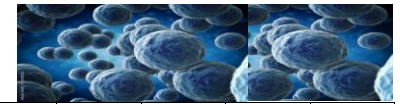


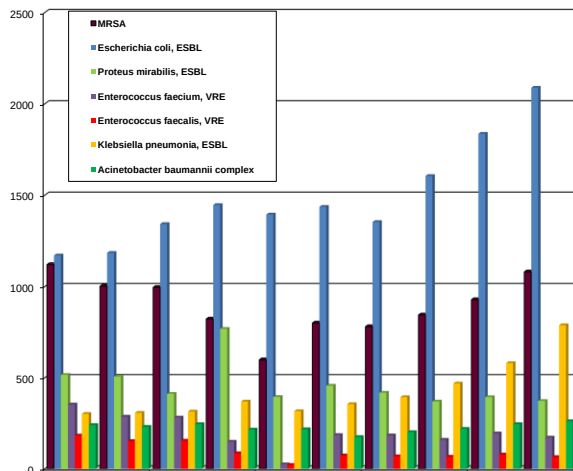


2025 MASTR MDRO* & Antimicrobial Susceptibility Test Report for the year 2024 ~33,500 beds		Number of occurrences in 2024		Ampicillin/Sulfabactam		Ampicillin		Amoxacillin/Clavulanate		Piperacillin/Tazobactam		Aztreonam		Amikacin		Gentamicin		Tobramycin		Cefazolin		Cefotetan		Ceftriaxone ²		Ceftazidime ²		Ceftoxime ²		Cefepime		Ciprofloxacin		Levofloxacin		Nitrofurantoin (for urines only)		Ertapenem		Meropenem		Minocycline		Trimethoprim/sulfamet		Tetracycline ³	
GRAM NEGATIVE isolates - except urine		A/S	AM	AUG	P/T	AZT	AK	GM	TO	CFZ	CTN	CAX ²	CAZ ²	CFT ²	CPE	CP	LVX	FD	ETP	MER	MIN	T/S	TE ³																								
Acinetobacter baumannii cplx	130	47	56	-	-	-	-	-	0	-	62	66	51	53	62	55	-	-	0	0	15	22	38	34	12	15	20	29	12	21	18	26	-	-	0	-	26	48	78	85	54	50	21	-			
Enterobacter cloacae	59	0	0	0	0	0	78	75	71	75	100	100	92	96	90	96	0	0	0	0	64	72	69	77	68	74	90	89	90	89	97	92	-	-	85	91	100	100	92	85	80	92	86	7			
Escherichia coli	172	55	57	48	50	80	84	94	94	98	98	99	100	89	85	91	88	87	87	98	97	96	95	99	98	98	98	98	99	75	68	76	68	-	-	98	99	98	99	90	83	72	62	73	6		
Escherichia coli ESBL	69	30	31	0	0	75	63	97	89	0	0	99	100	67	69	59	51	-	-	100	95	0	0	0	0	0	0	0	0	12	10	12	12	-	-	100	94	100	99	94	90	49	38	41	4		
Klebsiella pneumonia ESBL	64	9	9	0	0	38	35	83	59	0	0	95	92	61	77	47	58	0	0	89	88	0	0	0	0	0	0	0	0	30	38	55	58	-	-	84	68	91	89	61	76	11	21	36	4		
Klebsiella pneumonia	88	73	78	0	0	83	86	92	90	93	94	95	98	93	94	91	91	88	90	95	96	93	92	94	95	94	96	95	97	86	90	88	95	-	-	93	96	97	97	73	86	89	87	67	8		
Morganella morganii	51	10	9	0	0	0	98	95	80	70	100	100	69	92	90	92	0	0	98	98	71	72	73	70	78	75	94	100	43	50	61	56	-	-	98	98	98	100	22	38	51	56	0	0			
Pseudomonas aeruginosa	657	-	-	-	-	-	92	94	77	76	98	-	89	-	95	95	-	-	-	-	-	-	-	83	86	0	-	86	86	87	83	86	85	-	-	-	-	93	94	-	-	-	-	-	-		
Proteus mirabilis	381	88	83	79	76	97	95	99	99	92	94	100	99	92	89	93	90	90	88	99	99	99	99	99	99	99	99	99	49	52	67	65	-	-	99	99	99	100	12	16	78	76	0	0			
Proteus mirabilis ESBL	60	68	67	0	0	93	94	100	91	0	0	98	94	73	72	75	69	0	0	97	100	0	0	0	0	0	0	0	0	8	10	22	25	-	-	95	100	98	100	25	24	62	61	0	0		
Providencia stuartii	53	28	17	0	0	0	94	88	75	75	94	96	0	0	0	0	0	0	94	98	62	67	60	56	77	71	81	73	26	25	36	35	-	-	96	100	100	100	0	6	77	85	0	0			
Serratia marcescens	36	0	0	0	0	0	86	69	81	67	100	96	100	98	92	89	0	0	0	0	72	53	81	62	78	67	100	98	97	93	97	93	-	-	97	100	100	100	97	98	100	100	25	1			
Numbers with the yellow background represent 2024 non-urine susceptibilities																								Numbers with the green and white background represent 2023 non-urine susceptibilities																							
