



Ambulatory Care – Primary Care Rotation Syllabus

Contact Information

Preceptor(s):

Samantha Thomas, PharmD, BCACP, CPP; Ambulatory Care Clinical Pharmacy Specialist
Office: Billings Clinic Downtown – 801 N. 29th St, Billings, MT 59105
Phone: 406-435-5312
Email: sthomas5@billingsclinic.org

Erica Hoversland, PharmD, BCACP, CPP; Ambulatory Care Clinical Pharmacy Specialist
Office: Billings Clinic Heights – 760 Wicks Ln, Billings, MT 59105
Phone: 406-238-2781
Email: ehoversland@billingsclinic.org

General Description of the Practice Area

Length: 5 weeks (residents in ambulatory care setting), 5 – 6 weeks (residents in acute care setting)

Type: Required (residents in ambulatory care setting), elective (residents in acute care setting)

Experience Overview:

Required rotation: The Primary Care rotation is a required, 5-week direct patient care rotation for the PGY1 resident in the ambulatory care setting. The goal of the primary care rotation is for the resident to become comfortable with chronic disease state management under collaborative practice agreements (CPAs). Most of the primary care rotation is spent focused on the ambulatory pharmacist-led visits. The resident develops their knowledge and skills with direct patient care that continue throughout the remainder of residency. During this rotation, the resident becomes comfortable with the electronic medical record (EMR), establishes documentation practices, and works within the interdisciplinary team. The resident splits their time between the Downtown and Heights clinics as appropriate.

Elective rotation: The Ambulatory Care – Primary Care elective is a 5 – 6 week rotation offered to the PGY1 residents in the acute care setting. The goal of the ambulatory care elective is to provide the residents with exposure to ambulatory care pharmacy as well as develop the resident's skill set for clinical decision making, care plan implementation, and direct patient care. Depending on the pharmacist's patient schedule, the residents may spend time working directly with providers.

Role(s) of Pharmacist(s) in the Practice Area

Hours: Downtown Clinic pharmacist: Monday – Friday from 0730 – 1700; off every other Friday
Heights Clinic pharmacist: Monday – Friday from 0730 – 1700; off every other Monday

Workspace: Ambulatory Care Clinical Pharmacists are embedded within the Billings Clinic Primary Care Clinics:

- Downtown: 13 providers and 30 medical residents
- West End: 18 providers
- Heights: 8 providers
- Regional sites: Bozeman (7 providers), Broadwater/Townsend (4 providers), Cody (8 providers), Miles City (7 providers), Red Lodge(8 providers), Stillwater/Columbus (6 providers), and West Yellowstone (2 providers)

Pharmacist Role: The clinical pharmacists manage patients under collaborative practice agreements subsequent to a provider or automatic ("system") referral for type II diabetes (automatic referral for HbA1c >8%), hypertension (automatic referral for blood pressure reading >140/90 mmHg), hyperlipidemia (automatic referral for type 2 diabetes mellitus, clinical ASVCD, LDL >190 mg/dL, and not currently prescribed statin therapy), COPD, asthma, tobacco cessation, bariatric surgery medication management and comprehensive medication management.

Additionally, clinical pharmacists may be consulted to provide comprehensive medication reviews, hospital follow-up medication reconciliations, and pharmacogenomic testing and interpretation.



Alongside the referral-based clinic, clinical pharmacists provide as needed drug information requests, “curbside” consults, returning incoming voicemails, attends integrated behavioral health virtual rounds (1 time weekly), provide as needed/on-the-spot medication related education to patients or providers and address medication related concerns that may be brought up via quality improvement meetings or project work. The clinical pharmacists work closely with clinic providers, nurses, behavioral health team, care management nurses/social workers and clinic management in order provide optimal pharmacotherapy. Clinical pharmacists provide medication management in-person or via virtual opportunities, which includes telephonic or video conference.

Expectations of Residents

Resident Role in the Experience: Residents work alongside the clinical pharmacist to gain confidence and practice development utilizing the collaborative practice agreements. Residents progressively work up to managing the pharmacist’s clinic schedule with independence to be able to transition skills into other areas. Residents in both settings (ambulatory care and acute care) are expected to review and be prepared to manage patients scheduled on the preceptor’s daily schedule. Goals set for patient care load are discussed below. As comfortability and knowledge develops, the residents are expected to answer informal drug information questions (“curbside consults”) from nursing and providers. After completion of patient visits, the residents are expected to complete appropriate documentation within 24 hours, which includes chart notes, provider follow-up (Message Center or face to face), laboratory orders, medication orders/refills, visit scheduling, etc.

Assignments: the resident in the ambulatory care setting may complete 1 project on this rotation to fulfill residency deliverable requirements. The resident may select their project from the following:

- Case presentation
- Journal club
- In-service/guideline update at Primary Care Medical Home (PCMH) or department meetings
- Staff education handout/resource

Formalized topic discussions are held weekly, as appropriate, and mirror collaborative practice agreements. Discussions are led by the resident. Templates are in the Primary Care Teams channel.

There may be opportunities, especially for staff education, that come up during rotation. These additional opportunities are offered to the resident; and depending on their schedule, they may opt to complete additional learning/teaching on their rotation.

Time in Patient Care Area Expectations:

- At least 90% of the rotation is spent in direct patient care or on clinical duties (i.e., goal of ≥ 7 hours per day)
- 0800 – 1200: Residents see patients in clinic and participate in clinic activities
- 1200 – 1300: Lunch, topic discussions
- 1300 – 1630: Residents see patients in clinic and participate in clinic activities

Project Time Expectations:

- One project day during the rotation is allotted and decided on prior to the rotation starting. As time allows during clinic and if all patient care activities are completed, residents may utilize the downtime to work on assigned projects.
- An additional project day may be requested by the resident if needed based on workload. This requires approval of the RPD and preceptor.

Meetings/Other Responsibilities Outside of Rotation Expectations: Non-rotation activities must be approved by the preceptor, which includes meetings or other residency responsibilities. If deemed necessary to be scheduled within the rotation day, meetings should take place via Teams over the lunch hour (1200 – 1300) whenever possible.



Resident Progression Throughout the Learning Experience

Preceptor Interaction: Preceptor is overall directly accessible to the residents. When not in direct patient care visits, the residents share the pharmacist's office space. The preceptor provides the residents on-the-spot feedback on patient encounters, EMR documentation, and provider SBARs. The preceptor initiates informal feedback weekly to review; and if required, preceptors reset goals for patient care and time management with the resident. EMR documentation feedback is provided verbally if possible or is written (e.g., Microsoft Word with track changes) and emailed to residents with preceptor's recommended edits.

Day 1: Preceptor reviews the learning experience, daily patient care activities, expectations, and assignments with residents and tours the Primary Care Clinic.

Daily: Residents are expected to review each patient and discuss their tentative patient care plan with the preceptor prior to seeing each patient.

Weekly: Residents and preceptor have informal and formal topic discussions as determined by the preceptor. The resident and preceptor share office space; and therefore, the preceptor is available for questions and coaching as needed. Informal feedback/check-ins are done with the resident.

Resident Progression of Responsibility and Skills:

Week 1: Residents are oriented to the operations of the primary care clinic and pharmacist-directed services. Residents work with the preceptor in clinic to provide evidence-based, patient-centered care to patients.

Goal: Review all scheduled patients and be prepared to discuss prior to each visit

Week 2: Residents continue to review patients prior to clinic. They begin to independently evaluate patients and take the lead on patient visits with direct support from the preceptor. For these patients, the resident is required to present their assessment and plan to the preceptor prior to interventions on patients. Residents begin to address curbside consultations as needed.

Goal: Review all scheduled patients and be prepared to discuss prior to each visit. Interview and complete documentation for at minimum 2 patients per day.

Weeks 3 – 4: Residents continue to review patients prior to clinic. They independently evaluate patients and lead visits with minimal intervention/oversight needed by the preceptor. Residents interview patients and present their evidence-based assessment and plan to the preceptor prior to interventions on patients. The residents are responsible for addressing curbside consultations as needed.

Goal: Review all scheduled patients and be prepared to discuss prior to each visit. Interview and complete documentation for at minimum 4 patients per day.

Weeks 5 – 6: Residents continue to review patients prior to clinic. They independently interview patients and make evidence-based interventions per approved protocols and collaborative practice agreements. Residents present patient cases and their assessment and plan to the preceptor prior to interventions on patients or immediately following each patient visit, depending upon patient complexity and residents' skill development.

Goal: Review all scheduled patients and be prepared to discuss prior to each visit. Interview and complete documentation for all scheduled patients.



Educational Objectives and Learning Activities

Taught and evaluated objectives		Activities
Goal R1.1: Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process)		
Objective R1.1.1	(Analyzing) Collect relevant subjective and objective information about the patient.	<ul style="list-style-type: none"> Effectively review patient charts to gather and organize pertinent information needed for patient evaluation and pharmacotherapy management
Objective R1.1.2	(Evaluating) Assess clinical information collected and analyze its impact on the patient's overall health goals.	<ul style="list-style-type: none"> Deduce major drug-drug interactions, inappropriate prescribing, and serious medication safety events. If needed, complete a Safety Net for system process review Compare primary, secondary, and tertiary resources and patient-specific data to determine the most important pharmacotherapy issues to address during the patient encounter.
Objective R1.1.3	(Creating) Develop evidence-based, cost effective, and comprehensive patient-centered care plans.	<ul style="list-style-type: none"> Utilize guideline-directed medical therapy (GDMT) and pharmacy collaborative practice agreements to formulate patient-specific care plans
Objective R1.1.4	(Applying) Implement care plans.	<ul style="list-style-type: none"> Choose and organize care plans developed, including medication initiation/discontinuation/modification, medication access, laboratory monitoring, and care coordination
Objective R1.1.5	(Creating) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	<ul style="list-style-type: none"> Schedule appropriate pharmacy clinic follow-up Modify medication regimens based on patient labs, adherence, and other relevant factors
Objective R1.1.6	(Analyzing) Identify and address medication-related needs of individual patients experiencing care transitions regarding physical location, level of care, providers, or access to medications.	<ul style="list-style-type: none"> Examine medication lists and provide hospital follow-up medication reconciliation either virtually or directly prior to provider hospital, skilled nursing facility, rehab, or step-down hospital follow-ups Coordinate care and warm hand offs as needed between providers, healthcare team members, or within different specialty clinics
Goal R1.2: Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.		
Objective R1.2.1	(Applying) Collaborate and communicate with healthcare team members.	<ul style="list-style-type: none"> Provide medication recommendations or patient related communication directly to providers either face-to-face, telephonically, or via Message Center Integrate within the medical home as part of the medical home team Provide warm hand offs and SBARs to providers to discuss patient care as needed for time-sensitive interventions
Objective R1.2.2	(Applying) Communicate effectively with patients and caregivers.	<ul style="list-style-type: none"> Educate patients and family members about safe and appropriate medication and disease state management
Objective R1.2.3	(Applying) Document patient care activities in the medical record or where appropriate.	<ul style="list-style-type: none"> Appropriately document care plans in the electronic medical record (EMR) Utilize pharmacy team tracking tools to collect implemented drug therapy optimization Coordinate care (outside of the patient chart note) with providers, healthcare team members, and patients using Message Center



Evaluations

PharmAcademic™ is used for documentation of all formal evaluations. Evaluations must be completed no later than 7 days past the due date. Preceptors and residents meet to discuss all evaluations for the experience. Refer to policy RXRESGEN – 105 (Pharmacy Resident Assessment) for further details on expectations regarding evaluations.

Evaluation	Who	When
Midpoint Verbal Evaluation	Residents	End of week 2 or 3 (depending on rotation length)
Summative: Self-Evaluation	Residents	End of rotation
Summative Evaluation	Preceptor	End of rotation
Learning Experience Evaluation	Residents	End of rotation
Preceptor Evaluation	Residents	End of rotation



Cardiology – Inpatient Rotation Syllabus

Contact Information

Preceptor(s): Molly Barlow, PharmD, Clinical Pharmacist, Critical Care and Trauma Pharmacy Team
 Hours: 0730 – 1800
 Phone: CVU Pharmacy: desk – 4295, cell – (760) 821-5242
 Email: mbarlow2@billingsclinic.org

General Description of the Practice Area

Length: 5 weeks

Type: Required

Experience Overview:

Cardiology is a required, 5-week rotation for PGY1 residents of the program in the acute care setting and is based in the inpatient Cardiovascular Unit (CVU). CVU is a 29-bed unit with an average length of stay for patients of approximately 36 hours. The CVU staff is primarily responsible for the care and monitoring of cardiac and critical care step-down patients admitted to the hospital. Disease states most seen include chronic and decompensated heart failure, atrial fibrillation, those needing open heart surgery, coronary artery disease in need of intervention, and those with a variety of arrhythmias (SVT, WPW, CHB). Hypertension and hypertensive urgency/emergency as well as cardiac conditions requiring anticoagulation are also common.

Role(s) of Pharmacist(s) in the Practice Area

Hours: Pharmacy services for CVU are provided by one decentralized pharmacist on weekdays. Evening and weekend coverage is provided by the Emergency Department (DC-3 and ED), ICU (DC-1), and main pharmacists:

- CVU pharmacist: scheduled 0730 – 1800, Monday – Friday
- Decentralized #3 (DC-3) pharmacist: covers from 1800 – 2000, Monday – Friday and 0930 – 2000 on weekends
- ED pharmacist: covers from 2000 – 0200, 7 days per week
- Nightshift pharmacist: covers from 0200 – 0500, 7 days per week
- Decentralized #1 (DC-1) pharmacist: covers from 0500 – 0730, Monday – Friday and 0500 – 0930 on weekends

Workspace: CVU pharmacist’s station (hospital building – 3rd floor)

Pharmacist Role: The CVU pharmacist’s primary responsibilities include order processing; pharmacist-driven protocols; answering drug information questions from providers, nurses, and patients; interdisciplinary team interactions and education; patient counseling; medication profile reviews; and attending all cardiopulmonary resuscitation (CPR) calls on CVU patients as well as back up for ICU CPRs. The CVU pharmacist also provides coverage for the Orthopedic-Neurology Unit (ONU) during their shift. The CVU pharmacist is highly involved with precepting residents and students and training new inpatient pharmacists. Likewise, the CVU pharmacist regulatory updates organizational policies and protocols related to inpatient anticoagulation and provides routine in-services on the use of these pharmacist-driven protocols.

A typical day is structured as follows:

Time	Activities
0730 – 1030	Task prioritization and patient profile reviews. <ul style="list-style-type: none"> • The pharmacist reviews the various queues and resources (e.g., PPM, MPTL, CPW) to determine the most acute tasks (e.g., protocols requiring action, STAT orders, anticoagulation patient discharges) and then prioritizes and completes the workload accordingly.
1045 – 1115	Interdisciplinary Team Rounds (nurses, case managers, PT/OT, charge nurse, nurse manager, pharmacist) <ul style="list-style-type: none"> • The pharmacist attends and provides input on patient cases about barriers to discharge such as extended duration of IV antibiotics for endocarditis.



