

## Louisiana Antibigram

### What is the Louisiana Antibigram?

Most hospitals issue once a year an “Antibigram”, which is a summary of the most important antibiotic resistance patterns for their hospital for the year. The Antibigram is a table listing the microorganisms in the left-most column and antibiotics in the remaining columns. The percent of organisms found to be resistant to each antibiotic is recorded in the table’s cells.

### How useful is a hospital antibiogram?

The antibiogram shows the spectrum of resistance among the most common micro-organisms detected by the hospital laboratory.

It provides useful information for the selection of an empiric antibiotic treatment when a presumptive diagnosis of infection with a specific bacteria is made. It is no longer useful once the specific bacteria has been identified and an antibiotic resistance established for the patient’s infection.

There are some limitations when using a hospital antibiogram:

1-Most hospital laboratories do not sort-out community-acquired infections from hospital-acquired. The antibiotic resistance patterns for both groups may be substantially different. Gram negative rods tend to be more prevalent in hospital infections, and more resistant if they originate from a hospital source.

2-Some laboratories do not thoroughly eliminate duplicate cultures from the same patients, so that resistant strains that tend to be cultured more often artificially inflate the resistance prevalence.

**If constructed carefully and interpreted with caution, a hospital Antibigram is a useful tool**

### Why a statewide Louisiana Antibigram?

The statewide Louisiana Antibigram is a compilation of individual hospital antibiograms. The cells of the Louisiana Antibigram report the range of sensitivity for 95% of reporting hospitals (hospitals reporting sensitivities that are very different from the majority of hospitals, have been excluded from the Louisiana Antibigram). For example, in the cell *Staphylococcus aureus* / Oxacillin a 30-80 results means that 95% of hospitals reported *S.aureus* sensitivity ranging from 30% to 80%, or resistance ranging from 20% to 70%.

The Louisiana Antibigram is not as useful as the individual hospital antibiogram for making empiric treatment decisions.

However, it is useful to compare one individual hospital antibiogram to the rest of the state.

Here are a few examples:

#### **1-My hospital is out of range. What does it mean?**

For example, the Louisiana Antibigram reports methicillin sensitivity ranging from 50% to 82%, but your antibiogram shows a sensitivity of 35%. Therefore, your resistance is 65%, which is a very high number as compared to the Louisiana Antibigram. Explanations might include the following:

--Your lab may be counting duplicate MRSA

--You have an unusually high MRSA prevalence that needs to be looked into.

#### **2-I do not find the cell I need in the Louisiana Antibigram. Why?**

The cell you are looking for is not used by many hospitals because

--It may not be appropriate: check with your infectious disease specialist and the lab

--You may use some unusual (expensive, for example) antibiotic that most other hospitals do not use.

#### **What should I do if my hospital antibiogram is different from the Louisiana Antibigram?**

The whole purpose of comparing your antibiograms with the state is more to generate questions than to provide answers.

#### **How often do I need to generate a hospital antibiogram?**

Some hospitals generate reports every 3, 6 or 12 months. Generating a report too often, for example every 3 months, results in small numbers of isolates and sometimes large variations in percentage from one quarter to the next. These variations are usually not sustained and do not mean much. Usually an annual report is sufficient

## **WE NEED YOUR HELP**

Send us your antibiograms and we can prepare a more meaningful tool. Your data will be held confidentially and we would NEVER release any hospital specific data to anyone. The data are part of our antibiotic resistance investigation and such data are protected by law.