Banner Health

Title: Antimicrobial Stewardship Program, Adult and Pediatric		
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Discrete Operating Unit/Facility:
Banner Baywood Medical Center
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Banner Boswell Medical Center
Banner Casa Grande Medical Center
Banner Churchill Community Hospital
Banner Del E Webb Medical Center
Banner Desert Medical Center
Banner Estrella Medical Center
Banner Fort Collins Medical Center
Banner Gateway Medical Center
Banner Goldfield Medical Center
Banner Heart Hospital
Banner Ironwood Medical Center
Banner Lassen Medical Center
Banner McKee Medical Center
Banner North Colorado Medical Center
Banner Ocotillo Medical Center
Banner Payson Medical Center
Banner Thunderbird Medical Center
Banner--University Medical Center Phoenix
Banner--University Medical Center South
Banner--University Medical Center Tucson
East Morgan County Hospital
Ogallala Community Hospital
Page Hospital
Platte County Hospital
Sterling Regional Medical Center
Torrington Community Hospital
Washakie Medical Center
Wyoming Medical Center

Introduction

Overview

1. All inpatients are treated with the appropriate antimicrobial agent(s) to optimize clinical outcomes while minimizing unintended consequences of antimicrobial use.

2. An Antimicrobial Stewardship program guides antimicrobial therapy for appropriate and efficient uses to improve/ optimize patient care.

Population

All employees, adult patients, and pediatric patients

The Antimicrobial Stewardship Program

Components

1. The antimicrobial stewardship program (ASP) will consist of two components: Hospital and Critical access hospitals (CAH) and ambulatory care facilities.

2. Hospitals and CAH facilities will have programs that consist of the following:

    A. Expertise
        a. Pharmacist trained in infectious diseases (ID) and/or

        b. ID physician or physician with experience in antimicrobial stewardship (AMS)

    B. The ASP should develop and implement clinical practices, collaborative practices, and treatment guidelines that are based on:

        a. Evidence-based practice guidelines

        b. Local microbiology and resistance patterns

        c. De-escalation practices based on culture results (i.e., nares)

        d. Optimization of dose based on individual patient characteristics, causative organism, site of infection, and drug characteristics

        e. Parental to oral conversion as patient's condition allows

    C. Computer surveillance and clinical decision support (CDS) should be employed

        a. The computer-based system will provide prescribers alerts, recommendations, and capture data related to reason for antimicrobial use (e.g., indication)

        b. CDS system will provide alerts to pharmacists to review therapy

    D. Tracking and Monitoring

a. Antimicrobial usage will be tracked and trended by days of therapy (DOT) per 1000 patient days to monitor use and identify opportunities for improved use

b. Antibiotic auditing (prospective or retrospective) may be utilized to monitor use and identify opportunities for improved use

c. Audits may be done to look at individual providers use or use by specialty to provide feedback and education

d. Criteria-based antimicrobials will be reviewed by pharmacists

e. Other data may be tracked and trended based on system or facilities needs

f. Antibiogram data will be reviewed annually

E. Education is an essential element for influencing prescribing behaviors. Coupling education with active interventions, when possible, leads to the greatest effectiveness.

F. A system AMS team will review system data to determine opportunities for improvement. In addition, the team will provide feedback and guidance for protocols, practices, and guidelines for the system to be rolled out at the facility level. The system team, at a minimum, should be comprised of the following:

a. ID physician and/or a hospital epidemiologist

b. Clinical pharmacist

c. Clinical microbiologist

d. Infection preventionist

e. Information system specialist

G. A system workgroup comprised of infectious disease pharmacists and clinical pharmacists will be responsible for identifying, designing, implementing, and monitoring strategies used to enhance the use of antimicrobials in an efficacious and cost-effective manner. The workgroup will help guide system work to promote appropriate selection and utilization of medications to optimize patient outcomes.