Time	Activities
1130 – 1730	<p>Workload management.</p> <ul style="list-style-type: none"> The pharmacist balances their main responsibilities throughout the remainder of the day, most of which includes order processing, pharmacist-driven protocols (primarily heparin, warfarin, vancomycin), answering drug information questions from nursing and providers, and patient counseling on anticoagulation. The pharmacist provides education to all patients on new anticoagulation medications (DOAC or warfarin). If a patient is new on warfarin, a pharmacist helps coordinate care with outpatient services. If a patient has been on warfarin prior to admission, the pharmacist assists in coordination of care between inpatient and outpatient clinics prior to discharge and provides any further education that the patient may need. The pharmacist's desk is close to the cardiologist's office so collaboration between the pharmacist and providers takes place frequently. Additional responsibilities include CPR participation, meeting attendance, and projects. The CVU pharmacist and residents schedule time in the afternoons for reviewing patients and completing topic discussions. Before leaving for the day, the pharmacist ensures all CVU and ONU protocols are completed, tasks have been addressed (e.g., MPTL), documentation is completed (e.g., centralized queue, SOAP notes), and a plan is in place for any outstanding items.
1730 – 1800	Sign out. The pharmacist provides a verbal or a telephone hand-off to the DC-3 pharmacist.

Expectations of Residents

Resident Role in the Experience:

Residents are expected to become integral members of the healthcare team working closely with the pharmacist preceptor, physicians, advanced practice providers (APPs), nurses, and other professionals. Residents develop the skills required to provide comprehensive, patient-centered, pharmaceutical care to cardiology patients. They actively participate in interdisciplinary rounds with various cardiology providers and assist the CVU pharmacist with clinical duties. Residents become proficient in dosing, monitoring, and educating patients on the proper use of warfarin, other anticoagulants, antiplatelet therapies, and other cardiac medications. Residents are also an essential part of the coordination of care between the inpatient setting and outpatient clinics for patients requiring long-term anticoagulation. Residents may also work one-on-one with cardiology providers during their clinic hours and/or with the ambulatory cardiology clinical pharmacist in the multidisciplinary heart failure clinic. Each week, residents focus on a different cardiology disease state (e.g., Afib, heart failure, ACS/STEMI/NSTEMI). Residents review patient medication orders, charts, and profiles and conduct patient/family interviews to identify and resolve medication-related issues. Depending upon availability, residents may also spend time in the cardiac catheterization lab, observing cardiac surgery, and learning to read EKGs with the unit clerk. Residents shall strive to improve their application of cardiology knowledge to specific patients as well as improve their patient counseling, team-working, and workload prioritization skills. Residents are expected to be proficient enough by the fifth week to work independently in CVU as the pharmacist on duty.

Assignments:

Mini patient case discussions: 2 – 3 times per week

- Verbally present 1 or more patients to preceptor and/or CVU pharmacist. Each week, residents focus on a different disease state. They select several patients with the weekly disease state. They review medication records to ensure patients are meeting guideline directed medical therapy (GDMT). If patients are not on GDMT, residents investigate why they are not (e.g., hypotension, CKD) and develop recommendations as necessary.



Topic discussions: ~ weekly

- Read relevant references related to assigned topics and be prepared to discuss information with preceptor or CVU pharmacist (± pharmacy students); may include “mini” journal club presentations
- Residents are expected to become proficient at leading the topic discussions
- Residents should suggest any topics of interest to the preceptor
- Topic list:
 - Acute coronary syndromes (ACS): unstable angina, myocardial infarctions (NSTEMI and STEMI)
 - Arrhythmias: Atrial fibrillation and atrial flutter
 - Heart failure (HF): acute decompensated, chronic/congestive
 - Valvular heart disease
 - Hypertension/hypertensive crisis/emergency
 - Anticoagulation
 - Pulmonary hypertension

Time in Patient Care Area Expectations:

- 0730 – 1200: Residents perform patient reviews, participate in the CVU pharmacist’s workflow and clinical duties, round with providers, and take part in other rotation activities as detailed in their schedules. Residents spend time learning and gaining proficiency at order verification during times when no other clinical work is pending. Residents should act on tasks in the multi-patient task list (MPTL) such as heparin protocols or vancomycin levels in a timely manner.
- Afternoons: Residents spend 1 – 2 hours in the afternoons in the CVU pharmacy work area completing topic discussions, presenting patients to the preceptor and/or CVU pharmacist, and following up on issues from the morning activities. They also spend time verifying orders as time allows.
- Residents should provide a proper sign-out of patients and any pending issues before leaving for the day.

Project Time/Meetings Expectations:

- Residents are allowed 1 project day during the rotation. This should be decided upon at the start of the rotation and added to the Pharmacy Resident Calendar.
- An additional project day may be requested by the resident if needed based on workload (e.g., large deadlines approaching). This requires approval of the RPD and preceptor.
- The preceptor and residents agree on project day(s) based on how many meetings residents may have or if they need time to prepare for another project (e.g., large presentation, research deadline).
- The expectation is that other meetings are scheduled in the afternoon after 1500 if possible. If that is not possible, the residents must seek approval from the preceptor.

Resident Progression Throughout the Learning Experience

Preceptor Interaction:

Day 1: Preceptor reviews the cardiology rotation activities, expectations, and assignments with residents and tours the CVU. The preceptor prepares a calendar for residents with activities, meetings, topic discussions, and their project day. This is a template for the rotation; and as things change throughout the rotation, it is updated and a final copy is provided to the residents, preceptor, and RPD at the end of the rotation.

Daily: Patient reviews, rounds, and topic discussions with the residents; times may vary

Resident Progression of Responsibility and Skills:

Residents are assigned a minimum of 3 patients at the beginning of their rotation and should follow those patients until a) hospital discharge, b) transfer out of CVU, or c) the end of their rotation. Residents should be able to review patients’ medications, labs, progress notes, and other relevant information and be able to make recommendations for changes. Recommendations should be discussed with the preceptor and/or CVU pharmacist until the resident has progressed to requiring only minimal supervision.

Each morning, residents should review the CVU patient list for new admissions and begin monitoring those patients as indicated by preceptor or CVU pharmacist (in addition to patients currently being followed).



By the end of the rotation, residents should be able to actively monitor the entire CVU floor. However, the quality of patient reviews while gaining efficiency should be prioritized over trying to hit the specific target number of patients.

Week 1: Residents typically work one-on-one with preceptor or CVU pharmacist to learn the CVU pharmacist's workflow and participate in their clinical duties. Week 1 is ACS/NSTEMI/STEMI week. Resident are expected to select 2 – 3 patients who have a primary diagnosis of ACS/NSTEMI/STEMI and do an extensive profile review. Residents are expected to follow those patients until they are discharged or transferred off the floor. Residents are expected to research the latest guidelines and literature on ACS/NSTEMI/STEMI and apply them to their patients' medication lists. If there are inconsistencies, they are expected to investigate why the patient is deviating from guidelines and provide appropriate recommendations.

Goals for this week include becoming familiar with workflow and protocols, developing a consistent process for profile reviews, and completing the ACS/NSTEMI/STEMI topic discussion and mini-topic discussion on anticoagulation.

Anticoagulation Protocols: This week, residents learn the Billings Clinic heparin/warfarin protocols and how to write SOAP notes in the electronic health record. The preceptor provides close supervision until residents demonstrate competency in understanding the protocols and proper documentation practices. Resident SOAP notes and dosing are reviewed by preceptor before orders are placed or notes signed. Residents are not allowed to sign notes until the preceptor is confident in their ability to follow the heparin/warfarin protocols. Timing of this varies as some residents have experience from their other rotations with heparin or warfarin dosing. Most residents can become independent by the second week of rotation. The preceptor is always available, however, to answer questions or discuss difficult cases. Also, procedures are reviewed about warfarin/DOAC discharges at length. Educational materials are provided to residents for review. Initially, residents watch the preceptor provide warfarin/DOAC education until they feel confident to perform on their own. The preceptor observes them perform the education, provides feedback, and continues to monitor patients until the preceptor feels confident that residents can provide education independently.

CVU Specific Drips/Policies: Residents and the preceptor also review CVU specific drips, medications, and protocols. This includes amiodarone, dofetilide, max rates for dobutamine/dopamine, etc.

Interdisciplinary Rounds: Meet daily at 1045 – 1115 to discuss any barriers to discharge of each patient (e.g., IV antibiotics). Residents are expected to actively participate in rounds. Residents learn the various methods to communicate issues or changes in medication therapy to all pertinent members of the healthcare team, utilizing the appropriate medium (e.g., face-to-face, telephone, Voalte) depending upon the acuity of the situation.

Order Verification: Residents may start order verification with the preceptor providing close supervision on each order. Preceptor determines when residents are competent to verify orders with minimal supervision.

Week 2: Week 2 focuses on coronary artery disease (CAD), hypertension (HTN), and hypertensive urgency/emergency. Residents are expected to select 2 – 3 patients who have HTN and/or CAD and do an extensive profile review. Residents are expected to follow that patient until they are discharged or transferred off the floor. Residents are expected to research the latest guidelines and literature on HTN and CAD and apply them to their patients' medication lists. If there are inconsistencies, they are expected to investigate why the patient is deviating from guidelines and provide recommendations. They are allowed to work on these reviews all morning with the exception of Interdisciplinary Rounds. Residents and the preceptor discuss the patients in the afternoon.

Main goals for this week include the topic discussion on HTN and HTN urgency/emergency and visiting cath lab.

Week 3: Week 3 is atrial fibrillation (Afib) week. Residents are expected to select 3 – 4 patients who have a primary diagnosis of Afib and do an extensive profile review. If the patients from the previous week are still on CVU, residents are expected to follow those patients until they are discharged or transferred off the floor. Residents are expected to research the latest guidelines and literature on Afib and apply them to their patients' medication lists. If there are inconsistencies, they are expected to investigate why the patient is deviating from guidelines and suggest interventions. They can work on these reviews all morning except Interdisciplinary Rounds. Residents and the preceptor discuss the patients in the afternoon. Residents and the preceptor have a topic discussion on Afib during this week.



Each week, residents are given more latitude with order verification, anticoagulation discharges, answering the phone, and answering nursing and provider questions as their knowledge level increases. This is proven through mini-topic discussions and questions presented to residents.

Participation in Interdisciplinary rounds should include independently making recommendations to improve patient care. Also, residents provide drug information on topics requested by the providers during this time. Residents may also attend various procedures as time allows, including transesophageal echocardiograms (TEEs), cardioversions, stress tests, and nuclear medicine testing.

Main goals for week 3 include the Afib topic discussion, rounding with the heart failure team, EKG monitoring, and the midpoint evaluation.

Residents may also actively participate in a variety of cardiology-related activities as available, and scheduling allows during weeks 3 – 5:

- Cardiology Clinic (outpatient): 1 – 5 days with the Advanced Heart Failure physician or Hospital cardiology team (cardiologist/APP) rounding for the week. This primarily includes providing patient-specific medication recommendations and answering drug information questions.
- Pacemaker Clinic (inpatient and outpatient): 1 – 2 hours with electrophysiology physician in clinic and/or in hospital (e.g., ablation, pacer/ICD insertion) and shadowing during pacemaker interrogations
- CV Surgery: 1 day to observe an open-heart surgery or TAVR
- Cardiologist: Procedures on the floor (e.g., TEE/cardioversions, Bubble studies, ECHO (endocarditis))

Week 4: Week 4 is heart failure (HF) week. Resident are expected to select 4 – 5 patients who have a primary diagnosis of HF and do an extensive profile review. Residents are expected to follow their patients until they are discharged or transferred off the floor. Residents are expected to research the latest guidelines and literature on HF and apply them to their patients' medication lists. If there are inconsistencies, they are expected to investigate why the patient is deviating from guidelines and suggest ways to improve therapy. They can work on these reviews all morning except Interdisciplinary Rounds. Residents and the preceptor discuss the patients in the afternoon.

Residents continue to participate in the CVU pharmacist's daily activities with the goal of becoming an independent practitioner. Participation in rounds should include independently making recommendations to improve patient care. Also, residents provide drug information on topics requested by the providers during this time. Residents may also attend various procedures as time allows. Also, when residents watch a CABG (coronary artery bypass graft) surgery, they are expected to follow that patient throughout their hospitalization. If they are on anticoagulation, residents are expected to provide their anticoagulation education.

Main goals for this week include the HF topic discussion, attending a CABG or valve surgery, and rounding with HF team.

Week 5: Week 5 is "Residents are Primary Pharmacist" week. The preceptor continues to be available to assist residents; however, residents are responsible for all pharmacy protocols (heparin/warfarin/vanco), order verification, RN and provider questions, interdisciplinary rounds, and all other issues that present during the day. Residents should be able to perform the majority CVU pharmacist's duties with confidence. A topic discussion of the "Resident's Choice" can be done during this week if time allows.

Main goal for this week is becoming an independent practitioner.



Educational Objectives and Learning Activities

Taught and evaluated objectives		Activities
Goal R1.1: Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process)		
R1.1.1	(Analyzing) Collect relevant subjective and objective information about the patient.	<ul style="list-style-type: none"> Accurately gather and classify patient and medication-related information using a systematic approach.
R1.1.2	(Evaluating) Assess clinical information collected and analyze its impact on the patient's overall health goals.	<ul style="list-style-type: none"> Determine drug therapy problems (DTPs) and prioritize problems based on admission reason(s) and cardiac diagnoses first followed by chronic conditions.
R1.1.3	(Creating) Develop evidence-based, cost effective, and comprehensive patient-centered care plans.	<ul style="list-style-type: none"> Using patient-specific information, propose safe and appropriate medication therapy recommendations to providers daily for optimizing management of various disease states and to address any DTPs identified, with an emphasis on cardiac diseases. Accurately order medications and build treatment plans using established Billings Clinic Pharmacy protocols.
R1.1.4	(Applying) Implement care plans.	<ul style="list-style-type: none"> Follow-up on patients throughout the day to ensure implementation of plans as discussed with patient's care team.
R1.1.5	(Creating) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	<ul style="list-style-type: none"> Develop monitoring plans for patients leaving on anticoagulation. Schedule outpatient follow-up appointments with a suitable anticoagulation clinic. Using Billings Clinic Pharmacy protocols, choose appropriate intervals for follow-up labs for patients on anticoagulation.
R1.1.6	(Analyzing) Identify and address medication-related needs of individual patients experiencing care transitions regarding physical location, level of care, providers, or access to medications.	<ul style="list-style-type: none"> Analyze patient profiles to discover medication-related items needing addressed when patients are preparing for or returning to the floor from the cardiac catheterization lab, surgery, or other procedures. Inspect discharge medication lists and ensure that the Meds to Beds program is ordered for all patients new to DOAC therapy.
Goal R1.2: Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.		
R1.2.1	(Applying) Collaborate and communicate with healthcare team members.	<ul style="list-style-type: none"> Build professional relationships with the interdisciplinary team during rounds as available. Communicate issues or changes in medication therapy to all pertinent members of the healthcare team, utilizing the appropriate medium (e.g., face-to-face, telephone, Voalte) depending upon the acuity of the situation.
R1.2.2	(Applying) Communicate effectively with patients and caregivers.	<ul style="list-style-type: none"> Clarify home medication histories with patients or families as needed. Attain and clarify allergies with patients, family members, and/or caregivers as needed. Provide medication education to patients discharged from the hospital on anticoagulants.
R1.2.3	(Applying) Document patient care activities in the medical record or where appropriate.	<ul style="list-style-type: none"> Compose accurate, concise SOAP notes for pharmacy protocol patients in the patient's electronic medical record. Document protocols correctly, accurately, and in a timely fashion in the multi-patient task list (MPTL).



