

2023 Antibigrams



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General Notes:		
- Historical susceptibility data may not reflect current CLSI breakpoints - Isolate numbers may not always be accurate. Isolate totals were assumed to apply when testing was indicated from specific sites (i.e. urine) or data was provided for multiple years (i.e. data from 2022 and 2023 combined). Interpret with caution - Cefazolin may contain susceptibilities measured at different breakpoints. Interpret with caution - Each susceptibility contains data from ≥3 hospitals - Aggregated data with <30 isolates were excluded - Duplicate data excluded		
Symbols:		Abbreviations:
\$	In 2023, CLSI revised all aminoglycoside breakpoints for <i>Pseudomonas</i> . Of note, gentamicin is no longer a treatment option for <i>Pseudomonas</i>	NU: Non-Urine
!	<i>E. coli</i> and <i>K. pneumoniae</i> ≠ Non-ESBL + ESBL data due to variation in reporting across hospitals	U: Urine
?	Includes data from <i>Acinetobacter baumannii/nosocomialis</i> group	ESBL: Extended Spectrum Beta-Lactamase
#	Includes data from <i>Acinetobacter baumannii/haemolyticus</i>	MRSA: Methicillin Resistant <i>Staphylococcus aureus</i>
&	Includes data from <i>Klebsiella oxytoca/Raoultella ornitholytica</i>	MSSA: Methicillin Susceptible <i>Staphylococcus aureus</i>
~	<i>Staphylococcus aureus</i> ≠ MRSA + MSSA data due to variation in reporting across hospitals	GAS: Group A <i>Streptococcus</i>
		GBS: Group B <i>Streptococcus</i>
		2YD: 2022 + 2023 data combined
		3YD: 2021, 2022 + 2023 data combined
		SDD: Suscebitble-Dose Dependent

For more information, visit <https://firstline.org/nyc/>

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All NYC 2023	Inhibitor Combinations								Quinolones			
	Ampicillin-Sulbactam		Ceftazidime-Avibactam		Ceftolozane-Tazobactam		Piperacillin-Tazobactam		Ciprofloxacin		Levofloxacin	
	n	%	n	%	n	%	n	%	n	%	n	%
Gram Negative												
<i>Acinetobacter baumannii</i>	902 2YD: 88	60 ?# 2YD: 71					266	65	501	53 ?#	771 2YD: 96	46 ?# 2YD: 58
<i>Bacteroides fragilis</i>	130	95										
<i>Citrobacter freundii</i>							376 2YD: 97	88 2YD: 92	308	84	496 2YD: 97	87 2YD: 90
<i>Citrobacter koseri</i>	503	95					381 SDD: 223	93 SDD: 99	618	96	602	98
<i>Enterobacter cloacae</i>							1906 SDD: 595	79 SDD: 82	1755	88	2501	92
<i>Escherichia coli</i> !	33449	55					18771 SDD 14678	95 SDD: 95	20939	67	33449	71
Non-ESBL	12666	59					12627	98	13465	77	11950	80
ESBL	1396	28	578	97	578	81	1505	68	2675	19	2412	24
<i>Haemophilus influenzae</i>	124	85									109	98
<i>Klebsiella aerogenes</i>							501 SDD: 297 2YD: 239	81 SDD: 89 2YD: 90	564	94	798 2YD: 239	96 2YD: 98
<i>Klebsiella oxytoca</i>	1003 2YD: 129	71 & 2YD: 72					705 SDD: 298 2YD: 129	88 & SDD: 93 2YD: 93	692	90 &	1003 2YD: 129	95 & 2YD: 100
<i>Klebsiella pneumoniae</i> !	10163	67					6177 SDD: 3986	89 SDD: 84	6187	74	10163	83
Non-ESBL	3339	84	584	99	584	100	3339	97	3500	92	3233	95
ESBL	216	11					252	42	833	18	797	43
<i>Klebsiella variicola</i>	216	89					SDD: 216	SDD: 96	216	90	216	94
<i>Morganella morganii</i>	793	11					846 SDD: 342 2YD: 110	96 SDD: 97 2YD: 98	811	70	1167 2YD: 110	71 2YD: 77
<i>Proteus mirabilis</i>	7776	83	500	99			5385 SDD: 2391	97 SDD: 94	5837	72	7668	73
<i>Providencia stuartii</i>	162	34					SDD: 97	SDD: 99	97	33	162	23
<i>Pseudomonas aeruginosa</i> \$			959	96	910	97	8838	86	6466	80	8823	76
<i>Serratia marcescens</i>	320	0					780 SDD: 277 2YD: 93	72 SDD: 90 2YD: 66	808	86	1260	87
<i>Stenotrophomonas maltophilia</i>											960 2YD: 167	88 2YD: 89



