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Building your Antibiotic Stewardship Program Phase 3: Tracking, Monitoring, Reporting on Antibiotic Prescribing, Use & Resistance

ASP, C.difficile and MDROs

October 2017
3:00-4:00pm



Agenda

Topic	Speaker
Welcome and Introductions	NYSPFP Staff
Review of ASP in HIIN <ul style="list-style-type: none">Rapid Cycle Improvement Phase 3	NYSPFP Staff
FAQs	David P. Calfee, MD, MS Teresa Lubowski, Pharm.D., B.S.
Hospital Questions and Discussion	Hospital Participants Facilitated by NYSPFP Staff
Tools and Resources/Next Steps	NYSPFP Staff



ASP/CDI/MDRO Initiative Overview

GOAL

- Reduce hospital multi-drug resistant organism (MDRO) infection and Clostridium difficile Infection (CDI) by 20%, from a 2015 baseline

OBJECTIVES

- Achieve 70% participation rate in the ASP/C. difficile/MRSA Process Measure Survey by September of 2018
- Improve percentage of positive response to elements of the Centers for Disease Control's (CDC) "Core Elements of Antibiotic Stewardship Programs" by September of 2018



Rapid Cycle Improvement Projects

Antibiotic Stewardship Program

Rapid Cycle Improvement Projects

Phase 1

- Leadership commitment
- Accountability
- Drug expertise

Phase 2

- Actions to support optimal antibiotic use

Phase 3


- Tracking and monitoring antibiotic prescribing, use, and resistance
- Reporting information on improving antibiotic use and resistance

Education of Clinicians and Patients and Families



NYSPPF Tools and Resources

Gap analysis



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Antibiotic Stewardship/MDRO/CDI
Core Elements Gap Analysis

Source: NQF Antibiotic Stewardship in Acute Care


Facility Name: _____ Date: _____

Instructions: The following checklist is designed to complement the CDC core elements checklist. Once hospitals have identified the core elements they would like to work on, this checklist is to identify the strategies and interventions that correspond to the core element. This checklist should be used to systematically assess whether key strategies and interventions are present at your facility to ensure optimal antibiotic prescribing and limit overuse and misuse of antibiotics in hospitals. Facilities using this checklist should involve one or more knowledgeable staff to determine if the following principles and actions to improve antibiotic use are in place.

Upon completion, this document can become the basis for your facilities improvement plan.

CORE ELEMENTS	YES	NO	COMMENTS
CORE ELEMENT 1: LEADERSHIP			
Basic			
A. Issue formal board approved statement on the importance of ASP and include in annual report.			
B. Develop and distribute a newsletter column from the CEO/CMO and or chief of medical staff highlighting ASP and their commitment to improving antibiotic use.			
C. Dedicate specific salary support for ASP leaders based on size and population of the hospital.			
D. Include specific time commitment (%FTE or hours/week, hours/month) in the job description of ASP leaders, and articulate targets and goals.			
E. Support funding for remote consultation or telemedicine with experts in antibiotic stewardship (e.g., infectious diseases physicians and pharmacists) if local resources are not available.			
F. Communicate regularly the importance of improving antibiotic use and the hospital's commitment to antibiotic stewardship.			
G. Share stories, speakers, and other resources that highlight how ASPs can improve patient outcomes.			

Action planning tool



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Antibiotic Stewardship/MDRO/CDI
Action Planning Tool

Action Plan developed from NQF Playbook. For Core Element Example of Implementation Strategies (Basic, Intermediate, and Advanced) see compiling page(s) number(s). http://www.qualityforum.org/NQF/Antibiotic_Stewardship_Playbook.aspx