Evaluations

PharmAcademic™ is used for documentation of all formal evaluations. Evaluations must be completed no later than 7 days past the due date. Preceptors and residents meet to discuss all evaluations for the experience. Refer to policy RXRESGEN – 105 (Pharmacy Resident Assessment) for further details on expectations regarding evaluations.

Evaluation	Who	When
Midpoint Verbal Evaluation	Residents	End of week 3
Summative Self-Evaluation	Residents	End of rotation
Summative Evaluation	Preceptor	End of rotation
Learning Experience Evaluation	Residents	End of rotation
Preceptor Evaluation	Residents	End of rotation



Critical Care Rotation Syllabus

Contact Information

Preceptor(s): Jennifer Walker, PharmD, BCPS, BCCCP; Lead Clinical Pharmacist, Critical Care and Trauma Pharmacy Team
Office: MICU Pharmacy Office (Hospital Bldg – 2nd floor)
Hours: 0600 – 1630, weekdays
Phone: 406-435-4092 office
Email: jwalker2@billingsclinic.org

General Description of the Practice Area

Length: 5 – 6 weeks

Type: Required

Experience Overview:

Critical Care is a required, 5 to 6-week rotation for PGY1 residents of the program in the acute care setting. It is based in the Medical Intensive Care Unit (MICU). The MICU is a 28-bed medical critical care unit, with an average daily census of 23 patients. The patient population may include but is not limited to mechanically ventilated patients, post-open heart surgery, patients requiring cardiac support devices such as Impella or ECMO, diabetic ketoacidosis, and septic shock.

Globally, the MICU is divided into teaching and non-teaching provider services, indicating the presence of medical residents and/or medical students. The primary providers are pulmonary/intensive care physicians and APPs, with specialists such as cardiology, infectious diseases, nephrology etc, consulted as needed

The Surgical Intensive Care Unit (SICU) is a newly opened 10-bed unit on the hospital's 4th floor. This unit houses critically ill trauma and surgical patients. The primary providers are the SICU physicians and APPs with additional specialists consulted as needed. While the PGY1 critical care rotation is primarily a medical ICU rotation, residents may cover the SICU service on an individual basis if time and interest allows.

Role(s) of Pharmacist(s) in the Practice Area

Hours: Pharmacy services in the MICU are provided by two to three decentralized pharmacists throughout the day.

- PULM shift is scheduled from 0600 – 1630 on weekdays
 - Attends daily AM report (handoff from night to day shift), teaching rounds (includes pulmonary attending, medical residents, and dietician) and multidisciplinary disposition rounds (pulmonary attendings and advanced practice practitioners, medical residents, dietary, PT/OT, care management, nursing)
- Decentralized #1 (DC-1) shift is scheduled from 0500 – 1530, 7 days a week
 - Provides coverage for MICU on the non-teaching service and AM Emergency Department coverage
 - Attends daily SICU/trauma rounds Monday – Friday
- Decentralized #3 (DC-3) shift is scheduled from 0930 – 2000, 7 days a week
 - Provides evening coverage of critical care services

Workspace:

- PULM pharmacist works in the MICU and is typically out with the medical teams on the MICU floor vs. in the pharmacy office.
- DC-1 pharmacist primarily works from the MICU pharmacy office.
- DC-3 pharmacist works at the Emergency Department (ED) pharmacy station from 0930 – 1530 and from the MICU for the remainder of their shift.

Pharmacist Role: The PULM pharmacist's primary responsibilities include rounding with the MICU teams; attending cardiopulmonary resuscitation (CPR), stroke (level 1), and trauma (level 1) alerts; answering drug information questions from providers, nurses, and other healthcare professionals; and detailed patient profile reviews. They also process orders and complete pharmacist-driven protocols.



The DC-1 pharmacist provides coverage for orders, protocols, and phone calls for MICU and SICU when the PULM shift is rounding. DC-1 pharmacist is the primary coverage for SICU patients and non-teaching service MICU patients throughout their shift but also supports other critical care areas (e.g., CVU, ED) and other pharmacists throughout the hospital. The DC-3 pharmacist is the primary coverage for the ED for the first part of their shift and then assists with DC-1 and ED pharmacists with coverage of critical care areas for the remainder of their shift.

Some scheduled weekday activities include:

- 0700 – 0730: Morning report from nightshift to dayshift
- 0900 – 1100: Interdisciplinary rounds with MICU teams – PULM pharmacist attends. Times are approximate; rounds may start earlier or run longer based on the day.
- 1100 – 1145: Multidisciplinary rounds – PULM pharmacist attends
- 1145 – 1215: Mon/Thu: Trauma rounds – DC1 pharmacist attends
- 1145 – 1215 Mon – Fri: SICU rounds – DC-1 pharmacist attends

Expectations of Residents

Resident Role in the Experience:

Residents primarily work with the PULM shift pharmacist and are expected to become integral members of the healthcare team. Residents develop the skills required to provide comprehensive, patient-centered, pharmaceutical care to critically ill patients. Residents actively participate in rounds with the PULM pharmacist and MICU teams throughout the day. They primarily focus on teaching service patients. Residents also participate in multidisciplinary MICU rounds, which include providers; nurses; dietitians; respiratory, physical, and occupational therapists; social workers; and pharmacists. Residents assist the critical care pharmacists with clinical duties (e.g., rounding, orders, protocols, phone calls, responding to medical emergencies), with responsibilities added in a progressive manner. They observe and assist with the pharmacy components of procedures/treatments (e.g., RSI, chest tubes, CRRT, ECMO) as available. Furthermore, residents help with pharmacy-related care coordination between the critical care setting and inpatient step-down units and provide a handoff to the DC-3 pharmacist before leaving for the day.

Assignments:

Patient profile reviews and discussions: daily

- Discuss patients with preceptor and/or MICU pharmacist prior to rounds for planned interventions and after rounds for follow up discussion
- Complete protocols associated with assigned patients

Topic discussions: 2 – 3 times weekly

- Read relevant literature related to assigned topics and be prepared to discuss information with preceptor or MICU pharmacist; usually includes reviewing patient cases in order to apply the information.
- Topic discussions are a mixture of in-depth discussions and “mini” topic discussions conducted in the midst of regular ICU workflow. In-depth topics are scheduled at the beginning of the rotation, and readings assigned the week prior to allow for preparation. Planned topics may change from initially scheduled topics depending on types of patients being encountered or resident interest areas.
- Residents are expected to become proficient at leading the topic discussions according to preceptor’s specified format, which is shared with the resident during rotation orientation.



Time in Patient Care Area Expectations:

- 0630 – 1200: Residents work up patients, participate in rounds, and are part of the MICU workflow (e.g., order processing, answering nurse/provider questions). Interruptions in rounds may occur if medical emergencies arise.
- 1230 – 1500: Residents spend 1 – 2 hours in the afternoons in the MICU pharmacy office completing topic discussions, monitoring patients, and following up on issues from the morning activities. They may attend medical emergencies as they arise.
- 1500 – 1700: Residents remain on-call for medical emergencies from 0630 – 1700 during their Critical Care rotation. As such, they are required to be on-campus until 1700. They are not required to be physically present in the ICU for the whole time but available to respond to medical emergencies after they sign out of MICU for the day (usually around 1500).
- Residents should provide a proper sign-out of patients and any pending issues before leaving for the day.

Project Time Expectations:

- Residents are given 1 project day during the rotation.
- An additional project day may be requested by the resident if needed based on workload (e.g., large deadlines approaching). This requires approval of the RPD and preceptor.
- It is preferred to coordinate project day(s) with the primary preceptor before or at the beginning of the rotation to maximize days spent with primary preceptor.

Meetings/Other Responsibilities Outside of Rotation Expectations:

Meetings and other responsibilities not related to the rotation should be scheduled during project time or after 1400 during non-project time.

Resident Progression Throughout the Learning Experience

Preceptor Interaction:

Day 1: Preceptor reviews the Critical Care rotation activities, expectations, and assignments with the residents and tours the MICU and SICU.

Daily: Preceptor interacts with residents daily on rounds, responding to medical emergencies, and when supervising other clinical duties

Resident Progression of Responsibility and Skills:

Week 1: Residents work one-on-one with preceptor or another MICU pharmacist to learn the MICU pharmacists' workflow and participate in their clinical duties. The focus of this week is learning proper work-up of MICU patients and the pharmacist's role on rounds. Residents are assigned a minimum of 3 patients at the beginning of their rotation and should follow those patients until a) hospital discharge, b) transfer out of the MICU, or c) the end of the rotation. Residents should expect to complete any protocols associated with their assigned patients, as well as assisting with protocols for new admissions as needed. Preceptor reviews progress notes and intended interventions for appropriateness and completeness.

Each morning, residents should review the MICU patient list for new admissions and begin monitoring those patients as indicated by preceptor or MICU pharmacist (in addition to patients currently being followed).

Week 2: Residents actively participate in the MICU pharmacists' daily activities with the goal of becoming an independent practitioner. Residents focus on gaining proficiency with patient monitoring and interdisciplinary team interactions, including developing medication therapy recommendations and making interventions on rounds. Residents should focus on relationship building with the rounding teams and monitoring more patients as the weeks progress. During the second week, residents should be able to follow a minimum of 5 patients, completing profile reviews and protocols for these patients as well as protocols for new admissions as needed.

Week 3: Residents continue to actively participate in the MICU pharmacists' daily activities. By week 3, residents are encouraged to speak independently during rounds to make interventions. Residents should be following at least 50% of the patients on the teaching service.



Week 4: In addition to the activities completed in weeks 1 – 3, residents start verifying orders for their assigned patients. Orders may arise at any time throughout the day, and residents should be available and prepared to verify these orders. By this week, residents should be following at least 75% of the patients on the teaching service and speaking up independently during rounds. Residents may start rounding alone depending upon comfort level and skills.

Weeks 5 – 6: Residents should be able to perform the majority of a MICU pharmacist’s duties with confidence. Residents are given the opportunity to function independently as the MICU pharmacist. By the end of the rotation, residents should be able to follow 100% of the patients on their rounding service as well as verify orders and complete protocols for these patients. Residents round with the teaching team independently, with the preceptor available via Teams messenger or Voalte for questions.

Educational Objectives and Learning Activities

Goals and Objectives Taught and Evaluated:

Type/ Number	Bloom’s Taxonomy & Description	Activities
Goal R1.1: Provide safe and effective patient care services following JCPP (Pharmacists’ Patient Care Process)		
Objective R1.1.1	(Analyzing) Collect relevant subjective and objective information about the patient.	<ul style="list-style-type: none"> Examine patient and medication-related information using an efficient and thorough process for assigned patients daily.
Objective R1.1.2	(Evaluating) Assess clinical information collected and analyze its impact on the patient’s overall health goals.	<ul style="list-style-type: none"> Critique patients’ medication profiles to identify drug therapy problems (DTPs). Compare patients’ medication profiles to best evidence for critical care patients.
Objective R1.1.3	(Creating) Develop evidence-based, cost effective, and comprehensive patient-centered care plans.	<ul style="list-style-type: none"> Generate safe and appropriate medication therapy recommendations daily for assigned patients (e.g., FASTHUG, antibiotic appropriateness and durations). Develop appropriate doses and order medications using established Billings Clinic Pharmacy protocols.
Objective R1.1.4	(Applying) Implement care plans.	<ul style="list-style-type: none"> Recommend changes to medication therapy to providers using appropriate resources, rationale, and communication skills. Recommendations should include specific details about the medications (dose, dosage form, route of administration, frequency). Review patients after rounds and identify any gaps in plans discussed with the MICU team. Contact the preceptor and/or the appropriate provider to clarify any discrepancies.
Objective R1.1.5	(Creating) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	<ul style="list-style-type: none"> Modify medications for patients on pharmacist-driven protocols. Formulate recommendations for the team to address changing needs of assigned patients.
Objective R1.1.6	(Analyzing) Identify and address medication-related needs of individual patients experiencing care transitions regarding physical location, level of care, providers, or access to medications.	<ul style="list-style-type: none"> Compare home and hospital medication lists to ensure appropriate continuation of patients’ home medications upon admission to the hospital and/or transfer out of ICU.



Type/ Number	Bloom's Taxonomy & Description	Activities
Goal R1.2: Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.		
Objective R1.2.1	(Applying) Collaborate and communicate with healthcare team members.	<ul style="list-style-type: none"> Attend morning report and triage important medication-related issues. Develop rapport with the MICU team and other disciplines by actively participating in rounds (providing patient-specific medication recommendations, answering drug information questions, etc.). Demonstrate timely, closed-loop communication with members of the healthcare team, utilizing the appropriate system (e.g., face-to-face, telephone, Teams, Voalte). Provide detailed hand-off to the DC-3 pharmacist daily.
Objective R1.2.3	(Applying) Document patient care activities in the medical record or where appropriate.	<ul style="list-style-type: none"> Complete multi-patient task list (MPTL) and the clinical pharmacist worklist (CPW) tasks using appropriate documentation. Document accurate, concise notes for MICU patients on pharmacist-driven protocols.

Evaluations

PharmAcademic™ is used for documentation of all formal evaluations. Evaluations must be completed no later than 7 days past the due date. Preceptors and residents meet to discuss all evaluations for the experience. Refer to policy RXREGEN – 105 (Pharmacy Resident Assessment) for further details on expectations regarding evaluations.

Evaluation	Who	When
Midpoint Verbal Discussion	Residents	End of week 3
Summative Self-Evaluation	Residents	End of rotation
Summative Evaluation	Preceptor	End of rotation
Learning Experience Evaluation	Residents	End of rotation
Preceptor Evaluation	Residents	End of rotation



Emergency Medicine Rotation Syllabus

Contact Information

Preceptor(s): Karin Walton, PharmD, BCEMP; Clinical Pharmacist, Emergency Department
Hours: 1530 – 0200 (7 days on; 7 days off)
Phone: (406) 435-6814
Email: kw Walton@billingsclinic.org

General Description of the Practice Area

Length: 5 – 6 weeks

Type: Elective

Experience Overview:

Emergency Medicine is a 5- or 6-week elective rotation option for PGY1 residents of the program in the acute care setting. It is focused on enhancing residents' abilities to manage patients with urgent and emergent medical needs. This rotation is centered in the Emergency Department (ED).