H. Each facility will have their own AMS team which may be a subgroup of a larger team.

a. Each facility AMS team should collect, analyze, and report their data to leadership and/or the facility Pharmacy and Therapeutic (P&T) Clinical Consensus Group (CCG).

b. In addition, the facility AMS team will provide the system ASP with recommendations or processes that may have system impact.

I. Infection prevention (IP) will collaborate with the system AMS team. IP will provide updates to the system team regarding IP reports and any concerning trends being observed within the health system.

3. Ambulatory healthcare setting will have a program that consists of the following:
   A. Support and expertise – An individual(s) will be identified to be accountable for ASP
   B. One annual AMS goal should be set
   C. Evidence based guidelines should be used in establishing an annual goal
   D. Data will be collected, analyzed, and reported to the system AMS team and organizational leadership
   E. Educational resources relating to the annual goal will be provided
   F. A workgroup for the ambulatory healthcare setting will be established with membership from the following:
      a. Pharmacy
      b. Urgent Care Centers
      c. Ambulatory Clinics
      d. Emergency Departments

The Antimicrobial Stewardship Program

Management of the program

The ASP is managed with the AMS plan. Components of the plan for hospitals and CAH are described in appendix A. Components of the plan for ambulatory healthcare setting are described in appendix B.

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The Antimicrobial Stewardship Program, Continued

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Keywords

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Appendix A: The Antimicrobial Stewardship Program Plan for Hospitals and Critical Access Hospitals

Component	Responsible Group	Actions & Details or Comment
Clinical or Collaborative practices and Treatment guidelines • Should be developed incorporating evidenced-based practices • Microbiology and resistance patterns of the health system should be incorporated • Doses will be optimized based on patient characteristics (renal, weight, route), site of infection, and drug characteristics	P&T CCG Pertinent CCGs System AMS committee	Banner initiatives with AMS focus include SCIP pathways, sepsis power plans, pneumonia power plans Guidelines aimed at empiric therapy incorporating evidence base guidance and antibiogram trends (Expected duration practice) Pharmacy collaborative practice development (e.g., renal, route conversion, obesity, MRSA nares) for dose and treatment optimization Power plan development based on guidelines (SSTI, UTI, Sepsis, Pneumonia)
Computer Surveillance and CDS • Computer surveillance system will provide prescriber alerts • CDS alerts fire to pharmacists when criteria is met	P&T CCG Pharmacy informatics ID pharmacist's workgroup	Tracking and trending of AMS alerts Computer surveillance alerts include antibiotic duration alerts and restricted medication alerts Examples of CDS alerts include: • Drug-bug mismatch • Therapeutic drug monitoring • Positive cultures no antibiotics • De-escalation alerts • Duplicate therapy
Tracking and Monitoring • Antimicrobial data will be tracked by DOT/1000 patient days • Antibiograms will be evaluated annually • Antimicrobials with potential opportunities for improved use will have antimicrobial audits done • Criteria based antimicrobials (restricted) will be evaluated by pharmacists	P&T CCG Pharmacy informatics ID pharmacist's workgroup	Antimicrobial data and antibiogram data will be monitored and tracked yearly for trends and to identify antimicrobial audit evaluations. Antimicrobials audits will be completed if opportunities are identified from data review or clinical practice metrics. Additional retrospective or prospective antibiotic audits will be done based on system needs. Results to be presented at AMS meetings, at AMS facility leads, and P&T CCG. Criteria based drugs will be reviewed upon initiation. Pharmacists are to document appropriate or inappropriate use based on prespecified criteria to help monitor use and identify opportunities
Education • Important for influencing prescribing behaviors • Prefer to have education coupled with active interventions	P&T CCG Clinical Educators System AMS committee ID pharmacist's workgroup	Clinical practice education is distributed by the facilities to providers, nursing, and pharmacy BLC for AMS assigned to pharmacists yearly Targeted education to be distributed by the facilities to appropriate groups