GRAM NEGATIVE isolates - URINE ONLY		A/S	AM	AUG	P/T	AZT	AK	GM	TO	CFZ	CTN	CAX ²	CAZ ²	CFT ²	CPE	CP	LVX	FD	ETP	MER	MIN	T/S	TE ³																								
A. baumannii cmplx	131	48	53	-	-	-	-	-	66	66	57	49	63	56	0	0	0	0	29	23	48	39	25	19	37	34	28	24	31	26	-	-	-	-	37	49	76	76	49	52	28	2					
Citrobacter amalonaticus ⁴	12	58	38	8	8	67	59	92	100	58	62	100	100	100	100	8	8	100	100	33	56	92	100	92	85	92	95	100	95	100	97	8	15	100	100	100	100	92	90	92	87	92	9				
Citrobacter freundii	262	0	0	0	0	0	95	95	76	79	99	100	93	93	93	93	0	0	0	63	72	68	75	74	78	96	98	90	88	93	91	91	91	98	100	99	100	79	84	86	87	77	7				
Citrobacter freundii complex	206	0	0	0	0	0	95	94	68	72	100	100	95	94	98	96	0	0	0	54	58	76	79	69	70	93	87	85	74	89	75	78	77	99	99	99	100	77	84	83	79	77	7				
Citrobacter koseri	126	93	93	0	0	96	93	98	97	96	95	100	98	100	98	98	96	94	98	98	95	95	96	95	96	95	97	95	93	89	94	91	83	62	98	98	99	99	95	95	94	95	93	9			
Enterobacter cloacae	454	0	0	0	0	0	72	72	60	62	99	100	100	93	94	90	91	0	0	49	52	60	61	58	58	86	86	87	88	93	92	28	23	78	87	99	100	79	82	80	81	75	7				
Escherichia coli ¹	579	67	66	60	59	87	87	98	98	99	99	99	99	92	93	94	94	91	91	99	99	98	98	99	99	99	99	99	99	74	73	75	75	95	94	99	99	99	99	87	87	77	79	73	7		
Escherichia coli ESBL	2019	34	32	0	0	66	68	93	93	0	0	99	98	67	68	60	62	0	0	98	98	0	0	0	0	0	0	0	0	13	14	14	14	86	86	98	99	99	99	83	85	44	46	36	4		
Klebsiella aerogenes	204	0	0	0	0	0	82	83	75	70	100	99	97	95	99	98	0	0	0	58	51	68	64	69	64	89	82	86	86	90	87	32	33	95	97	98	98	85	83	85	82	81	7				
Klebsiella oxytoca	366	77	77	0	0	90	91	93	93	95	97	100	99	99	99	99	99	62	68	99	99	93	96	99	99	99	99	99	99	99	97	98	97	95	92	99	99	99	99	93	93	95	94	89	8		
Klebsiella oxytoca ESBL	57	11	10	0	0	44	41	75	83	0	0	100	100	47	49	46	37	0	0	96	100	0	0	0	0	0	0	0	0	65	68	77	80	70	90	95	98	100	100	72	83	32	24	26	3		
Klebsiella pneumonia	2252	88	87	0	0	95	96	97	97	98	99	99	99	99	99	98	98	96	97	98	99	97	98	98	99	98	99	98	99	95	96	97	97	65	61	98	99	99	99	87	87	93	93	85	8		
Klebsiella pneumonia ESBL	724	10	12	0	0	40	44	80	81	0	0	97	96	66	67	48	49	0	0	94	96	0	0	0	0	0	0	0	0	38	37	58	57	43	39	86	87	92	93	74	77	17	17	38	3		
Morganella morganii	409	14	13	0	0	0	97	95	71	73	99	99	88	88	95	94	0	0	99	98	69	69	69	70	73	76	93	96	57	65	65	0	0	99	99	99	99	99	91	39	64	64	0	0			
Pseudomonas aeruginosa	1663	-	-	-	-	-	97	97	86	85	98	98	-	-	98	98	-	-	-	-	-	-	93	92	-	-	93	92	90	89	91	89	-	-	0	-	96	97	-	-	-	-	-	-			
Proteus mirabilis	3720	90	88	82	79	97	96	99	99	93	97	99	99	89	89	90	90	91	90	99	99	99	99	98	99	99	99	99	58	56	71	69	0	0	99	99	99	99	11	14	81	80	0	0			
Proteus mirabilis ESBL	372	76	72	0	0	89	88	97	97	0	0	95	97	76	73	76	75	0	0	98	98	0	0	0	0	0	0	0	0	14	15	25	27	0	0	99	98	99	100	23	25	61	57	0	0		
