MercyOne Siouxland Antibiogram January through December 2022
Data-% Susceptible

Antimicrobial Agent / Gram Negative Bacilli	Number of isolates tested	β-Lactams				Cephalosporins				Carbapenems		Aminoglycosides		FQs				% MDR[2]	
		Ampicillin	Amoxicillin-k Clavulanate	Ampicillin-Sulbactam	Piperacillin-Tazobactam	Cefazolin	Ceftazidime	Ceftriaxone	Cefepime	Ertapenem	Meropenem	Gentamycin	Tobramycin	Ciprofloxacin	Levofloxacin	Trimethoprim-Sulfamethoxazole	Nitrofurantoin[1]	ESBL[3]	CRE[4]
Antibiotic abbreviation		Am	Aug	A/S	P/T	Cfz	Caz	Cax	Cpe	Etp	Mer	Gm	To	Cp	Lvx	T/S	Fd		
E. coli	1313	54	89	62	99	84	89	88	90	99	100	92	91	73	77	75	97 (1140)	10 (134)	
Enterobacter cloacae	155	R	R	R	90	R	83	73	92	94	99	99	94	89	94	91	25 (55)		0.6 (1:KPC)
Klebsiella (Enterobacter) aerogenes	41	R	R	R	80↓	R	71	66	95	95	100	98	100	93	95	95	24 (21)		
Klebsiella pneumoniae	327	R	96	85	98	91	91	91	91	99	99	96	95	85	94	86	52 (246)	9 (29)	0.3 (1:NDM)
Klebsiella oxytoca	89↓	R	85	66	91	35	91	85	91	100	100	96	94	91	96	91	96 (48)	9 (8)	
Proteus mirabilis	258	77	94	91	100	86	93	92	93	99	100	93	92	59	62	73	R	7 (17)	
Citrobacter freundii	51↑	R	R	R	96	R	76	75	100	100	100	94	96	92	94↑	86	97 (31)		
Morganella morganii	50↓	R	R	*	94	R	84	86	98	100	100	80	88	66	66	65	R		
Serratia marcescens	47	R	R	R	87	R	68	73	100	100	100	100	94	81	89	100	R		
Providencia spp.	45	R	18↑	56↑	96	R	78	93	96	96	96	64↑	67↑	67↑	67↑	73	R		4.4 (2:IMP)
Acinetobacter baumannii	35	R	R	97	*	*	100	100↑	97	R	97	100	97	100	100	89			
Pseudomonas aeruginosa	338	R	R	R	98	*	95	R	91	R	92	91	99	81	77	R			
Stenotrophomonas maltophilia	28	R	R	R	R	*	*	R	*	R	R	R	R	*	82	96			

Enterobacterales: *E. coli*, *Enterobacter cloacae*, *Klebsiella (Enterobacter) aerogenes*, *Klebsiella pneumoniae*, *Klebsiella oxytoca*, *Proteus mirabilis*, *Citrobacter freundii*, *Morganella morganii*, *Serratia marcescens*, *Providencia spp.*

Non-Enterobacter: *Acinetobacter baumannii*, *Pseudomonas aeruginosa*, *Stenotrophomonas maltophilia*

NOTE: Asterisk (*) indicates drug not tested or drug not indicated; **R** indicates intrinsic resistance; FQs=fluoroquinolones; ↓ or ↑ indicates >10% change from previous year. Cell color indicates level of susceptibility: RED ≤60%, YELLOW 61-80%, GREEN ≥81%

The percent susceptible (%S) for each organism/antimicrobial combination was generated by including the first isolate of the organism encountered on a given patient per reporting period per CLSI guidelines. Microscan broth microdilution MIC method for antimicrobial susceptability testing was performed at Dunes Laboratory.

Haemophilus influenzae isolates with a Kirby-Bauer susceptibility tested 100% susceptible to Ceftriaxone and Ciprofloxacin. Forty Haemophilus influenzae isolates from blood, resipratory and other sterile sources were tested for β-lactamase; 62.5% susceptible to Ampicillin overall, 15 tested β-lactamase positive.

[1] Nitrofurantoin results are only reported on urinary isolates. The number of isolates tested are in parenthesis.

[2] The last two columns reflect the percentage of isolates showing a multiple drug resistant strain (MDR). The number of isolates are in parenthesis.

[3] Overall percentage and number of isolates in parenthesis showing Extended Spectrum Beta Lactamase production.

[4] Overall percentage and number of isolates in parenthesis meeting the definition Carbapenemase Producing (CP)- Carbapenem Resistant Enterobacterales (CRE): An isolate from the Enterobactererales group that is intermediate or resistant to one or more third generation cephalosporin and at least one carbapenem. Suspect CP-CRE isolates were sent to Iowa State Hygienic Laboratory for carbapenamase confirmation.

