



State of Connecticut Lab Antibigram Analysis Report



The Antibigram Assessment Project – June 2018

In the summer of 2018, the Connecticut Department of Public Health Healthcare Associated Infections Program conducted an assessment of the use of antibigrams as a public health and clinical tool for public health surveillance and prevention of resistance through antimicrobial stewardship. The information gathered from this assessment will be used to improve our state's system of antimicrobial resistance surveillance and response. In addition, the CT DPH HAI program will be sharing this information with the Clinical Laboratory & Standards Institute (CLSI) which will help them assess whether their guidance is beneficial or in need of changes to better serve their constituents.

The following is a cumulative report of the data and an analysis of laboratory behavior in regard to CLSI “required” and “desirable” characteristics. Antibigrams were requested from all of the labs in Connecticut. This request was followed by a survey on antibigram creation and lab technology. Data received in this process has been combined to yield the results given below. The majority is given in bold.

Note: 12.5% of labs surveyed reported that they did not use a “standardized methodology” for the creation of antibigrams. Therefore, at least that number must be non-compliant with CLSI guidelines.

CLSI M39-A4 Requirements

1. A cumulative antibigram should be produced at least annually.
Consistent: 100%
2. Any abbreviations that are used should be explained.
Consistent: 34.8% **Inconsistent: 65.2%**
3. Only species ≥ 30 isolates should be included.
Consistent: 37.5% **Inconsistent: 62.5%**
4. Only the first isolate from each patient should be included.
Consistent: 56.3% **Inconsistent: 43.7%**
 - a. Inclusion of duplicate isolates should be noted.
Compliant: 14.3% **Inconsistent: 85.7%**
5. Results of supplemental agents, or agents tested selectively should not be included.
Consistent: 50% **Inconsistent: 50%**
6. If the data analysis software is not fully integrated, the data system must have the capability to either send data through a real-time interface or to periodically export results to an analysis program.
Consistent: 93.7% **Inconsistent: 6.3%**
7. There should be a consistent format (e.g., simple rows, define columns).
Consistent: 97.0% **Inconsistent: 3.0%**
8. Antimicrobial agents that are routinely tested should be reported, regardless of whether or not they are always reported to clinicians.
Consistent: 68.7% **Inconsistent: 31.3%**

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CLSI M39-A4 Desirable Characteristics

- The following patient and specimen information is desirable:

Type of Information	% used
DOB/age	43.7%
Sex	43.7%
Patient location when specimen obtained	81.3%
Clinical service (e.g. medicine, surgery)	37.5%
Admission date	43.7%
Body site of specimen	81.3%

- All results should be confirmed before reporting or use in antibiograms.

Consistent: 62.5% **Inconsistent:** 37.5%

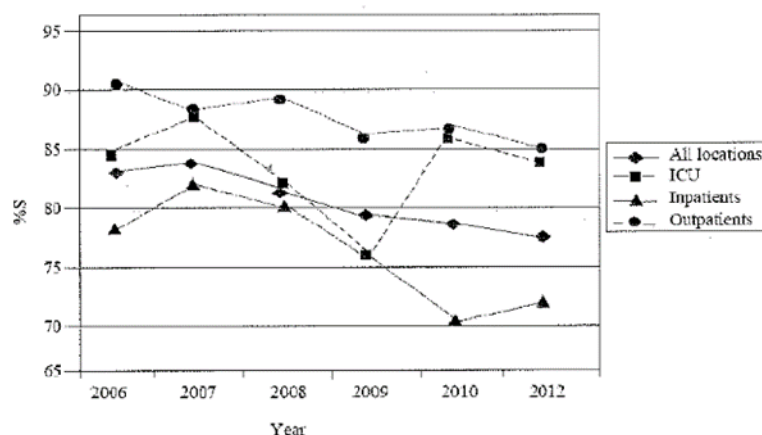
- Analysis of historical data requires reinterpretation of past results using interpretive criteria or breakpoints current at the time of analysis.

Consistent: 50% **Inconsistent:** 50%

- CLSI recommends the use of trend graphs, such as the one below.

Consistent: 13.3% **Inconsistent:** 86.7%

Figure F1. Five-Year Trend – Oxacillin %S for *Staphylococcus aureus* From All Locations and by Patient Care Area 2006 to 2012



Abbreviation: ICU, intensive care unit.

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