

# ANTIMICROBIAL STEWARDSHIP STRATEGY: ANTIBIOGRAMS



A summary of the cumulative susceptibility of bacterial isolates to antibiotics in an institution or region. Its main functions are to guide choice of empiric therapy and track resistance patterns.

REQUIRED RESOURCING:  
**MODERATE**



## Implementation Considerations

**Review Guidance:** The Clinical and Laboratory Standards Institute (CLSI) M39 guideline contains recommendations for antibiogram development. Patient population (e.g., inpatient) and specimen source should be explicitly stated. Guidance for clinicians on interpretation, application and limitations of the data should also be provided.

**Stratify by Characteristics:** Antibiograms typically represent isolates from an entire facility but can be further stratified by location (e.g., Intensive Care Unit, Emergency Department) or patient population to help inform more targeted empirical therapy.

**Evaluate Regional Data:** Regional antibiograms may be used if individual institutions do not have enough isolates to make an antibiogram meaningful. An example is Public Health Ontario's (PHO) provincial antibiogram which can be filtered by setting and patient population.

**Combine by Syndrome:** Weighted-incidence syndromic combined antibiograms (WISCAs) display the likelihood that selected antibiotics will cover all relevant organisms for a given infectious syndrome. Provincial data suggest that a WISCA for urinary tract infections may indicate different empirical recommendations compared with a traditional antibiogram focusing solely on *Escherichia coli*, especially in older patients and inpatient settings.



## Impact

Antibiograms are a foundational antimicrobial stewardship program (ASP) strategy, however there are limited data on the impact of antibiograms alone on improving clinical outcomes. Active dissemination and integration into broader antimicrobial stewardship interventions are required to increase impact.

Standardization and adherence with key CLSI recommendations may also better support prescribing decisions and antimicrobial resistance surveillance.

## Sources

CLSI. Analysis and presentation of cumulative antimicrobial susceptibility test data. 5th ed. CLSI guideline M39. Wayne, PA: CLSI; 2022.

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Marchand-Austin A, Lee SM, Langford BJ, Daneman N, MacFadden DR, Diong C, et al. [Antibiotic susceptibility of urine culture specimens in Ontario: a population-based cohort study](#). CMAJ Open. 2022;10(4):E1044-51.

Ontario Agency for Health Protection and Promotion (Public Health Ontario). [Ontario antibiogram](#). 2016-2024. Toronto, ON: King's Printer for Ontario; 2025.