

2014 Antibiogram for the University of Washington and Harborview Medical Centers

Organism - % susceptible	Maximum # of isolates tested		Cefazolin ^e		Ceftriaxone		Clindamycin		Erythromycin		Levofloxacin ^f		Moxifloxacin		Nitrofurantoin ^d		Oxacillin ^e		Penicillin		Tetracycline		Trimeth/sulfa		Vancomycin	
	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U
MSSA ⁱ	1173	963	100	100			88	77	70	58	88	88	87	89	93	75	100	100			94	94	97	98	100 ^g	100 ^g
MRSA (HMC 45%, UWMC 34%)	952	502	0	0			63	48	10	11	17	16	17	16	96	87	0	0			90	91	86	89	100 ^g	100 ^g
<i>Staphylococcus</i> , coagulase-negative	302	213					59	55	33	27	59	34	60	35			37	35			82	89	51	42	100 ^h	100 ^h
<i>Streptococcus pneumoniae</i> ^a	78	43			b	b	88	83	64	60	97	100	100	100					c	c					100	100

Blank cells = insufficient data or drug is not tested. H = HMC; U = UWMC; MSSA, methicillin-susceptible *S. aureus*; MRSA, methicillin-resistant *S. aureus*.

^a Penicillin or ceftriaxone may still be effective in patients with pneumonia (without meningitis) caused by *S. pneumoniae* with intermediate susceptibility.

^b *S. pneumoniae* vs ceftriaxone w/out meningitis : 95% susceptible and 5% resistant at HMC ; 100% susceptible at UWMC.

S. pneumoniae vs ceftriaxone w/ meningitis : 90% susceptible, 5% intermediate and 5% resistant at HMC ; 95% susceptible and 5% intermediate at UWMC.

^c *S. pneumoniae* vs penicillin w/out meningitis : 96% susceptible and 4% resistant at HMC ; 100% susceptible at UWMC.

S. pneumoniae vs penicillin w/ meningitis : 73% susceptible and 27% resistant at HMC ; 62% susceptible and 38% resistant at UWMC.

^d Indicated in urinary tract infections only.

^e Molecular testing for *mecA* is required for *Staphylococcus*, coagulase-negative isolates to be reported as methicillin-susceptible.

^f Current susceptibility methods may fail to detect single-step mutations conferring low-level levofloxacin resistance.

^g Less than 1% of *S. aureus* isolates were intermediate to vancomycin (VISA). At UWMC, n=5; at HMC, n=0.

^h Less than 1% of coagulase-negative staphylococcal isolates were intermediate to vancomycin. At UWMC, n=1; at HMC, n=0.

ⁱ Oxacillin, nafcillin and cefazolin possess superior potency *in vitro* compared to other beta-lactams and have been associated with better outcomes in patients with MSSA bacteremia.

Organism - % susceptible	Maximum # of isolates tested		Ampicillin		Daptomycin ^b		Doxycycline ^b		Erythromycin		High-Level Gentamicin		High-Level Streptomycin		Levofloxacin ^a		Linezolid ^b		Nitrofurantoin ^a		Synercid ^b		Penicillin		Tetracycline		Vancomycin	
	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U
<i>Enterococcus faecalis</i>	531	405	99	100					20	19	77	80	82	81	76	76			97	99			99	100	20	20	99	99
<i>Enterococcus faecium</i>	113	241	14	7	87	85	28	39	3	5	100	97	87	84	4	4	89	80	20	63	99	98	13	7	15	27	33	29

Blank cells = insufficient data or drug was not tested. H = HMC; U = UWMC.

^a Indicated in urinary tract infections only.

^b Daptomycin, doxycycline, linezolid and synercid are tested against VRE only.