Initiative: Antimicrobial Stewardship Program Hospital: _____

Administrative Champion: _____ Team Lead: _____

Lead Physician: _____ Nurse Lead: _____

Data Lead: _____ Other Team Member(s): _____

Aim Statement: _____

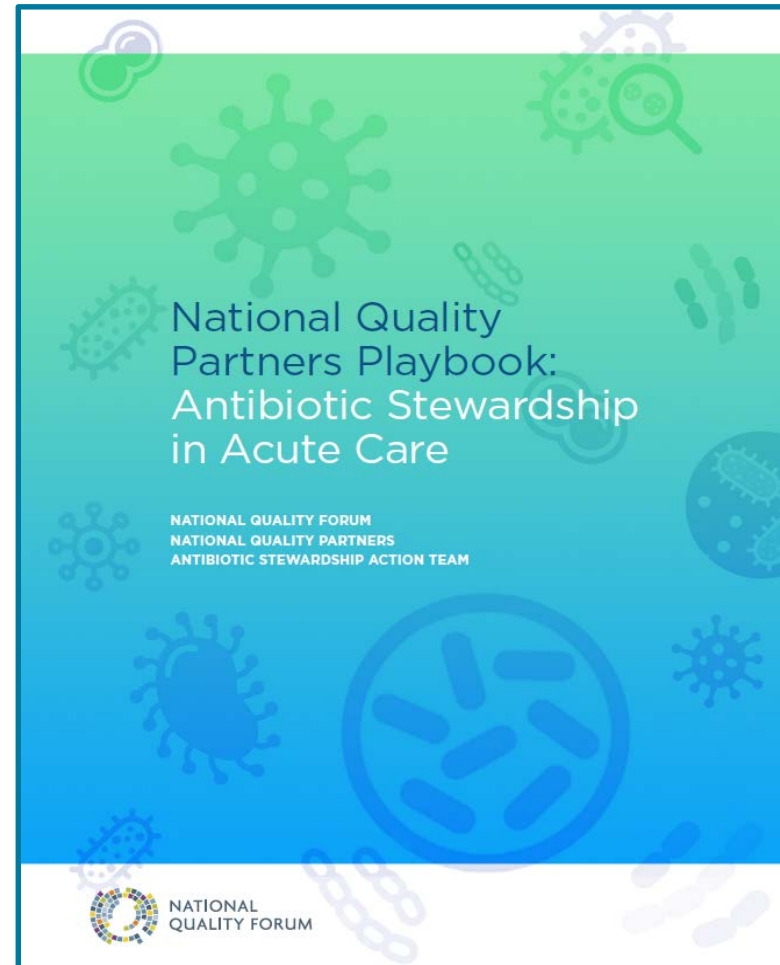
Consider each process change or key strategy below, and complete the worksheet components for implementing them. Add other strategies as appropriate for your hospital.

PROCESS CHANGE/KEY STRATEGY*	List Next Steps (How will you implement process change/key strategy?)	Resources/Stakeholders available/needed? (Which department will be involved?)	Owner(s)	Completion Date (if not in place)	Measurement Strategy (What data will be used to monitor progress/back track of change?)
PHASE 1					
Core Element 1: Leadership Commitment – examples of implementation strategies pages 6-7 of the NQF playbook					
Facility leadership will provide a viable, written statement of support for the antibiotic stewardship program (ASP).					
Facility leadership will provide support (financial and time) for training and education on antibiotic stewardship (AS), ensure adequate staffing, and establish a clear communication strategy on AS.					
Facility leadership will provide sustained financial support and ensure that ASP team leaders have time to perform the functions of the program.					

Part of these strategies taken from: Health Research & Educational Trust (2013, June). Checklists to improve patient safety. Chicago, IL: Health Research & Educational Trust. Accessed at www.hret.org



