



Antibiotic Stewardship in Acute Care: A Practical Playbook

NATIONAL QUALITY FORUM
NATIONAL QUALITY PARTNERS
ANTIBIOTIC STEWARDSHIP ACTION TEAM



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APPENDIX: URL LINKS TO RESOURCES

Core Element 1: Leadership Commitment

Link Description	Address
Antimicrobial Management Program Gap Analysis Checklist	http://www.cdc.gov/getsmart/healthcare/improve-efforts/resources/pdf/AMP-GapAnalysisChecklist.pdf
Current Evidence on Hospital Antimicrobial Stewardship Objectives	http://dx.doi.org/10.1016/S1473-3099(16)00065-7
Greater New York Hospital Association/United Hospital Fund Antimicrobial Stewardship Toolkit	http://www.shea-online.org/Portals/0/GNYHA_Antimicrobial_Stewardship_Toolkit_FINALv2 Dec2011.pdf
Anthem Quality-In-Sights®: Hospital Incentive Program (Q-HIP)	https://www.anthem.com/provider/noapplication/f0/s0/t0/pw_b154968.pdf?refer=ahpprovider&state=nh
Making the Business Case for ASP	http://www.shea-online.org/Portals/0/PDFs/Business_Case_for_ASP.pdf
CDC Get Smart About Antibiotics: Save Money With Antibiotic Stewardship Fact Sheet	http://www.cdc.gov/getsmart/week/downloads/gsw-factsheet-cost.pdf
Antimicrobial Stewardship – A Value-Driven Means to Improved Patient Outcomes and Reduce Costs	https://www.hfma.org/Content.aspx?id=46774
A virtual ID Specialist: Antimicrobial stewardship via telemedicine	http://www.beckershospitalreview.com/healthcare-information-technology/a-virtual-id-specialist-antimicrobial-stewardship-via-telemedicine.html
<i>CDC Core Elements of Hospital Antibiotic Stewardship Programs</i>	http://www.cdc.gov/getsmart/healthcare/pdfs/core-elements.pdf
National Strategy for Combating Antibiotic-Resistant Bacteria	https://www.whitehouse.gov/sites/default/files/docs/carb_national_strategy.pdf
National Action Plan for Combating Antibiotic-Resistant Bacteria	https://www.whitehouse.gov/sites/default/files/docs/national_action_plan_for_combating_antibiotic-resistant_bacteria.pdf
CDC Get Smart for Healthcare: Overview and Evidence to Support Stewardship	http://www.cdc.gov/getsmart/healthcare/evidence.html
New Societal Approaches to Empowering Antibiotic Stewardship: <i>JAMA</i>	http://dx.doi.org/doi:10.1001/jama.2016.1346
American Hospital Association Appropriate Use of Medical Resources Antimicrobial Stewardship Toolkit	http://www.ahaphysicianforum.org/resources/appropriate-use/antimicrobial/ASP-Toolkit-v3.pdf
The Society for Healthcare Epidemiology of America Implementation Tools and Resources	http://www.shea-online.org/PriorityTopics/AntimicrobialStewardship/ImplementationToolsResources.aspx
Joint Commission Resources	http://www.jcrinc.com/