Organism - % susceptible	Maximum # of isolates tested		Amikacin		Ampicillin		Amp/subactam		Aztreonam		Cefazolin		Cefepime ^a		Cefotetan		Ceftazidime		Ceftriaxone		Ciprofloxacin ^a		Doxycycline		Ertapenem		Gentamicin		Imipenem		Levofloxacin ^a		Meropenem		Minocycline		Moxifloxacin ^g		Nitrofurantoin ^c		Pip/tazo ^a		Ticar/clav		Tobramycin		Trimeth/sulfa	
	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U	H	U				
<i>Acinetobacter baumannii/calcoaceticus</i> complex ^{h, i}	122	42	87	86			51	58					81	82			57	79			51	85			0	0	77	78	84	98	54	95	65	90	66	98			52	93	49	93	85	83				
<i>Citrobacter freundii</i> complex ^b	74	75			0	0	66	67	77	71	0	0	100	100			76	69	74	71	91	95	62	72	100	100	91	99			95	95	100	100			68	85	88	96	85	91			88	77		
<i>Enterobacter aerogenes</i> ^b	65	52			0	0	43	56	82	88	0	0	100	100	78	88	80	88	78	88	98	100	84	94	98	98	100	100			98	100	100	100			97	100	88	81	78	92			92	100		
<i>Enterobacter cloacae</i> complex ^b	284	129			0	0	46	30	86	72	0	0	99	95	77	67	83	73	83	69	93	88	81	84	94	94	98	95			94	90	99	98			88	89	81	67	89	89			90	84		
<i>Escherichia coli</i>	1322	1473			47	49	59	59	93	89	72	65	98	96	99	97	94	90	90	85	73	66	71	70	100	99	89	87			73	66	100	100			71	68	98	96	98	97			67	67		
<i>Haemophilus influenzae</i> ^f		82					77																																						68			
<i>Klebsiella oxytoca</i>	127	104			0	0	57	60	91	89	24	17	99	99	100	100	97	100	90	89	91	89	91	80	100	99	97	94			93	92	100	99			89	78	100	99	91	86			94	82		
<i>Klebsiella pneumoniae</i>	331	425			0	0	86	82	97	91	88	83	99	97	99	99	97	92	93	90	93	84	84	78	99	99	93	93			95	87	99	99			87	84	85	84	99	96			85	81		
<i>Morganella morganii</i> ^{b, i}	73	32			0	0	29	34	96	97	0	0	99	100	99	96	93	78	92	84	64	75	0	0	100	100	64	81			78	75	100	100			50	45	0	0	93	94			53	63		
<i>Proteus mirabilis</i>	250	149			71	74	94	93	100	100	16	15	100	100	100	100	100	100	98	93	56	66	0	0	100	100	82	87			63	68	100	100			50	62	0	0	100	99			57	64		
<i>Pseudomonas aeruginosa</i> (non-CF)	451	434	99	97									92	87			91	85			76	71					95	89	79	84	76	70	83	80					85	77	45	39	96	93				
<i>Pseudomonas aeruginosa</i> (CF) ^e		992		52				51					43					58				36					40		36	35		52		17					57		39		67		53			
<i>Serratia marcescens</i> ^b	87	105			0	0	11	7	97	98	0	0	100	98	98	98	98	99	91	93	86	90			99	98	94	95			89	96	100	98					94	97			92	99				
<i>Stenotrophomonas maltophilia</i> (non-CF)	57	106															21	26											0	0	77			100	98	79	82					18		100	94			
<i>Stenotrophomonas maltophilia</i> (CF) ^d		111															21												0	30				97						33				74				

Blank cells = insufficient data or drug was not tested; H = HMC; U = UWMC; CF = isolates from patients with cystic fibrosis.

^a NOTE: Some organism/antibiotic combinations may exhibit dose-dependent susceptibility (e.g. cefepime, piperacillin-tazobactam and fluoroquinolones). Current CLSI interpretive breakpoints are not reflective of full susceptibility at all antibiotic dosages and therefore may not predict clinical efficacy. In these cases, the MIC should be used to guide appropriate therapy. See <http://web.labmed.washington.edu/tests/micro/antibiotics> for more information.

^b *Citrobacter freundii*, *Enterobacter* spp., *Hafnia alvei*, *Morganella* spp., *Providencia* spp. and *Serratia* spp. have an inducible beta-lactamase. Resistance to penicillins and 3rd generation cephalosporins may arise on therapy.

^c Indicated in urinary tract infections only.

^d Chloramphenicol was tested at UWMC with 28% of CF *S. maltophilia* isolates susceptible.

^e Colistin was tested at UWMC with 94% of CF *P. aeruginosa* isolates susceptible.

^f 14% (n=138) of *H. influenzae* at HMC were beta-lactamase positive; 21% (n=71) at UWMC were beta-lactamase positive. At UWMC 99% of isolates were susceptible to amoxicillin-clavulanate, 98% susceptible to cefuroxime, 95% susceptible to azithromycin and 98% susceptible to chloramphenicol.

^g No CLSI breakpoints are available for moxifloxacin, therefore EUCAST breakpoints for Enterobacteriaceae (<= 0.50 µg/mL susceptible and >= 2.0 µg/mL resistant) used to determine % susceptible.

^h Tigecycline was tested against *Acinetobacter baumannii/calcoaceticus* complex with 58% of HMC isolates and 51% of UWMC isolates exhibiting an MIC of <= 0.25 µg/mL.

ⁱ An insufficient number of isolates were speciated at the UWMC in 2014 to be statistically significant. Additional 2013 data were included in this analysis.