Providencia rettgeri	98	59	49	0	0	0	90	81	52	49	100	100	99	99	98	100	0	0	100	99	95	84	44	45	96	90	97	97	92	89	96	89	0	0	98	100	100	100	16	20	92	91	0	0			
Providencia stuartii ⁵	558	31	29	0	0	0	94	92	83	81	98	99	0	0	0	0	0	0	96	96	71	70	59	60	84	80	84	84	14	14	22	23	0	0	97	98	99	99	2	3	88	89	0	0			
Proteus vulgaris	111	71	81	0	0	89	90	100	99	70	70	100	100	97	97	97	98	-	-	99	99	32	44	95	94	63	71	91	94	84	87	88	90	0	0	99	100	99	100	57	63	89	94	0	0		
Serratia marcescens	75	0	0	0	0	-	80	74	73	74	99	100	99	100	93	91	0	0	0	68	60	69	68	68	63	97	97	91	87	96	99	0	0	99	99	100	100	88	88	97	99	23	1				
Numbers with the yellow background represent 2024 urine susceptibilities																								Numbers with the green and white background represent 2023 urine susceptibilities																							
¹ Fosfomycin may be considered for treatment of certain Escherichia coli urinary tract infections.																																															
² Enterobacter, Klebsiella aerogenes, Citrobacter, Morganella and Serratia may develop resistance during prolonged therapy, therefore isolates may become resistant within 3 to 4 days after initiation of therapy. Repeat testing may be warranted, if indicated.																																															
³ Organisms that are susceptible to Tetracycline are also considered Susceptible to doxycycline and minocycline. However those that are Intermediate or Resistant to Tetracycline may be Susceptible to doxycycline, minocycline or both.																																															
⁴ Note that susceptibility patterns for organism quantities less than 30 are not considered ideal for these calculations, thus are noted in gray.																																															
⁵ Providencia stuartii should be considered resistant to gentamicin, netilmicin, and tobramycin, but not intrinsically resistant to amikacin.																																															
As stated by the Centers for Disease control, "For epidemiologic purposes, MDROs are defined as microorganisms, predominantly bacteria, that are resistant to one or more classes of antimicrobial agents."																																															
Each row indicates an organism, categorized gram positive or gram negative, quantity isolated, and the percent susceptible to the antimicrobial (columns-see the legend on top).																																															
REMARKS: The contents of this report may be used as a benchmark. The data includes NICL Laboratories client base for the given time period.																								NICL Laboratories Version 2.3 February 2025 All Rights Reserved																							