Core Element 2: Accountability

Link Description	Address
Implementing an Antibiotic Stewardship Program: Guidelines by the Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America.	http://dx.doi.org/10.1093/cid/ciw118
The Infectious Diseases Society of America Practice Guidelines	http://www.idsociety.org/IDSA_Practice_Guidelines/
The Society for Healthcare Epidemiology of America Guidelines and Expert Guidance Documents	http://www.shea-online.org/GuidelinesResources/Guidelines.aspx
Policy Statement on Antimicrobial Stewardship by the Society for Healthcare Epidemiology of America (SHEA), the Infectious Diseases Society of America (IDSA), and the Pediatric Infectious Diseases Society (PIDS)	http://www.jstor.org/stable/10.1086/665010
The Society for Healthcare Epidemiology of America website	http://www.shea-online.org/
The Infectious Diseases Society of America	http://www.idsociety.org/
Pediatric Infectious Diseases Society	https://www.pids.org/
MAD-ID Antimicrobial Stewardship Training Programs	http://mad-id.org/antimicrobial-stewardship-programs/
Annual International Pediatric Antimicrobial Stewardship Conference Website	http://www.pids.org/meetings-and-events/asp-conference.html
The Society for Healthcare Epidemiology of America Training Course	http://www.shea-online.org/Education.aspx
IDWeek Premeeting Workshops	http://www.idweek.org/premeeting-workshop/
Society of Infectious Diseases Pharmacists Antimicrobial Stewardship Certificate Program	http://www.sidp.org/page-1442823
Stanford Medicine Online Continuing Medical Education Course: Antimicrobial Stewardship: Optimization of Antibiotic Practices	https://med.stanford.edu/cme/courses/online/antimicrobial.html
Telemedicine-Based Antimicrobial Stewardship Program Improves Prescribing, Reduces Bacterial Resistance to Antibiotics at Rural Hospital	https://innovations.ahrq.gov/profiles/telemedicine-based-antimicrobial-stewardship-program-improves-prescribing-reduces-bacterial
Colorado Hospital Association: Antimicrobial Stewardship Commitment Letter	http://www.qualityforum.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=82401
Engaging Hospitalists in Antimicrobial Stewardship: Lessons From a Multihospital Collaborative	http://dx.doi.org/10.1002/jhm.2599
Guidance for the Knowledge and Skills Required for Antimicrobial Stewardship Leaders	http://www.jstor.org/stable/10.1086/678592
The Advisory Board: Findings from our antibiotic stewardship program survey	https://www.advisory.com/technology/crimson-continuum-of-care/members/expert-insights/the-current-state-of-hospital-antibiotic-stewardship

Core Element 3: Drug Expertise

Link Description	Address
Guidance for the Knowledge and Skills Required for Antimicrobial Stewardship Leaders	http://www.jstor.org/stable/10.1086/678592
American Society of Health-System Pharmacists Statement on the Pharmacist's Role in Antimicrobial Stewardship and Infection Prevention and Control	http://www.ashp.org/DocLibrary/BestPractices/SpecificStAntimicrob.aspx
American Society of Health-System Pharmacists Antimicrobial Stewardship Resources	http://www.ashp.org/menu/PracticePolicy/ResourceCenters/Inpatient-Care-Practitioners/Antimicrobial-Stewardship
The essential role of pharmacists in antimicrobial stewardship.	http://dx.doi.org/10.1017/ice.2016.82
Society for Infectious Diseases Pharmacists website	http://www.sidp.org/
Software vendors who support the CDC antimicrobial use and resistance initiative	http://www.sidp.org/aurvendors
The Sanford Guide to Antimicrobial Therapy 2016	http://www.sanfordguide.com
MAD-ID Antimicrobial Stewardship Programs	http://mad-id.org/antimicrobial-stewardship-programs/
Annual International Pediatric Antimicrobial Stewardship Conference website	http://www.pids.org/meetings-and-events/asp-conference.html
The Society for Healthcare Epidemiology of America Antimicrobial Stewardship Training Course	http://www.shea-online.org/Education.aspx
IDWeek Premeeting Workshops	http://www.idweek.org/premeeting-workshop/#stewardship
Society of Infectious Disease Pharmacists (SIDP) Antimicrobial Stewardship Certificate Program	http://www.sidp.org/page-1442823
Stanford Medicine Online Continuing Medical Education Course: Antimicrobial Stewardship: Optimization of Antibiotic Practices	https://med.stanford.edu/cme/courses/online/antimicrobial.html
Telemedicine-Based Antimicrobial Stewardship Program Improves Prescribing, Reduces Bacterial Resistance to Antibiotics at Rural Hospital	https://innovations.ahrq.gov/profiles/telemedicine-based-antimicrobial-stewardship-program-improves-prescribing-reduces-bacterial

Core Element 4: Actions

Link Description	Address
Antibiotic Self-Stewardship: Trainee-Led Structured Antibiotic Time-outs to Improve Antimicrobial Use	http://dx.doi.org/10.7326/M13-3016
Southwest Memorial Hospital Stewardship Committee: ASP Documentation	http://www.qualityforum.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=82402
Software Vendors who Support the CDC Antimicrobial Use and Resistance Initiative	http://www.sidp.org/aurvendors
AHRQ Toolkit for Reduction of <i>Clostridium difficile</i> Infections Through Antimicrobial Stewardship	http://www.ahrq.gov/professionals/quality-patient-safety/patient-safety-resources/resources/cdifftoolkit/index.html

