

Antimicrobial Stewardship Elective PGY1 Learning Experience Description

Preceptor of Record:

Tristan Timbrook, PharmD, MBA, BCPS

Supporting Faculty:

Emily Spivak MHS, MD

Duration: 4 weeks

Site Description:

The Antimicrobial Stewardship Program (ASP) at University of Utah Health oversees appropriate use of restricted anti-infective agents, performs daily and longitudinal monitoring and surveillance activities, and facilitates education and development of staff and residents. The program is comprised primarily of an Infectious Diseases physician and pharmacist. The ASP team operates under the authority of the Chief Medical Officer of the hospital system.

Role of the Pharmacist:

The ASP pharmacist is responsible for performing day-to-day stewardship activities and making progress on stewardship-related initiatives and projects, and compiling and reporting stewardship metrics data.

Learning Experience Description:

The ASP PGY1 learning experience will provide in-depth training of antimicrobial stewardship principles and offer extensive practical experience via daily stewardship activities. Specifically, the resident will:

- Respond to requests for restricted antimicrobials.
- Optimize anti-infective therapy for patients with positive blood culture results.
- Round daily with the antimicrobial stewardship team.
- Perform prospective audit and feedback of targeted broad-spectrum antimicrobials.
- Document and summarize ASP process metrics.
- Provide day-to-day provider support for more difficult ID/stewardship questions.
- Assist with the management of real or anticipated antimicrobial drug shortages.
- Provide an in-service presentation to pharmacy or medical staff on an infectious diseases topic if feasible.
- Lead and contribute to topic discussions related to antimicrobial stewardship.
- Attend and participate in committees at the local level related to stewardship initiatives (eg, Infection Prevention, Pharmacy and Therapeutics, various Quality Improvement Committees).

Readings and Preparatory Work:

The resident is expected to identify an individual search strategy to retrieve relevant readings and literature with general guidance and supplementation from the preceptor. The resident will read and become familiar with guidelines for implementing an institutional ASP, regulatory requirements for ASPs, as well as new and existing literature related to antimicrobial stewardship.

Presentation Description:

The resident will prepare and lead topic discussions on specific topics related to antimicrobial stewardship (e.g. mission and objectives of ASPs, ASP team members and their roles and key support, strategies to optimize antimicrobial use, stewardship process and outcome measures, institutional reporting of stewardship measures). Operational and antimicrobial stewardship issues will be presented and discussed with the preceptors, as well as patients for whom requests for restricted antimicrobials are made. Depending on the opportunities available, the resident will prepare and present an in-service to pharmacy or medical staff on a drug class or disease state relevant to the practice area of the audience. The resident will present findings and recommendations from the medication-use evaluation or quality improvement project to the preceptor and appropriate managers and/or stakeholders. Additionally, opportunities for in-services to ID teams or other providers/services may be considered if the need arises.

Typical Daily/Weekly/Monthly Activities:

- Daily topic discussions related to stewardship.
- Daily review with preceptor of restricted antimicrobial requests and responses.
- Daily review with preceptor of patients with positive blood cultures
- Daily audit of patients receiving targeted broad-spectrum antimicrobials with feedback for de-escalation/optimization to prescribers when appropriate.
- Daily rounding with Antimicrobial Stewardship service.

Conferences

- Infectious Diseases Clinical Core Conference (Monday mornings from 8:00-9:00 am)
- Infectious Diseases Clinical Case Conference (Thursday afternoons from 5:00-6:00 pm)
- Infectious Diseases Journal Club (3rd Wednesday of each month at 8:00 am)
- Controversies in ID/ID Board Review (4th Wednesday of each month at 8:00 am)
- Infectious Diseases/ARUP Microbiology Combined Clinical Case Conference (1st Wednesday of each month at 7:30 am)
- Infectious Diseases Fellows' Case Review (Wednesday from 12:00-1:00 pm)

Local Committee Participation

- Stewardship committees as applicable

Pharmacy Services

- Infection Prevention
- Infectious diseases-related quality improvement committees (e.g. Sepsis, CAP)
- Pharmacy and Therapeutics if applicable

Expected Progression:

Day 1: Preceptor will orient resident to the workflow. Preceptor will review learning activities and expectations with resident.