																								Gradimir B. Vuckovic, M.D., Medical Director 847 509-9779																							

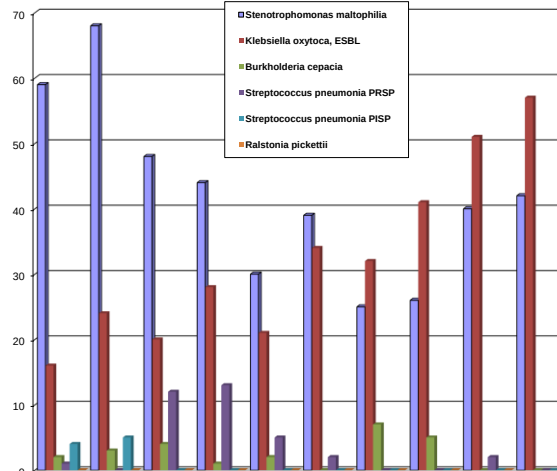


2025 MASTR MDRO* & Antimicrobial Susceptibility Test Report for the year 2024 ~33,500 beds	Number of occurrences in 2024	Ampicillin/Sulfactam	Ampicillin	Amoxacillin/Clavulanate	Oxacillin	Penicillin ⁸	Gentamicin ⁵	Daptomycin ⁶	Erythromycin	Clindamycin	Ceftriaxone	Ciprofloxacin	Levofloxacin	Nitrofurantoin (for urines only)	Linezolid	Rifampin ¹	Streptomycin Synergy	Synercid	Trimethoprim/sulfamet	Tetracycline ¹⁰	Vancomycin																				
GRAM POSITIVE isolates- ALL except urine		A/S	AM	AUG	OX	P	GM	DAP	E	CD	CAX	CP	LVX	FD	LZD	RIF	STS	SYN	T/S	TE ¹⁰	VA																				
Enterococcus faecalis	161	--	--	100	100	--	--	--	100	100	--	20	24	0	--	0	--	--	0	--	16	26	100	100																	
Enterococcus faecalis VRE ¹	14	--	--	100	100	--	--	--	100	100	7	0	0	--	0	--	7	19	7	19	--	7	5	0	0																
Enterococcus faecium VRE ¹	20	--	--	0	0	--	--	--	0	0	--	90	100	0	0	--	0	0	0	--	5	17	0	0																	
MRSA ²	799	0	0	0	0	0	0	0	93	94	99	99	10	10	42	43	0	0	6	6	7	--	99	99																	
Staphylococcus aureus	97	99	99	0	0	99	99	99	99	0	<1	96	96	100	99	44	49	62	62	99	99	58	55	59	57	--	--	100	99	99	99	--	--	100	100	96	99	85	88	100	99
Streptococcus pneumonia ^{1,3}		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--																	
Streptococcus agalactiae-GpB	379	--	--	--	--	--	--	98	100	--	--	100	100	--	--	--	--	--	--	--	--	--	92	99																	
Numbers with the pinkbackground represent 2024 susceptibilities																						Numbers with the green and white background represent 2023 susceptibilities																			
GRAM POSITIVE isolates- URINES ONLY		A/S	AM	AUG	OX	P	GM	DAP	E	CD	CAX	CP	LVX	FD	LZD	RIF	STS	SYN	T/S	TE ¹⁰	VA																				
Enterococcus faecalis ⁴	844	--	--	100	99	--	--	--	100	99	--	--	0	--	0	--	58	65	61	69	99	99	99	99	99	64	61	91	91	--	--	0	--	21	23	99	99				
Enterococcus faecalis VRE	50	--	--	96	95	--	--	--	96	95	--	--	96	100	--	--	0	--	8	9	8	7	100	95	96	100	82	77	62	68	--	--	0	--	12	9	0	0			
Enterococcus faecium	88	--	--	35	24	--	--	--	32	23	--	--	88	93	--	--	0	--	0	--	25	10	32	19	80	72	100	98	17	12	74	63	--	--	0	--	32	28	100	100	
Enterococcus faecium VRE	151	--	--	3	<1	--	--	--	3	<1	--	--	91	98	--	--	0	--	0	--	0	<1	0	<1	83	73	99	100	3	2	44	54	--	--	0	--	5	5	0	0	
Staphylococcus aureus	102	100	100	0	0	100	100	100	100	<1%	0	99	99	100	99	67	--	67	--	98	100	35	43	38	43	100	99	100	99	100	98	--	--	100	99	91	100	78	86	100	100
MRSA	281	0	0	0	0	0	0	0	0	93	93	100	100	50	--	83	--	0	--	5	2	5	2	99	99	99	100	99	99	--	--	99	100	80	83	69	63	100	100		
Staphylococcus epidermidis	27	20	35	0	0	44	35	44	35	15	8	96	88	100	100	--	--	--	44	35	63	38	63	40	100	98	100	100	98	--	--	100	98	70	67	78	84	100	100		