MercyOne Siouxland Antibiogram January through December 2022

Data-% Susceptible

Antimicrobial Agent / Gram Positive Cocci	Number of isolates tested	β-Lactams					Cephalosporins			Carba	FQs		Others							Nitrofurantoin[1]	Inducible Clindamycin Resistance[2]
Antibiotic abbreviation		Amoxicillin/k Clavulanate (Aug)	Ampicillin (Am)	Oxacillin (Ox)	Penicillin (P)	Piperacillin/ Tazobactam (P/T)	Cefazolin (Cfz)	Ceftriaxone (Cax)	Ceftaroline (Cpt)	Meropenem (Mer)	Ciprofloxacin (Cp)	Levofloxacin (Lvx)	Tetracyline (Te)	Vancomycin (Va)	Clindamycin (Cd)	Erythromycin (E)	Daptomycin (Dap)	Linezolid (Lzd)	Trimethoprim-Sulfamethoxazole (T/S)	(Fd)	(Icd)
Enterococcus faecalis	469↓	*	99	*	99	*	R	R	R	*	77	81		100	R		99	99	R	99 (289)	*
Enterococcus faecalis (VRE)	14↓	*	100	*	100↑	*	R	R	R	*	*	*		0	R		93	100↑	R	80↓ (5)	*
Enterococcus faecium	59↑	*	34	*	31	*	R	R	R	*	17↓	20↓		100	R		78	98	R	49 (41)	*
Enterococcus faecium (VRE)	52↓	*	0	*	0	*	R	R	R	*	0	0		0	R		83	98	R	57↓ (30)	*
Staphylococcus aureus (MSSA)	435	100	0	100	0	98	99	99	100	100	87	89	94	100	80	68	99	100	99	100 (44)	12 (52)
Staphylococcus aureus (MRSA)	339↓	0	0	0	0	*	0	0	99	0	25	26	94	100	60	9	100	100	93	98 (55)	9 (29)
Staphylococcus lugdunensis	38	100	0	100	0	100	100	100	*	100	92	95	92	100	70↓	67	100	100	100	100 (8)	5 (2)
Staphylococcus epidermidis	370↑	34	0	34	0	100	34	33	*	32	58	58	77	100	60	28	100	99	53	100 (86)	4 (15)
Streptococcus pneumoniae [3]	34↑	97	*	*	97	*	*	100	*	94	*	100	77	100	90	58↑	*	*	74↑		*

NOTE: Asterisk (*) indicates drug not tested or drug not indicated; **R** indicates intrinsic resistance; FQs = fluoroquinolones; ↓ or ↑ indicates ≥10% change from previous year.

Cell color indicates level of susceptibility: RED <60%, YELLOW 61-80%, GREEN >81%

The percent susceptible (%S) for each organism/antimicrobial combination was generated by including the first isolate of the organism encountered on a given patient per reporting period per CLSI guidelines. Microscan broth microdilution MIC method for antimicrobial susceptability testing performed at Dunes Laboratory.

[1] Nitrofurantoin results are only reported on urinary isolates. The number of isolates tested are in parenthesis.

[2] The last column reflects the overall percentage and number of isolates in parenthesis showing inducible clindamycin resistance (Icd). The number of isolates are in parenthesis.

Beta hemolytic streptococci isolated from blood cultures tested for inducible clindamycin resistance: *Streptococcus pyogenes* (Group A Strep) 0 of 7 isolates (0%), *Streptococcus agalactia* (Group B Strep) 0 of 3 isolates (0%), Strep Group C 1 of 5 (20%) and Strep Group G 2 of 4 (50%) inducible clindamycin resistance.

For *Staphylococcus* spp.: clindamycin and erythromycin are reported for isolates from non-urine sources.

[3] *Streptococcus pnuemoniae*: Nine isolates were from blood sources; all were 100% susceptible to penicillin, ceftriaxone and cefotaxime.

*These statistics are intended solely as a GUIDE to choosing appropriate antibiotic therapy.
*The greater the number of organisms tested, the more valid (accurate) the percentages of susceptibility become. If less than 30 isolates are tested results may not be statistically valid.

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2022 Candida Isolates

MERCYONE

Candida spp. / Specimen Source	Number of isolates per source	C. albicans	C. glabrata	C. parapsilosis	C. dubliniensis	C. krusei	C. lusitaniae	C. tropicalis	Candida Species
Respiratory (Lower resp and bronch collections)	55↑	45	3	1	1	*	*	3	1
Urine (sterile/invasive collection/catheter)	57↑	26	15	4	1	2	2	2	4
Blood (blood culture and catheter tip)	5↓	1	2	1	*	*	1	*	*
Other (Tissue, Sterile fluid, Abscess)	21	11	4	*	1	*	*	2	2
Total number of isolates	138	83 (60%)	24 (17%)	6 (4.3%)	3 (12.2%)	1 (1.4%)	3 (2.2%)	7 (5.1%)	6 (4.3%)

NOTE: Number of isolates were generated using the first isolate reported per patient and source of collection in 2022. Arrow ↓ or ↑ indicates ≥10% change from previous year.

Candida auris **servaillance:** MercyOne Siouxland microbiology department follows the CDC algorithm to identifiy *Candida auris* based on the phenotypic identification method (API 20C) for *Candida* identification on isolates from blood, normally sterile body sites, invasive collection urines, lower respiratory collections. Any isolate that identifies as *Rhodotorula glutinis* (without characteristic red color present), *Candida sake* or *Candida* spp. using the API 20C method would be suspected as a possible *Candida auris* and is sent to the State Hygeinic Laboratory to confirm the identification.