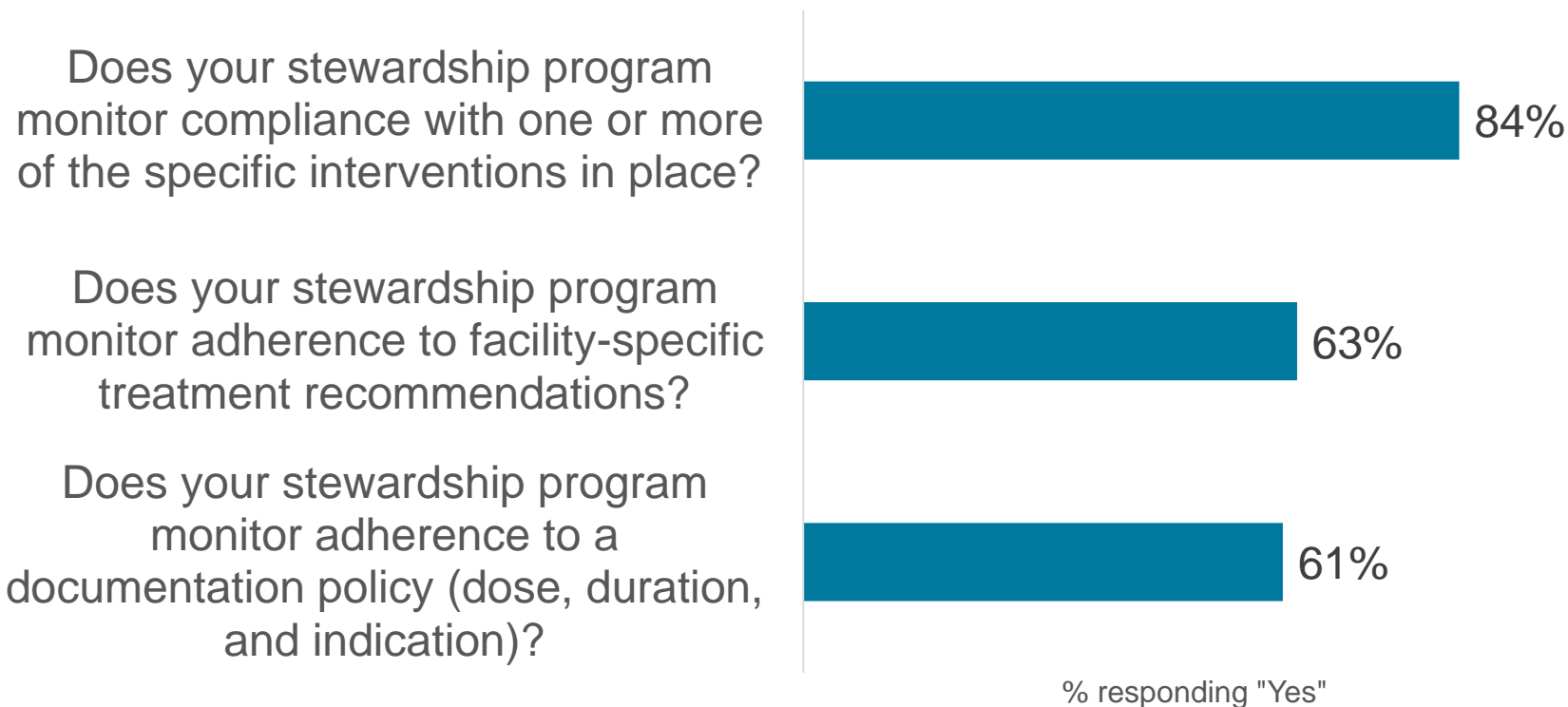
CDC Core Elements/NQF





ASP/C. *difficile*/MRSA Process Measure Survey Results

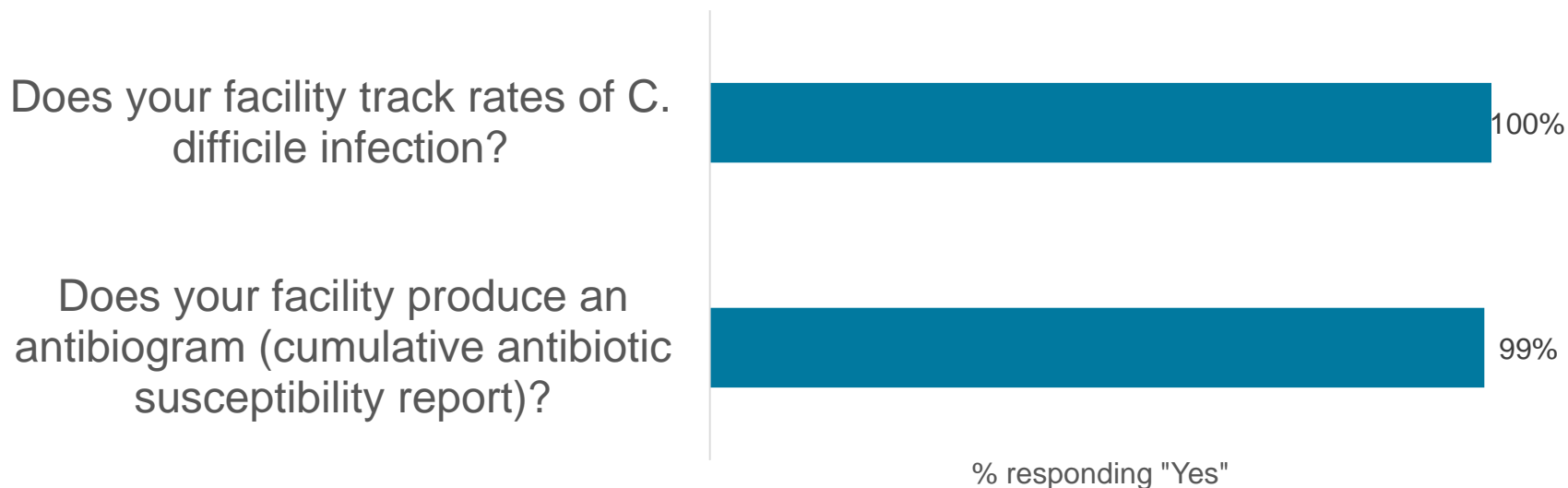
Tracking - Monitoring of Antibiotic Prescribing, Use, and Resistance: Process Measures