Link Description	Address
Clinical Practice Guidelines by the Infectious Diseases Society of America for the Treatment of Methicillin-Resistant <i>Staphylococcus Aureus</i> Infections in Adults and Children	http://dx.doi.org/10.1093/cid/ciq146
Clinical Practice Guideline for the Management of Candidiasis: 2016 Update by the Infectious Diseases Society of America	http://cid.oxfordjournals.org/content/62/4/e1
Diagnosis and Management of Complicated Intra-abdominal Infection in Adults and Children: Guidelines by the Surgical Infection Society and the Infectious Diseases Society of America	http://dx.doi.org/10.1086/649554
Surviving Sepsis Campaign Guidelines	http://www.survivingsepsis.org/guidelines/Pages/default.aspx
Clinician Guide for Collecting Cultures	http://www.cdc.gov/getsmart/healthcare/implementation/clinicianguide.html
<i>The Sanford Guide to Antimicrobial Therapy 2016</i>	http://www.sanfordguide.com
Seven Ways to Preserve the Miracle of Antibiotics	http://dx.doi.org/10.1093/cid/cit070
Serum Procalcitonin Measurement and Viral Testing to Guide Antibiotic Use for Respiratory Infections in Hospitalized Adults	http://dx.doi.org/10.1093/infdis/jiv252
A Randomized Clinical Trial Comparing Use of Rapid Molecular Testing for <i>Staphylococcus aureus</i> for Patients With Cutaneous Abscesses in the Emergency Department With Standard of Care	http://dx.doi.org/10.1017/ice.2015.202
The Critical Role of the Staff Nurse in Antimicrobial Stewardship	http://dx.doi.org/10.1093/cid/civ697

Core Element 5: Tracking

Link Description	Address
CDC Assessment Tools for Antibiotic Use	http://www.cdc.gov/getsmart/healthcare/implementation.html
Antimicrobial Stewardship—Qualitative and Quantitative Outcomes: The Role of Measurement	http://dx.doi.org/10.1007/s11908-014-0433-x
Benchmarking antimicrobial drug use in hospitals	http://dx.doi.org/10.1586/eri.12.18
Standardized Antibiotic Administration Ratio	http://www.qualityforum.org/QPS/2720
2016 PQRS Measure #407: Appropriate Treatment of Methicillin-Sensitive Staphylococcus Aureus (MSSA) Bacteremia	https://pqrs.cms.gov/dataset/2016-PQRS-Measure-407-11-17-2015/m66s-yxfb
CDC Antimicrobial Use and Resistance (AUR) Module	http://www.cdc.gov/nhsn/PDFs/pscManual/11pscAURcurrent.pdf
Antibiogram Demo Exercise: Advanced Line List	http://www.cdc.gov/nhsn/PDFs/demo/2-AdvancedLineList.pdf
Antibiogram Demo Exercise Results: Advanced Line List	http://www.cdc.gov/nhsn/PDFs/demo/2-AdvancedLineList-Solution.pdf

Link Description	Address
Antibiotic Resistance Solutions Initiative Infographic	http://www.cdc.gov/drugresistance/pdf/ar-nhsn.pdf
CDC and Prevention National Healthcare Safety Network Multidrug-Resistant Organism & <i>Clostridium difficile</i> Infection (MDRO/CDI) Module	http://www.cdc.gov/nhsn/PDFs/pscManual/12pscMDRO_CDADcurrent.pdf
Antibiograms: Developing Cumulative Reports for Your Clinicians Quick Guide (M39-A4 QG)	http://shop.clsi.org/microbiology-companion-products/M39-A4_3.html
Premier Safety Institute. Antimicrobial Stewardship: Combating Antibiotic Resistance	http://www.premierinc.com/antibiotics
Premier Safety Institute. Quest Antimicrobial Collaborative	http://www.premiersafetyinstitute.org/safety-topics-az/antimicrobial-stewardship/quest-antimicrobial-collaborative/