System AMS team • The team will review antimicrobial use data and assess trends • The system team will provide guidance and vetting of AMS practices or ideas • The team will be composed at a minimum of the following: 1. Infectious disease physician 2. Clinical pharmacist 3. Infection preventionist 4. Clinical microbiologist 5. Information system specialist	P&T CCG	Antimicrobial data and antibiogram review will be done yearly to assess trends or opportunities New AMS processes, practices, or guidance will be approved through this group Antimicrobial audit results will be presented to this group for discussion and vetting of ideas or education to improve use Ideas will be generated and vetted within this group.
Infectious Diseases Pharmacists Workgroup • Proactively identify opportunities for improvement by reviewing antimicrobial utilization patterns, antibiograms, indications for use, rules use and logic • Design and assist in implementing processes/protocols/practices/guidelines pertaining to infectious disease • Provide subject matter expertise for system activities/initiatives/ documents (e.g., clinical practices, policies and procedures, educational documents, guidelines, competencies) pertaining to infectious diseases • Encourage ideas and communication from facility antimicrobial stewardship teams • Serve as a forum to discuss pharmacy or antimicrobial issues bringing forward to AMS committee for discussion or approval • Guide system-wide medication-use evaluations and other infectious disease initiatives that focus on improving antimicrobial use practices	P&T CCG System AMS committee	Identify, design, implement, and monitor strategies used to enhance the use of antimicrobials in an efficacious and cost-effective manner (clinical or collaborative practices, restriction criteria, CDS alerts) The WG will guide system work to promote appropriate selection and utilization of medications to optimize patient outcomes (power plans, educational reference documents, CDS alerts) Provide recommendations on system proposal and projects (MUEs) and may serve as preceptors Review antimicrobials for criteria of use to optimize and standardize medication use and make recommendations regarding formulary status The ID pharmacists workgroup will be integral for designing and implementing AMS protocols or procedures and evaluating any practices or protocols that may impact AMS Members of this group will serve on medication use evaluations that are in the ID space
Facility AMS leads	P&T CCG	Retrospective or prospective antibiotic audits will be done at the facility based on facility needs. Results to

• Review antibiogram yearly to evaluate facility trends • Review antimicrobial data biannually to evaluate trends and evaluate for opportunities for improved use • Identify a local opportunity for improved use yearly • Implement system clinical and collaborative practices, and medication guidelines	System AMS committee	be presented at facility AMS meetings. Provider specialty or individual providers that use antimicrobials inappropriately will have further education or if repeat offenses continue, they may be referred for review. Facility AMS leads will be responsible for rolling out system AMS practices and protocols.
Infection Prevention • Review system IP reports with the ASP • Communicate concerning antimicrobial trends with the AMS team	System AMS committee	IP to present annual report at AMS team meeting Additional presentations or communications will occur if concerning trends from an IP status is observed

Appendix B: The Antimicrobial Stewardship Program Plan for Ambulatory Healthcare Settings

Component	Responsible Group	Actions & Details or Comment
Annual goal • One annual goal will be identified 1. Goal should be based on guidelines 2. Data relating to the goal will be collected, analyzed, and presented 3. Education related to the goal should be provided	Ambulatory healthcare AMS workgroup System AMS committee P&T CCG Urgent Care CCG Ambulatory Care CCG Emergency Care CCG	Goal will be identified based on information or data presented to the committee Data collection results and recommendations will be presented within the committee and then reported to the system AMS team, organizational leadership, and any other related CCG Education will be aimed at healthcare personnel who will be impacted by the organizational goal
The ambulatory healthcare AMS team will consist of the following 1. Clinical pharmacist with training in AMS or ID 2. Pharmacists with a focus in ambulatory care 3. Urgent care representative (provider preferred) 4. Ambulatory clinic representative (provider preferred) **5.** Emergency room representative (provider preferred)	System AMS team	Ideas will be generated and vetted in this group prior to vetting or presenting at the system AMS committee or any other related CCG meeting