ASP/*C. difficile*/MRSA Process Measure Survey Results

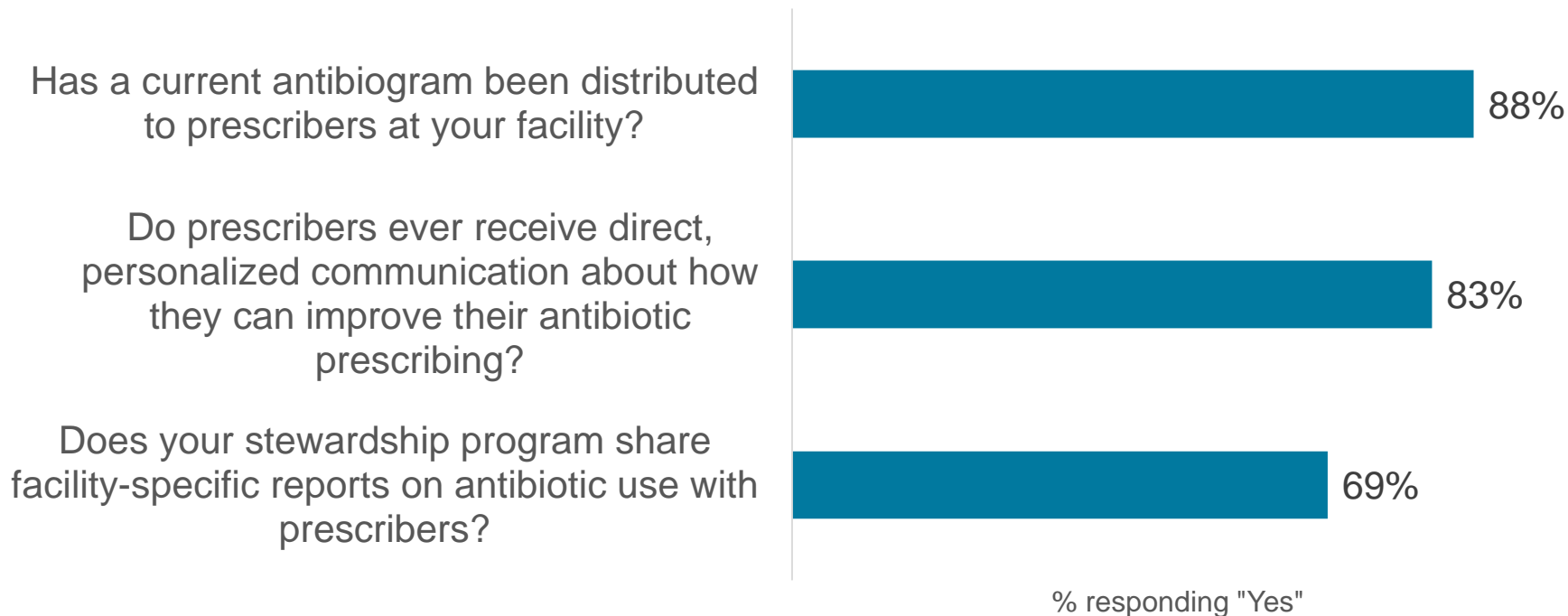
Tracking - Monitoring of Antibiotic Prescribing, Use, and Resistance: Antibiotic Use and Outcome Measures





ASP/C. *difficile*/MRSA Process Measure Survey Results

Reporting Information to Staff on Improving Antibiotic Use and Resistance





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Implementing Core Elements 5&6: Tracking, Monitoring, and Reporting Antibiotic Prescribing, Use, and Resistance

David P. Calfee, MD, MS

Teresa Lubowski, Pharm.D., B.S.



FAQ 1: What is the AUR module in NHSN?

