

ANTIBIOGRAM 2023, WASHOE COUNTY

Organism	# Isolates Identified	Amoxicillin/clavulanate (Aug)	Ampicillin (Am)	Ampicillin/sulbactam (AS)	Cefazolin (Cz)	Cefotaxime (Ct)**	Ceftriaxone (Ct)	Ceftriaxone (Cax)**	Ciprofloxacin (Cp)	Clindamycin (Cd)	Daptomycin (Dap)	Erythromycin (E)	Gentamicin (Gm)	Gentamicin 500 (Gm 500)	Levofloxacin (Lvx)	Linezolid (Lz)	Moxifloxacin (Mx)	Nitrofurantoin (F-d)	Oxacillin (Ox)	Penicillin-G (P)**	Quinupristin-dalfopristin (Syn)	Rifampin (Rf)	Streptomycin 2000 (ST2000)	Tetracycline (Te)	Trimethoprim/sulfa (T/S)	Vancomycin (Va)
		<i>Enterococcus faecalis</i>	1491	99%						77%	98%	28%		80%	88%	100%		100%		100%		100%		50%	89%	25%
<i>Enterococcus faecium</i>	181	15%						7%						92%	15%	97%		51%		10%			40%	19%		50%
<i>Enterococcus species*</i>	1685	91%						72%	97%	25%		82%	84%	99%		94%		97%		97%		49%	81%	25%		95%
<i>Staphylococcus aureus</i>	2566	62%	59%	76%		99%	59%	67%	77%	99%	51%	92%		74%	100%	82%	100%	64%	13%	99%	99%		84%	98%	100%	
<i>Staphylococcus spp. Coag neg</i>	259	54%	54%	53%			49%	84%	71%	98%	56%	93%		86%	100%	88%	100%	47%	12%	99%	99%		77%	74%	100%	
<i>Staphylococcus epidermidis</i>	613	59%	59%	59%				79%	46%	100%	38%	93%		78%	100%	100%	47%	10%		98%	98%		78%	64%	100%	
<i>Staphylococcus lugdunensis</i>	95			94%					90%	100%	93%			97%	100%			95%					96%	96%	100%	
<i>Streptococcus pneumoniae</i>	92					95%	95%					70%								95%	73%			79%	100%	

* Enterococcus faecalis and Enterococcus faecium ** Streptococcus pneumoniae: non-meningitis / Meningitis

Organism	# Isolates Identified	Amikacin (Ak)	Amoxicillin/clavulanate (Aug)	Ampicillin (Am)	Ampicillin/sulbactam (AS)	Aztreonam (Azi)	Cefazolin (Cz)	Cefepime (Cpm)	Cefotaxime (Ct)	Cefotetan (Ct)	Ceftazidime (Caz)	Ceftriaxone (Cax)	Ciprofloxacin (Cp)	Ertapenem (Etp)	Gentamicin (Gm)	Imipenem (Imp)	Levofloxacin (Lvx)	Meropenem (Mem)	Mincycline (Ml)	Nitrofurantoin (F-d)	Piperacillin-tazobactam (P/T)	Tetracycline (Te)	Tigecycline (TGC)	Tobramycin (To)	Trimethoprim/sulfa (T/S)
		<i>Citrobacter freundii</i>	120						93%				72%	72%	87%	100%	94%		89%	100%		96%	94%		
<i>Klebsiella aerogenes</i> (formerly called Enterobacter aerogenes)	129	100%					96%				65%	66%	96%	100%	100%	44%	93%	100%		30%	84%			100%	99%
<i>Enterobacter cloacae</i>	349	100%	4%	14%	87%		90%		31%	78%	65%	94%	91%	98%	73%	95%	100%	82%	30%	84%	78%	100%	98%	91%	
<i>Escherichia coli</i>	6840	99%	88%	57%	66%	91%	85%	90%	86%	99%	91%	90%	83%	99%	92%	99%	83%	99%	90%	98%	98%	74%	100%	92%	76%
<i>Klebsiella oxytoca</i>	369	100%	86%		74%	95%	47%	91%		100%	94%	87%	95%	100%	95%	99%	97%	100%	95%	88%	94%	92%	100%	95%	90%
<i>Klebsiella pneumoniae</i>	1340	100%	92%		90%	87%	89%	93%	99%	90%	89%	90%	99%	97%	99%	92%	100%	88%	47%	96%	82%	100%	95%	88%	
<i>Morganella morganii</i>	79				89%		98%			77%	79%	77%		88%		81%	100%			100%			98%	71%	
<i>Proteus mirabilis</i>	543	99%	91%	74%	83%	96%	78%	97%	98%	98%	94%	78%	100%	85%		79%	100%	4%		100%			88%	76%	
<i>Pseudomonas aeruginosa</i>	833	98%			79%		91%			92%		87%		88%	97%	84%	95%			92%			98%		
<i>Serratia marcescens</i>	110	100%			96%		53%	65%	70%	93%	100%	99%		94%	100%		87%			93%			93%	99%	
<i>Stenotrophomonas maltophilia</i>	45																79%							93%	

SUMMARY OF MAJOR FINDINGS

MRSA

The rate of Methicillin-resistant *Staphylococcus aureus* (MRSA) increased from 32.0% in 2022 to 36.2% in 2023. This increase was statistically significant ($X^2 = 9.7871, P = 0.001757$).