The ED is composed of 36 beds, which are separated into 4 pods (A, B, C, and D). There are approximately 140 patient visits per day, of which ~ 20% results in hospital admissions. The patient population in the ED is widely varied – it includes pediatrics and adults; high and low acuity patients; and patients presenting through triage, via ambulance, and as transfers from outside facilities. Common disease states are also variable but include trauma, acute coronary syndromes, respiratory distress, sepsis, psychiatric emergency care, and acute pain. The ED pharmacist is responsible for the management of all of these patients but especially those with a higher acuity requiring bedside care. This rotation involves many opportunities for interdisciplinary interactions, including with nurses, physicians, patient care technicians (emergency medical technicians and paramedics), and emergency response service (EMS) personnel from ground ambulances, flight teams, and fire departments. As patients can be admitted to anywhere in the hospital from the ED, the ED pharmacist interacts not only with the emergency physicians but also the critical care physicians, general surgeons, and hospitalist groups on a daily basis.

Role(s) of Pharmacist(s) in the Practice Area

Hours: Pharmacy services in the ED are provided by two decentralized pharmacists. The Decentralized #3 (DC-3) pharmacist is based out of the ED from 0930 – 1530 and then goes up to the Medical Intensive Care Unit (ICU) for the remainder of their shift (1530 – 2000). The ED pharmacist works from 1530 – 0200. The DC-3 and ED pharmacists provide the primary pharmacy coverage for the ED during their shifts. They are also responsible for covering orders, protocols, and other clinical duties for the Surgical ICU, Cardiovascular Unit (CVU), Intermediate Care Unit (IMC), Intensive Care Unit (ICU), Neonatal Intensive Care Unit (NICU), and Inpatient Pediatrics Unit (IPU) in the late afternoon/evening hours.

Additionally, the ED pharmacist provides primary coverage for cardiopulmonary resuscitation (CPR), stroke, and trauma events from 1530 – 0200.

Workspace: ED pharmacist's station, located in A pod across from the charge nurse's desk

Pharmacist Role: The pharmacist's primary responsibilities include attending all trauma calls, CPR calls, procedural sedations (adult and pediatric), and ST segment myocardial infarction (STEMI) response team activations; order processing; pharmacist-driven protocols; answering drug information questions from providers, nurses, and patients/caregivers; interdisciplinary team interactions and education; patient counseling; medication profile reviews; and antimicrobial stewardship. It also includes involvement in process improvement projects for the ED including order set updates, precepting responsibilities, and policy reviews.



A typical day is structured as follows:

- 0930 – 0945: DC-3 pharmacist communicates with other inpatient pharmacists via Microsoft Teams to assess their workload using the Pharmacist Inpatient Chat. The DC-3 pharmacist assists with any immediate needs of teammates and then begins their regular duties.
- 0945 – 1530: DC-3 pharmacist provides primary coverage for the ED and back-up coverage for CVU, IMC, ICU, and other areas needing assistance. This mainly includes order processing, pharmacist-driven protocols, phone calls, and answering drug information questions. They also provide bedside care for ED patients as needed (e.g., RSI, procedural sedation) until the ED pharmacist arrives.
- 1530 – 1945: DC-3 pharmacist works out of the ICU and collaborates with the ED and pharmacist to cover all the critical care and trauma areas as well as NICU and IPU.
- 1945 – 2000: DC-3 pharmacist provides proper hand-off to the ED pharmacist before leaving their shift.
- 1530 – 1545: ED pharmacist arrives and reviews the various queues and resources to determine the most acute patients and tasks (e.g., intubations, protocols requiring action, STAT orders) and then prioritizes and completes the workload accordingly.
- 1545 – 0145: The ED pharmacist balances their main responsibilities throughout the remainder of the shift. Before leaving for the day, the pharmacist ensures all urgent orders and protocols for patients in the ED, both ICUs, IMC, CVU, NICU, and IPU protocols are completed, or there is a plan for addressing any outstanding items.
- 0145 – 0200: The ED pharmacist provides a hand-off to the night pharmacists before leaving their shift.

Expectations of Residents

Resident Role in the Experience:

Residents assist the DC-3 and ED pharmacists with their clinical responsibilities, including order processing; pharmacist-driven protocols; attending CPR, stroke, and trauma calls; responding to myocardial infarction response team activations; assisting with procedural sedations and intubations; and antimicrobial stewardship (e.g., culture monitoring, recommendations). Additionally, residents provide staff and patient education, answer drug information questions, and may assist with medication history-taking/clarifications with patients/caregivers. Residents gain skills with a decentralized pharmacist's role of balancing orders, protocols, responding to medical emergencies, and other clinical duties in a fast-paced environment. Residents should aim to improve their emergency medication knowledge, triaging and multitasking abilities, team-working skills, and proficiency with responding to medical emergencies.

Assignments:

Patient case discussions: daily

- Verbally present patients to the preceptor or ED pharmacist
- Use monitoring sheets/electronic medical record as needed during discussion

Topic discussions: 2 – 3 times/week

- Read relevant literature related to assigned topics and be prepared to discuss information with the preceptor or ED pharmacist (\pm pharmacy students); usually includes reviewing patient cases to apply the information.
- Topic discussions are a mixture of in-depth discussions and “mini” discussions conducted during regular ED workflow.
- Residents are expected to become proficient at leading the topic discussions according to preceptor's specified format, which is shared with the resident during rotation orientation.
- Residents should suggest any topics of interest to the preceptor.

Formal presentation: 1

- Residents may choose to complete one of presentation deliverables during their ED rotation.

Meeting attendance:

- Residents may attend meetings for their own projects as needed.
- They may also attend meetings with the preceptor for increased exposure to administration duties. This includes order set building meetings, trauma research meetings, CPR committee, and other administrative duties. These may be in-person or virtual.



Time in Patient Care Area Expectations:

- 0930 – 1800 or 1530 – 0000: Resident typically work similar hours to the DC-3 or ED pharmacist, but they may also do a hybrid (e.g., 1300 – 2130). Residents are part of the DC-3 and ED pharmacists' workflow, perform patient reviews, present patients to the preceptor or ED pharmacist, complete topic discussions with the preceptor or ED pharmacist, and respond to medical emergencies.
- Residents should provide a proper sign-out of patients and any pending issues before leaving for the day.

Project Time Expectations:

- Residents choose project time at the start of the rotation; however, it is subject to change depending on rotation and resident needs.
- Residents are allowed 1 project day during the rotation. This should be decided upon at the start of the rotation and added to the Pharmacy Resident Calendar.
- An additional project day may be requested by the resident if needed based on workload (e.g., large deadlines approaching). This requires approval of the RPD and preceptor.

Meetings/Other Responsibilities Outside of Rotation Expectations:

- Residents should schedule meetings and non-rotation responsibilities during project time. However, this is not always possible, and residents may have meetings that overlap with rotation time.
- To respect their duty hours and prevent fatigue, residents should communicate meeting times with preceptors; ED is unique in that rotation time may not line up well with meetings given the evening hours that are often worked. Start times may need to be adjusted for early meetings. If a resident has multiple morning meetings, working the earlier shift with the DC-3 pharmacist (0930) may be more beneficial. Good communication is paramount on this rotation to prevent extended days from occurring, and variable start times may be necessary.

Resident Progression Throughout the Learning Experience

Preceptor Interaction:

Day 1: Preceptor, DC-3 pharmacist, or the ED pharmacist reviews the Emergency Medicine rotation activities, expectations, and assignments with the residents and tours the ED.

Daily: The DC-3 and/or ED pharmacist interacts with residents on a daily basis.

Every other week: The primary preceptor works 7 days on, 7 days off; on their off week, the resident is precepted by the other ED pharmacist or critical care pharmacists depending on the timing of their shift. The primary preceptor communicates with these pharmacists to ensure a consistent and smooth rotation.

Resident Progression of Responsibility and Skills:

Throughout the shift, residents should review the Tracking Shell and orders queue for ED patients and begin reviewing those patients. Orders entered by ED providers are the first priority, followed by admission orders placed by admitting provider groups for ED patients. They can also assist other floors with order verification and patient management as time allows. By the end of the rotation, residents should be able to manage the pharmacist-driven protocols, bedside care, questions, and orders for all ED patients encountered during their shift. Quality of patient reviews with improved efficiency should be prioritized over trying to hit the specific target number of patients.

Week 1: Residents work one-on-one with the preceptor or ED pharmacist to learn the ED pharmacist's workflow and participate in their clinical duties. For most residents, the first week is focused on managing all order verification duties for the ED. Residents who are early on in their residency year may take on responsibilities more slowly as they may still be orienting themselves to the order verification process. The preceptor manages phone calls, new protocols, and provider questions for the most part during this week. The preceptor models response to traumas, intubations, and CPRs and takes the lead on these activities.

Week 2: In addition to their first week responsibilities, residents manage the protocols for the ED. As they have been introduced to some providers, they may start making interventions with providers. During this week, the preceptor is usually still present to observe these interactions.



Residents start working on triage skills and prioritization, especially when there are multiple conflicting pulls on their time. They continue to respond to medical emergencies and bedside care with the preceptor but may begin taking a more active role.

Weeks 3 – 4: These weeks, residents are primarily responsible for all ED orders, ED protocols, and begin making interventions with providers independently. They start carrying the ED phone and answer those calls. Depending on exposure during their prior weeks, they may take the primary role during medical emergencies with the preceptor present to observe.

Weeks 5 – 6: At the end of this week, the goal is for the resident to be able to run the ED as the primary pharmacist independently. They manage all ED orders, protocols, phone calls, and make interventions with providers independently. They may respond to medical emergencies fully independent of the preceptor depending on prior exposure and patient acuity. Residents may still require occasional to minimal supervision in more complicated emergency situations (e.g., pediatrics, trauma). Residents are given the opportunity to function independently as the ED pharmacist as their skill levels allow. They may also take on care of the patients outside of the ED (e.g., ICUs, CVU, IPU) depending on patient load and comfort level; however, the main focus of this rotation is independence in management of the ED specifically. Residents who have already had their ICU rotation may be more comfortable caring for those patients.

Educational Objectives and Learning Activities

Goals and Objectives Taught and Evaluated:

Type/ Number	Bloom’s Taxonomy & Description	Learning Activities
Goal R1.1: Provide safe and effective patient care services following JCPP (Pharmacists’ Patient Care Process)		
R1.1.1	(Analyzing) Collect relevant subjective and objective information about the patient.	<ul style="list-style-type: none"> Examine in-house and transfer records for most pertinent information, query emergency room staff and paramedics to gather information, and outline this information in a logical fashion.
R1.1.2	(Evaluating) Assess clinical information collected and analyze its impact on the patient’s overall health goals.	<ul style="list-style-type: none"> Decide how to approach each patient’s care with little to no background information as they present to the ED. Determine drug therapy problems (DTPs) in emergent situations and prioritize those that have immediate need for intervention. Differentiate who the DTP should be discussed with, whether that be the nurse, ED physician, or admitting provider.
R1.1.3	(Creating) Develop evidence-based, cost effective, and comprehensive patient-centered care plans.	<ul style="list-style-type: none"> Create care plans for patients based on Billings Clinic Pharmacy protocols for new start protocols from the ED. Develop medication therapy recommendations at bedside in real-time using the available and pertinent data to optimize patient care, especially in emergent situations.
R1.1.4	(Applying) Implement care plans.	<ul style="list-style-type: none"> Express care plans to ED team using appropriate communication style and effective strategy based on their role, including with physicians, nurses, and patient care technicians. Use closed loop communication, especially in emergent situations. Clearly state how to give the medication including appropriate units, administration, and route, and what to monitor or expect with that medication. Assist the responding pharmacist(s) with dose calculations, medication preparation, recording, and other duties during CPRs, traumas (level 1), and strokes (level 1) alert. Perform the role of the primary pharmacist as skills develop. Ensure the appropriate treatment algorithm (e.g., ACLS) is being utilized during code events. Inquire about the treatment algorithm if unsure. Clarify deviations with the medical team as soon as possible.



Type/ Number	Bloom's Taxonomy & Description	Learning Activities
Goal R1.1: Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process)		
R1.1.5	(Creating) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	<ul style="list-style-type: none"> Build a workflow process that includes reviewing patients after recommendations are made to follow up on implementation of regimens and plans as discussed with the ED team. Discuss any follow up issues with DC-3 or ED pharmacist and/or the appropriate provider. Adjust plans for patients on pharmacy protocols based on information available (e.g., resulted labs, new vital signs, imaging).
R1.1.6	(Analyzing) Identify and address medication-related needs of individual patients experiencing care transitions regarding physical location, level of care, providers, or access to medications.	<ul style="list-style-type: none"> Discover patients needing a medication history and work with the MHT to obtain medication histories by delegating tasks or personally gathering data from patients, family, fill histories, transferring facilities, and pharmacies. Compare home medication lists and inpatient admission medications to identify discrepancies. Collaborate with physicians to appropriately remedy.
Goal R1.2: Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.		
R1.2.1	(Applying) Collaborate and communicate with healthcare team members.	<ul style="list-style-type: none"> Obtain relevant patient information from the best sources (e.g., EMTs, nurses, providers, family members, electronic medical record) available. Triage important medication-related issues. Discuss changes to medication therapy with physicians to customize care plan. Preference for in-person but also may include telephone, tracking shell messages, and Voalte messaging. Use closed-loop communication especially in emergent situations with verbal orders or discussion. Communicate changes to care plans to nurse and care tech staff as needed
R1.2.2	(Applying) Communicate effectively with patients and caregivers.	<ul style="list-style-type: none"> Answer patient, family, and/or caregiver medication questions as appropriate. Educate patients discharging from the ED on new-start medications or those that need further clarification.
R1.2.3	(Applying) Document patient care activities in the medical record or where appropriate.	<ul style="list-style-type: none"> Compose customized notes for each new protocol that will accurately communicate all pertinent data to the day team that will be following these patients. Create notes that are comprehensive enough that minimal chart review is needed but concise enough to be read quickly. Accurately complete actions in the multi-patient task list (MPTL) including protocols and monitoring tasks as needed for nuanced patient care. Charge for medications appropriately after a CPR, trauma, or stroke.

Evaluations

PharmAcademic™ is used for documentation of all formal evaluations. Evaluations must be completed no later than 7 days past the due date. Preceptors and residents meet to discuss all evaluations for the experience. Refer to policy RXRESGEN – 105 (Pharmacy Resident Assessment) for further details on expectations regarding evaluations.

Evaluation	Who	When
Midpoint Verbal Evaluation	Residents	End of week 3
Summative: Self-Evaluation	Residents	End of rotation
Summative Evaluation	Preceptor	End of rotation
Learning Experience Evaluation	Residents	End of rotation
Preceptor Evaluation	Residents	End of rotation



Infectious Diseases Rotation Syllabus

Contact Information

Preceptor(s): Jennifer (JC) Ott, PharmD, BCPS, BCIDP
Clinical Pharmacist Specialist, Infectious Diseases
Office: Infectious Diseases Clinic, Clinic Building
Hours: 0700 – 1530, Monday – Friday
Phone: 520-870-6341 (cell) or 5619 (desk)
Email: jott4@billingsclinic.org

General Description of the Practice Area

Length: 5 weeks

Type: Required

Experience Overview:

Infectious Diseases (ID) is a required, 5-week rotation for PGY1 residents of the program in the acute care setting. It is centered around the ID and Antimicrobial Stewardship (AMS) services. The full AMS Team consists of ID physicians, the ID pharmacist, Infection Preventionists, personnel from Quality Resources, laboratory (Microbiology section) personnel, and practicing providers from different departments. Interactions and depth of interactions with these different members vary depending on scheduling and what is occurring during the rotation.