All NYC 2023	Aminoglycosides						Tetracyclines					
	Amikacin		Gentamicin		Tobramycin		Minocycline		Tetracycline		Tigecycline	
	n	%	n	%	n	%	n	%	n	%	n	%
Gram Negative												
<i>Acinetobacter baumannii</i>	776 2YD: 52	54 ?# 2YD: 75	911 2YD: 88	57 ?# 2YD: 66	692 2YD: 52	61 ?# 2YD: 75	337	68	311	63 #	225	17
<i>Bacteroides fragilis</i>												
<i>Citrobacter freundii</i>	377 2YD: 97	75 2YD: 98	496 2YD: 97	92 2YD: 92	455 2YD: 63	91 2YD: 93			228	82	227	100
<i>Citrobacter koseri</i>	381	75	618	98	384	98			165	92	339	99
<i>Enterobacter cloacae</i>	1906	86	2536	97	1821	95			965	83	1022	99
<i>Escherichia coli</i> !	18771	81	33449	86	33367	84			14261	62	21622	100
Non-ESBL	12627	100	13465	89								
ESBL	2675	97	2675	73								
<i>Haemophilus influenzae</i>												
<i>Klebsiella aerogenes</i>	501 2YD: 239	75 2YD: 100	798 2YD: 239	98 2YD: 99	749 2YD: 121	97 2YD: 100			330	89	459	99
<i>Klebsiella oxytoca</i>	705 2YD: 129	80 & 2YD: 100	1003 2YD: 129	93 & 2YD: 98	869 2YD: 85	93 & 2YD: 100			392	91	491	100 &
<i>Klebsiella pneumoniae</i> !	6177	79	10163	89	10115	85			4694	71	6322	98
Non-ESBL	3339	100	3500	99								
ESBL	833	92	833	68								
<i>Klebsiella variicola</i>			216	95	216	95					216	99
<i>Morganella morganii</i>	846 2YD: 110	85 2YD: 100	1188 2YD: 110	87 2YD: 91	943	88			452	29		
<i>Proteus mirabilis</i>	5385	88	7862	87	5588	85						
<i>Providencia stuartii</i>												
<i>Pseudomonas aeruginosa</i> \$	5938 U: 2473	95 U: 96	5597	85	4073	80						
<i>Serratia marcescens</i>	983 2YD: 93	83 2YD: 99	1280 2YD: 93	96 2YD: 94	1022 2YD: 93	77 2YD: 88			479	18	597	100
<i>Stenotrophomonas maltophilia</i>							472	99				



All NYC 2023	Other						Urine Only			
	Clindamycin		Metronidazole		Trimethoprim-Sulfamethoxazole		Fosfomycin		Nitrofurantoin	
	n	%	n	%	n	%	n	%	n	%
<i>Acinetobacter baumannii</i>					911 2YD: 88	50 ?# 2YD: 66				
<i>Bacteroides fragilis</i>	130 2YD: 94	60 2YD: 59	2YD: 94	2YD: 100						
<i>Citrobacter freundii</i>					496 2YD: 97	82 2YD: 84			416 2YD: 97	97 2YD: 94
<i>Citrobacter koseri</i>					618	97			466	83
<i>Enterobacter cloacae</i>					2536	84			2211	39
<i>Escherichia coli</i> !					33449	66	5278	94	33230	98
Non-ESBL					13465	68			13426	97
ESBL					2675	38			2649	91
<i>Haemophilus influenzae</i>					124	56				
<i>Klebsiella aerogenes</i>					798 2YD: 239	97 2YD: 97			598	40
<i>Klebsiella oxytoca</i>					1003 2YD: 129	88 & 2YD: 91			869	91 &
<i>Klebsiella pneumoniae</i> !					10163	74			9945	53
Non-ESBL					3500	91			3446	50
ESBL					833	21			765	31
<i>Klebsiella variicola</i>					216	88			216	79
<i>Morganella morganii</i>					1188 2YD: 110	67 2YD: 77				
<i>Proteus mirabilis</i>					7862	75				
<i>Providencia stuartii</i>					162	75				
<i>Pseudomonas aeruginosa</i> \$										
<i>Serratia marcescens</i>					1280 2YD: 93	98 2YD: 95			260	0
<i>Stenotrophomonas maltophilia</i>					1017 2YD: 124	96 2YD: 99				



All NYC 2023	Beta-lactams											
	Ampicillin		Cefazolin		Cefotaxime		Cefoxitin		Ceftriaxone		Meropenem	
	n	%	n	%	n	%	n	%	n	%	n	%
Gram Positive												
<i>Enterococcus faecalis</i>	13228	99										
<i>Enterococcus faecium</i>	3005 2YD: 122	12 2YD: 15										
<i>Propionibacterium acnes</i>							117	100			117	100
Coagulase Negative <i>Staphylococci</i>	809	0	1502	52								
<i>Staphylococcus aureus</i> ~			4654	61								
MRSA	847	0	1908	0								
MSSA			2868	100								
<i>Staphylococcus epidermidis</i>			1032	55								
<i>Staphylococcus lugdunensis</i>												
<i>Streptococcus pyogenes</i> (GAS)												
<i>Streptococcus agalactiae</i> (GBS)												
<i>Streptococcus anginosus</i> group									335	99		
<i>Streptococcus mitis</i>	71	79							113	89		
<i>Streptococcus pneumoniae</i>												
Non-Meningitis					179	95			446 2YD: 134	95 2YD: 97		
Meningitis					179	89			446 2YD: 158	87 2YD: 84		
Viridans group <i>Streptococci</i>									358	97		