VISA / VRSA

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

VRE

The rate of Vancomycin-resistant *enterococci* (VRE) decreased to 5.1% in 2023 from 6.4% in 2022. This decrease was not statistically significant ($X^2 = 2.557, P = 0.109805$). Since 2002, the highest observed VRE rate occurred in 2015 (25.2%).

PNSSP

The rate of Penicillin-nonsusceptible *Streptococcus pneumoniae* (PNSSP) increased in 2023 to 4.6% from 2.5% in 2022. This change was not statistically significant ($X^2 = 0.523, P = 0.469582$).

ESBL

Strains of *Klebsiella spp.* and *Escherichia 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 two hospital laboratories showed an average 9.8% of *E. coli* and *Klebsiella spp.* produced ESBLs in 2023, which was not a statistically significant increase from 8.6% in 2022 ($X^2 = 2.7199, P = 0.099103$).

CRE

The rate of Carbapenem-resistant *Enterobacteriaceae* (CRE) was 0.14% (10/7379) in 2023, a statistically insignificant increase from 0.06% in 2022 ($X^2 = 1.9798, P = 0.15941$). It is important to note that the numerator was pulled from the active Carbapenem Resistant Organism (CRO) surveillance for 2023.



TO READERS

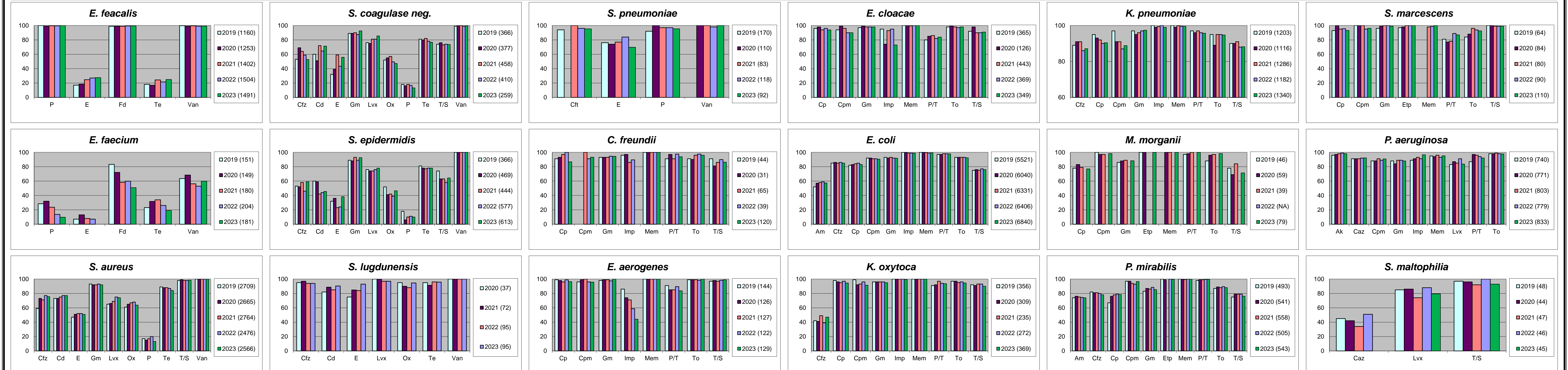
This antibiogram was compiled by the Division of Epidemiology & Public Health Preparedness (DEPHP), Northern Nevada Public Health in collaboration with all five hospital laboratories in the community. Data covered all inpatients in local hospitals and outpatients seen at hospital emergency rooms. This 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@nph.org. The online version can be accessed at <https://tinyurl.com/NNPHAntibiogram>.

ACKNOWLEDGEMENTS

Northern Nevada Medical Center Laboratory, Renown Regional Medical Center Laboratory, Saint Mary's Regional Medical Center Laboratory, Tahoe Forest Hospital District Laboratory, Veteran's Affairs Medical Center Laboratory (Reno)

To read this antibiogram: 1) Each organism is presented in two rows. The top row represents susceptibility in percent to that antibiotic. The 2nd 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.

ANTIBIOTIC SUSCEPTIBILITY (%) TREND, 2019-2023, WASHOE COUNTY (Published November 2024)



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