New Joint Commission Requirements for Antimicrobial Stewardship

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Purpose of Antimicrobial Stewardship
• Antimicrobial stewardship refers to the responsible management of antimicrobial use.
• The primary goal of antimicrobial stewardship is to optimize clinical outcomes while minimizing unintended consequences of antimicrobial use, including toxicity, the selection of pathogenic organisms (such as Clostridium difficile), and the emergence of resistance.
• The secondary goal of antimicrobial stewardship is to reduce healthcare costs without adversely impacting the quality of care.

Learning Objectives
Upon completing this ACPE activity participants will be able to:
1. Understand the new Joint Commission requirements for antimicrobial stewardship based on a thorough review
2. Know various ways the requirements can be implemented based on comments and group discussion
3. Figure out how to best meet the new standard and the 8 elements of performance at their health system based on the information reviewed, the comments and group discussion, and any good thoughts and ideas presented
Baptist Health System

- Regional health system that includes 6 hospitals in the San Antonio market of Tenet Healthcare.
  - Average daily census of ~800 patients
  - Adjusted patient-days of ~500,000 per year
- Regional pharmacy department has ~160 FTEs with 1 clinical pharmacy manager and 7 clinical pharmacy specialists.
- Examples from Baptist Health System will be used to demonstrate how to minimally meet the new TJC standard and its 8 elements of performance.

Standard MM.09.01.01

- The hospital has an antimicrobial stewardship program based on current scientific literature.
- The standard became effective January 1, 2017.

Standard MM.09.01.01
Baptist Health System

- BHS formally established an antimicrobial stewardship program in January 2015 that was recognized by administration.
- The IDSA/SHEA/CDC guidelines were used to design the structure and function of the antimicrobial stewardship program.
- Joint Commission shot a video about the antimicrobial stewardship program at BHS in May 2016 to use at some conferences.
Element of Performance #1  

• Leaders establish antimicrobial stewardship as an organizational priority (See also LD.01.03.01, EP 5).

• Examples of leadership commitment to an antimicrobial stewardship program are as follows:
  – Accountability documents
  – Budget plans
  – Infection prevention plans
  – Performance improvement plans
  – Strategic plans
  – Using the electronic health record to collect antimicrobial stewardship data

Element of Performance #1  

Baptist Health System  

Accountability Documents  

• A charter for the antimicrobial stewardship program was established and includes the mission, organizational structure, core elements, and metrics.

• The charter was approved by the Pharmacy & Therapeutics Committee, the Infection Control Committee, and the Medical Executive Board and is in their meeting minutes.

Budget Plans  

• Administration approved paying a physician to be the antimicrobial stewardship champion on a part-time basis.

• The pharmacy department has a clinical manager that is also a specialist in infectious diseases that coordinates the program.

Element of Performance #1  

Baptist Health System  

Infection Prevention Plans  

• The regional infection preventionist and the Infection Control Committee identify infection prevention issues, determine strategies to address them, and create plans based on internal data and scientific literature.
  – Data that are tracked and reported monthly include rates of C. difficile infection, CAUTIs, CLABSI, and surgical site infections.
  – Infection Control Committee meeting minutes reflect efforts to decrease these infections through intervention, such as:
    ● Reducing inappropriate testing for C. difficile in patients on laxatives
    ● Reducing concomitant use of anti-infectives and H2 blockers or PPIs in patients at high risk for C. difficile infection
Element of Performance #1
Baptist Health System
Performance Improvement Plans and Strategic Plans

• Tenet corporate set a financial goal of achieving and maintaining anti-infective cost per adjusted patient day of <$10 at each hospital.
  - This metric was put on the monthly balanced scorecard starting in January 2015.
• The infectious disease pharmacist and antimicrobial stewardship committee identify anti-infective therapy issues (related to safety, effectiveness, or cost), determine strategies to address them, and create plans based on internal data and scientific literature.
  - Pharmacy & Therapeutics Committee meeting minutes reflect efforts to improve anti-infective therapy, such as:
    - Autosub of cefepime for piperacillin/tazobactam for patients on vancomycin (safety)
    - Use of AUC/MIC monitoring along with levels in patients on vancomycin (effectiveness)
    - Restriction of selected anti-infectives to infectious disease physicians (cost)
• Antimicrobial stewardship is not mentioned in the BHS strategic plan, but it is on the Department of Pharmacy strategic plan.