The ID rotation is heavily focused on antimicrobial stewardship. Rotation begins with reviewing the basics of ID to lay appropriate foundation for future rotations. The first week consists of orientation to ID services, foundational topic discussions, and introduction to high level stewardship alerts. Usual practice starts with the reviewing positive blood cultures and restricted antimicrobials. Topic discussions occur multiple times a week to gain a better understanding of common antimicrobials and infections.

One of the weeks, pending the ID provider schedule, ID pharmacist and resident follow the ID inpatient consult list and round with the ID provider. Certain times of year, the ID providers have medical residents rounding with them. Ideal scheduling is to round when additional medical learners are on rotation. The week of ID consult service usually consists of working up the ID patients as assigned by preceptor in the morning, rounding with provider/trainee, and following up with floor pharmacists after rounds. The afternoon time is allowed for topic discussion and researching answers to questions that came up during rounds.

Additional shadowing opportunities are provided as resident interest is demonstrated. Shadowing opportunities may include Ryan White Clinic (HIV), half a day in outpatient wound care, microbiology laboratory, infection preventionist and cystic fibrosis clinic (both peds and adult). These are highly dependent upon resident schedule and coordination with clinics having adequate staffing/patients scheduled.

Residents are invited to attend various meetings that the ID pharmacist attends during their rotation as their schedule allows. This may include but is not limited to Infection Prevention and Control Committee (bimonthly), Influenza Steering Committee (monthly during Aug – Mar), Antimicrobial Stewardship Committee (monthly), P&T as ID topics are assigned to ID pharmacist, provider departmental meetings with stewardship team (monthly or bimonthly depending on department), ACIP meetings (Oct, Feb, June), state wide antimicrobial stewardship meeting (MASC, monthly), ACCP ID PRN journal club (monthly), Sepsis Committee (bimonthly), and other pertinent meetings assigned to ID pharmacist.

Role(s) of Pharmacist(s) in the Practice Area

Hours: The ID pharmacist is available from 0700 – 1530 on weekdays, excluding holidays, vacation, professional travel, weekend staffing requirements or other times when scheduling does not permit coverage.

Pharmacist Role: The pharmacist's primary responsibilities include interacting with the ID physicians and participation in antimicrobial stewardship activities. The ID pharmacist follows many patients on various lists as time allows.



Patient care duties generally begin with high alert reviews to include restricted antimicrobial agents, positive blood cultures, ID pharmacist consult orders or alerts/messages from overnight staff alerting to high level situations. The ID pharmacist utilizes Theradoc to streamline workflow. Once these high alert situations are addressed, the ID pharmacist reviews additional alerts and messages as time allows, contacting providers or rounding pharmacists as appropriate. Additional patient care duties include reviewing patients from the ID consult service and discussing with the ID provider as necessary, reviewing Message Center messages, being available for provider and pharmacists' questions, and addressing any CoPAT needs including weekly laboratory review and pharmacokinetic consults for outpatients. The ID pharmacist informally rounds in microbiology multiple times per week.

In addition to clinical patient care, the ID pharmacist also has many administrative duties including co-chair of the Antimicrobial Stewardship Subcommittee, responsible for reporting on all stewardship activities including antibiotic use and resistance tracking and reporting, antibiogram reporting, annual reporting to and active member of Infection Prevention and Control Committee, antimicrobial and vaccine formulary management, updates in microbiology and testing/reporting of susceptibility and protocol/policy updates including vancomycin pk, aminoglycoside pk, extended infusion, asplenia vaccination, pneumococcal vaccination, COVID vaccination, influenza vaccination and preoperative antibiotic policy.

Expectations of Residents

Resident Role in the Experience:

Residents are involved in caring for a wide variety of patients requiring treatment with antimicrobials and/or consultation by the ID service. Residents are expected to become skilled in antimicrobial foundations, working closely with the pharmacist preceptor, hospitalists, IMR providers, ID physicians, and other healthcare professionals. Rotation begins with reviewing the basics of ID to lay appropriate foundation for future rotations.

The first week consists of orientation to ID services, foundational topic discussions, and introduction to high level stewardship alerts. Usual practice starts with the reviewing positive blood cultures and restricted antimicrobials. As knowledge base expands, additional assigned patients from preceptor or stewardship alerts are added for the trainee to review. Usual patient load starts with 3 – 5 patients per day on week one with goal to get to at least 10 – 20 patients per day by the end of the rotation. Sometimes due to complexity of patients and limitations in resident scheduling, this number may be less or may be more as determined via conversation with residents and the preceptor.

Residents are allowed time to review patients on their own in the morning and meet with preceptor midmorning. Patients are reviewed with the preceptor one on one. If immediate need is noted, residents are expected to call, Voalte, or text the preceptor. For nonemergent interventions noted, residents wait until patient reviews with preceptor. Refer to document provided by preceptor "how to present ID/AMS patients to preceptor" for specifics on expectations of daily patient presentations. After patient reviews with the preceptor, if additional intervention is required, residents at that time proceed to make the intervention. After review of assigned patients, the rest of the day is spent either doing gravity rounds with the floor pharmacists, following up on additional questions or interventions, meetings, project time and topic discussions.

Additional shadowing opportunities are available pending interest of the resident. Residents may spend time in the microbiology laboratory to learn about their procedures for cultures and sensitivities. If residents are interested, a designated time may be established for them to round with an infection preventionist, wound care team member (nursing and provider), and/or Ryan White Clinic provider in order to gain broader perspective on the roles of other healthcare professionals involved in their patients' care. A day may be spent shadowing the clinical team in the adult and/or pediatric cystic fibrosis (CF) clinic to demonstrate the complicated nature of this disease and all of the daily therapies that are required to keep these patients out of the hospital.

Topic discussions are resident-led and facilitated. During orientation, the preceptor discusses ID resources. Residents may utilize any resources that they see fit to develop their topic discussion. Topic discussions are utilized to develop the residents' patient care skills for common antimicrobials and infections and are scheduled 2 – 4 times per week. These are mapped out early on in the rotation on the shared calendar. Additional meetings are also located on the calendar along with due dates for assignments as appropriate.

During orientation, the schedule is reviewed with the preceptor and residents; it is reviewed regularly during the rotation. Weekly on the last day of the week, the preceptor meets with residents to find out how things are going, provide any



feedback, make adjustments to the calendar as necessary and set goals for the next week. Residents are expected to evaluate their progress weekly and be prepared on the last day of each week to discuss progress and goals for the next week with the preceptor.

Resident Progression Throughout the Learning Experience

Preceptor Interaction:

Day 1: Preceptor reviews the ID rotation activities, expectations, and assignments with the residents

Daily: Preceptor interacts with the residents daily to complete patient reviews, rounds, and topic discussions. Residents are expected to maintain an open line of communication with the preceptor regarding issues and concerns during the learning experience.

Weekly: Preceptor meets with residents weekly for feedback and to discuss progress and rotation assignments

Resident Progression of Responsibility and Skills:

Residents are assigned specific alerts to review or specific patients to review each day while on rotation. Each morning, residents should review high-risk AMS alerts and begin monitoring those patients as indicated by preceptor. Residents should review patients prior to discussion with the preceptor and have specific recommendations for interventions as appropriate. This begins with 2 – 5 patients for the first week or two. Gradually, additional patients are assigned or specific alerts are picked up as agreed upon between the preceptor and residents. Usual starting place is blood culture review list and/or restricted antibiotic list – these are located in Theradoc. By the end of the rotation, residents should be able to fully work through 10 – 20 patients to present to the preceptor. Quality of patient reviews while gaining efficiency should be prioritized over trying to hit the specific target number of patients. By the end of the week when rounding with the ID provider, residents should be able to follow the full ID consult service (max 1 page, if service goes on to 2 pages, may consider stopping at 1).

Weeks 1 and 2: Residents work closely with preceptor to learn the foundational portions of antibiotics. Residents review only a few patients in depth each day and focus on understanding what infection is being treated, objective information supporting the diagnosis, options for antimicrobial therapy and the pro/cons of each option. The focus of these weeks is proper work-up of patients on antimicrobials and building their knowledge base related to fundamental ID topics. Topic discussions on antimicrobial classes occur 3 – 4 times per week as resident schedule allows and build the foundation for weeks 3 – 5. Understanding antibiotic spectrum and basic organism classifications are required to be able to recommend appropriate antibiotic therapy or know if the current antibiotic regimen is appropriate. This is not to say that all information needs to be memorized but rather residents build foundational ID resources so they can quickly and accurately look up antimicrobial information.

Weeks 3 and 4: More patients via preceptor selection, specific ID consult patients, or stewardship alerts (IV to PO, bug drug mismatches, resistant organisms) are added to residents' workload as residents are able to effectively work up the patients they are assigned. Goals discussed with preceptor the week before drive this selection. By this time, residents should start gaining proficiency with common bug-drug mismatches, when to refer for ID provider consultation, de-escalation/duration of therapy opportunities, and making patient-specific interventions for common interventions. The focus for these weeks is improved efficiency with patient monitoring and determining if current antimicrobial therapy is appropriate, if it can be de-escalated, what alternative options are, pros/cons of the alternative options and what is the best choice for the antimicrobial therapy for the patient. End goal is to be able triage the stewardship alerts, to pick up the most patients in most need of monitoring or an intervention, and to maintain this at 10 – 20 patients depending on complexity of patients and residents' baseline understanding of the disease process and antimicrobial therapy.

Week 5: One week during the rotation the gears are changed to following the ID consult service patients. These are the most complex ID patients. This week is focused on starting with half of the ID consult list and gradually picking up additional patients as resident proficiency allows. By the end of the week, the goal is to follow the full consult list, but this also depends on how busy the service is and how often the residents are gone from rotation for nonrotation meetings, projects, and days off. The goal by the end of the rotation is for residents to be confident in their knowledge of antimicrobials and common infections and to be able to make appropriate antimicrobial interventions with providers, pharmacists and nursing staff.



Time in Patient Care Area Expectations:

- Residents typically work in the Pharmacy Resident Office in the mornings and meet up with the preceptor between 0930 – 1100 to review patients with preceptor.
- Residents can expect to be busy with rotation-specific duties until about 1500.
- Residents should provide a proper sign-out of patients and any pending issues before leaving for the day.

Project Time Expectations:

- Residents choose project time at the start of the rotation; however, it is subject to change depending on rotation and resident needs.
- Residents are allowed 1 project day during the rotation. This should be decided upon at the start of the rotation and added to the Pharmacy Resident Calendar.
- An additional project day may be requested by the resident if needed based on workload (e.g., large deadlines approaching). This requires approval of the RPD and preceptor.
- Residents should try to schedule project day(s) when primary preceptor is scheduled off or when they have meeting heavy afternoons as to minimize disruption to rotation.

Meetings/Other Responsibilities Outside of Rotation Expectations:

Meetings and other responsibilities not related to the rotation should be scheduled during project time. However, if that is not feasible, meetings should be scheduled after 1500 on days where topic discussion is not scheduled.

Readings/Resources:

- A list of books and resources that are available for use on the ID rotation are provided to the residents on the first day of the rotation.
- Helpful journal articles may be found in the ID rotation folder on the Pharmacy shared drive:
 - \\FileServer001.billingsclinic.org\Shared\Depts\Pharmacy\Dept Public\Inpatient\Pharmacist References\Infectious Diseases\Rotation
- Helpful websites
 - Billings Clinic AMS website – the Source → Clinical Depts → Antimicrobial Stewardship
 - www.idsociety.org
 - <http://www.aidsinfo.nih.gov/>

Assignments:

Case presentation, journal club, or in-service: 1

- Residents may choose to do one of their required presentations during this rotation
- Focus: ID-specific issues and utilization of primary literature
- Email preceptor the draft presentation slides to review at least 3 business days in advance

Patient case presentations: ~ daily

- Verbally present patients to preceptor
- Use monitoring sheets/electronic medical record as needed during discussion
- Follow up with questions that arise as assigned by the preceptor

Topic discussions: 2-4 times per week

- Read relevant literature related to assigned topics and be prepared to discuss information with preceptor
- Refer to topic discussion outline and expectations below
- Residents are expected to become proficient at leading the topic discussions.



Schedule Template for Topic Discussions:

Week 1: Discuss goals & expectations for rotation, orientation, introduction to ID

- Pharmacokinetics, pharmacodynamics – post-antibiotic effect
- Interpretation of lab results – utility & limitations, MaldiTOF, Microscan, Film Array/Biofire, D-test, MIC, 16S PCR
- Orientation to microbiology

Weeks 1 – 2: Anti-infective drug class discussions

- Mechanisms of action
- Spectrum of coverage for each drug class
- Indications/clinical uses
- Pharmacokinetic/pharmacodynamic properties
- Limitations
- Notable adverse effects

Weeks 3 – 5: Topic discussion involving specific disease states

- Epidemiology
- Etiology
- Pathogenesis
- Diagnosis
- Treatment (focus majority of discussion here) – both pharmacologic and non-pharmacologic therapy
- Complications
- Clinical manifestations
- Prevention/risk factors

Microbiology*	HIV
Basic microbiology and microbiology lab results (informally discussed throughout the rotation)	HIV (2 days – drug classes, treatment of disease)
	Opportunistic infections
Antibiotics*	Fungus
Beta-lactams* (2 days)	Antifungal agents*
Tetracyclines, quinolones*	Candida infections
Macrolides, clindamycin, aminoglycosides*	Endemic fungi
Miscellaneous agents – sulfonamides, metronidazole, colistin, nitrofurantoin, fosfomycin*	Aspergillus spp.
Gram positive active agents – glycopeptides, daptomycin, linezolid*	Cryptococcal infections
Bacterial Infections and Miscellaneous Topics	Viruses
Antimicrobial stewardship*	Antiviral agents
Complicated outPatient Antimicrobial Therapy (CoPAT)	Hepatitis C virus
Skin and skin-structure infections (including diabetic foot)	Hepatitis B virus
Surgical prophylaxis/surgical site infections	Malaria
Neutropenic fever	COVID
Osteomyelitis/prosthetic joint infections (PJI)	Influenza
Urinary tract infections (UTI)/pyelonephritis	Herpes, cytomegalovirus, and other viruses
Catheter related blood stream infections	
Infective endocarditis*	
Upper respiratory infections (sinusitis, pharyngitis, acute otitis media)	
Pneumonia	
Intra-abdominal infections	
Sepsis	
<i>C. difficile</i> Infection	
Meningitis*/encephalitis	
Tuberculosis	
Sexually-transmitted infections	
Vaccines	



Educational Objectives and Learning Activities

Goals and Objectives Taught and Evaluated:

Type/ Number	Bloom's Taxonomy & Description	Learning Activities
Goal R1.1: Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process)		
Objective R1.1.1	(Analyzing) Collect relevant subjective and objective information about the patient.	<ul style="list-style-type: none"> Accurately inspect and record patient antimicrobial/infectious process related information using a systematic approach for each assigned patient from the electronic health record, the patient's nurse, or patient (as appropriate) for assigned patients.
Objective R1.1.2	(Evaluating) Assess clinical information collected and analyze its impact on the patient's overall health goals.	<ul style="list-style-type: none"> Assess assigned patient-specific antimicrobial profiles, MAR summary, provider notes, pharmacists' notes, and any additional documentation on a daily basis to identify issues related to antimicrobial therapy necessitating a change to the antimicrobial regimen or monitoring plan. Compare antimicrobial-related problems with preceptor during daily patient reviews.
Objective R1.1.3	(Creating) Develop evidence-based, cost effective, and comprehensive patient-centered care plans.	<ul style="list-style-type: none"> For assigned patients, develop an appropriate antimicrobial regimen and monitoring plan to discuss with preceptor daily at patient reviews Compare and contrast different antimicrobial regimen options for each patient and determine which regimen is the most appropriate and why for the particular patient.
Objective R1.1.5	(Creating) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	<ul style="list-style-type: none"> Address high level antimicrobial stewardship alerts and restricted antimicrobials in a timely manner. Formulate evidence-based monitoring plans for antimicrobials, including duration of therapy and need for prescriptions after hospital discharge. Discuss these recommendations with the preceptor and provider(s) as appropriate.
Goal R1.2: Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.		
Objective R1.2.1	(Applying) Collaborate and communicate with healthcare team members.	<ul style="list-style-type: none"> Actively participate in rounds with the ID team as available with the goal of optimizing care on ID and AMS patients. Provide antimicrobial recommendations on assigned patients. Respond to antimicrobial drug information questions in a timely manner. Utilize primary literature and tertiary references as needed. Actively participate in ID-related meetings (e.g., Infection Prevention and Control), Microbiology Lab rounds, and Vaccine Steering Committee

**Evaluations**

PharmAcademic™ is used for documentation of all formal evaluations. Evaluations must be completed no later than 7 days past the due date. Preceptors and residents meet to discuss all evaluations for the experience. Refer to policy RXRESGEN – 105 (Pharmacy Resident Assessment) for further details on expectations regarding evaluations.

Evaluation	Who	When
Midpoint Verbal Evaluation	Residents	End of week 3
Summative Self-Evaluation	Residents	End of rotation
Summative Evaluation	Preceptor	End of rotation
Learning Experience Evaluation	Residents	End of rotation
Preceptor Evaluation	Residents	End of rotation



Internal Medicine Rotation Syllabus

Contact Information

Preceptor(s): Forrest Murter, PharmD
Lead Clinical Pharmacist, Inpatient Medical, Surgical, and Internal Medicine Team
Email: fmurter1@billingsclinic.org

General Rotation Description

Internal Medicine is a required, 5-week rotation for PGY1 residents of the program in the acute care setting. The rotation focuses:

- (A) Rounding with the Internal Medicine Residency (IMR) teams during their wards rotations. There are 3 IMR teams which include an attending, senior resident (2nd or 3rd year medical resident), and at least one intern (1st year medical resident). A pharmacist rounds as part of the team and rotates between each team weekly. Pharmacy residents, students, and medical students may additionally round as part of the team throughout the year.
- (B) Working alongside inpatient medical (IPM) and inpatient surgical (IPS) pharmacists to become proficient at simultaneously managing (1) orders, (2) protocols, (3) patient counseling, (4) chart review including but not limited to medication regimen safety/efficacy, renal monitoring, IV to PO conversion, therapeutic duplication, crushable medications for bariatric patients and patient's with GI tubes, (5) medication histories, and (6) assisting medical providers (physicians, advanced practice providers, nurses, and others) with pharmacy related inquiries.

Common Disease States Encountered

- Infectious: pneumonia, urinary tract infection, skin and soft tissue infections
- Respiratory: COPD exacerbations
- Hematology: DVT, PE
- Renal: acute kidney injury, end stage renal disease
- Cardiovascular: NSTEMI, ACS, heart failure exacerbations, atrial fibrillation
- Endocrinology: diabetes, adrenal insufficiency, thyroid disorders
- Gastrointestinal: GI bleeding, complications of liver disease
- Other: alcohol withdrawal, perioperative management for surgical patients, acute and chronic pain management

Role(s) of Pharmacist(s) in the Practice Area

- (A) Hours: The IMR pharmacist is available from approximately 0700 – 1530 on most weekdays.
Workspace: IMR inpatient faculty office; Internal Medicine Clinic (clinic building – 3rd floor)
- (B) Hours: The IPM and IPS pharmacists are available between the hours 0700 – 2030, 7 days a week
Workspace: IPM (3 North) and IPS (2 South) decentralized workstations.

Pharmacist Role:

- (A) The clinical pharmacist rounding with the IMR teams is responsible for reviewing medication regimens for safety and efficacy during patient care rounds. The pharmacist rounds with one team each week and reviews all patients for that team. Reviewing patient profiles includes, but is not limited to, reconciling home medications through the admission and discharge process, evaluating appropriateness of medication therapy based on patient characteristics and indication, reviewing medications for drug-drug interactions, renal or hepatic dosing adjustments, intravenous to oral conversions, and monitoring parameters associated with various medication therapies. As necessary, pharmacist-driven protocols are completed for each patient that the clinical pharmacist is following. The clinical pharmacist is also responsible for serving as a drug resource for the IMR teams and participates in formal and informal education as necessary.
- (B) The clinical pharmacists working on IPM and IPS are responsible (on their respective units) for: (1) verifying medication orders, (2) completing pharmacist-driven protocols, (3) providing counseling to patients discharging on high risk medications (4) chart reviews including but not limited to medication regimen safety/efficacy, renal monitoring, IV to PO conversion, therapeutic duplication, crushable medications for bariatric patients and patient's with GI tubes, (5) completing accurate medication histories as time allows, and (6) assisting medical providers (physicians, advanced practice providers, nurses, and others) with pharmacy related inquiries.



Expectations of Residents

Resident Role: Pharmacy residents are expected to be on site for rotation from 0700 – 1530 daily at a minimum. Residents are expected to be on time for their rotation activities and to communicate with the primary preceptor if issues arise that would require exceptions to their ability to participate as expected during the rotation.

- (A) Rounds start typically between 0800 – 0830, except on days the IMR team is post-call. On post-call days, the team begins rounding at 0700. Residents are expected to work up patients prior to starting rounds and present for rounds with the team prepared and ready to participate. The exception to working up patients prior to rounds will be on post-call days as these rounds start immediately at 0700. Residents may arrive earlier, if desired to work up patients for rounds based on their skill level and complexity of patient load. Rounds are often completed by 1130 or earlier each day. After rounds are completed, the residents are expected to spend the rest of the day following up on patient care items with the team, completing pharmacy protocols as necessary, and participating in patient reviews and topic discussions with preceptors and least twice weekly.

During the Internal Medicine rotation, residents are expected to work to develop relationships with the IMR teams and become the primary drug resource for those teams. The residents learn how to complete patient work ups and how to use primary and tertiary literature as well as evidence-based guidelines when reviewing therapy regimens to make appropriate recommendations. Residents have increasing responsibility regarding working up patients throughout the rotation. Initially, residents round with the preceptor for the first two weeks of the rotation and may progress to round without direct supervision. Resident work to follow all patients on a single IMR team list by the end of the rotation and utilize strategies as needed to improve efficiency to allow completion of patient workup.

- (B) IPM and IPS workday begins at 0700. Residents are expected to manage the responsibilities outlined in *Pharmacist Role (B)*. Residents are expected to manage their time and worklist, prioritizing tasks as needed to act as the IPM/IPS clinical pharmacist during the hours of 0700 – 1530. They work alongside the other IPM or IPS pharmacists during these days.

Meetings and responsibilities not related to the rotation should be minimized during rotation hours. If necessary, meetings should be scheduled after 1400 to allow for appropriate time on rotation.

Assignments

Residents may choose from a list of required deliverables to complete in the rotation.

Project Time/Meetings Expectations:

Residents are allowed 1 project day during the rotation. This should be decided upon before or at the start of the rotation and added to the Pharmacy Resident Calendar. An additional project day may be requested by the resident if needed based on workload (e.g., large deadlines approaching). This requires approval of the RPD and preceptor.

Resident Progression Throughout the Learning Experience

The expected resident progression of responsibilities is outlined below. Depending on the skills and abilities of residents, the preceptor may modify the outline below to meet the needs of the resident. If a modification to the expected progression occurs, a discussion occurs between residents and the preceptor.

Resident Progression of Responsibility and Skills and Preceptor Interaction

Day 1: The preceptor reviews the Internal Medicine syllabus, rotation activities, expectations, and assignments with the residents.

Inpatient Medical/Surgical (first 2 weeks of rotation):

Week 1: During the first week of the rotation, the preceptor models the skills and expectations outlined in *Pharmacist Role (B)*. Residents work to become proficient in managing the expectations of the shift, slowly increasing their workload and responsibilities.



Week 2: During the second week of the rotation, residents should be completing the majority of responsibilities outline in *Pharmacist Role (B)* with minimal preceptor assistance. The preceptor or another IPM/IPS pharmacist is available to assist with excessive workload, answering questions, and solving unique problems as they arise.

Internal Medicine Rounding (last 3 weeks of rotation):

Week 3: During the first week of rounding, the preceptor models patient work up skills, expectations for patient care rounds, including making recommendations and team interactions. Residents work to review 1 – 3 patients the first day and continue to increase their patient workload daily. Residents are expected to complete a thorough patient work up of 4 – 5 patients by the end of week 1. In addition to participating in rounds, residents spend time on topic discussions and patient reviews with the preceptor in the afternoons at least twice weekly.

Week 4: During the second week of rounding, residents work to continue to build relationships with members of the healthcare team and should be making appropriate therapy interventions or asking questions of the team daily. Residents work up 3 – 5 patients at the beginning of the week and complete pharmacist-driven protocols for the patients they are following as applicable. Resident should aim to increase the number of patients they are following to 5 – 7 patients by the end of this week. Residents continue to meet with the preceptor after rounds and work on formally presenting patients to their preceptor as well as leading topic discussions.

Week 5: By the third week of rounding, the residents should work to be the primary resource for the IMR team for the patients they are following. Pending resident progression and skills, residents may round on one of the IMR teams without direct supervision from the preceptor. Residents should aim to work up 5 – 7 patients prior to rounds to be able to actively participate in medication recommendations and therapy discussions with the healthcare team. By the end of the week, residents should have a goal of following 6 – 8 patients with minimal supervision from the preceptor. Residents continue to meet with the preceptor daily after rounds to discuss therapy recommendations and continue presenting patients to the preceptor with a focus on pharmacy-based assessments and plans. Topic discussions continue to occur ~twice weekly and are led by the resident.

Educational Objectives and Learning Activities

Goals and Objectives Taught and Evaluated:

Type	Description	Activities
Goal R1.1: Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process)		
Objective R1.1.1	(Analyzing) Collect relevant subjective and objective information about the patient.	<ul style="list-style-type: none"> Using the electronic medical record (EMR), outline and analyze pertinent patient information regarding disease states, labs, concurrent medication therapies, and other information that may affect therapy recommendations Examine additional resources, including but not limited to, therapy guidelines, primary literature, or tertiary resources to reference as a guide for therapy-based recommendations
Objective R1.1.2	(Evaluating) Assess clinical information collected and analyze its impact on the patient's overall health goals.	<ul style="list-style-type: none"> Using patient data and additional resources, determine the most relevant drug-related therapy issues that need addressed during hospital admission Develop a problem-based list, including medical diagnoses from the provider list as well as pharmacy identified problems to prioritize drug related therapy issues
Objective R1.1.3	(Creating) Develop evidence-based, cost effective, and comprehensive patient-centered care plans.	<ul style="list-style-type: none"> Develop specific medication recommendations pertaining to the problem-based list including the reasoning behind the recommendations Create second- or third-line recommendations for therapy and monitoring in the event that the first recommendation is not accepted Complete warfarin and vancomycin protocols for patients on the IMR service as well as any renal dosing adjustments or IV to PO interchanges



Type	Description	Activities
Goal R1.1: Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process)		
Objective R1.1.4	(Applying) Implement care plans.	<ul style="list-style-type: none"> Organize daily workflow to follow-up on patients after rounds have been completed to ensure implementation of medication recommendations and therapy monitoring based on plans discussed in rounds Contact providers to follow up on plans as needed if recommendations have not been implemented
Objective R1.1.5	(Creating) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	<ul style="list-style-type: none"> Build monitoring plans for each medication that has specific monitoring needs. Recommend those to the provider(s) as appropriate
Objective R1.1.6	(Analyzing) Identify and address medication-related needs of individual patients experiencing care transitions regarding physical location, level of care, providers, or access to medications.	<ul style="list-style-type: none"> Compare patient home medication lists to the inpatient medication administration record (MAR) to determine changes from outpatient to inpatient lists Ascertain reasoning behind changes between outpatient and inpatient medication plans Follow up with the team to determine final plans for medication changes throughout the hospitalization and at discharge
Goal R1.2: Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.		
Objective R1.2.1	(Applying) Collaborate and communicate with healthcare team members.	<ul style="list-style-type: none"> Develop professional relationships with the IMR teams by participating in patient care rounds daily Answer drug information questions on rounds with appropriate resources to assist in therapy decisions for patient care Ask clarifying questions, as needed, to understand disease states or medication therapy needs to make appropriate recommendations Communicate recommendations to healthcare providers in a succinct format and timely manner
Objective R1.2.2	(Applying) Communicate effectively with patients and caregivers.	<ul style="list-style-type: none"> Identify patients needing medication histories and complete them in a timely manner. Utilize patient-friendly language to clarify allergies and counsel patients, family members, and/or caregivers as needed (e.g., anticoagulation discharges).
Objective R1.2.3	(Applying) Document patient care activities in the medical record or where appropriate.	<ul style="list-style-type: none"> Construct accurate, concise SOAP notes in the electronic health record for patients on pharmacist-driven protocols. Use the multi-patient task list (MPTL) and clinical pharmacy worklist (CPW) to identify and complete pharmacist protocols and patient profile reviews. Organize workload to appropriately verify patient medication orders.

**Evaluations**

PharmAcademic™ is used for documentation of all formal evaluations. Evaluations must be completed no later than 7 days past the due date. Preceptors and residents meet to discuss all evaluations for the experience. Refer to policy RXRESGEN – 105 (Pharmacy Resident Assessment) for further details on expectations regarding evaluations.