Streptococcus agalactiae-GpB	94	--	--	--	--	--	--	--	100	100	--	--	--	100	100	--	--	--	--	--	--	--	96	92																	
Numbers with the pink background represent 2024 urine susceptibilities																						Numbers with the green and white background represent 2023 susceptibilities																			
¹ Note that susceptibility patterns for organism quantities less than 30 are not considered ideal for these calculations, thus are noted in gray.																																									
² Ceftaroline may be used only for treatment of certain cases of <i>Staphylococcus aureus</i> or <i>MRSA</i> skin and soft tissue infections.																																									
³ The susceptibility percentages do NOT include the breakpoint value adjustments for meningitis.																																									
⁴ Fosfomycin may be considered for treatment of certain <i>Enterococcus faecalis</i> urinary tract infections.																																									
⁵ Gentamicin should not be used as a single agent for treatment of <i>MRSA</i> or <i>Staphylococcus aureus</i> , that are susceptible.																																									
⁶ Daptomycin should not be used for isolates from the respiratory tract.																																									
⁷ Rifampin should not be used alone for antimicrobial therapy for <i>Staphylococcus</i> species.																																									
⁸ Penicillin susceptible staphylococci are also susceptible to other beta-lactam agents with established efficacy for staphylococcus infections. Methicillin (oxacillin) resistant staphylococcus are resistant to all currently available beta-lactam agents with the exception of ceftaroline.																																									
⁹ Ampicillin susceptibility should be used to predict amoxicillin activity; amoxicillin-clavulanate, ampicillin-sulfactam, and piperacillin/taxobactam in non beta-lactam producing enterococc; and can be used to predict imipenem susceptibility in <i>Enterococcus faecalis</i> .																																									
¹⁰ Organisms that are susceptible to Tetracycline are also considered susceptible to doxycycline and minocycline. However, those that are intermediate or resistant to Tetracycline may be susceptible to doxycycline, minocycline or both.																																									
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Frequency of occurrence - high incidence MDROs



Frequency of occurrence - low incidence MDROs



NICL Laboratories

306 Era Drive
Northbrook, IL 60062
847 509-9779www.nicl.com

Break the chain of infection. Practice proper hand hygiene.