Element of Performance #1
Baptist Health System
Use of EHR to Collect Data

• The Cerner information system has an antimicrobial stewardship tab that provides all relevant information in one place for ease of tracking and daily use by clinicians (e.g. diagnoses, cultures, molecular diagnostic tests, anti-infectives, and Clostridium difficile risk assessment score).
• The Pharmacy Department conducts drug use evaluations periodically using the Cerner information system to identify prescribers and indications for certain drugs (e.g. high cost formulary-restricted anti-infectives).
• The Quality Department has used Crimson technology from the Advisory Board to compare infectious disease physician prescribing patterns of restricted anti-infectives and outcomes for selected diseases.

Element of Performance #2

• The hospital educates staff and licensed independent practitioners involved in antimicrobial ordering, dispensing, administration, and monitoring about antimicrobial resistance and antimicrobial stewardship practices.
• Education occurs upon hire or granting of initial privileges and periodically thereafter, based on organizational need.
Element of Performance #2
Baptist Health System

• All pharmacists have completed 3 training modules on antimicrobial stewardship, and these modules are now part of the initial training for all new pharmacists.

• A basic education program on antimicrobial stewardship was developed and posted on HealthStream for nurses.

• A basic education program on antimicrobial stewardship was developed and included in the orientation materials for new physicians and other licensed independent practitioners. Additionally, the current antibiogram is provided to them.

Element of Performance #3

• The hospital educates patients, and their families as needed, regarding the appropriate use of antimicrobial medications, including antibiotics
  – For more information on patient education, refer to Standard PC.02.03.01.
  – An example of an educational tool that can be used for patients and families includes the Centers for Disease Control and Prevention’s Get Smart document, “Viruses or Bacteria—What’s got you sick?”

• The CDC “get smart” flyer on antimicrobial stewardship was included in the admission information packet that all patients receive.
  – “Viruses or Bacteria—What’s got you sick?”

• Nurses perform discharge counseling on all medications, including anti-infectives.
• A transitional care pharmacist reinforces the nursing education through a phone call 3 days after discharge for pneumonia patients on Medicare.
Element of Performance #4

- The hospital has an antimicrobial stewardship multidisciplinary team that includes the following members, when available in the setting:
  - Infectious disease physician
  - Infection preventionist(s)
  - Pharmacist(s)
  - Practitioner
- Part-time or consultant staff and telehealth staff are acceptable as members of the antimicrobial stewardship multidisciplinary team.

Element of Performance #4

Baptist Health System

- A regional antimicrobial stewardship team was formed and includes members from all required disciplines:
  - Infectious disease physician
  - Infectious disease pharmacist
  - Infection preventionist
  - Hospitalist
  - Medical director of the laboratory
  - Microbiology supervisor of the laboratory
  - Chief Quality Officer
  - Vice President of Pharmacy (executive sponsor)

Element of Performance #5

- (D) The hospital's antimicrobial stewardship program includes the following core elements:
  - Leadership commitment: Dedicating necessary human, financial, and information technology resources.
  - Accountability: Appointing a single leader responsible for program outcomes. Experience with successful programs shows that a physician leader is effective.
  - Drug expertise: Appointing a single pharmacist leader responsible for working to improve antibiotic use.
  - Action: Implementing recommended actions, such as systemic evaluation of ongoing treatment need, after a set period of initial treatment (for example, “antibiotic time-out” after 48 hours).
  - Tracking: Monitoring the antimicrobial stewardship program, which may include information on antibiotic prescribing and resistance patterns.
Element of Performance #5

