	--	19	--	99
E. faecium (Vancomycin-susceptible) Jan 2016-Dec 2017	6	33	--	--	--	100	--	--	100	33	100	33	--	33	17	--	50	--	83
E. faecium (Vancomycin-resistant)* Jan 2016-Dec 2017	9	0	--	--	--	100	--	--	89	0	100	56	--	0	0	--	22	--	--
S. aureus (MSSA) Jan 2016-Dec 2017	14	0	100	100	--	100	--	100	--	71	100	100	100	43	100	100	100	100	100
S. aureus (MRSA)** Jan 2016-Dec 2017	8	--	--	--	--	100	--	100	--	0	100	100	--	--	100	100	100	100	100
S. epidermidis Jan 2016-Dec 2017	13	0	50	50	--	100	--	67	--	42	100	100	50	8	100	100	58	67	100

NOTES:

--Data from up to 2 years may be summarized to try to achieve sample size of ≥ 30 Inpatient isolates per CLSI recommendations

* - approximately 60% of *Enterococcus faecium* were Vancomycin-Resistant

** - approximately 36% of *Staphylococcus aureus* were Methicillin-Resistant

INPATIENT ANTIBIOTIC SUSCEPTIBILITY DATA:

Urinary Tract Culture Gram-Negative Bacterial Isolates (Data represent % Susceptible only):

ISOLATE	# tested	Amikacin	Ampicillin	Amoxicillin/ Clavulanate	Aztreonam	Cefazolin	Cefuroxime	Ceftriaxone	Cefepime	Ceftazidime	Gentamicin	Levofloxacin	Meropenem	Piperacillin/ Tazobactam	Tetracycline	Tobramycin	Trimethoprim/ Sulfamethoxazole
<i>Citrobacter freundii</i> Jan 2016-Dec 2017	11	100	9	--	82	0	64	82	100	73	100	91	100	82	73	91	73
<i>Citrobacter koserii</i> Jul 2016-Dec 2017	3	100	0	--	100	100	100	100	100	100	100	100	100	100	100	100	100
<i>Enterobacter aerogenes</i> Jan 2016-Dec 2017	7	100	43	--	100	29	86	100	100	100	100	100	100	100	86	100	100
<i>Enterobacter cloacae</i> Jan 2016-Dec 2017	14	100	7	--	64	0	43	64	86	71	93	93	100	93	79	93	93
<i>Escherichia coli</i> *	149	100	45	--	85	77	81	85	86	85	92	73	100	97	64	91	69
<i>Klebsiella oxytoca</i> Jan 2016-Dec 2017	15	100	0	--	87	33	87	87	87	87	93	100	100	100	87	93	93
<i>Klebsiella pneumoniae</i> *	46	100	7	--	91	87	83	91	91	91	96	98	100	96	72	94	80
<i>Morganella morganii</i> Jan 2016-Dec 2017	8	100	0	--	100	0	0	100	100	75	88	100	100	100	63	100	88
<i>Proteus mirabilis</i> Jan 2016-Dec 2017	41	100	83	--	100	88	98	100	100	100	93	76	100	100	0	90	88
<i>Pseudomonas aeruginosa</i> Jul 2016-Dec 2017	46	87	--	--	78	--	--	--	82	87	78	71	98	93	--	100	--
<i>Serratia marcescens</i> Jan 2016-Dec 2017	10	100	0	0 --	70	0	0	80	90	80	90	90	100	50	10	90	80

NOTES: Data from up to 2 years may be summarized to try to achieve sample size of ≥ 30 Inpatient isolates per CLSI recommendations

* - Prevalence of Extended-Spectrum Beta-Lactamases (ESBLs) was $\sim 14\%$ in *E. coli* and $\sim 9\%$ in *K. pneumoniae*

Miscellaneous INPATIENT Gram-Negative Isolates (Data listed are % Susceptible and Intermediately-Susceptible):

ISOLATE	# tested	Amikacin	Cefepime	Ceftazidime	Gentamicin	Levofloxacin	Ticarcillin/ Clavulanate	Tetracycline	Tobramycin	Trimethoprim/ Sulfamethoxazole
Stenotrophomonas maltophilia	38	5 [#]	8 [#]	37	8 [#]	92	93	21 [#]	11 [#]	97

- % Susceptible is based on susceptibility breakpoints for *Pseudomonas aeruginosa* as no breakpoints have been established by CLSI for these antibiotics

jaescINPATIENT Respiratory Tract Bacterial Isolates:

- Only ~20% of all processed respiratory samples were positive for growth of a possible bacterial pathogen
- The bacteria listed in the two tables below accounted for >90% of all positive respiratory cultures

INPATIENT Gram-Positive Bacterial Respiratory Tract Isolates

ISOLATE	# tested	Ampicillin	Amoxicillin/ Clavulanate	Cefazolin	Ceftriaxone	Clindamycin	Daptomycin	Erythromycin	Gentamicin	Levofloxacin	Linezolid	Oxacillin	Penicillin	Rifampin	Quinupristin/ Dalfopristin(Synercid®)	Tetracycline	Trimethoprim/Sulfa	Vancomycin
<i>S. aureus</i> (MRSA)	34	--	--	--	--	71*	100	3	97	6	100	--	--	97	100	82	94	100
<i>S. aureus</i> (MSSA)	50	0	100	100	100	90*	100	63	100	81	100	100	27	98	100	96	98	100
<i>S. pneumoniae</i> Jan 2016-Dec 2017	20	--	90	--	100#	84	--	68	--	100	--	--	74	--	--	74	90	100

