2016 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		Tetracyline		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 [g]	983	929	100	100			82	72	68	60	90	87	90	88	99	100	100	100			94	95	96	97	100	100
MRSA (HMC 49%, UWMC 31%)	934	416	0	0			55	49	12	9	14	18	14	18	100	100	0	0			91	89	83	89	100	100
Coagulase-negative *Staphylococcus*	246	227					56	58	34	42	62	45	60	45			38	41			83	87	35	47	100	100
Streptococcus pneumoniae [a]	94	34			b	b	91	97	68	76	100	100	100	100					c	c					100	100
Streptococcus pyogenes (Beta-hemolytic Strep Group A)	110				100		70[h]		71		100		100[i]						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 susceptiblity.

[b] *S. pneumoniae* vs ceftriaxone (w/out meningitis) : 98% susceptible and 2% intermediate at HMC; 100% susceptible at UWMC.

S. pneumoniae vs ceftriaxone (w/ meningitis) : 77% susceptible, 21% intermediate and 1% resistant at HMC ; 93% susceptible and 7% intermediate at UWMC.

[c] *S. pneumoniae* vs penicillin (w/out meningitis) : 96% susceptible, 2% intermediate, and 2% resistant at HMC; 100% susceptible UWMC.

S. pneumoniae vs penicillin (w/ meningitis) : 46% susceptible and 54% resistant at HMC ; 83% susceptible and 17% resistant at UWMC.

[d] Indicated in urinary tract infections only.

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

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

[g] 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.

[h] At HMC 27% of *Streptococcus pyogenes* (Group A) exhibited inducible clindamycin resistance.

[i] No CLSI breakpoints are available for moxifloxacin, therefore EUCAST breakpoints for Streptococcus Group A (≤0.50 µg/mL susceptible and ≥1.0 µg/mL resistant) were used to determine % susceptible.

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
Enterococcus faecalis	559	417	100	100					16	14	83	74	84	83	79	77			99	100			100	100	24	19	100	100
Enterococcus faecium	81	126	25	17	98	89	57	64	10	5	100	95	69	61	5	8	98	85	35	68	98	99	21	14	8	33	43	44

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.

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Organism (% susceptible)	Maximum # of isolates tested		Amikacin		Ampicillin		Amp/sulbactam		Aztreonam		Cefazolin		Cefepime [a]		Cefotetan		Ceftazidime		Ceftriaxone		Ciprofloxacin [a]		Doxycycline		Ertapenem		Gentamicin		Imipenem		Levofloxacin [a]		Meropenem		Minocycline		Moxifloxacin [g]		Nitrofurantoin [c]		Pip/tazo [a]		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	H	U
Acinetobacter baumannii/calcoaceticus complex [h]	120	34	87	100			70						76	100			70	100			67	100			0	0	81	88	83	100	67	100	79	100	80	100					64	91	86	88		
Citrobacter freundii complex [b]	76	74			0	0	75	62	87	73	0	0	99	99			89	69	84	68	88	95	73	80	99	100	91	93			92	96	100	100			64	75	96	96	96	82			83	76
Enterobacter aerogenes [b]	73	70			0	0	42	40	73	70	0	0	99	96	67	59	71	70	68	70	86	99	85	86	97	97	100	99			92	99	100	99			72	91	92	73	73	74			99	99
Enterobacter cloacae complex [b]	240	204			0	0	40	32	86	72	0	0	100	97	75	65	86	70	79	68	93	90	84	74	98	88	98	93			95	93	100	100			84	79	79	67	92	77			87	77
Escherichia coli	1541	1499			47	49	58	59	92	88	70	66	98	96	99	99	93	89	89	84	73	67	71	70	100	99	90	86			73	67	100	100			71	68	99	97	98	97			69	66
Haemophilus influenzae [f]		72				66														100											99						99								61
Klebsiella oxytoca	127	101			0	0	64	59	96	93	24	21	100	100	100	100	99	98	96	95	94	94	76	81	100	100	100	98			95	95	100	100			88	88	98	96	95	93			96	93
Klebsiella pneumoniae	407	427			0	0	85	79	93	91	84	79	98	95	99	100	92	92	92	89	91	89	83	73	99	99	93	92			93	93	100	99			88	79	92	86	98	94			88	76
Morganella morganii [b]	59	32			0	0	32	41	95	97	0	0	100	100	97	97	85	84	85	88	63	72	0	0	100	100	61	78			78	84	100	100			52	59	0	0	97	94			59	63
Proteus mirabilis	260	123			78	80	90	97	100	99	10	7	100	100	100	100	100	99	97	97	67	69	0	0	100	100	85	84			77	73	100	100			60	61	0	0	100	100			68	70
Pseudomonas aeruginosa (non-CF)	453	616	99	98									87	87			87	87			79	71					94	96	79	75	80	73	84	83							81	80	96	97		
Pseudomonas aeruginosa (CF) [e]		826		64						62				50				68				46						55		40		40		59		16		66				66		78		
Serratia marcescens [b]	76	99			0	0	7	13	99	94	0	0	100	100	99	98	99	95	93	88	91	92	41	32	100	99	97	91			95	94	100	98			82	70	0	0	97	98			97	98
Stenotrophomonas maltophilia (non-CF)	54	82															35	35											0	0				67	100	96	83	70							98	96
Stenotrophomonas maltophilia (CF) [d]		93																31												0				31		94									63

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 35% of CF *S. maltophilia* isolates susceptible.

[e] Colistin was tested at UWMC with 96% of CF *P. aeruginosa* isolates susceptible.

[f] At HMC 21% (n=201) of *H. influenzae* were beta-lactamase positive; at UWMC 32% (n=661) were beta-lactamase positive. At UWMC 100% of isolates were susceptible to amoxicillin-clavulanate, 93% susceptible to cefuroxime, 97% susceptible to azithromycin, and 96% 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) were used to determine % susceptible.

[h] Tigecycline was tested against *Acinetobacter baumannii/calcoaceticus* complex with 68% of HMC isolates and 97% of UWMC isolates exhibiting an MIC of ≤0.25mg/ml.