									ANTIE	BIOGR	XAM 2	022, \	WASH	IOE C	OUN	ΙΥ											
Organism		# Isolates identified	Ampicillin (Am)	Amoxicillin/clavulanate (Aug)	Ampicillin/sulbactam (A/S)	Benzylpenicillin (PenG)	Cefazolin (Cfz)	Ceftriaxone (Cax) (S. pneumo non-meningitis)	Ceftriaxone (Cax) (S. pneumo Meningitis)	Clindamycin (Cd)	Ciprofloxacin (Cp)	Ceftaroline (Cpt)	Daptomycin (Dap)	Erythromycin (E)	Gentamicin (Gm)	Gentamicin 500 (Gm 500)	Levofloxacin (Lvx)	Linezolid (Lzd)	Nitrofurantoin (Fd)	Oxacillin (Ox)	Penicillin-G (P) (S. pneumo non-meningitis)	Penicillin-G (P) (S. pneumo Meningitis)	Rifampin (R/F)	Streptomycin 2000 (ST2000)	Tetracycline (Te)	Trimethoprim/sulfa (T/S)	Vancomycin (Va)
	Enterococcus faecalis	1504	99%								77%		99%	27%		77%	84%	99%	99%		99%		50%	85%	22%		99%
	Entoropopula faccium	204	1504 22%								733 14%		1504 95%	135		947 98%	997 14%	1240 96%	1222 60%		1142 14%		2%	43%	1504 26%		1504 53%
-	Enterococcus raecium	204	204								71		204	25%		173	71	204	189		52		52	40	204		204
	Enterococcus species*	1708	90% 1708								804		99% 1708	25% 150		80% 1120	1068	98% 1444	94%		96% 1194		40% 634	492	1708		94% 1708
	Staphylococcus aureus	2476		66%	64%		77%	64%		77% 2368	68%	99%	99% 2476	52%	93%		75%	100%	98%	68%	20% 658		99%		87%	98%	100%
ם א מ	Stanhylococcus spn. Coag neg	410		45%	45%		59%	43%		65%	80%		99%	43%	890 88%		81%	99%	100%	49%	17%		98%		78%	74%	99%
פ <u>ו</u> ק פ		-10		273 46%	273 46%		121 46%	230		229 44%	273 72%		410 100%	229 24%	273 89%		410 76%	273 100%	181 98%	410 39%	273		273 98%		410 78%	410 58%	410 100%
	Staphylococcus epidermidis	577		140	140		140			553	209		508	553	209		140	532	532	577	140		140		577	577	557
	Staphylococcus lugdunensis	95					94% 36			<mark>85%</mark> 95			100% 95	<mark>84%</mark> 95			97% 36	100% 59		<mark>88%</mark> 95					96% 95	97% 95	100% 95
-	Streptococcus pneumoniae	118												84%							97%	79%				80%	98%
L	* Enterococcus faecalis and Enterococcus fa	aecium												118							118	118				51	118
	Organism	# Isolates identified	Ampicillin (Am)	Amikacin (Ak)	Amoxicillin/clavulanate (Au	Ampicillin/sulbactam (A/S)	Aztreonam (Azt)	Cefepime (Cpm)	Cefazolin (Cfz)	Cefuroxime (Crm)	Cefotaxime (Cft)	Cefotetan (Ctt)	Ceftazidime (Caz)	Ceftriaxone (Cax)	Cephalothin (Cf)	Ciprofloxacin (Cp)	Ertapenem (Etp)	Gentamicin (Gm)	Imipenem (Imp)	Levofloxacin (Lvx)	Meropenem (Mem)	Nitrofurantoin (Fd)	Piperacillin-tazobactam (P/I	Tetracycline (Te)	Tigecycline (TGC)	Tobramycin (To)	Trimethoprim/sulfa (T/S)
	Citrobacter freundii	39						96% 81						77% 39				95% 39					98% 39			98% 39	90% 39
	Klebsiella aerogenes	122											82%	77%		99%	98%	98%	59%		100%	29%	89%			98%	98%
	(formeny called Enterobacter aerogenes)	200		100%	8%	16%	89%	90%	4%		79%	34%	70	122 67%		95	92%	98%	95%	98%	97	35%	122 82%	94%	100%	97%	90%
	Enterobacter croacae	369	500/	122	134	134	134	279	134		68	134	291	369		315	188	369	90	92	345	280	369	68	66	369	369
Gram Negative	Escherichia coli	6406	59%	2130	4496	6406	92% 1549	4038	6406		1091		4393	5470		5367	3524	6406	1432	3001	4496	5186	98% 6406	1091	458	6406	6406
	Klebsiella oxytoca	272		100%	91%	75%	98%	96%	39% 185		100%	98%	98%	94%		97%	100%	96%	100%	100%	100%	86%	94% 272	88% 66	100%	96%	93%
	Klebsiella preumoniae	1192		100%	90%	79%	91%	87%	86%		87%	99%	91%	91%		90%	99%	97%	100%	98%	99%	43%	96%	77%	100%	95%	88%
		1102	74%	433	958	1062	369	829	1062		240	562 98%	869	1078		989	666	1182	249	464	958	959	1182	240	129	1182	1182
	Proteus mirabilis	505	307	136	399	505	176	307	399		84	228	396	456		453	238	505		190	399		505			505	505
	Pseudomonas aeruginosa	779		99% 284			80% 379	89% 597					92% 779			87% 627		89% 684	91% 152	91% 219	93% 692		94% 779			98% 779	
	Serratia marcescens	90			7%			95%				61%	64%	77%		96%	100%	100%			99%		89%			94%	99%
	Stenotrophomonas maltophilia	46			31							31	51% 33	90		10	) ) ) ) )	50		<mark>88%</mark> 46	90		30			30	100% 46

