

ANTIMICROBIAL STEWARDSHIP STRATEGY: INTEGRATED CLINICAL DECISION SUPPORT



Integrated Clinical Decision Support (CDS) aims to improve antimicrobial prescribing decisions by leveraging the electronic health record and/or other digital tools.

REQUIRED RESOURCING:
MODERATE-HIGH



Implementation Considerations

Leverage Clinical Decision Support:

Integration of basic CDS into the electronic prescribing workflow can amplify antimicrobial stewardship program (ASP) strategies such as:

- Embedding institutional [prescribing guidelines](#) and [formulary restriction](#) criteria.
- Requiring indication and duration at the time of computerized provider order entry (CPOE) to facilitate prospective audit and feedback.
- Requiring a clinical indication for urine culturing to limit unnecessary cultures and downstream treatment (i.e., for asymptomatic bacteriuria).
- Using alerts or worklists to identify patients for ASP review (e.g., patients on targeted antimicrobials).

Enable Data-Driven Decision Making:

Use of enhanced CDS systems can mitigate the limitations of isolated interventions by combining facility-specific data, patient information and evidence-based guidelines to generate real-time tailored recommendations. For example, machine learning models applied to local syndromic antibiogram data can predict drug-resistance risk and trigger CPOE alerts that inform patient-specific antibiotic choices.



Impact

CDS implementation is associated with reduced antimicrobial utilization and improved appropriateness of prescribing. Moreover, CDS systems enable continuous quality improvement by generating meaningful data essential for monitoring the impact of interventions and identifying additional opportunities for implementation of ASP strategies.

Sources

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