All NYC 2023	Beta-lactams				Inhibitor Combo		Quinolones				Aminoglycosides	
	Oxacillin		Penicillin G		Ampicillin-Sulbactam		Ciprofloxacin		Levofloxacin		Gentamicin	
Gram Positive	n	%	n	%	n	%	n	%	n	%	n	%
<i>Enterococcus faecalis</i>			2248	99	117	100	6233	74	8385	80		
<i>Enterococcus faecium</i>			541	9			1115	8	1551	10		
<i>Propionibacterium acnes</i>												
Coagulase Negative <i>Staphylococci</i>	3160	49	1271	1			1427	74			960	82
<i>Staphylococcus aureus</i> ~	11530	59					6296	66	4338	74	1866	96
MRSA	4974	0	1230	0			1833	35	1535	54	1154	93
MSSA	9055	100	2041	1			2667	83	1780	89	1589	96
<i>Staphylococcus epidermidis</i>	2932	32					1271	62	1490	60	572	87
<i>Staphylococcus lugdunensis</i>	257	89										
<i>Streptococcus pyogenes</i> (GAS)									245	97		
<i>Streptococcus agalactiae</i> (GBS)									796	97		
<i>Streptococcus anginosus</i> group									335	96		
<i>Streptococcus mitis</i>									113	84		
<i>Streptococcus pneumoniae</i>			165	83					418	98		
			2YD: 96	2YD: 91					2YD: 128	98		
									3YD: 90	100		
Non-Meningitis			211	97								
Meningitis			353	59								
			2YD: 158	2YD: 60								
Viridans group <i>Streptococci</i>			358	87					358	91		



All NYC 2023	Tetracyclines				Other							
	Tetracycline		Tigecycline		Clindamycin		Daptomycin		Erythromycin		Linezolid	
Gram Positive	n	%	n	%	n	%	n	%	n	%	n	%
<i>Enterococcus faecalis</i>	11144	20	1662	99			11886	98	1668	12	12570	99
<i>Enterococcus faecium</i>	2413	20	499	99			2096 2YD: 122 SDD: 876	72 2YD: 100 SDD: 90	499	5	2983 2YD: 122	98 2YD: 97
<i>Propionibacterium acnes</i>					117	85						
Coagulase Negative <i>Staphylococci</i>	3160	79			3160	58	2534	100	1427	32	2698	100
<i>Staphylococcus aureus</i> ~	11530	83	1866	100	11530	73	11530	100	6296	44	11530	100
MRSA	6740	68			6739	75	6501	100	2057	18	6620	100
MSSA	9102	92			9102	73	6948	100	3018	61	6948	100
<i>Staphylococcus epidermidis</i>	2901	80	852	100	2932	49	2021	99	1565	24	1770	100
<i>Staphylococcus lugdunensis</i>	257	93			257	74	257	100			257	100
<i>Streptococcus pyogenes</i> (GAS)					245	81			245	77		
<i>Streptococcus agalactiae</i> (GBS)					1459	51						
<i>Streptococcus anginosus</i> group					335	71			335	65		
<i>Streptococcus mitis</i>	71	66	70	92	113	76			113	28	71	100
<i>Streptococcus pneumoniae</i>	209	76			382	75			366	59		
Non-Meningitis												
Meningitis												
Viridans group <i>Streptococci</i>					358	89			358	62		



All NYC 2023	Other						Synergy				Urine Only	
	Rifampin		Trimethoprim-sulfamethoxazole		Vancomycin		Gentamicin		Streptomycin		Nitrofurantoin	
Gram Positive	n	%	n	%	n	%	n	%	n	%	n	%
<i>Enterococcus faecalis</i>	885	56			13228	93	11180	77	6198	86	10923	99
<i>Enterococcus faecium</i>	92	0			3035 2YD: 122	35 2YD: 39	2486	83	861	65	2650 2YD: 173	46 2YD: 55
<i>Propionibacterium acnes</i>												
Coagulase Negative <i>Staphylococci</i>	960	97	3160	69	3160	100						
<i>Staphylococcus aureus</i> ~	1866	99	11530	96	11530	100					6275	99
MRSA	1154	98	6740	93	6740	100	1359	94			1801	100
MSSA	1589	99	9102	99	9102	100	1908	97			2655	100
<i>Staphylococcus epidermidis</i>	572	97	2644	57	2932	100	269	73			769	100
<i>Staphylococcus lugdunensis</i>			257	99	257	100						
<i>Streptococcus pyogenes</i> (GAS)					245	100						
<i>Streptococcus agalactiae</i> (GBS)					1459	100						
<i>Streptococcus anginosus</i> group					334	99						
<i>Streptococcus mitis</i>					113	100						
<i>Streptococcus pneumoniae</i>			442 2YD: 96	78 2YD: 68	373 2YD: 141	97 2YD: 100						
Non-Meningitis												
Meningitis												
Viridans group <i>Streptococci</i>					358	89						

