

Antimicrobial Stewardship: Starting Small to Maximize Success

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Disclosure

- ▶ No actual or potential conflicts of interests in relation to this presentation
- ▶ No "off-label" uses of medications will be discussed

Objectives

- ▶ Review current antimicrobial stewardship guidelines
- ▶ Discuss strategies to get your antimicrobial stewardship committee up and working
- ▶ Identify simple antimicrobial stewardship activities that can demonstrate impact within your healthcare organization

Antimicrobial Stewardship

Why do we need it?

- ▶ Increased prevalence of drug-resistant pathogens¹
- ▶ 20% to 50% of all antibiotics prescribed in the US are unnecessary or inappropriate²
- ▶ Antimicrobial Stewardship Programs (ASP)s can optimize the treatment of infections and reduce adverse associated with antibiotic use²
 - ▶ Improve the quality of care
 - ▶ Improve patient safety
 - ▶ Reduce treatment failures
 - ▶ Increase frequency of correct prescribing and prophylaxis

Antimicrobial Stewardship Guidelines³

- ▶ Clinical Infectious Diseases 2016 May 15;62(10):e51-77
- ▶ Broken down into different categories
 - ▶ Interventions
 - ▶ Optimization
 - ▶ Microbiology & Lab diagnostics
 - ▶ Measurement
- ▶ 28 recommendations across all 4 categories
- ▶ Still correlates with the CDC's Core Elements of Antimicrobial Stewardship

Antimicrobial Stewardship CDC Core Elements

- ▶ Released in 2014 to help identify key structural/functional aspects of effective antimicrobial stewardship programs
- ▶ 7 total elements

Antimicrobial Stewardship CDC Core Elements²

- ▶ Leadership Commitment
- ▶ Accountability
- ▶ Drug Expertise
- ▶ Action
- ▶ Tracking
- ▶ Reporting
- ▶ Education

Antimicrobial Stewardship CDC Core Elements

- ▶ The problem...
- ▶ CDC and the National Healthcare Safety Network have been tracking core element implementation
- ▶ Big disparity with implementation when broken down according to bed size⁴
 - ▶ More than 50% of hospitals with more than 50 beds met all 7 core elements
 - ▶ Only 26% of hospitals with less than 25 beds report meeting all 7 core elements

Core Elements 1 & 2 Leadership Commitment & Accountability

- ▶ Important to ensure allocation of resources needed for ASPs
 - ▶ Hospital leadership (the C suite)
 - ▶ Chief medical officer
 - ▶ Pharmacy director
 - ▶ Nursing leaders – CNO
- ▶ All of these can help further facilitate implementation of stewardship initiatives to create a strong and sustainable program

Leadership Commitment/Accountability Strategies

- ▶ Write a letter to hospital leadership
- ▶ Develop and seek approval for a formal policy regarding the creation of an ASP to include ALL core elements
- ▶ Ask for a formal statement from hospital leadership that details their support and the importance of an ASP
 - ▶ Disseminate that statement to all hospital staff
- ▶ Create a structure for reporting ASP activities/progress/outcomes to ensure that hospital leadership is aware of what the ASP is doing
- ▶ Support training

Leadership Commitment/Accountability Strategies

- ▶ Consider enrolling in collaborative efforts to improve antibiotic use
 - ▶ Check with KHA, state or local agencies, or larger/academic medical centers to find collaboratives
- ▶ Fund remote consultation or telemedicine with experts in antimicrobial stewardship
- ▶ If you have contractual agreements with external pharmacy services, consider requiring those contractors to have formal stewardship training

Core Element 3 – Drug Expertise

- ▶ Appoint a single pharmacist leader responsible for working to improve antibiotic use

Drug Expertise Strategies

- ▶ Pharmacist – onsite either full or part time
 - ▶ Consider antimicrobial stewardship being part of their job description or contract
 - ▶ Dedicated time spent on ASP activities – both developing and maintaining
- ▶ Physician – provides support to ASP development/initiatives
 - ▶ Champion
- ▶ Telemedicine collaboratives

Core Element 4 – Action

- ▶ Implementing at least one recommended intervention or action that has the potential to impact antibiotic use and patient care at your facility
- ▶ The workhorse of the ASP
- ▶ Easy to get stuck

Action Strategies

- ▶ Develop policies that support optimal antibiotic use
 - ▶ Require proper documentation of the dose, duration, and indications of antibiotics
- ▶ Develop/implement facility specific treatment recommendations
 - ▶ Don't reinvent the wheel
 - ▶ Find nearby hospitals recommendations and adapt to your facility
 - ▶ Guidelines
 - ▶ Online resources

Action Strategies

- ▶ Consider what drives the majority of antibiotic use in your facility
- ▶ Usual suspects
 - ▶ Community-acquired pneumonia (CAP)
 - ▶ Urinary tract infections (UTI)
 - ▶ Skin and soft tissue infections (SSTI)
- ▶ Developing specific interventions developed around these select infections can have a big impact on antibiotic use

Action Strategies

- ▶ CAP
 - ▶ Empiric antipseudomonal antibiotic?
 - ▶ Empiric anti-MRSA antibiotic?
 - ▶ Limit treatment to 5-7 days if patient has a timely clinical response
- ▶ SSTI
 - ▶ Develop guidelines that distinguish purulent and non-purulent so they can be managed appropriately
 - ▶ Empiric anti-MRSA antibiotic?
 - ▶ Length of therapy