* - Clindamycin activity MUST be confirmed via a separately-ordered D-Test before using

- Ceftriaxone is the preferred cephalosporin to use to treat documented *S. pneumoniae* infections

INPATIENT Gram-Negative Bacterial Respiratory Tract Isolates

ISOLATE	# tested	Amikacin	Ampicillin	Amoxicillin/Clavulanate	Aztreonam	Cefazolin	Cefuroxime	Ceftriaxone	Cefepime	Ceftazidime	Gentamicin	Levofloxacin	Meropenem	Piperacillin	Piperacillin/Tazobactam	Tobramycin	Trimethoprim/Sulfa
<i>Pseudomonas aeruginosa</i>	33	97	--	--	70	--	--	--	76	79	91	79	76	97	85	100	--
<i>Escherichia coli</i> Jan 2016-Dec 2017	34	100	27	88	77	74	77	77	77	77	88	65	100	31	94	88	79
<i>Klebsiella pneumoniae</i> Jan 2016-Dec 2017	25	100	0	91	96	96	96	96	96	96	100	96	100	73	100	96	92
<i>Stenotrophomonas maltophilia</i>	33	6#	--	--	--	--	--	--	3#	27	6#	94	0	0	0	6#	97

Jan 2016-Dec 2017																	
Enterobacter cloacae Jan 2016-Dec 2017	20	100	0	0	75	0	45	75	95	75	100	100	100	88	80	100	95
Achromobacter xylosoxidans Jul 2016-Dec 2017	7	0	--	--	0	--	--	0	0	67	0	83	83	100	83	0	83
Serratia marcescens Jul 2016-Dec 2017	13	100	0	0	62	0	0	62	85	62	77	100	100	50	62	46	77
Acinetobacter baumannii/ haemolyticus	4	100	--	--	--	--	--	75	100	100	100	100	100	--	--	100	100

- % Susceptible is based on susceptibility breakpoints for Pseudomonas aeruginosa as no breakpoints have been established by CLSI for these antibiotics

INPATIENT Gram-Positive Bacterial Isolates from Skin & Wound Cultures:

ISOLATE	# tested	Ampicillin	Amoxicillin/ Clavulanate	Cefazolin	Ceftriaxone	Clindamycin	Daptomycin	Erythromycin	Gentamicin	Gentamicin (500 mcg/ml synergy)	Levofloxacin	Linezolid	Oxacillin	Penicillin	Rifampin	Quinupristin/ Dalfopristin(Synercid®)	Tetracycline	Trimethoprim/Sulfa	Vancomycin
E. faecalis Jan 2016-Dec 2017	38	100	--	--	--	--	100	11	--	79	92	100	--	100	53	--	21	--	100
E. faecium (Vancomycin- susceptible) Jan 2016-Dec 2017	3	67	--	--	--	--	100	33	--	100	67	100	--	67	67	--	67	--	100
E. faecium (Vancomycin- resistant)* Jan 2016-Dec 2017	6	17	--	--	--	--	100	0	--	100	17	100	--	17	0	--	33	--	0
S. aureus (MSSA)	51	0	100	100	100	83*	100	58	100	--	98	100	100	25	100	98	85	98	100
S. aureus (MRSA)**	47	--	--	--	--	78*	100	2	98	--	28	100	--	--	98	100	98	98	100
S. epidermidis Jan 2016-Dec 2017	20	0	35	35	35	75	100	45	80	--	60	100	35	0	100	100	85	45	100
Streptococcus - Group B Jan 2016-Dec 2017	10	100	--	--	100	60	100	20	--	--	100	--	--	100	--	--	0	--	100

*** - Clindamycin activity MUST be confirmed via a separately-ordered D-Test before using

INPATIENT Gram-Negative Bacterial Isolates from Skin & Wound Cultures:

ISOLATE	# tested	Amikacin	Ampicillin	Amoxicillin/Clavulanate (Augmentin®)	Aztreonam	Cefazolin	Cefuroxime	Ceftriaxone	Cefepime	Gentamicin	Levofloxacin	Meropenem	Piperacillin	Piperacillin/Tazobactam (Zosyn®)	Tobramycin	Trimethoprim/Sulfa
Citrobacter freundii Jan 2016-Dec 2017	7	100	14	50	86	0	86	86	100	86	100	100	50	71	86	71
Enterobacter cloacae Jan 2016-Dec 2017	16	100	6	0	81	0	44	81	88	100	94	100	67	88	100	88
Escherichia coli* Jul 2016-Dec 2017	33	100	49	75	82	82	79	82	82	97	76	100	50	97	94	79
Klebsiella oxytoca Jul 2016-Dec 2017	5	100	0	100	80	40	60	80	100	100	100	100	0	60	100	100
Klebsiella pneumoniae* Jan 2016-Dec 2017	17	100	12	100	94	94	94	94	94	100	100	100	67	100	100	88
Morganella morganii Jul 2016-Dec 2017	9	100	11	0	100	11	11	100	100	78	78	100	100	100	100	67
Proteus mirabilis Jan 2016-Dec 2017	9	100	67	100	100	67	89	100	100	78	67	100	50	100	100	67
Pseudomonas aeruginosa Jan 2016-Dec 2017	28	100	--	--	79	--	--	--	89	89	86	89	100	93	100	--
Serratia marcescens Jan 2016-Dec 2017	6	100	33	0	100	0	0	100	100	100	100	100	100	67	100	100

* - Prevalence of Extended-Spectrum Beta-Lactamases (ESBLs) was ~18% in *E. coli* and ~64% in *K. pneumoniae*