Antimicrobial Use and Resistance (AUR) module

- Mechanism to report and analyze data related to antimicrobial use and antimicrobial resistance at the local, regional, and national level
- Comprised of two separate options in which a facility can participate:
 - Antimicrobial Use (AU) option
 - Antimicrobial Resistance (AR) option

<https://www.cdc.gov/nhsn/pdfs/pscmanual/11pscaurcurrent.pdf>



FAQ 1: What is the AUR module in NHSN?

Antimicrobial Use (AU) Option

- Allows calculation of a “standardized antimicrobial administration ratio” (SAAR).
 - SAAR is calculated by dividing observed antimicrobial use (number of days of antimicrobial therapy) by predicted antimicrobial use.
 - SAAR is a metric that can be used to analyze and report antimicrobial use data in summary form.
- Reporting requirements include:
 - Antibiotic administration data from eMAR or bar coding medication record (BCMA).
 - Number of admissions and “days present”
 - “Days present” differs from “patient days” used in other NHSN modules



FAQ 1: What is the AUR module in NHSN?

Antimicrobial Use (AU) Option

- SAARs are generated for five specific antimicrobial groupings.¹
 - Broad spectrum antibacterial agents predominantly used for hospital-onset/multidrug resistant infections
 - Broad spectrum antibacterial agents predominantly used for community-acquired infections
 - Anti-MRSA agents
 - Antibacterial agents predominantly used for surgical site infection prophylaxis
 - All antibacterial agents
- SAARs are calculated separately for adult and pediatric units and wards.



FAQ 1: What is the AUR module in NHSN?

Antimicrobial Use (AU) Option

- SAARs may be helpful to providers and antimicrobial stewardship teams.
 - Track changes in antimicrobial use over time and assess impact of ASP interventions.
 - Example: a new program to reduce unnecessarily long courses of surgical antibiotic prophylaxis
 - Identify groups of antibiotics that are being excessively prescribed or patient locations in which antibiotic administration is excessive.

NOTE: it is important to understand what an individual SAAR value does and does not mean (e.g., an SAAR >1 does not always mean that antibiotic use is inappropriate).



FAQ 1: What is the AUR module in NHSN?

Antimicrobial Resistance (AR) Option

- Generates a hospital-wide antibiogram (i.e., the proportion of isolates of specific organisms resistant to specific antimicrobial agents) that may be used to:
 - Assist with local decision-making regarding antimicrobial prescribing and prioritization of prevention efforts
 - Compare local resistance patterns to regional and national benchmarks
- Summary data can be:
 - Produced monthly, quarterly, semi-annually and annually
 - Stratified by specimen source, time period, organism, and antimicrobial agent.



FAQ 1: What is the AUR module in NHSN?

Antimicrobial Resistance (AR) Option

- Reporting requirements included:
 - Isolate-level microbiology reports (e.g., organism, results of antimicrobial susceptibility testing)
 - All inpatient locations, adult and pediatric ED, 24-Hour Observation Area
 - Patient days and admissions (facility-wide)
 - Data must be collected electronically and uploaded into NHSN using required specifications.



FAQ 1: What is the AUR module in NHSN?

Helpful Resources:

Resource	Description
www.cdc.gov/nhsn/acute-care-hospital/aur/index.html	NHSN AUR webpage
https://www.cdc.gov/nhsn/pdfs/pscmanual/11pscaurcurrent.pdf	NHSN AUR module
https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/aur/au-qrg-saartables.pdf	Explanation of how to calculate and interpret the SAAR
https://www.youtube.com/watch?v=u1618Ux3km4	Video describing the AUR module
https://www.ncbi.nlm.nih.gov/pubmed/28473007	Brief article describing one hospital's use of SAAR to monitor impact of ASP activities



FAQ 2: What are good measures to track antibiotic usage?

- Purchasing Data- Measure of Antibiotics by Cost
- Defined Daily Dose (DDD)
 - WHO Created- DDD factor- reported per 1,000 patient-days
 - Connects antibiotic purchasing to utilization
 - Assumed average maintenance dose per day.
- Days of Therapy (DOT)
 - Patient specific information
 - Sum of days for which any amount of antibiotic was administered to a patient
 - Standardized per 1,000 patient days
- Point Prevalence
 - Proportion of patients receiving antibiotics during a given time period (week, month)
 - Opportunity to capture indication (medical record review)



FAQ 2: What are good measures to track antibiotic usage?

