

Danbury Hospital 2007 Cumulative Antibigram **Aarti Goswami, M.D., PGYI - Pathology**

Danbury Hospital Laboratory is pleased to announce the completion of the cumulative antibiogram for the year 2007. The cumulative antibiogram is an annually generated report that reflects the percentage of bacterial isolates that are susceptible to antimicrobial agents routinely tested in the Clinical Microbiology Laboratory. Antibiograms provide clinicians and public health officials with trends of antimicrobial susceptibility at the local, regional, and national levels. One of the primary aims of the antibiogram is to guide clinicians in the selection of empiric antimicrobial therapy for infections. It should be used as a general guide to empiric antimicrobial therapy only until specific antimicrobial susceptibility test results on a given patient's isolate become available.

Increasing bacterial antibiotic resistance is a current and worrisome problem throughout the world. Clinicians and local Infection Control personnel use antibiogram data to monitor resistance trends and design measures to control outbreaks of resistant species. Antibiograms help in developing quality improvement initiatives and forming infection control policies and procedures.

Additionally, the data can be used by the Pharmacy to identify the need for new antimicrobials for the formulary, determine when some antibiotics are no longer effective, and monitor prescribing patterns. This also encourages physicians to use less expensive but still effective agents and thus decreases pharmaceutical costs.

Data Presentation

- The culture susceptibility test reports on the bacterial isolates are stored in the primary data system (e.g. LIS or susceptibility testing instrument).
- The data is generated annually and then interpreted.
- The data reports only the percent susceptible and does not include percent intermediate in the statistics.

- The data is presented in separate subgroups in the report (e.g. gram positive vs. gram negative, inpatient vs. outpatient, and antibiotics tested on urine).
- A multidisciplinary approach, including review by physicians, infection control personnel and pharmacists was done prior to publication. Special thanks are extended to Dr. John Stratidis in the Infectious Disease Department and to Laura Ross, Technical Specialist, Microbiology for their expertise and dedication to this project.

The following is an example of cumulative susceptibility data for methicillin resistant *Staphylococcus aureus* and interpretation of the data:

Danbury Hospital Inpatient Gram Positive Cumulative Antibigram 2007

	Staphylococcus MRSA
No. of Isolates	196
Amox/clavulanate	0
Amp/sulbactam	0
Ampicillin	0
Azithromycin	—
Cefaclor	—
Cefazolin	0
Cefepime	—
Cefotaxime	—
Ceftriaxone	0
Cefuroxime	—
Chloramphenicol	—
Ciprofloxacin	6
Clindamycin ¹	6
Erythromycin	4
Gatifloxacin	13
Gentamicin	94
Levofloxacin	6
Linezolid	100
Meropenem	—
Nitrofurantoin(urine)	100
Norfloxacin(urine)	0
Oxacillin	0
Penicillin	0
Rifampin	99
Synercid	100
Tetracycline	93
Trimethoprim/sulfa	95
Vancomycin	100

- Total number of isolates of methicillin resistant *Staphylococcus aureus* in Danbury Hospital in year 2007 was 196. Only one isolate per patient was counted.
- 100% susceptibility was seen with linezolid, synercid and vancomycin.
- In urine specimens 100% susceptibility was seen with nitrofurantoin while 0% susceptibility was seen with norfloxacin.
- (—) Indicates that these drugs are not tested or indicated for methicillin resistant *Staphylococcus aureus* infection.
- ¹All methicillin resistant *Staphylococcus aureus* isolates reported as clindamycin susceptible were also susceptible to erythromycin.

Access to the Antibigram:

The 2007 cumulative antibiogram is available on Danbury Hospital's main intranet webpage <http://dhsintra/> in the Clinical Assistance section under Isolation and Infection Control Information.

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