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Implementing an Antibiotic Stewardship Program

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Partnering to improve health outcomes through relationships and data

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WHY IS THIS IMPORTANT?

Antibiotic stewardship programs lay the framework that helps clinicians improve clinical outcomes and minimize harm by improving antibiotic prescribing.[1] Improving antibiotic prescribing and use is critical to effectively treating infections, protecting patients from harms caused by unnecessary antibiotic use and combating antibiotic resistance.[2] Antibiotic stewardship programs incorporate laboratory results, pharmaceutical best practices and provider knowledge to achieve positive clinical outcomes.

BACKGROUND[3]

Antimicrobial resistance happens when bacteria, viruses, fungi or parasites resist the effects of medicines used to treat infections in humans, animals or plants. The ability of these germs to fend off some of our most useful and valuable medicines makes it easier for infectious diseases to cause harm and spread to others. In the U.S., much like the rest of the world, increasing resistance to antibiotics is a pressing concern.

Antibiotics are important medicines that treat infections caused by bacteria. Increasing resistance is often due to the overuse of antibiotics. Sometimes called superbugs, antibiotic-resistant bacteria no longer respond to antibiotics. This makes infections hard or impossible to treat.

Antibiotic resistance is an urgent global health problem. According to the Centers for Disease Control and Prevention (CDC), antibiotic resistance can add $1,400 to a patient's hospital bill, or $2 billion yearly.[4] More than 2.8 million antibiotic-resistant infections happen in the U.S. every year. Tens of thousands of these infections end in death, which might have been prevented through more careful use of antibiotic medicines.

Effectively implementing an antibiotic stewardship program is a critical need for improving antibiotic prescribing in healthcare. By addressing potential barriers and their root causes, providers can develop targeted strategies to mitigate risks. Implementing evidence-based guidelines, enhancing patient monitoring and ensuring continuous education for healthcare professionals are essential steps to promote safer, more effective care.

PREPARING FOR CHANGE

The Plan-Do-Study-Act (PDSA) cycle provides a sound framework for quality improvement. Plan by mapping the current process to identify gaps, identifying who will be involved, and confirming what resources may be needed. Do the work by implementing a change or intervention and collecting data on the results as you go. Study the data – were the desired results achieved? Act on the results – accept or adjust the implemented change. Alongside this framework, Telligen recommends utilizing its comprehensive Quality Improvement Workbook which provides valuable resources to support your team's quality improvement efforts. Additionally, Telligen quality improvement facilitators developed the change pathway tool – a topic-specific, step-by-step guide to quality improvement, created using evidence-based practice resources and guidelines.

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[1] https://www.jointcommission.org/resources/patient-safety-topics/infection-prevention-and-control/antibiotic-stewardship/

[2] https://www.cdc.gov/antibiotic-use/hcp/core-elements/index.html

[3] https://www.mayoclinic.org/departments-centers/antimicrobial-stewardship/overview/ovc-20564612

[4] https://www.cdc.gov/antimicrobial-resistance/media/pdfs/ar-threats-2013-508.pdf?CDC_AAref_Val=https://www.cdc.gov/drugresistance/pdf/ar-threats-2013-508.pdf *and* Thorpe KE, Joski P, Johnston KJ. Antibiotic-resistant infection treatment costs have doubled since 2002, now exceeding $2 billion annually. *Health Aff*. 2018;37(4):662–669. doi: 10.1377/hlthaff.2017.1153

ANTIBIOTIC STEWARDSHIP

CHANGE PATHWAY

The change pathway tool is a topic-specific, step-by-step guide to quality improvement. The change pathway is created using evidence-based practice resources and guidelines. Key quality improvement activities such as formulating an aim statement, conducting a root cause analysis and identifying interventions are included in each guide. Interventions are outlined as beginner, intermediate and expert so that you may explore opportunities for improvement that meet your needs.

- Change Pathway: Antibiotic Stewardship

RESOURCES

AHRQ – Four Moments of Antibiotic Decision Making	Jump Start Stewardship Workbook
AHRQ – Toolkit to Improve Antibiotic Use in Acute Care Hospitals	Telligen – Antibiotic Stewardship: Quick Wins for Improving Duration of Therapy Change Pathway
CDC – Core Elements of Hospital Antibiotic Stewardship Programs	Telligen – Antibiotic Stewardship Gap Assessment
CMS – Operational Guidance for AUR Module Promoting Interoperability Program Requirements	Telligen – Core Elements for Antibiotic Stewardship in Action Change Pathway
CDPHE – NHSN Antimicrobial Use and Resistance (AUR) Module: FAQs and Guidance	

RECORDINGS AND SLIDE DECKS

Building a Robust Antibiotic Stewardship Program Collaborative

- Part One – Antibiotic Stewardship Collaborative Kick-off: Recording and Slides
- Part Two – Leadership & Accountability: Recording and Slides
- Part Three – Pharmacy Expertise & Action: Recording and Slides
- Part Four – Tracking, Reporting & Education: Recording and Slides
- Part Five – Wrap Up & Celebration: Slides

Antibiotic Stewardship: Quick Wins for Improving Duration of Therapy: Slides and Handout by IPRO

The Core Elements of Antibiotic Stewardship: National Updates & Promising Practices: Recording and Slides

EFFECTIVENESS CHECKS

1. Audit for the specific change you were aiming for.
2. Collect and analyze the data.
3. Share findings, opportunities and successes with staff, leadership and if possible, with patients.

Based on your data findings, if the change seen did not lead to the desired improvement, re-evaluate the root cause and consider launching another PDSA cycle.

For additional information and resources, visit Telligen's hospital resources page.