To read this antibiogram: 1) Each organism is presented in two rows. The top row represents number of isolates tested for that specific antibiotic. 2) Susceptibility greater than or equal to 90% is highlighted in light GREEN, 60%-89% in YELLOW, and less than 60% in RED. 3) Nitrofurantoin is tested for urine specimens only. 4) CLSI performance standards for antimicrobial susceptibility testing were applied. CLSI stands for Clinical and Laboratory Standards Institute (Formerly NCCLS, The National Committee for Clinical Laboratory Standards). 6) Black empty shaded cells indicate that susceptibility testing for that specific organism is not recommended or complete testing data was not available or number is too small for valid reporting.



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### MRSA

The rate of Methicillin-resistant Staphylococcus aureus (MRSA) decreased from 33.5% in 2021 to 32.0% in 2022. This decrease was not statistically significant ( $X^2 = 1.3605$ , P = 0.243457).

### VISA / VRSA

Vancomycin-intermediate resistant Staphylococcus aureus (VISA) or Vancomycin-resistant *Staphylococcus aureus* (VRSA) has not been

The rate of vancomycin-resistant enterococci (VRE) was 6.4% in 2022, which was not a statistically significant increase compared to 5.0% in (25.2%) one since 2002.

This antibiogram was compiled by the Division of Epidemiology & Public Health Preparedness (DEPHP), Northern VRE Nevada Public Health in collaboration with all five hospital laboratories in the DRSP community. Data covered all inpatients in local hospitals and outpatients seen at hospital emergency rooms. This antibiogram can be used as a reference for clinicians but shouldn't serve as a ESBLs & CRE basis for therapy. The antibiotic susceptibility test for individual patients is still encouraged, if needed. This antibiogram only represents antibiotic susceptibility in *vitro*. Please address your questions, comments, and/or suggestions **TO READERS** to DEPHP at 775-328-2447 or e-mail to EpiCenter@nnph.org. The online version can be accessed at https://tinyurl.com/NNPHAntibiogram.

found yet in Washoe County. Please report VISA or VRSA to Northern Nevada Public Health at 775-328-2447. Please also have your laboratory send the VISA/VRSA isolate for further confirmation at the Nevada State Public Health Laboratory. 2021 (X<sup>2</sup> = 2.937, P= 0.086572). The VRE rate in 2015 was the highest The rate of drug-resistant Streptococcus pneumoniae (DRSP) decreased from 2012 through 2018 in Washoe County. The Northern Nevada Public Health discontinued the surveillance system for Streptococcus pneumoniae in early 2019. The surveillance program data was used to create the antibiograms until this year (2019). As of the 2019 antibiogram, the antibiogram data reported by area hospitals is now used and rates to previous years will not be compared pre-2019 to post-2019. In 2021, the rate for PNSSP was 2.4%, while in 2022 it increased to 2.5%, although was not statistically significant. Strains of Klebsiella spp., Proteus mirabilis, and E. coli that produce extended-spectrum beta-lactamase (ESBLs) may be clinically resistant to therapy with penicillins, cephalosporins, or aztreonam, despite apparent *in vitro* susceptibility to some of these agents. ESBL screening data reported from three laboratories showed an average 5.3% of *E*. coli/Klebsiella spp./Proteus mirabilis produced ESBLs in 2022, which was not statistically significantly higher than 5.0% in 2021 (X2 = 0.5092, P=0.475471). The rate of carbapenem-resistant enterobacteriaceae (CRE) was 0.06% (4/6633) in 2022. It is important to note that the numerator was pulled from the active Carbapenem Resistant Organism (CRO) surveillance for 2022. This antibiogram was compiled by the Division of Epidemiology & Public Health Preparedness (DEPHP), Northern Nevada Public Health in collaboration with five hospital laboratories in the

community. Data covered all inpatients in local hospitals and outpatients seen at hospital emergency rooms. This antibiogram can be used as a reference for clinicians but shouldn't serve as a basis for therapy. The antibiotic susceptibility test for individual patients is still encouraged, if needed. This antibiogram only represents antibiotic susceptibility in vitro. Please address your questions, comments, and/or suggestions to DEPHP at **775-328-2447** or e-mail to EpiCenter@nnph.org.

## ANTIBIOTIC SUSCEPTIBILITY (%) TREND, 2018-2022, WASHOE COUNTY (Published MONTH 2024) M. morganii C. freundii E. coli 2018 (9962) 2019 (5521) 2019 (44) 2020 (6040) 2020 (31) 2021 (6331) P. mirabilis K. oxytoca E. aerogenes 2018 (220) 2018 (387) ■2019 (144) 2019 (356) **2020** (126) 2020 (309 2021 (127 K. pneumoniae E. cloacae S. marcescens 2018 (1891) 2018 (512) ■2019 (365 2019 (1203) 2020 (126 2020 (1116

To read these graphs: Each graph represents an organism; X-axis represents the abbreviation of an antibiotics); Y-axis represents susceptibility in percent; legends indicate each year and number of isolates identified for that year in parentheses.

### **IAJOR FINDINGS**

## NORTHERN NEVADA **Public Health** Serving Reno, Sparks & Washoe County

# **TO READERS**

# **ACKNOWLEDGEMENTS**

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