(D) The hospital’s antimicrobial stewardship program includes the following core elements (CONTINUED):

- **Reporting:** Regularly reporting information on the antimicrobial stewardship program, which may include information on antibiotic use and resistance, to doctors, nurses, and relevant staff.
- **Education:** Educating practitioners, staff, and patients on the antimicrobial program, which may include information about resistance and optimal prescribing (See also IC.02.01.01, EP 1 and NPSG.07.03.01, EP 5).
- These core elements were cited from the Centers for Disease Control and Prevention’s Core Elements of Hospital Antibiotic Stewardship Programs [http://www.cdc.gov/getsmart/healthcare/pdfs/core-elements.pdf].
  - The Joint Commission recommends that organizations use this document when designing their antimicrobial stewardship program.

Element of Performance #5

Baptist Health System

**Leadership Commitment**

- The executive sponsor is the regional vice president of pharmacy.

**Accountability**

- The antimicrobial stewardship program will be led in the future by an infectious disease physician champion paid on a part-time basis.

**Drug Expertise**

- An infectious disease pharmacist is currently coordinating the antimicrobial stewardship program and generating data and reports for review and analysis.

**Action**

- A 48-hour antibiotic time-out alert and a C. difficile risk score >35 have been implemented in the Cerner information system. These are received by pharmacists in the pharmacy clinical work queue.

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Element of Performance #5

Baptist Health System

**Tracking**

- Anti-infective use patterns are monitored monthly and antimicrobial resistance patterns are monitored annually.

**Reporting**

- The Antimicrobial Stewardship Committee gives reports to the Pharmacy and Therapeutics Committee (bimonthly) and the Infection Control Committee (monthly).  
- The infectious disease pharmacist provides monthly financial data to administration as well as a year-end summary report.

**Education**

- A couple of continuing medical education programs related to antimicrobial stewardship were provided to physicians at Mission Trail Baptist Hospital, which was the initial pilot site for the antimicrobial stewardship program.
Element of Performance #6

- The hospital’s antimicrobial stewardship program uses organization-approved multidisciplinary protocols. Examples of protocols are as follows:
  - Antibiotic formulary restrictions
  - Assessment of appropriateness of antibiotics for community-acquired pneumonia
  - Assessment of appropriateness of antibiotics for skin and soft tissue infections
  - Assessment of appropriateness of antibiotics for urinary tract infections
  - Care of the patient with Clostridium difficile
  - Guidelines for antimicrobial use in adults
  - Guidelines for antimicrobial use in pediatrics
  - Plan for parenteral to oral antibiotic conversion
  - Preauthorization requirements for specific antimicrobials
  - Use of prophylactic antibiotics

Element of Performance #6
Baptist Health System

- BHS has implemented the following policies, procedures, and order sets related to antimicrobial stewardship:
  - The Pharmacy and Therapeutics Committee and the Medical Executive Board have approved a list of anti-infectives that are nonformulary, formulary, and formulary-restricted.
  - Empiric therapy guidelines for common infectious diseases have been provided on the back of the annual antibiogram.
  - Evidence-based order sets have been implemented for sepsis and pneumonia.
  - The Pharmacy and Therapeutics Committee and the Medical Executive Board have approved protocols for pharmacists to perform:
    - IV to PO conversion of certain anti-infectives when specific criteria are met.
    - Adjustment of doses of certain anti-infectives for patients with renal impairment.
    - Ordering of dosage changes and appropriate labs to optimize therapy and monitor patients on vancomycin and aminoglycosides.