Action Strategies

- ▶ UTI
- ▶ Does the patient have true symptoms of a UTI?
 - ▶ Urgency, frequency, dysuria, suprapubic pain, flank pain, pelvic discomfort, acute hematuria
 - ▶ Non-specific symptoms such as delirium, nausea, or vomiting ≠ UTI
 - ▶ If not, do you really need a urine screen/culture?
 - ▶ Catheterized patients should have symptoms of UTI as well
 - ▶ Cloudy or smelly urine ≠ UTI
- ▶ Top Ten Myths Regarding the Diagnosis and Treatment of Urinary Tract Infections
 - ▶ The Journal of Emergency Medicine, Vol. 51, No. 1, pp. 25–30, 2016

Action Strategies

- ▶ Antibiotic "time outs"
- ▶ Drug utilization evaluation
- ▶ Specify key antibiotics that require review
 - ▶ Can be based on spectrum, cost, etc
 - ▶ Carbapenems
 - ▶ Ertapenem
 - ▶ Vancomycin or other anti-MRSA antibiotics
 - ▶ Dual anti-pseudomonal antibiotics
 - ▶ Dual anti-anaerobic antibiotics
- ▶ Formulary restriction

Action Strategies

- ▶ Pharmacy-driven
 - ▶ IV to oral antibiotic therapy
 - ▶ Develop criteria that pharmacists and nursing can use to determine when/if a patient can be changed to oral antibiotics
 - ▶ Taking other oral medications
 - ▶ Tolerating enteral diet
 - ▶ No nausea/vomiting
 - ▶ Dose adjustments
 - ▶ Assess the patient's renal function and need to change renally-eliminated antibiotics
 - ▶ Dose optimization
 - ▶ Pharmacy is good at dosing antibiotics based on pharmacokinetic parameters
 - ▶ We were trained to do this

Action Strategies

- ▶ Pharmacy-driven
 - ▶ Automatic alerts of duplicate therapies
 - ▶ Time-sensitive automatic stop orders
 - ▶ Detection and prevention of antibiotic-related drug-drug interactions

Action Strategies

- ▶ Don't forget about Nurses!
 - ▶ Check culture & sensitivity reports on your patient
 - ▶ Review results with provider and pharmacist
 - ▶ Monitor response to antibiotics
 - ▶ Give feedback to provider and pharmacist
 - ▶ Assess oral intake status/recommend IV to PO
 - ▶ Medication education/antibiotic side effects
 - ▶ Initiate antibiotic "time outs" with the provider or pharmacist

Core Element 5 - Tracking

- ▶ Tracking data is essential for assessing ASP actions
- ▶ Review options and make decisions based on local needs and resources

Tracking Strategies

- ▶ Are facility-established recommendations or guidelines being followed?
 - ▶ Drug use evaluations
 - ▶ Antibiotic audit forms
- ▶ Antibiotic Use Measures
 - ▶ Days of Therapy (DOT)
 - ▶ Defined Daily Dose (DDD)
 - ▶ Specific Antibiotics
 - ▶ Limited number of antibiotics

Tracking Strategies

- ▶ National Healthcare Safety Network (NHSN)
 - ▶ CDC program
 - ▶ Provides analysis and benchmark data for facilities that electronically submit data
 - ▶ Free*
- ▶ Provider-level monitoring
- ▶ Avoid antibiotic expenditures as a way to track ASP effectiveness

Tracking Strategies

- ▶ Implement a tracking system for pharmacist and/or nursing-driven interventions
 - ▶ Internet-based tracking systems
 - ▶ Spreadsheet-based system
 - ▶ Tic marks
 - ▶ Emails, Voicemails, texts to a designated ASP member to track
- ▶ Trend antibiograms – do you see an improvement in resistance rates?

Core Element 6 - Reporting

- ▶ Tracking data should be reported to providers and hospital leadership
- ▶ Determine optimal timing and format/delivery of reports

Reporting Strategies

- ▶ Prepare regular reports (bi-annually, annually) about measures being tracked as part of ASP
 - ▶ Standing report to as part of Pharmacy & Therapeutics Committee, Medical Staff Committees, and the hospital board
- ▶ Provider specific reports should remain confidential, shared only with the provider as an educational opportunity
- ▶ Celebrate wins with hospital staff via newsletters, email, etc

Core Element 7 - Education

- ▶ Due to size of small and critical access hospitals, education can be more personal (even provider to provider, pharmacist to provider)
- ▶ Nursing education can also be helpful
 - ▶ Criteria for IV to PO, blood/sputum culture collection, criteria for urine culture)
- ▶ Patient and family education often easier due to close knit nature of small hospital setting

Education Strategies

- ▶ Regular ASP updates (monthly or quarterly) via newsletters or other communication tools (intranet, websites, blog, etc)
 - ▶ Share local and national issues
- ▶ One on one
- ▶ Incorporate antimicrobial stewardship education into new employee orientation
- ▶ Incorporate antimicrobial stewardship into yearly competencies
- ▶ Include information on antibiotics in patient education materials

Education Strategies

- ▶ Didactic presentations
- ▶ Web-based educational resources
- ▶ Posters
- ▶ Story sharing
- ▶ Tip sheets when providers enter most orders

Other Considerations

- ▶ Tailor your approach to your facility – find what works for you
- ▶ Implement what you can when starting
 - ▶ Easy wins
- ▶ Avoid strategies that can have a negative impact on your practice
- ▶ Ask for help/see what other hospitals are doing

Questions

- ▶ sblanner@shc.com

References

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