- Resident should come ready to discuss resident progress to date, areas of excellence and areas of improvement needed, and three goals for rotation
- The resident is expected to be punctual, professional and prioritize daily activities throughout rotation with a focus on exceptional patient care.
- Residents must read primary literature and guidelines daily.

Week 1:

- Resident will start by working up 3-4 patients and progressing to work up additional patients by the end of the first week.
- Resident must present patients to preceptor each day in an organized way.
- Resident will model the preceptor for participation in team rounds, as well as their role on the health care team.
- Resident will learn processes for documenting pertinent pharmacist-related issues in electronic medical records including antimicrobial stewardship i-vents and progress notes

Week 2:

- Resident will work up patients with the goal of reviewing 7 teams by the end of the week.
- Preceptor is still available for questions.
- The resident will continue to work on modeling behaviors.
- Expect daily patient reviews.
- Resident will write pertinent and accurate notes, with preceptor provided feedback for each patient they are responsible.

Week 3:

- Retain and build on knowledge and skill in developing evidence-based practice
- Create a treatment plan for each assigned patient daily
- Identify modifications in treatments based on changing patient status
- Follow-up on all daily recommendations

Week 4:

- Resident is expected to work up all teams and round independently.
- Resident expected to write pertinent notes on all patients where applicable.
- Continue to discuss identified problems with preceptor daily.
- All presentations and project documents or revisions will be due no later than the next to the last day of residency.
- Resident should function at the level of an independent clinician by the last day.
- Complete all presentations and projects to the expectations set by the preceptor and turn in electronic copies to the preceptor by the last day of rotation.

Evaluation:

The resident will receive regular oral feedback regarding his or her thought processes, therapeutic plans, and follow-up. The resident will have formative snapshot self and preceptor evaluations at the midpoint and summative self and preceptor evaluations of all goals at the end of the learning experience. The resident will complete preceptor and learning experience evaluations at the end of the experience. The evaluations will be documented in PharmAcademic™ within 7 days after completion of the learning experience.

Competencies, Goals, Objectives, and Activities Taught and Evaluated

<i>Competencies, Goals, Objective Number (Level of Learning Required) & Description</i>	<i>Methods</i>	<i>Activities</i>	<i>Criteria</i>
Competency R1: Patient care			
Goal 1.1: In collaboration with the health care team, provide comprehensive medication management to patients with infectious diseases following a consistent patient care process.			
<p>OBJ R1.1.7 (Applying) For infectious diseases patients, document direct patient care activities appropriately in the medical record or where appropriate.</p>	<ul style="list-style-type: none"> ▪ Direct Instruction ▪ Modeling ▪ Coaching ▪ Facilitation 	<ul style="list-style-type: none"> ▪ Document restricted antimicrobial approvals and denials in the medical record. ▪ Select direct patient care activities related to patients on broad-spectrum antimicrobials for documentation. ▪ Select the appropriate method of documentation for a given activity related to the care of patients receiving broad-spectrum antimicrobials. 	<ul style="list-style-type: none"> ▪ Accurately and concisely communicates drug therapy recommendations to healthcare professionals representing different disciplines. ▪ Selects appropriate direct patient care activities for documentation. ▪ Documentation is clear. ▪ Documentation is written in time to be useful. ▪ Documentation follows the health system’s policies and procedures, including requirements that entries be signed, dated, timed, legible, and concise.
Goal R1.3: Manage antimicrobial stewardship activities.			