Evaluation	Who	When
Midpoint Verbal Evaluation	Residents	End of week 3
Summative: Self-Evaluation	Residents	End of rotation
Summative Evaluation	Preceptor	End of rotation
Learning Experience Evaluation	Residents	End of rotation
Preceptor Evaluation	Residents	End of rotation



Medical Emergencies Longitudinal Syllabus

Contact Information

Preceptor(s): Karin Walton, PharmD, BCEMP; Inpatient Clinical Pharmacist, Emergency Department
Hours: 1530 – 0200 (7 on, 7 off)
Phone: (406) 435-6814
Email: kw Walton@billingsclinic.org

Alexander Bonca, PharmD, BCCCP; Inpatient Clinical Pharmacist, Critical Care-Trauma
Email: abonca2@billingsclinic.org

Hadley Edelmayer, PharmD; Inpatient Clinical Pharmacist, Critical Care-Trauma
Email: hedelmayer@billingsclinic.org

Aaron Johnston, PharmD, BCEMP; Inpatient Clinical Pharmacist, Critical Care-Trauma
Email: ajohnston44@billingsclinic.org

General Description of the Practice Area

Length: 11-month longitudinal experience from August – June

Type: Required

Experience Overview:

Medical Emergencies is an 11-month required longitudinal learning experience for PGY1 residents of the program in the acute care setting. The experience is a continuation and augmentation of concepts introduced in the advanced cardiovascular life support (ACLS) certification classes. It includes a focus on the pharmacist's role in responding to cardiopulmonary resuscitation (CPR), stroke, and trauma events and consists of both simulation and real-life scenarios.

Medical emergency frequency has a highly variable patient load. Residents are on-call for roughly 10 weeks of the year and usually experience at least 5 CPRs, 1 – 2 level one traumas, and numerous stroke alerts. The patient population is also widely varied but includes both inpatients and out-of-hospital arrests. While pediatric patients may be encountered, the focus of this experience is on the treatment of adult patients. Residents have the opportunity to work closely with the ICU nurses who respond as members of the CPR team as well as emergency physicians, intensivists, paramedics, critical care and non-critical care nurses, and patient care technicians.

Role(s) of Pharmacist(s) in the Practice Area

Hours: An inpatient clinical pharmacist responds to all CPRs, level I stroke alerts, and level I traumas 24 hours a day, 7 days a week. The primary pharmacist responsible for attending the medical emergencies is outlined in the Pharmacy Department job aids (provided by the preceptor).

Workspace: During medical emergencies, the pharmacist most commonly stands by the code card to assist with medication preparation as well as records medications administered. However, the pharmacist may also need to obtain medications from other areas (e.g., Omnicell, Main Pharmacy) during events. Medical emergencies occur throughout the entire hospital and clinic but are most common in the ED or ICU.

Pharmacist Role: Notification of CPR, stroke, and trauma events can occur in a number of ways including Voalte, overhead page, and/or by phone call. A primary and a back-up (if available) inpatient pharmacist attends all codes. Throughout the workday, the pharmacist(s) responsible for responding to codes changes. During medical emergencies, the pharmacists' primary responsibilities include medication preparation, recording of medication administration on CPR medication administration record (MAR), and making recommendations on drug therapy and dosing. The Pharmacist Role in Medical Emergencies at Billings Clinic job aids (provided by the preceptor) further outline the Pharmacy Department's medical emergencies response process.



Expectations of Residents

Resident Role in the Experience:

Residents become ACLS certified near the beginning of residency. Once they start clinical rotations, residents participate in emergency situations in various areas of the downtown campus (e.g., hospital, clinic) during their residency year. They act as one of the pharmacists on the code response teams along with their preceptor(s) or the responding critical care pharmacist. By the end of the year, the goal is for residents to feel confident responding to medical emergencies as the primary pharmacist. However, complete independence without a preceptor as backup, either at bedside or immediately outside the room, is not an expectation of the residents. A preceptor is always available to serve as backup for the resident.

Residents participate in Simulation Lab mock codes with Internal Medicine Residency (IMR) resident physicians. The residents serve as the pharmacist during these mock codes, with the preceptor serving as the backup or observer role. The mock codes cover multiple ACLS topics and allow medical and pharmacy residents to work together through multiple simulations throughout the year. Additionally, residents participate in Pharmacy Mock Codes with their preceptor and co-residents. During these scenarios, they may serve as the pharmacist responding, either alone or as a team.

During the longitudinal learning experience, residents focus on improving their knowledge and confidence with the management of medical emergencies in adult and pediatric patients. Critical thinking and prioritization as well as familiarity with evidence-based guidelines will be keys to success in this experience.

Assignments:

ACLS Certification: obtain initial certification by end of September. Maintain active certification using ALS RQI process.

On-Call Time:

- Attend CPRs, level one strokes, and level one trauma events while on call, according to schedule provided by the preceptor.
- To designate who should respond to codes, residents carry a Voalte phone (where they sign into the relevant teams) on a rotating basis for approximately 10 weeks each. The preceptor tries to balance opportunities amongst residents throughout the year to ensure skill development.
- On-call hours are from 0630 – 1700 during designated weekdays for one of the on-call blocks. Hours for the other on-call block usually follow rotation hours. Residents are expected to be on-site during their on-call days/hours to maximize opportunities to respond to medical emergencies. This may be shortened based on resident's schedule and exposure to medical emergencies throughout the year.
- Stroke attendance
 - Attendance at strokes varies based on rotation where call is assigned.
 - Residents attend stroke alerts if they are on-call during their Critical Care or Emergency Medicine rotations as the ICU and ED pharmacists routinely respond to these alerts.
 - When on-call during another rotation, residents may be asked to attend stroke alerts. The responsibility to attend is made known to residents and their preceptors prior to the start of the residents' on-call time.
- Extenuating circumstances
 - There are times when it is inappropriate for residents to leave their current task to attend a medical emergency (e.g., presenting).
 - During these times, the on-call resident should make note of the CPR and reason they could not attend.

IMR Mock Codes (in Simulation Lab): scheduled ~ every 4 weeks

- Residents attend mock codes with the IMR residents on a rotating basis.
- Residents are expected to be prepared with necessary learning aids (e.g., pocket guides, drip charts) and fill the role of the pharmacist in the simulation.

Pharmacy Mock Codes: quarterly

- Residents participate in a case-based simulation session with their co-residents where the group runs through a mock code and the pharmacist's role (e.g., medication preparation).
- Residents should attend all sessions unless previously excused by the preceptor and/or RPD.



Topic discussions: quarterly

- Read all assigned materials related to the discussion topics.
- Residents should be prepared to discuss information with preceptor and/or instructor(s) and co-residents.
- Residents should suggest any topics of interest to the preceptor.

Time in Patient Care Area Expectations:

While on-call, residents may have to leave their rotation area to respond to the medical emergency (e.g., on-call during Cardiology). They should stay at the medical emergency until a pharmacist is no longer needed. Residents should return to other duties after the emergency is complete and all necessary documentation/follow up has been completed.

Project Time Expectations:

Project time is not scheduled as part of this longitudinal experience. Residents are expected to respond to medical emergencies during their project days that fall during their scheduled on-call days.

Meetings/Other Responsibilities Outside of Experience Expectations:

While on-call, residents may have to leave meetings to respond to the medical emergency. If they are presenting at a larger meeting (e.g., Pharmacy and Therapeutics Committee) or event (e.g., Grand Rounds), they are excused from responding.

Resident Progression Throughout the Learning Experience

Preceptor Interaction:

Introduction/Orientation: Preceptor(s) review the Medical Emergencies longitudinal learning experience activities and expectations before any residents are assigned call.

Rest of Year: Preceptor(s) are available to answer questions, attend codes with the residents, debrief with residents on codes they attend, and participate in mock codes with the residents. There are preplanned interactions a few times a quarter, including IMR mock codes, pharmacy resident mock codes, and topic discussion. Otherwise, most interactions are ad-hoc during the residents' on-call time during and after medical emergencies. Evaluations are conducted approximately once a quarter, and residents meet with preceptor(s) for these as well.

Resident Progression of Responsibility and Skills:

Based on scheduling, some residents have their first on-call rotation in the 1st quarter, while others typically start in the 2nd quarter. Likewise, some residents complete their on-call time in 3rd quarter, while others complete their on-call time in the 4th quarter. Therefore, the length of experience differs for residents based on on-call schedules. Extra mock code scenarios may be utilized to augment experience and provide additional practice as needed, depending on occurrence of actual CPR, trauma, and stroke events throughout the year.

Months 1 – 2: In the first quarter, residents attain their ACLS certification and attend orientation with the preceptor where they are introduced to their on-call time, the pharmacist's role in medical emergencies, the yearly expectations of the experience, and the code cart medications. The first 2 months of residency are generally spent in Orientation and Pharmacy Practice, so residents are not on call yet nor do they have topic discussions/mock codes. However, if the pharmacist they are training with responds to a medical emergency, they respond as well. At this point, they primarily take on the role of observer.

Months 3 – 5: During the second quarter, residents typically complete their first on-call period. In general, residents are on call during Critical Care rotations, so their on-call time is affected by their overall residency schedule. Residents start off responding in the observer role for the first few medical emergencies they attend. As they become more comfortable and have seen a few codes/traumas/strokes, they begin taking a more active role. In these initial months, this likely means either preparing medications and/or charting medications on the paper CPR medication administration record (MAR). Residents generally require frequent supervision and work in tandem with their preceptor to respond to medical emergencies.

Mock codes also begin taking place both with the medical residents and pharmacy residents. During these mock scenarios, residents take the primary role of pharmacist.



The preceptor primarily functions as an observer and as the backup pharmacist; they answer questions as needed for residents. These mock scenarios help prepare residents to take the primary role in real patient care scenarios.

Months 6 – 8: In the third quarter, residents continue to attend codes as assigned and may complete their second on-call period. For CPRs that follow the general ACLS algorithms, residents should start becoming independent. They step into the role of primary pharmacist and prepare medications, keep track of timing of medications, and chart medications appropriately on the CPR MAR. During stroke responses, they assess the patient for exclusion criteria, calculate the dose, and mix the tenecteplase. Trauma response is less frequent; but if they have had multiple level one traumas, they respond as primary and manage medications in these scenarios as well. For patient scenarios that are more nuanced (e.g., CPRs requiring alteplase, complex arrhythmias), the preceptor may still function as the primary pharmacist. Residents also continue to attend Pharmacy and IMR mock codes and should actively participate in the group discussions.

Months 9 – 11: During the fourth quarter, residents continue to attend codes as assigned and complete their final on-call period if not done previously. By this time, residents should be able to function as the primary pharmacist for most medical emergencies. Depending on experience, they may be able to program the medication pumps and prime medication tubing. They should actively participate in the discussion with providers and nursing staff regarding best care for the patient and possible causes of arrest. The preceptor may be present in the room as an observer or may be immediately outside the room as a secondary pharmacist depending on resident comfort level and ability. The expectation is not that residents function at the level of a seasoned critical care pharmacist; instead, they should be able to respond to common code scenarios with confidence and use their clinical knowledge and resources to function as a valuable team member. During more complex medical emergencies, residents may still require occasional supervision and collaboration with the preceptor. Depending on availability, residents may serve as a preceptor to a pharmacy student during mock code scenarios to further advance their knowledge and progress.

Educational Objectives

Goals and Objectives Taught and Evaluated:

Type/ Number	Bloom's Taxonomy & Description	Learning Activities
Goal R1.1: Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process)		
Objective R1.1.1	(Analyzing) Collect relevant subjective and objective information about the patient.	<ul style="list-style-type: none"> Gather, organize, and categorize information at bedside during medical emergency response from the medical chart, bedside nurse, physician, first responders, patient, and family members as appropriate. Discriminate pertinent data from that which does not need immediate attention.
Objective R1.1.2	(Evaluating) Assess clinical information collected and analyze its impact on the patient's overall health goals.	<ul style="list-style-type: none"> Detect any medication-related factors that could be causing or contributing the patient's medical emergency. Communicate those factors with the medical team as soon as possible.



Type/Number	Bloom's Taxonomy & Description	Learning Activities
Goal R1.1: Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process)		
Objective R1.1.4	(Applying) Implement care plans.	<ul style="list-style-type: none"> Attend all CPR, stroke (level 1), and trauma (level 1) events during on-call days/hours. Response time should be as quickly and safely as possible. Assist the responding pharmacist(s) with dose calculations, medication preparation, recording, and other duties during the CPR event, trauma (level 1), or stroke (level 1) alert. Perform the role of the primary pharmacist as skills develop. Ensure the appropriate treatment algorithm (e.g., ACLS) is being utilized during code events. Inquire about the treatment algorithm if unsure. Clarify deviations with the medical team as soon as possible. Prepare emergent medications and hand them to the team using closed-loop communication. Recommend evidence-based medication therapies, as appropriate, based upon the expected cause of the code event.
Objective R1.1.6	(Analyzing) Identify and address medication-related needs of individual patients experiencing care transitions regarding physical location, level of care, providers, or access to medications.	<ul style="list-style-type: none"> Inventory the code area and ensure the proper medications have been ordered (e.g., targeted temperature management) and are ready for transport (e.g., drips) prior to transfer.
Goal R1.2: Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.		
Objective R1.2.1	(Applying) Collaborate and communicate with healthcare team members.	<ul style="list-style-type: none"> Communicate effectively with the CPR, trauma, or stroke team during medical emergencies; calmly, accurately, and succinctly express pertinent medication information that contributes to the overall plan of care during emergency situations.
Objective R1.2.3	(Applying) Document patient care activities in the medical record or where appropriate.	<ul style="list-style-type: none"> Charge for medications appropriately after a CPR event, trauma, or stroke alert.

Evaluations

PharmAcademic™ is used for documentation of all formal evaluations. Evaluations must be completed no later than 7 days past the due date. Preceptors and residents meet to discuss all evaluations for the experience. Refer to policy RXRESGEN – 105 (Pharmacy Resident Assessment) for further details on expectations regarding evaluations.

Evaluation	Who	When
Summative: Self-Evaluation	Residents	Evenly spaced throughout the experience (~once per quarter)
Summative Evaluation	Preceptor	Evenly spaced throughout the experience (~once per quarter)
Learning Experience Evaluation	Residents	Midpoint and end of the experience
Preceptor Evaluation	Residents	Midpoint and end of the experience



Neonatology Rotation Syllabus

Contact Information

Preceptor(s):

Dax Rice, PharmD, BCPPS, Inpatient Clinical Pharmacist, Neonatology-Pediatrics
Office: Family Birth Center (FBC)
Hours: 0700 – 1530 Monday – Friday
Phone: ext 4874 (office) or (406) 694-4049 (cell)
Email: drice@billingsclinic.org

Siera Boyd, PharmD, BCPPS
Ambulatory Clinical Pharmacist Specialist – Pediatrics
Office: Pediatric Specialty Clinic, Hospital 1st Floor
Phone: (406) 238-5316
Email: sboyd@billingsclinic.org

General Description of the Practice Area

Length: 5 – 6 weeks

Type: Elective

Experience Overview:

Neonatology is a 5- or 6-week elective rotation for PGY1 residents of the program in the acute care setting. It focuses on enhancing residents' abilities to provide comprehensive pharmaceutical care to neonates and obstetric/gynecologic (OB/GYN) patients. Depending upon patient census and acuity, the rotation may also include exposure to inpatient pediatrics. This rotation is centered on the Family Birth Center (FBC), which is a multi-functional unit consisting of labor and delivery (LDRP) as well as the Neonatal Intensive Care Unit (NICU). The Inpatient Pediatrics Unit (IPU) is located adjacent to the FBC.