Core Element 6: Reporting

Link Description	Address
CDC Assessment Tools for Antibiotic Use	http://www.cdc.gov/getsmart/healthcare/implementation.html
Antimicrobial Stewardship—Qualitative and Quantitative Outcomes: The Role of Measurement	http://dx.doi.org/10.1007/s11908-014-0433-x

Core Element 7: Education

Link Description	Address
CDC Get Smart About Antibiotics Week	http://www.cdc.gov/getsmart/week/
Antibiotic Stewardship Curriculum for Medical Students	http://www.wakehealth.edu/AS-Curriculum/
Consumer Reports/Choosing Wisely Patient-Friendly Resources	http://www.choosingwisely.org/patient-resources/
Consumer Reports/Choosing Wisely: In Depth: Antibiotics	http://consumerhealthchoices.org/depth-antibiotics/
Consumer Reports/Choosing Wisely: Antibiotics: Will They Help or Hurt You?	http://consumerhealthchoices.org/wp-content/uploads/2015/02/3AntibioticsTri-Fold_DownloadGenericFINAL.pdf
Consumer Reports/Choosing Wisely: Antibiotics: When you need them - and when you don't	http://consumerhealthchoices.org/wp-content/uploads/2014/02/ChoosingWiselyAntibioticsRoundup.pdf
Consumer Reports/Choosing Wisely: Antibiotic treatment in the Hospital	http://consumerhealthchoices.org/wp-content/uploads/2016/02/ChoosingWiselyAntibioticsHospitalSHEA-ER.pdf
The Joint Commission: Speak Up: Antibiotics - Know the Facts	http://www.jointcommission.org/topics/speakup_antibiotics.aspx
Peggy Lillis Foundation	http://peggyfoundation.org/
Patient Voice Institute	http://gopvi.org/
Rory Staunton Foundation	https://rorystauntonfoundationforsepsis.org/
Consumer Union Safe Patient Project	http://safepatientproject.org/

Link Description	Address
Fecal Transplant Foundation	http://thefecaltransplantfoundation.org/
Quinolone Vigilance Foundation	http://www.saferpills.org/

Additional Resources

Link Description	Address
CDC Core Elements of Hospital Antibiotic Stewardship Programs	http://www.cdc.gov/getsmart/healthcare/pdfs/core-elements.pdf
Surveillance for Antimicrobial Use and Antimicrobial Resistance Options	http://www.cdc.gov/nhsn/acute-care-hospital/aur/
National Healthcare Safety Network (NHSN) Antimicrobial Use Measure specifications	http://www.qualityforum.org/QPS/2720
Standardized Antibiotic Administration Ratio	http://www.qualityforum.org/QPS/2720
Appropriate Treatment of Methicillin-Sensitive Staphylococcus aureus (MSSA) Bacteremia (PQRS Measure #407)	https://pqrs.cms.gov/dataset/2016-PQRS-Measure-407-11-17-2015/m66s-yxfb
Hospital-Onset <i>C. difficile</i> Infections	http://www.qualityforum.org/QPS/1717
The Leapfrog Group website	http://www.leapfroggroup.org/ratings-reports/new-2016
National Healthcare Safety Network: Patient Safety Component—Annual Hospital Survey	http://www.cdc.gov/nhsn/forms/57.103_pshospurv_blank.pdf
Medicare Non-Payment of Hospital-Acquired Infections	https://www.cms.gov/mmrr/Downloads/MMRR2013_003_03_a08.pdf
Centers for Medicare & Medicaid Services Hospital Infection Control Worksheet	https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/Survey-and-Cert-Letter-15-12-Attachment-1.pdf
Centers for Medicare & Medicaid Services Proposed Rule on Antibiotic Prescribing	https://federalregister.gov/a/2016-09120
CDC: Meaningful Use	http://www.cdc.gov/ehrmeaningfuluse/
Choosing Wisely: Antibiotic treatment in the hospital	http://consumerhealthchoices.org/wp-content/uploads/2016/02/ChoosingWiselyAntibioticsHospitalSHEA-ER.pdf
Consumer Reports/Choosing Wisely Campaign: In Depth: Antibiotics	http://consumerhealthchoices.org/depth-antibiotics/
Vital Signs: Estimated Effects of a Coordinated Approach for Action to Reduce Antibiotic-Resistant Infections in Health Care Facilities-United States	http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6430a4.htm

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