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Manhattan 2023	Quinolones				Aminoglycosides					
	Ciprofloxacin		Levofloxacin		Amikacin		Gentamicin		Tobramycin	
Gram Negative	n	%	n	%	n	%	n	%	n	%
<i>Acinetobacter baumannii</i>	127	66	209 2YD: 96	58 2YD: 58	207 2YD: 52	54 2YD: 75	335 2YD: 88	60 2YD: 66	209 2YD: 52	66 2YD: 75
<i>Bacteroides fragilis</i>										
<i>Citrobacter freundii</i>	162	87	308 2YD: 97	89 2YD: 90	308 2YD: 97	77 2YD: 98	308 2YD: 97	92 2YD: 92	267 2YD: 63	91 2YD: 93
<i>Citrobacter koseri</i>	238	95	238	98	238	70	238	99	128	100
<i>Enterobacter cloacae</i>	715	86	1249	92	1249	86	1249	96	877	95
<i>Escherichia coli</i> !	4635	70	13081	72	12714	82	13081	86	12999	86
Non-ESBL	2999	76	2999	79	2999	100	2999	88		
ESBL	839	16	839	24	839	96	839	74		
<i>Klebsiella aerogenes</i>	218	92	383 2YD: 239	95 2YD: 98	383 2YD: 239	76 2YD: 100	383 2YD: 239	97 2YD: 99	334 2YD: 121	97 2YD: 100
<i>Klebsiella oxytoca</i>	323	90	586 2YD: 129	95 2YD: 100	586 2YD: 129	80 2YD: 100	586 2YD: 129	93 2YD: 98	482 2YD: 85	93 2YD: 100
<i>Klebsiella pneumoniae</i> !	1610	78	4132	86	4043	79	4132	90	4084	88
Non-ESBL	1082	90	1082	94	1082	100	1082	99		
ESBL	479	11	479	39	479	89	479	68		
<i>Morganella morganii</i>	279	70	485 2YD: 110	70 2YD: 77	485 2YD: 110	82 2YD: 100	485 2YD: 110	86 2YD: 91	384	90
<i>Proteus mirabilis</i>	1642	74	2777	78	2734	85	2777	88	1925	90
<i>Pseudomonas aeruginosa</i> \$	2386	80	3980	75	3517	95	3517	85	2758	79
<i>Serratia marcescens</i>	411	87	669	92	669 2YD: 93	84 2YD: 99	669 2YD: 93	97 2YD: 94	464 2YD: 93	86 2YD: 88
<i>Stenotrophomonas maltophilia</i>			541 2YD: 167	88 2YD: 89						



Manhattan 2023	Tetracyclines						Other					
	Minocycline		Tetracycline		Tigecycline		Clindamycin		Metronidazole		Trimethoprim-sulfamethoxazole	
Gram Negative	n	%	n	%	n	%	n	%	n	%	n	%
<i>Acinetobacter baumannii</i>	241	62									335 2YD: 88	53 2YD: 66
<i>Bacteroides fragilis</i>							94	59	94	100		
<i>Citrobacter freundii</i>			159	81							308 2YD: 97	78 2YD: 84
<i>Citrobacter koseri</i>											238	95
<i>Enterobacter cloacae</i>			522	83							1249	82
<i>Escherichia coli</i> !			8204	62	3293	100					13081	64
Non-ESBL											2999	67
ESBL											839	37
<i>Klebsiella aerogenes</i>			212	90							383 2YD: 239	96 2YD: 97
<i>Klebsiella oxytoca</i>			303	92							586 2YD: 129	88 2YD: 91
<i>Klebsiella pneumoniae</i> !			2560	71	1127	98					4132	74
Non-ESBL											1082	90
ESBL											479	21
<i>Morganella morganii</i>			235	22							485 2YD: 110	66 2YD: 77
<i>Proteus mirabilis</i>											2777	77
<i>Pseudomonas aeruginosa</i> \$												
<i>Serratia marcescens</i>			290	17							669 2YD: 93	97 2YD: 95
<i>Stenotrophomonas maltophilia</i>	249	99									598 2YD: 124	96 2YD: 99



Manhattan 2023	Urine Only			
	Fosfomycin		Nitrofurantoin	
Gram Negative	n	%	n	%
<i>Acinetobacter baumannii</i>				
<i>Bacteroides fragilis</i>				
<i>Citrobacter freundii</i>			228 2YD: 97	96 2YD: 94
<i>Citrobacter koseri</i>				
<i>Enterobacter cloacae</i>			1064	31
<i>Escherichia coli</i> !	5278	94	13081	98
Non-ESBL			2999	98
ESBL			839	93
<i>Klebsiella aerogenes</i>			187	30
<i>Klebsiella oxytoca</i>			482	92
<i>Klebsiella pneumoniae</i> !			4084	50
Non-ESBL			1082	50
ESBL				
<i>Morganella morganii</i>				
<i>Proteus mirabilis</i>				
<i>Pseudomonas aeruginosa</i> \$				
<i>Serratia marcescens</i>				
<i>Stenotrophomonas maltophilia</i>				



Manhattan 2023	Beta-lactams								Quinolones			
	Ampicillin		Ceftriaxone		Oxacillin		Penicillin G		Ciprofloxacin		Levofloxacin	
Gram Positive	n	%	n	%	n	%	n	%	n	%	n	%
<i>Enterococcus faecalis</i>	4364	99					879	99	939	83	2550	84
<i>Enterococcus faecium</i>	1580 2YD: 122	11 2YD: 15									568	5
<i>Staphylococcus aureus</i> ~					5924	58			1460	71	3763	74
MRSA					1815	0					1201	57
MSSA					3788	100					1295	91
<i>Staphylococcus epidermidis</i>					1545	30					1007	59
<i>Streptococcus mitis</i>			96	97							96	84
<i>Streptococcus pneumoniae</i>							2YD: 96	2YD: 91			248 2YD: 128 3YD: 90	98 2YD: 98 3YD: 100
Non-Meningitis			248	97								
Meningitis			248	82			136 2YD: 158	52 2YD: 60				