<p>OBJ R1.3.1 (Analyzing) Demonstrate an understanding of the integral members of the stewardship team, their roles, and the antimicrobial stewardship strategies used by organizations.</p>	<ul style="list-style-type: none"> ▪ Direct Instruction ▪ Modeling ▪ Coaching ▪ Facilitation 	<ul style="list-style-type: none"> ▪ Review existing guidelines for developing and implementing an antibiotic stewardship program. ▪ Review the University of Utah Hospitals and Clinics Antimicrobial Stewardship Program policy and become familiar with the mission and goals of the program, team members and their roles and interventions used to optimize antimicrobial use. 	<ul style="list-style-type: none"> ▪ Identifies members necessary for the success of a stewardship program. ▪ Accurately summarizes the advantages and disadvantages of each core and elective stewardship strategy. ▪ Effectively analyzes the strengths and deficiencies of the institution’s current stewardship program. ▪ Demonstrates understanding of the inter-relationship among infection control, microbiology, and antimicrobial stewardship programs. ▪ Demonstrates understanding of regulatory requirements around antimicrobial stewardship.
<p>OBJ R1.3.2 (Applying) Participate in the institution’s antimicrobial stewardship program.</p>	<ul style="list-style-type: none"> ▪ Direct Instruction ▪ Modeling ▪ Coaching ▪ Facilitation 	<ul style="list-style-type: none"> ▪ Review positive blood culture results, determine if changes in antimicrobial therapy are warranted and communicate recommendations to the primary teams. ▪ For patients on unnecessarily broad-spectrum antimicrobials, effectively 	<ul style="list-style-type: none"> ▪ Participates effectively on committees or informal work groups to promote antimicrobial stewardship. ▪ Participates effectively in activities to optimize anti-infective use consistent with

		<p>communicate plans for de-escalation to the primary team.</p> <ul style="list-style-type: none"> ▪ Respond to restricted antimicrobial requests ▪ Develop a process for determining which patients receiving broad-spectrum or restricted antimicrobials to review when given limited time. 	<p>departmental and organizational goals.</p> <ul style="list-style-type: none"> ▪ Prioritizes antimicrobial stewardship activities appropriately. ▪ Communicates stewardship team interventions clearly, accurately, and in a timely manner with the appropriate level of assertiveness. ▪ Manages conflict effectively. ▪ Documents activities appropriately. ▪ Provides education to prescribers, as appropriate. ▪ Participates in the process to review anti-infective use guidelines and institutional antibiogram consistent with stewardship program, departmental, and organizational goals. ▪ Demonstrates understanding of the role of automated surveillance and rapid molecular diagnostic
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			technology in optimizing anti-infective use.
<p>OBJ R1.3.3 (Applying) Evaluate stewardship program processes and outcomes.</p>	<ul style="list-style-type: none"> ▪ Direct Instruction ▪ Modeling ▪ Coaching ▪ Facilitation 	<ul style="list-style-type: none"> ▪ Evaluation of antimicrobial stewardship process and outcome measures. 	<ul style="list-style-type: none"> ▪ Understands antimicrobial stewardship metrics and the difference between process and outcomes metrics. ▪ Demonstrates understanding of effective methodologies for measuring anti-infective use. ▪ Participates effectively in measuring anti-infective use at the institution. ▪ Participates effectively in evaluating the stewardship program's impact on anti-infective use, patient outcomes, and healthcare costs. ▪ Use best practices
<p>OBJ 2.1.4 Participate in medication event reporting and monitoring</p>	<ul style="list-style-type: none"> ▪ Direct Instruction ▪ Modeling ▪ Coaching ▪ Facilitation 	<ul style="list-style-type: none"> ▪ Identify an antimicrobial adverse event(s) or medical misadventure for reporting 	<ul style="list-style-type: none"> ▪ Able to identify a medication adverse effect for FDA Adverse Event Reporting System (FAERS) ▪ Determine a medical misadventure that requires RL6 reporting ▪ Perform medication use evaluation for goal of ensuring

			safe and effective medication use
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Patient Care Experiences:

The Antimicrobial Stewardship I learning experience **will** provide the PGY1 Pharmacy Resident with extensive opportunities to care for patients with the following diseases/infections:

- Bone and joint infections
- Cardiovascular infections
- Central nervous system infections
- Fever of unknown origin
- Fungal infections
- Gastrointestinal infections
- Intra-abdominal infections
- Respiratory infections: upper and lower
- Sepsis
- Skin and soft tissue infections
- Upper respiratory tract infections
- Urologic infections
- Urinary Tract Infections and Asymptomatic Bacteriuria

The Antimicrobial Stewardship I learning experience **may** provide the PGY1 Pharmacy Resident with opportunities to care for patients with the following diseases/infections:

- Hepatitis B
- Hepatitis C
- HIV-infection and AIDS
- Ophthalmologic infections
- Opportunistic infections in immunocompromised hosts
- Parasitic infections
- Reproductive organ infections
- Sexually transmitted diseases
- Tuberculosis and other mycobacterial infections
- Travel medicine
- Viral infections