

IN THIS ISSUE: 2017 Washoe County Community-Wide Antibioqram Now Available Online

2017 COMMUNITY-WIDE ANTI BIOGRAM NOW AVAILABLE ONLINE

Know the Local Data, Prevent Antimicrobial Resistance

What is an antibiogram?



According to the Clinical and Laboratory Standards Institute (CLSI), an “antibiogram” is an overall profile of antimicrobial susceptibility of a microbial species to a battery of antimicrobial agents.^[1]

Why do we need a community-wide antibiogram?

One of the 12 steps to prevent antimicrobial resistance in various healthcare settings recommended by the Centers for Disease Control and Prevention (CDC) is to encourage clinicians to use local data. Please refer to CDC’s website at www.cdc.gov/media/pressrel/r020326.htm for details.

How is a community-wide antibiogram compiled?

Local hospitals and some private laboratories produce annual antibiograms for their institutions only. Between 2002 and 2006, WCHD has compiled institution-based antibiograms and aggregated data to generate a community-wide antibiogram. Data were provided by clinical and private laboratories in Washoe County. The data were derived from the diagnostic laboratory tests among all inpatients in local hospitals and outpatients seen in private clinics where Quest or LabCorp were used. Since 2007, antibiogram data for private laboratories have been unavailable, therefore the antibiogram data since then has only covered inpatients in local hospitals and outpatients seen at local hospital emergency rooms. Data on outpatients tested at private laboratories are not covered in this antibiogram.

When is the community-wide antibiogram produced?

Because data are provided at different times by different organizations, the completion of the community-wide antibiogram prior to July of each year is unlikely.

Generally, the community-wide antibiogram is available between October and December each year depending on the timing of receipt of the final version of all institutional antibiograms.

Who should use this antibiogram?

This antibiogram can be used as a reference for clinicians, infection control practitioners, pharmacists, microbiologists, public health professionals, and other interested parties. For clinicians working in hospitals, the hospital-specific antibiogram prepared by the hospital infection control committee, microbiologists, pharmacists or Antibiotic Stewardship Program (ASP) is preferred, as antimicrobial resistance varies between different locales. For other health care professionals, a community-wide antibiogram may be preferred. Please refer to the Health District’s website at www.tinyurl.com/WCAntibiogram where different versions of the 2017 antibiogram are available.

Is this document useful?

The usefulness of the antibiogram was evaluated by WCHD. In 2005, survey forms along with the 2004 antibiograms were sent to 741 licensed physicians with valid mailing addresses in Washoe County. A total of 72 physicians responded to the survey; the overall rank was eight (8) on a scale of 1-10 (*10-the most useful, and 1-the least useful*). Sixty-two percent (62%) of respondents used either a community-wide antibiogram or institutionalized antibiogram in a hospital to modify their prescribing practices. The majority (92%) of respondents indicated a desire to receive an antibiogram every year from the Health District. Although no formal survey has been done in recent years, anecdotal feedback from the community partners highly commended the usefulness of this product. Local hospitals frequently refer this antibiogram to their partners. About one-third of respondents in the 2005 survey provided excellent suggestions, such as, making the document available in a

PDA format. Beginning with the 2006 antibiogram, different versions can be downloaded from the Health District's website for users' convenience.

How many are actually using community-wide antibiogram?

Due to the major web management system upgrade in Washoe County in early 2015, data on web visits for the 2015-2016 Antibiograms are not available. Based on the usage data collected for the 2012 antibiogram, there were 6,296 web visits within a year after publication online. The average number of visits was 525 per month, a 17% increase compared to the previous year. One web visit is counted if the visit comes from one IP address within 15 minutes regardless of the number of hits. Out of all visits, 5,881 visits (93%) were for the online format, 238 visits (4%) were for the pocket size format, and 177 visits (3%) were for the wall-chart format.

See the following descriptions of these three formats:

- ✓ **Online format** can be easily browsed on a device (e.g., computer, laptop, iPhone, Smart Phone, etc.) with internet access.



- ✓ **Pocket size** format is a colored copy on legal sized paper and can be folded into a pocket size (easy to carry).

- ✓ **Wall chart** format is a colored copy in a poster size (36"W x 26"H) and easy to read, but hard to carry. It's good for health care providers' use in the office.



What is included in the community-wide antibiogram?

- ◆ Antibiotic susceptibility (%) data for 18 commonly seen organisms.
- ◆ Graphic presentation of 2013-2017 antibiotic susceptibility (%) trend data in Washoe County.
- ◆ Summary of major findings on Methicillin-resistant *Staphylococcus aureus* (MRSA), Drug Resistant *Streptococcus Pneumoniae* (DRSP), Vancomycin-resistant *Enterococci* (VRE), Extended-spectrum beta-lactamase (ESBLs), and Carbapenem-resistant *enterobacteriaceae* (CRE).

What are major findings from 2016 to 2017 antibiogram?

GOOD OR NEUTRAL NEWS:

- ◆ MRSA rate decreased from 39% in 2016 to 35% in 2017. The decrease is statistically significant ($X^2=5.334$, $P=0.0209$).
- ◆ The rate for penicillin non-susceptible *streptococcus pneumoniae* (PNSSP, non-meningitis breakpoint) was stable around 4%, no significant change. The multiple drug (resistant to 2 or more antibiotics tested) resistance rate was stable at 11-12%, no significant change.
- ◆ VRE rate was 22.4% in 2017, not a statistically significant increase from 20.4% reported in 2016 ($X^2=1.255$, $P=0.2636$).
- ◆ Reported ESBL rate was 6.7%, not a statistically significant change from the rate at 7.2% in 2016.
- ◆ CRE rate was 0.48% (36/7453) in 2017. This is not comparable to previously published data as this is the first time to use a numerator pulled from the Carbapenem Resistant Organisms surveillance, which is more representative. The previous antibiograms use a meropenem resistance as a surrogate for CRE.
- ◆ The susceptibility of *Acinetobacter* to five antibiotics increased more than 10%.
- ◆ The susceptibility to ciprofloxacin for *Escherichia coli* has been stable at 80% ± 2% from 2009 through 2017.

CONCERNING NEWS:

- ◆ The overall susceptibility for *Citrobacter freundii* was worse than in previous years and the susceptibility to five antibiotics decreased 10% or more.

ATTENTION!

If you are a Washoe County healthcare provider, you are eligible (upon request) to receive the **Antibiogram 2017 Pocket Size** format at NO COST. Please email your request to EpiCenter@washoecounty.us and clearly indicate your name, medical group, and local mailing address. Please address your questions, comments, feedback, and recommendations on the Health District's website at www.tinyurl.com/WCAntibiogram.

Reference

[1] CLSI. *Analysis and Presentation of Cumulative Antimicrobial Susceptibility Test Data; Approved guideline-Fourth Edition*. CLSI document M39-A4. 2014.

Acknowledgement

(In alphabetic order)

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