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Manhattan 2023	Other		Synergy		Urine Only	
	Vancomycin		Gentamicin		Nitrofurantoin	
Gram Positive	n	%	n	%	n	%
<i>Enterococcus faecalis</i>	4364	94	3288	77	4331	99
<i>Enterococcus faecium</i>	1580 2YD: 122	33 2YD: 39	1187	85	1524 2YD: 173	47 2YD: 55
<i>Staphylococcus aureus</i> ~	5924	100				
MRSA	2913	100	1098	95		
MSSA	3788	100	1588	97		
<i>Staphylococcus epidermidis</i>	1545	100	269	73		
<i>Streptococcus mitis</i>	96	100				
<i>Streptococcus pneumoniae</i>	151 2YD: 141	100 2YD: 100				
Non-Meningitis						
Meningitis						



Brooklyn 2023	Beta-lactams											
	Ampicillin		Aztreonam		Cefazolin		Cefepime		Cefoxitin		Ceftazidime	
	n	%	n	%	n	%	n	%	n	%	n	%
Gram Negative												
<i>Acinetobacter baumannii</i> #							157	49				
<i>Enterobacter cloacae</i>			234	78			234	88				
<i>Escherichia coli</i> !	3813	47	3813	85	3813	76	3813	85				
Non-ESBL	2630	51	2630	98	2630	91	2630	99				
ESBL												
<i>Klebsiella aerogenes</i>			118	83			118	95				
<i>Klebsiella pneumoniae</i> !			1365	77	1365	66	1365	77				
Non-ESBL			597	98	597	92	597	99				
<i>Morganella morganii</i>			155	80			155	96	155	81		
<i>Proteus mirabilis</i>			955	77	955	65	955	75	832	98	843	84
<i>Pseudomonas aeruginosa</i> \$	955	65	1099	75			1099	84			1026	85



Brooklyn 2023	Beta-lactams						Inhibitor Combinations			
	Ceftriaxone		Ertapenem		Meropenem		Ampicillin-Sulbactam		Piperacillin-Tazobactam	
Gram Negative	n	%	n	%	n	%	n	%	n	%
<i>Acinetobacter baumannii</i> #	157	42			157	49	157	63		
<i>Enterobacter cloacae</i>	234	71			234	97			234	79
<i>Escherichia coli</i> !	3813	84			3813	99	3813	56	3813	96
Non-ESBL	2630	99	2630	100	2630	100	2630	61	2630	98
ESBL			477	98	477	99				
<i>Klebsiella aerogenes</i>	118	75			118	100			118	88
<i>Klebsiella pneumoniae</i> !	1365	76			1365	95	1365	66	1365	89
Non-ESBL	597	99	597	100	597	100	597	84	597	96
<i>Morganella morganii</i>	155	76			155	99			155	97
<i>Proteus mirabilis</i>	955	75	653	99	955	99	955	84	955	99
<i>Pseudomonas aeruginosa</i> \$					1099	84			1099	84



Brooklyn 2023	Quinolones				Aminoglycosides					
	Ciprofloxacin		Levofloxacin		Amikacin		Gentamicin		Tobramycin	
Gram Negative	n	%	n	%	n	%	n	%	n	%
<i>Acinetobacter baumannii</i> #			157	49	155	55	157	66	157	76
<i>Enterobacter cloacae</i>	130	87	234	94	234	75	234	96	206	96
<i>Escherichia coli</i> !			3813	73	3813	66	3813	86	3813	86
Non-ESBL	2630	76	2630	81	2630	99	2630	90		
ESBL	477	17	477	23	477	98	477	74		
<i>Klebsiella aerogenes</i>			118	94	118	73	118	96	118	92
<i>Klebsiella pneumoniae</i> !			1365	85	1365	69	1365	91	1365	85
Non-ESBL	597	91	597	94	597	99	597	99		
<i>Morganella morganii</i>			155	76	155	76	155	87		
<i>Proteus mirabilis</i>	528	69	955	69	955	75	955	88	852	86
<i>Pseudomonas aeruginosa</i> \$	664	77	1099	76	1095	95	804	84	853	74



Brooklyn 2023	Tetracycline		Other		Urine Only	
	Tetracycline		Trimethoprim-sulfamethoxazole		Nitrofurantoin	
	n	%	n	%	n	%
Gram Negative						
<i>Acinetobacter baumannii</i> #			157	56		
<i>Enterobacter cloacae</i>	206	86	234	86		
<i>Escherichia coli</i> !	3813	63	3813	69		
Non-ESBL			2630	71	2630	98
ESBL			477	38	477	90
<i>Klebsiella aerogenes</i>	118	87	118	92		
<i>Klebsiella pneumoniae</i> !	1365	69	1365	76		
Non-ESBL			597	92	597	60
<i>Morganella morganii</i>			155	67		
<i>Proteus mirabilis</i>			955	71		
<i>Pseudomonas aeruginosa</i> \$						



Brooklyn 2023	Beta-lactams								Tetracyclines		Other	
	Ampicillin		Ceftriaxone		Oxacillin		Penicillin G		Tetracycline		Clindamycin	
Gram Positive	n	%	n	%	n	%	n	%	n	%	n	%
<i>Enterococcus faecalis</i>	1798	99					576	99	1337	20		
<i>Enterococcus faecium</i>	324	16					160	11	199	16		
<i>Staphylococcus aureus</i> ~												
MRSA									712	70	712	69
MSSA					696	100	560	2	696	93	696	71
<i>Streptococcus pneumoniae</i>												
Non-Meningitis			42	100								
Meningitis			42	94			61	62				