Element of Performance #7

- The hospital collects, analyzes, and reports data on its antimicrobial stewardship program.
- Examples of topics to collect and analyze data on may include evaluation of:
  - The antimicrobial stewardship program
  - Antimicrobial prescribing patterns
  - Antimicrobial resistance patterns
Element of Performance #7
Baptist Health System
• Each month antimicrobial use and purchase data is collected and analyzed for each hospital.
• The data includes anti-infective cost per adjusted patient-day.
  – The anti-infective cost per APD is broken down into formulary and formulary-restricted categories as well as by each anti-infective used.
• A top 10 anti-infective list based on cost per APD is generated for each hospital and is used to identify potential overuse and opportunities for cost savings.
• The anti-infective cost per APD by hospital is reported each month on a corporate balanced scorecard that is reviewed by the CEOs and their Medical Executive Committees.
  – The Tenet target is <$10 per APD and there is corporate pressure to meet this benchmark.

Element of Performance #7
Baptist Health System
• Usage patterns are plotted over time for key antimicrobials at each hospital in order to identify trends and the effectiveness of reduction strategies.
  – Examples: antibiotics for gram positive bacteria, antibiotics for gram negative bacteria, antifungals, C. difficile treatments
• Drug usage evaluations are conducted to learn what certain anti-infectives are being prescribed for and by whom.
  – Example: restricted anti-infectives
• Rates of common infections and multidrug-resistant organisms were assessed at each hospital in an attempt to understand the wide variation in anti-infective cost per APD across the health system.

Element of Performance #8
• (D) The hospital takes action on improvement opportunities identified in its antimicrobial stewardship program (See also MM.08.01.01, EP 6).
Element of Performance #8
Baptist Health System

- Overuse of some high cost anti-infectives was identified.
- A formulary amendment list was approved that classified certain anti-infectives as either non-formulary (e.g. Avycaz) or formulary-restricted to infectious disease physicians (e.g. Zerbaaxa, Cubicin).
- Some infectious disease physicians were educated about the relative cost of anti-infectives, particularly formulary and formulary-restricted anti-infectives used to treat gram positive and gram negative bacterial infections.
  - These physicians were identified as high prescribers of formulary-restricted anti-infectives compared to their peers.

Economic Impact of ASP at Baptist Health System

- Anti-infective cost per APD for the Tenet San Antonio market went down year-over-year from $11.30 in Q4 2014 to $10.22 in Q4 2015 to $6.42 in Q4 2016.
- Anti-infective spending in FY 2015 was $5,464,400 with an anti-infective cost per APD of $11.03 and in FY 2016 was $3,543,300 with cost per APD of $7.02.
- The reduction in cost per APD of $4.01 from 2015 to 2016 resulted in an annual savings of $1,921,100.
- A major contributor to the decreased use and expense of anti-infectives was the spotlight and attention put on antimicrobial stewardship throughout the organization since it was on the monthly balanced scorecard.
The End

Any questions or comments?
Any ideas or experiences to share?

Self-Assessment Questions

1. All hospitals must have an antimicrobial stewardship program based on current scientific literature effective January 1, 2017.
   a. True
   b. False

Self-Assessment Questions

2. Antimicrobial stewardship does not have to involve hospital leaders in any way.
   a. True
   b. False
Self-Assessment Questions
3. Hospitals must educate staff and licensed independent practitioners involved in the ordering, dispensing, administration, and monitoring of antimicrobials, but not patients and their families regarding appropriate use of antibiotics.
   a. True
   b. False

Self-Assessment Questions
4. Hospitals must have documentation that their antimicrobial stewardship program includes:
   a. Leadership commitment and accountability
   b. Drug expertise
   c. Action and tracking
   d. Reporting and education
   e. All of the above

Self-Assessment Questions
5. Hospital antimicrobial stewardship programs must do all of the following per TJC standard 9.01.01 except:
   a. Have an antimicrobial stewardship committee that includes an infectious disease physician, a pharmacist, an infection preventionist, and a practitioner
   b. Use organization-approved multidisciplinary protocols
   c. Collect, analyze, and report data on things like antimicrobial prescribing patterns and antimicrobial resistance patterns
   d. Take action on improvement opportunities identified in its antimicrobial stewardship program
   e) Document cost savings
Self-Assessment Questions
Answer Key

1. A
2. B
3. B
4. E
5. E