## ANTIMICROBIAL SUSCEPTIBILITY TESTING REPORT

### Organisms

- Acinetobacter Baumannii
- Enterococcus faecalis
- Enterococcus faecium
- Escherichia coli
- Klebsiella pneumoniae
- Klebsiella oxytoca
- Morganella morganii
- Pseudomonas aeruginosa
- Proteus mirabilis
- Serratia marcescens
- Staphylococcus aureus
- Staphylococcus epidermidis
- Staphylococcus saprophyticus
- Staphylococcus saprophyticus Oxa type
- Staphylococcus saprophyticus PG type
- Staphylococcus saprophyticus EP type
- Streptococcus pneumoniae
- Streptococcus pyogenes
- Stenotrophomonas maltophilia
- Enterobacter cloacae
- Enterobacter aerogenes
- Citrobacter freundii
- Morganella morganii
- Morganella morganii**
- Morganella morganii*  

### Antibiotics

- Ampicillin (Am)
- Ampicillin/sulbactam (A/S)
- Amikacin (Ak)
- Amoxicillin/clavulanate (Aug)
- Cefazolin (Cf)
- Ceftriaxone (Cax)
- Ceftazidime (Caz)
- Cefotaxime (Cft)
- Cefepime (Cpm)
- Cefotaxime (Cft) - Meningitis
- Cefotaxime (Cft) - Non-meningitis
- Clindamycin (Cd)
- Ciprofloxacin (Cp)
- Ceftriaxone (Cax)
- Gentamicin (Gm)
- Gentamicin 500 (Gm 500)
- Cefotaxime (Cft)
- Erythromycin (E)
- Ertapenem (Etp)
- Levofloxacin (Lvx)
- Meropenem (Mem)
- Moxifloxacin (Mxf)
- Oxacillin (Ox)
- Penicillin-G (P)
- Rifampin (R/F)
- Piperacillin-tazobactam (P/T)
- Streptomycin 2000 (ST2000)
- Trimethoprim/sulfa (T/S)
- Vancomycin (Va)
- Telithromycin (T)

### Resistance Rates

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### Acknowledgements

The online version is available at [www.trnpuf.com/WC/Antibiogram](http://www.trnpuf.com/WC/Antibiogram)

### Departmental Contact Information

- Washoe County Health District, Reno, NV
- Tel: 775.328.2447  Fax: 775.328.3764
- EpiCenter@WashoeCounty.us

### References

1. Each organism is presented in two rows. The top row represents susceptibility in percent to that antibiotic. The 2nd row represents the 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% is in RED. Susceptibility not reaching 100% is also labeled as 90%.
3. Nitrofurantoin is tested for urine specimens only.
4. The susceptibility result for Streptococcus pneumoniae is a combination of screening test and E-test results.
5. 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. Back 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 a valid reporting.

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### Notes

- This publication was supported by the Nevada Division of Public and Behavioral Health (NDPBH) through Grant Number 6 NU50CK000419-03-01 from the Centers for Disease Control and Prevention (CDC). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the NDPBH nor the CDC.

### References

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- Renown Regional Medical Center Laboratory
- Saint Mary's Regional Medical Center Laboratory
- Veteran's Affairs Medical Center Laboratory (Reno)

### Acknowledgements

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This antibiogram was compiled by the Division of Epidemiology & Public Health Preparedness (DEPHP), Washoe County Health District in collaboration with all four 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.

To address your questions, comments, and/or suggestions to DEPHP at 775-328-2447 or e-mail to EpiCenter@WashoeCounty.us.

To read graphs: Each graph represents an organism; X-axis represents the abbreviation of an antibiotic (see tables on the opposite page 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. 

Attention: The number of Morganella morganii was under 30 in 2013-2017. Therefore, the last available data for this organism are displayed here.

**SUMMARY OF MAJOR FINDINGS**

**MRSA**
The rate of Methicillin-resistant Staphylococcus aureus (MRSA) significantly increased from 30% in 2002 to 48% in 2007, a 37% increase from 2002 to 2007, which showed a statistical significance ($X^2$ = 145, P<0.001). The MRSA rate was 35% in 2017, which showed no statistically significant decrease compared to 39% in 2016 ($X^2$ = 5.334, P=0.0209).

**VRE / VRSA**
The rate of vancomycin-resistant Enterococcus (VRE) significantly increased from 8% in 2002 to 17% in 2007, which showed a statistical significance ($X^2$ = 56, P<0.001). The VRE rate was 14% in 2017, which did not show any statistically significant change compared to 15% in 2016 ($X^2$ = 1.266, P=0.2636). The VRE rate in 2015 was the highest (25%) since 2002.

**VRE**
The rate of vancomycin-resistant Enterococcus (VRE) decreased in the last few years, which showed a statistical significance ($X^2$ = 65, P<0.001) from 29% in 2002 to 23% in 2007, a 21% decrease, which did not show a statistical significance ($X^2$ = 5.562, P=0.234). The decrease might be associated with the introduction of pneumococcal conjugate vaccine in 2000.

**EBLLs & CRE**
*Streptococcus pneumoniae (S. pneumoniae)*, *Enterococcus faecalis* and *Pseudomonas aeruginosa* are among the most common nosocomial pathogens. The rates of these agents, including *S. pneumoniae* in 2017, were significantly reduced compared to 2016 ($X^2$ = 9.804, P=0.002). This rate has significantly increased since 2016 ($X^2$ = 6.177, P=0.0469). The VRE rate in 2015 was the highest (25.2%) since 2002.

**TO READERS**

This antibiogram was compiled by the Division of Epidemiology & Public Health Preparedness (DEPHP), Washoe County Health District in collaboration with all four 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@WashoeCounty.us.