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Brooklyn 2023	Synergy		Urine Only	
	Gentamicin		Nitrofurantoin	
Gram Positive	n	%	n	%
<i>Enterococcus faecalis</i>	1119	76	964	98
<i>Enterococcus faecium</i>				
<i>Staphylococcus aureus</i> ~				
MRSA				
MSSA				
<i>Streptococcus pneumoniae</i>				
Non-Meningitis				
Meningitis				

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Queens 2023	Quinolones				Aminoglycosides						Tetracyclines	
	Ciprofloxacin		Levofloxacin		Amikacin		Gentamicin		Tobramycin		Tigecycline	
Gram Negative	n	%	n	%	n	%	n	%	n	%	n	%
<i>Acinetobacter baumannii</i> ?	162	53	254	41	263	57	268	56	229	56		
<i>Citrobacter koseri</i>	264	98	248	99			264	98				
<i>Enterobacter cloacae</i>	578	90	686	93	265	97	721	97	564	96	564	99
<i>Escherichia coli</i> !	9198	67	11442	70			11442	86	11442	82	11442	100
Non-ESBL	4479	77	2964	78	3641	100	4479	90				
ESBL	791	21	528	22	791	97	791	75				
<i>Klebsiella oxytoca</i> &	212	87	212	95			212	91				
<i>Klebsiella pneumoniae</i> !	2380	78	3149	85			3149	92	3149	87	3149	98
Non-ESBL	968	94	701	95	807	99	968	99				
ESBL	165	36	129	56	165	93	165	67				
<i>Morganella morganii</i>	272	71	340	71			361	87	306	87		
<i>Proteus mirabilis</i>	2132	73	2401	70	1060	98	2595	87	1912	82		
<i>Providencia stuartii</i>			129	23								
<i>Pseudomonas aeruginosa</i> \$	2087	82	2415	76	869 U: 1601	97 U: 96	819	87				
<i>Serratia marcescens</i>	227	83	329	81			349	91	296	61	295	100
<i>Stenotrophomonas maltophilia</i>			253	89								



Queens 2023	Other		Urine Only	
	Trimethoprim-sulfamethoxazole		Nitrofurantoin	
Gram Negative	n	%	n	%
<i>Acinetobacter baumannii</i> ?	268	49		
<i>Citrobacter koseri</i>	264	99	264	82
<i>Enterobacter cloacae</i>	721	87	643	51
<i>Escherichia coli</i> !	11442	66	11442	98
Non-ESBL	4479	68	4440	97
ESBL	791	38	765	91
<i>Klebsiella oxytoca</i> &	212	88		
<i>Klebsiella pneumoniae</i> !	3149	78	3130	58
Non-ESBL	968	93	914	44
ESBL	165	26	165	31
<i>Morganella morganii</i>	361	68		
<i>Proteus mirabilis</i>	2595	75		
<i>Providencia stuartii</i>	129	75		
<i>Pseudomonas aeruginosa</i> \$				
<i>Serratia marcescens</i>	349	98		
<i>Stenotrophomonas maltophilia</i>	253	94		



Queens 2023	Beta-lactams									
	Ampicillin		Cefazolin		Ceftriaxone		Oxacillin		Penicillin G	
	n	%	n	%	n	%	n	%	n	%
Gram Positive										
<i>Enterococcus faecalis</i>	4222	100								
<i>Enterococcus faecium</i>	649	14								
Coagulase Negative <i>Staphylococci</i>			1029	53			1454	51		
<i>Staphylococcus aureus</i> ~			2929	62			2929	62		
MRSA			1092	0			1659	0		
MSSA			1837	100			3041	100		
<i>Staphylococcus epidermidis</i>			530	37			824	36		
<i>Streptococcus pneumoniae</i>										
Non-Meningitis					118	85				
Meningitis					118	92			118	60

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Pediatrics 2023	Beta-lactams											
	Ampicillin		Aztreonam		Cefazolin		Cefepime		Cefoxitin		Ceftazidime	
	n	%	n	%	n	%	n	%	n	%	n	%
Gram Negative												
<i>Enterobacter cloacae</i>			60	82			113	85				
<i>Escherichia coli</i> !	2022	38	2325	90	2022	78	2325	91	2071	98	1486	91
<i>Klebsiella oxytoca</i>			64	89	64	22	64	95	64	96	64	92
<i>Klebsiella pneumoniae</i> !			414	84	370	71	414	88	321	96	314	83
<i>Proteus mirabilis</i>	189	73	189	93	189	84	189	97	189	98	101	95
<i>Pseudomonas aeruginosa</i> \$			410	83			442	89			442	91
<i>Serratia marcescens</i>			102	65			144	91			69	48



Pediatrics 2023	Beta-lactams						Inhibitor Combinations			
	Ceftriaxone		Ertapenem		Meropenem		Ampicillin-Sulbactam		Piperacillin-Tazobactam	
	n	%	n	%	n	%	n	%	n	%
Gram Negative										
<i>Enterobacter cloacae</i>	60	73			113	98			82	84
<i>Escherichia coli</i> !	2325	90	2081	100	2325	100	2325	50	1486	97
<i>Klebsiella oxytoca</i>	64	90			64	100	64	78	64	96
<i>Klebsiella pneumoniae</i> !	414	84	355	99	414	99	414	73	314	91
<i>Proteus mirabilis</i>	189	96			189	99	189	81	110	100
<i>Pseudomonas aeruginosa</i> \$					442	91			442	92
<i>Serratia marcescens</i>	102	60			144	99			76	57