References:

- Antimicrobial Stewardship Programs Appropriate Measures and Metrics, Morris Et al. Current Treatment Options in Infectious Diseases (2014) 6:101–112.
- Measurement of Adult Antibacterial Drug Use in 130 US Hospitals: Comparison of Defined Daily Dose and Days of Therapy , Polk R et al. Clinical Infectious Disease (2007) 44: 664-670.
- Project Step In: Society of Hospital Medicine- Data Collection and Reporting- Quantitative. Page 41-44.
<https://www.hospitalmedicine.org/ABX>



FAQ 3: What resources are available to assist hospitals with interpretation and use of their antimicrobial use and antimicrobial resistance data?

- Antibiotic Use/Resistance (AUR) Vendors:
- Work with system EHR.
- Provide stewardship alerts, metrics and population based reports.
- Validate and report data to NHSN.
- Surveillance of antibiotic therapy- duration, multiple antibiotics ,IV to PO switch, targeted drug alerts.
- Surveillance of laboratory- susceptibility mismatch, redundant therapy, contaminant being treated.



FAQ 4: What ASP-related data should be provided to the C-suite?

- The type(s) of data provided to the C-suite and other groups (e.g., prescribers, Medical Board) will likely vary among hospitals based on several factors:
 - Hospital-specific antimicrobial use and resistance priorities
 - Stage of ASP development and implementation
 - ASP activities
 - Executives' preferences



FAQ 4: What ASP-related data should be provided to the C-suite?

Several different types of data may be useful for presentations to hospital leadership:

- Progress toward hospital ASP goals
- Adherence to antimicrobial use guidelines (e.g., selection, duration)
 - Surgical prophylaxis
 - Community-acquired pneumonia
- Statistics on ASP interventions and acceptance rates
- Trends in antimicrobial use (e.g., days of therapy, SAAR)
 - Hospital-wide
 - Targeted units or services
- Measures of appropriateness of antimicrobial use
- Antimicrobial costs
- Outcomes (e.g., C. difficile infection, antimicrobial resistance)



FAQ 4: What ASP-related data should be provided to the C-suite?

Be prepared for your presentation and make the most of the time you have with hospital leadership.

- Understand the data (the good, the bad, the unknown).
- Know your audience.
- Explain the data.
- Use graphics and stories wisely.
- Highlight successes and challenges.
 - Come prepared with potential solutions and specific requests



FAQ 4: What ASP-related data should be provided to the C-suite?

Helpful Resources:

http://www.qualityforum.org/Publications/2016/05/National_Quality_Partners_Playbook_Antibiotic_Stewardship_in_Acute_Care.aspx	NQF's National Quality Partners Playbook: Antibiotic Stewardship in Acute Care <ul style="list-style-type: none">• Core element 5: tracking and monitoring• Core element 6: reporting information
http://www.idsociety.org/Guidelines/Patient_Care/IDSA_Practice_Guidelines/Antimicrobial_Agent_Use/Implementing_an_Antibiotic_Stewardship_Program/	Infectious Disease Society of America's guideline for implementing an antimicrobial stewardship program



FAQ 5: Are there best practices for distributing data to providers on antibiotic use?

- Track, Trend and Report:
- Must have metrics for comparison
- Need longitudinal data to benchmark to NHSN or other providers of the same specialty (individual reports that compare directly to others)
- Must have the recipient of data willing to act
 - Quality department intervention
 - Medical Staff Office intervention
 - Peer Review Committee (one on one detailing)
- Method of personalized communication- e-mail reports, phone calls, department meeting presentations (anonymized), resident training (teaching institutions)



FAQ 5: Are there best practices for distributing data to providers on antibiotic use?

- References:
 - Reducing antibiotic prescriptions for respiratory tract infections in family practice: results of a cluster randomized controlled trial evaluating a multifaceted peer group based intervention. Vervloet et al. Primary Care Respiratory Medicine (2016) 26: 15083.
 - Effect of behavioral interventions on inappropriate antibiotic prescribing among primary care practices. A randomized clinical trial. JAMA (2016) 315: 562-570.



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Questions and Hospital Discussion



Next Steps

- Save the Date:
 - NSYPFP ASP November Coaching Call
 - Watch for NYS Partnership for Patients announcements and upcoming events in your inbox
 - Hospitals participating in the RCIP will receive information on the monthly coaching call for November
 - Alert your NYSPFP PM if you would like to/continue to receive information on the coaching call
 - Work with PM to complete the gap analysis and action plan if not completed, and review additional tools available on the NYSPFP website
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