Pediatrics 2023	Quinolones				Aminoglycosides					
	Ciprofloxacin		Levofloxacin		Amikacin		Gentamicin		Tobramycin	
	n	%	n	%	n	%	n	%	n	%
Gram Negative										
<i>Enterobacter cloacae</i>	60	95	113	96	82	72	113	96	113	96
<i>Escherichia coli</i> !	1165	78	2325	82	1486	87	2325	85	2243	85
<i>Klebsiella oxytoca</i>			64	96	64	76	64	93	64	93
<i>Klebsiella pneumoniae</i> !	207	81	414	88	314	87	414	92	366	92
<i>Proteus mirabilis</i>	104	92	189	92	110	84	189	88	189	89
<i>Pseudomonas aeruginosa</i> \$	279	80	442	78	238	95	238	80	242	72
<i>Serratia marcescens</i>	102	76	144	89	111	75	144	88	109	70



Pediatrics 2023	Tetracyclines				Sulfonamide		Urines Only	
	Tigecycline		Tetracycline		Trimethoprim-sulfamethoxazole		Nitrofurantoin	
	n	%	n	%	n	%	n	%
Gram Negative								
<i>Enterobacter cloacae</i>	60	100	82	90	113	85	113	33
<i>Escherichia coli</i> !	1386	100	1232	63	2325	63	2325	98
<i>Klebsiella oxytoca</i>			64	92	64	92	64	90
<i>Klebsiella pneumoniae</i> !	203	98	221	77	414	78	347	59
<i>Proteus mirabilis</i>					189	87		
<i>Pseudomonas aeruginosa</i> \$								
<i>Serratia marcescens</i>			76	16	144	99		



Pediatrics 2023	Beta-lactams						Quinolones				Aminoglycosides	
	Ampicillin		Ceftriaxone		Oxacillin		Ciprofloxacin		Levofloxacin		Gentamicin	
Gram Positive	n	%	n	%	n	%	n	%	n	%	n	%
<i>Enterococcus faecalis</i>	483	99					206	92	450	97		
<i>Staphylococcus aureus</i> ~					1745	64	775	80	1071	81	319	96
MRSA					541	0						
MSSA					1140	100						
<i>Staphylococcus epidermidis</i>					348	30	178	78	195	71	73	64
<i>Streptococcus pneumoniae</i>									90	99		
Non-Meningitis			90	97								
Meningitis			90	83								

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Pediatrics 2023	Other		Synergy		Urine Only	
	Vancomycin		Gentamicin		Nitrofurantoin	
Gram Positive	n	%	n	%	n	%
<i>Enterococcus faecalis</i>	483	100	415	84	450	99
<i>Staphylococcus aureus</i> ~	1745	100			775	100
MRSA	628	100				
MSSA	1187	100				
<i>Staphylococcus epidermidis</i>	348	100				
<i>Streptococcus pneumoniae</i>						
Non-Meningitis						
Meningitis						



ED 2023	Beta-lactams											
	Ampicillin		Aztreonam		Cefazolin		Cefepime		Cefoxitin		Ceftazidime	
Gram Negative	n	%	n	%	n	%	n	%	n	%	n	%
<i>Acinetobacter baumannii</i>					56	0	89	79			89	90
<i>Citrobacter koseri</i>			200	97	200	69	184	98	184	97	118	97
<i>Enterobacter cloacae</i>			424	77			459	91			290	79
<i>Escherichia coli</i> !	11239	44	11895	85	11239	77	11895	86	11133	97	6629	89
Non-ESBL	6720	49	6720	99	6720	90	6720	99	4215	98	5828	100
ESBL	997	0	997	6	997	0	997	2	547	59	810	3
<i>Klebsiella aerogenes</i>			169	88			180	95				
<i>Klebsiella oxytoca</i>			148	93	148	17	148	94	148	95		
<i>Klebsiella pneumoniae</i> !			2730	81	2615	75	2730	82	2585	93	1461	87
Non-ESBL	1152	0	1435	99	1435	94	1168	100	885	98	1046	99
ESBL	198	0	162	13	198	0	198	3	162	5	164	2
<i>Morganella morganii</i>			255	86			255	97	231	89	143	85
<i>Proteus mirabilis</i>	2465	72	2539	88	2465	79	2539	86	2131	96	1496	95
<i>Pseudomonas aeruginosa</i> \$			1567	81			1648	90			1648	90
<i>Serratia marcescens</i>			119	84	75	0	119	96	70	0	91	71



ED 2023	Beta-lactams									
	Ceftriaxone		Cefuroxime		Ertapenem		Imipenem		Meropenem	
Gram Negative	n	%	n	%	n	%	n	%	n	%
<i>Acinetobacter baumannii</i>	85	37					52	80	75	84
<i>Citrobacter koseri</i>	200	98					117	99	184	99
<i>Eneterobacter cloacae</i>	459	72			334	94	225	95	424	98
<i>Escherichia coli</i> !	11895	85	3603	82	8758	100	8146	100	11895	100
Non-ESBL	6720	99			4207	100			5205	100
ESBL	997	0			794	98			949	99
<i>Klebsiella aerogenes</i>	169	80			114	99	165	92	180	99
<i>Klebsiella oxytoca</i>	148	88					140	100	148	100
<i>Klebsiella pneumoniae</i> !	2730	81	909	78	1936	96	2023	95	2730	97
Non-ESBL	1435	99			976	99			1168	100
ESBL	198	0			215	91			249	92
<i>Morganella morganii</i>	255	85			161	100			234	100
<i>Proteus mirabilis</i>	2539	88	521	80	1739	100			2345	100
<i>Pseudomonas aeruginosa</i> \$							903	84	1581	90
<i>Serratia marcescens</i>	119	79							99	100



ED 2023	Inhibitor Combinations				Quinolones				Aminoglycosides			
	Ampicillin-Sulbactam		Piperacillin-Tazobactam		Ciprofloxacin		Levofloxacin		Amikacin		Gentamicin	
Gram Negative	n	%	n	%	n	%	n	%	n	%	n	%
<i>Acinetobacter baumannii</i>	85	84	84	80	85	81			88	72	89	81
<i>Citrobacter koseri</i>	200	95	152	89	200	97	184	99	152	72	200	99
<i>Enterobacter cloacae</i>			283 SDD: 141	82 SDD: 84	445	87	424	93	283	72	459	96
<i>Escherichia coli</i> !	11895	56	6629 SDD: 5266	96 SDD: 95	8403	68	11895	72	6629	66	11895	87
Non-ESBL	6720	58	6720	98	6720	79	5205	82	6720	100	6720	89
ESBL	997	27	997	66	1212	19	949	23	1212	98	1212	73
<i>Klebsiella aerogenes</i>			77 SDD: 103	85 SDD: 91	169	93	180	98	77	38	180	99
<i>Klebsiella oxytoca</i>	148	77			148	93	148	96			148	96
<i>Klebsiella pneumoniae</i> !	2730	72	1461 SDD: 1269	95 SDD: 88	2063	75	2730	85	1461	59	2730	90
Non-ESBL	1435	86	1435	97	1435	93	1168	95	1435	100	1435	99
ESBL	162	6	198	40	285	21	249	43	285	96	285	64
<i>Morganella morganii</i>	255	12	179	97	232	73	234	75	179	70	255	88
<i>Proteus mirabilis</i>	2539	87	1797 SDD: 742	98 SDD: 97	2158	76	2345	77	1797	81	2539	90
<i>Pseudomonas aeruginosa</i> \$			1579	90	1449	81	1581	78	1101 U: 516	96 U: 96	941	87
<i>Serratia marcescens</i>	65	0	85	77	103	93	99	93	91	50	119	100



ED 2023	Aminoglycosides		Tetracyclines				Other		Urine Only			
	Tobramycin		Tetracycline		Tigecycline		Trimethoprim-sulfamethoxazole		Fosfomycin		Nitrofurantoin	
Gram Negative	n	%	n	%	n	%	n	%	n	%	n	%
<i>Acinetobacter baumannii</i>	51	82	75	80			89	75				
<i>Citrobacter koseri</i>	104	97	102	93	104	96	200	99			200	81
<i>Enterobacter cloacae</i>	245	96	150	84	245	100	459	85			395	41
<i>Escherichia coli</i> !	11895	84	5867	64	9059	100	11895	67	1608	94	11895	98
Non-ESBL							6720	68			6720	98
ESBL							1212	38			1212	91
<i>Klebsiella aerogenes</i>	180	99	77	90	167	100	180	98			169	46
<i>Klebsiella oxytoca</i>	148	93			148	100	148	92			148	91
<i>Klebsiella pneumoniae</i> !	2730	87	1316	76	2178	99	2730	77			2730	54
Non-ESBL							1435	91			1435	50
ESBL							285	17			285	34
<i>Morganella morganii</i>	172	87	96	13			255	67				
<i>Proteus mirabilis</i>	1582	87					2539	77				
<i>Pseudomonas aeruginosa</i> \$	514	53										
<i>Serratia marcescens</i>	99	69	71	12	96	100	119	100			89	0



ED 2023	Beta-lactams									
	Ampicillin		Cefazolin		Ceftriaxone		Oxacillin		Penicillin G	
Gram Positive	n	%	n	%	n	%	n	%	n	%
<i>Enterococcus faecalis</i>	3856	100							682	100
<i>Enterococcus faecium</i>	342	15								
Coagulase Negative <i>Staphylococci</i>			359	57			1188	53	904	1
<i>Staphylococcus aureus</i> ~			1006	59			2683	57		
MRSA			468	0			1501	0	650	0
MSSA			729	100			2296	100	1034	1
<i>Staphylococcus epidermidis</i>			254	73			524	41		
<i>Streptococcus agalactiae</i> (GBS)										
<i>Streptococcus pneumoniae</i>									33	32
Non-Meningitis					106	86			45	97
Meningitis					106	87			60	54

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ED 2023	Synergy				Urine Only	
	Gentamicin		Streptomycin		Nitrofurantoin	
Gram Positive	n	%	n	%	n	%
<i>Enterococcus faecalis</i>	3069	77	1630	85	2714	99
<i>Enterococcus faecium</i>	255	78	109	69	272	31
Coagulase Negative <i>Staphylococci</i>						
<i>Staphylococcus aureus</i> ~					1735	100
MRSA					387	100
MSSA					590	99
<i>Staphylococcus epidermidis</i>						
<i>Streptococcus agalactiae</i> (GBS)						
<i>Streptococcus pneumoniae</i>						
Non-Meningitis						
Meningitis						