FBC: 31-beds are available for women and children to provide all levels of maternal and newborn services during the perinatal period. Medical services provided by physicians (OB/GYN, MFM, anesthesia), advanced practice providers (CNM, NP, PA), nurses, a pharmacist, respiratory therapy, and PT/OT.

- NICU: 17-bed, level III unit with ability to provide critical care to neonates. Medical services are provided by neonatologists, anesthesiologists, nurses, a pharmacist, respiratory therapy, and PT/OT
- LDRP: 8-beds for pregnant and laboring mothers need inpatient care.
- IPU/PICU: 6-bed unit with ability to add additional beds. Beds can swing between pediatric medical care and pediatric critical care. Critical care is limited to specific disease states and acuity. Medical services provided by physicians (pediatric hospitalists, anesthesia, surgeons, pediatric specialists – cardiology, pulmonology, endocrinology, gastroenterology, and neurology), nurses, pharmacist, respiratory therapy, PT/OT

Role(s) of Pharmacist(s) in the Practice Area

Hours: Pharmacy services for NICU and IPU are provided by one decentralized pharmacist (NICU) from 0700 – 1530 on weekdays. Evening and weekend coverage of FBC/LDRP, NICU, and IPU is generally provided by other colleagues (e.g., main inpatient pharmacists, critical care pharmacists, and night pharmacists).

Workspace: FBC (hospital building – 2nd floor)

Pharmacist Role: The NICU pharmacist's primary responsibilities include multidisciplinary rounding in the NICU and IPU; writing parenteral nutrition orders and calculating vitamin and caloric intake to suggest changes; attending high-risk deliveries; order processing; pharmacist-driven protocols; patient profile reviews (NICU, FBC, IPU, PICU); answering drug information questions from providers, nurses, and patients; interdisciplinary team interactions and education; patient counseling; and responding to cardiopulmonary resuscitation calls for all neonates, pediatric patients, and FBC patients.



A typical day is structured as follows:

- 0645 – 0730: FBC morning handoff rounds
- 0730 – 0900: Profile reviews, rounding preparation, pre-rounding in NICU and IPU to determine pump rates and clarify any issues with medication administration overnight, and writing initial TPN and feeding orders
- 0900 – 1000: IPU rounds
- 1000 – 1130: NICU rounds
- 1130 – 1530: Following upon on rounds (e.g., orders), managing workflow and other clinical duties, projects, and administrative duties.
 - TPNs are due at 1400 to the inpatient IV room, so these are prioritized after rounds. Each one takes 45 – 60 minutes to complete with designing, presenting to the provider, adjusting as needed, and entering into the various systems.
 - Common protocols include vancomycin and gentamicin
 - Order processing can get complicated in certain situations (e.g., PCN desensitization, retiming orders, coordinating difficult infusions)
- Throughout the day, the NICU pharmacist responds to CPRs and medical emergencies in areas covered and attending high-risk deliveries as needed.

In addition to clinical duties, the NICU pharmacist is involved with PowerPlan development and updates for NICU, IPU, and FBC, and ongoing PICU development (newest practice area).

Expectations of Residents

Resident Role in the Experience:

Residents actively participate in interdisciplinary rounds and other clinical activities with the NICU pharmacist. Residents assist the pharmacist with clinical monitoring and interventions, writing TPN and feeding orders, and drug information requests. Residents become familiar with neonatal medications, nutrition, and responding to emergent situations (e.g., CPRs) in these patients. They attend high-risk deliveries with the pharmacist as opportunities arise.

Residents also help care for pregnant patients and address their unique pharmacotherapy needs. Residents shall strive to improve their knowledge of neonatology and OB/GYN conditions and medications and the ability to apply the information to specific patients.

Throughout the rotation, residents may expect the following activities:

Week 1: Learn NICU equipment, verbiage, neonatal calculations, neonatal parenteral nutrition, common neonatal lab values, finding and documenting neonatal specific data, working up and reporting out on NICU patients. Residents can expect to begin with 5 patients during the first week of rotation. Residents also learn and begin to demonstrate the expectations and standards for topic discussion, rounding, and patient report out.

Weeks 2 – 5/6: Residents can expect about 5 patients added weekly to patient monitoring and report out responsibilities. This continues until residents are either following the whole unit or they have reached their maximum capacity as determined by the preceptor. Progressively in weeks 2 – 5/6, residents are expected to advance in daily rounding (enhanced data gathering, analysis, and reporting), daily patient report outs (demonstrate ability to work up more patients and to be able to completely recall and express important patient information), daily resident-led topic discussions (providing complete topic discussions with enhanced ability to recognize and teach key points).

Assignments:

Patient report outs: ~ daily

- Residents verbally present patients being monitored (all assigned plus other interesting cases selected by resident) to NICU pharmacist.
- Use monitoring sheets/electronic medical record as needed during discussion.



Topic discussions: ~ daily

- Read relevant literature related to assigned topics and be prepared to discuss information with NICU pharmacist (± pharmacy students).
- Topic discussions are a mixture of in-depth discussions and “mini” topic discussions conducted in the midst of regular workflow.
- Residents are expected to become proficient at leading the topic discussions according to preceptor’s specified format, which will be shared with residents during rotation orientation.
- Residents should suggest any topics of interest to the preceptor.

Time in Patient Care Area Expectations:

- 0700 – 1200: Residents perform patient reviews, participate in the NICU pharmacist’s workflow and clinical duties, round with providers, and take part in other rotation activities and detailed in their schedules.
- Afternoons: Residents spend 1 – 2 hours in the afternoons in the FBC pharmacy work area completing topic discussions, presenting patients to the preceptor and/or NICU pharmacist, and following up on issues from the morning activities.
- Residents should provide a proper sign-out of patients and any pending issues before leaving for the day.

Project Time Expectations:

- Residents are allowed 1 project day during the rotation. This should be decided upon at the start of the rotation and added to the Pharmacy Resident Calendar.
- An additional project day may be requested by the resident if needed based on workload (e.g., large deadlines approaching). This requires approval of the RPD and preceptor.
- Project time/days may be completed in the FBC pharmacy work area.

Meetings/Other Responsibilities Outside of Rotation Expectations:

Meetings and other responsibilities not related to the rotation should be scheduled during project time. However, if that is not feasible, meetings should be scheduled after 1400.

Resident Progression Throughout the Learning Experience

Preceptor Interaction:

Day 1: Preceptor reviews the Neonatology rotation activities, expectations, and assignments with the residents and tours the NICU, IPU, and FBC.

Daily: Preceptor or NICU pharmacist interacts with residents on a daily basis.

- Mornings: Guide residents on NICU pharmacist’s workflow and clinical duties (including rounding)
- Afternoons: Topic discussions and patient report outs with residents

Resident Progression of Responsibility and Skills:

Week 1: Residents work one-on-one with preceptor or NICU pharmacist to learn the NICU pharmacist’s workflow and participate in their clinical duties. Residents focus on neonatal nutrition and feeding orders and learn to write TPNs. If a student is also present on rotation, then residents observe the NICU pharmacist’s interactions with them in preparation to take on the primary preceptor role. Residents are assigned a minimum of 5 patients at the beginning of their rotation and should follow those patients until a) hospital discharge or b) the end of their rotation.

Each morning, residents review the FBC and NICU patient lists for new admissions and begin monitoring those patients as indicated by preceptor or NICU pharmacist (in addition to patients currently being followed).

Week 2: Residents actively participate in the NICU pharmacist’s daily activities with the goal of developing independence with TPN management. Residents pre-round on patients with the NICU pharmacist and attend rounds. Residents focus on relationship building with the rounding teams and monitoring more patients as the week progresses. They also start to focus on management of FBC patients. Residents are assigned up to 10 patients to monitor.



Week 3: Residents continue to participate in the NICU pharmacist’s daily activities. By this time, they should feel confident with writing TPN orders and pre-rounding on patients independently. Other responsibilities (e.g., protocols, phone calls) are progressively added to residents. Residents focus on proficiency and being able to manage TPNs for all of their patients and have patient-specific recommendation to address medication-related problems identified. If a student is also present on rotation, then residents may start to serve in the primary preceptor role by leading topic discussions, leading patient report outs, and assisting the student with patient monitoring. Residents are assigned up to 15 patients to monitor.

Weeks 4 – 5/6: Residents should be able to perform the majority of the NICU pharmacist’s rounding and TPN writing duties with confidence. They should be able to assist at common code scenarios and other bedside needs. Residents may still require occasional to minimal supervision in more complicated patients/situations. By the end of the rotation, residents should be able to actively monitor all of the NICU patients each day while still knowing the basic information about FBC patients. However, the quality of patient reviews while gaining efficiency should be prioritized over trying to hit a specific target number of patients.

Educational Objectives and Learning Activities

Goals and Objectives Taught and Evaluated:

Type/ Number	Bloom’s Taxonomy & Description	Activities
Goal R1.1: Provide safe and effective patient care services following JCPP (Pharmacists’ Patient Care Process)		
Objective R1.1.1	(Analyzing) Collect relevant subjective and objective information about the patient.	<ul style="list-style-type: none"> Attain and examine patient and medication-related information, focusing on information unique to neonates and their mothers.
Objective R1.1.2	(Evaluating) Assess clinical information collected and analyze its impact on the patient’s overall health goals.	<ul style="list-style-type: none"> Determine patient-specific drug therapy problems (DTPs) using a systematic approach; focus on the specific needs of the neonatal and OB/GYN patient populations.
Objective R1.1.3	(Creating) Develop evidence-based, cost effective, and comprehensive patient-centered care plans.	<ul style="list-style-type: none"> Design custom total parenteral nutrition (TPN) regimens for neonatal patients daily. Choose doses based on patient weight, caloric needs, and their calculated DDR (dextrose delivery rate) if on parenteral nutrition. Develop patient-specific, evidence-based medication recommendations based on patient acuity and current needs.
Objective R1.1.4	(Applying) Implement care plans.	<ul style="list-style-type: none"> Propose medication interventions to providers on rounds. Discuss recommendations with the preceptor in advance. Employ a process to review patients after rounds and identify discrepancies in care plans that were discussed with the team. Intervene as appropriate.
Objective R1.1.5	(Creating) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	<ul style="list-style-type: none"> Adapt TPNs based on patient weight, caloric needs, fluid restrictions, DDR, and other patient-specific factors.
Goal R1.2: Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.		
Objective R1.2.1	(Applying) Collaborate and communicate with healthcare team members.	<ul style="list-style-type: none"> Actively contribute to rounds with providers and the NICU pharmacist daily. Use the most appropriate method to communicate issues or changes in medication therapy to the healthcare team.

**Evaluations**

PharmAcademic™ is used for documentation of all formal evaluations. Evaluations must be completed no later than 7 days past the due date. Preceptors and residents meet to discuss all evaluations for the experience. Refer to policy RXRESGEN – 105 (Pharmacy Resident Assessment) for further details on expectations regarding evaluations.

Evaluation	Who	When
Midpoint Verbal Evaluation	Residents	End of week 3
Summative: Self-Evaluation	Residents	End of rotation
Summative Evaluation	Preceptor	End of rotation
Learning Experience Evaluation	Residents	End of rotation
Preceptor Evaluation	Residents	End of rotation



Oncology – Inpatient/Infusion Center Rotation Syllabus

Contact Information

Preceptor(s): Anna Rivard, PharmD, BCOP; Lead Clinical Pharmacist, Oncology
Office: Infusion Center (IC) pharmacy
Hours: 0700 – 1530, Monday – Friday
Work: ext 7430
Email: arivard@billingsclinic.org

General Description of the Practice Area

Length: 5 – 6 weeks

Type: Elective

Experience Overview:

Oncology is a 5- or 6-week elective rotation option for PGY1 residents of the program in the acute care setting. It is centered in the adult Infusion Center but provides exposure to both outpatient and inpatient adult and pediatric oncology.

The Billings Clinic Cancer Center is an integral part of the organization and is home to medical, surgical, and radiation oncologists; one naturopathic physician; and various advanced practice providers (APPs). The Cancer Center provides outpatient treatment facilities for radiation and a 26-chair adult Infusion Center (IC), which is located on the 4th floor of the Clinic building. The Infusion Center treats an average of 80 patients per day with a wide range of diagnoses, including but not limited to cancer, rheumatoid arthritis, multiple sclerosis, dehydration, anemia, infectious diseases, and osteoporosis.

Adult oncology services are also provided in the Inpatient Cancer Care unit (ICC), located on the 4th floor of the hospital, and throughout the hospital depending on other concomitant disease states (e.g., CVU or ICU status). ICC contains 27 beds including 13 neutropenic rooms. Inpatient oncology pharmacist typically follows about 30 inpatients per day. Inpatients with cancer may present to the hospital for many reasons including but not limited to chemotherapy administration, cancer treatment toxicity, work up for new cancer diagnosis, pain management, and infection treatment. Pediatric oncology services are provided in the Pediatrics Specialty Clinic at the Pediatric Infusion Center, which is located on the 1st floor of the hospital. Autologous hematopoietic stem cell transplant services are also done at Billings Clinic.

Residents interact with a variety of healthcare team members in the outpatient and inpatient settings on this rotation including but not limited to providers (including APPs), nurses, naturopaths, respiratory therapists, physical and occupational therapists, other pharmacists, and pharmacy technicians. Residents have the opportunity to attend multiple tumor boards as rotation activities allow. Tumor boards allow for interdisciplinary team to discuss complex patient cases with colleagues and formulate a plan of treatment including options such as radiation, medication therapy, and surgery.

Role(s) of Pharmacist(s) in the Practice Area

The Infusion Center #3 (IC-3) pharmacist focuses on adult oncology services in the ICC as well as provides care for patients in the Infusion Center. The inpatient decentralized pharmacist #5 (DC-5) works in ICC and focuses on the non-oncology needs of the patients, while the Infusion Center pharmacists focus on the patients' oncology needs. The Pediatric Clinical Pharmacist Specialist and Main Inpatient Pharmacists collaborate to provide services to the Pediatric Infusion Center. Oral oncolytic medication counseling and follow-up are provided by the Specialty Oral Oncology Clinical Pharmacy Specialists in the Medical Oncology and Gynecologic Oncology offices in collaboration with Specialty Pharmacy.

Hours: Infusion center (IC) pharmacists staff from 0700 – 1830 (variable shifts) on weekdays, excluding holidays. The Oral Oncology and Pediatric Oncology pharmacists work weekdays, excluding holidays, vacations, professional travel, or other times when scheduling does not permit coverage.



Workspace: Inpatient Cancer Care Unit (ICC) (hospital building – 4th floor), Adult Infusion Center (clinic building – 4th floor), Oral chemotherapy pharmacist office (clinic building – 3rd floor), Pediatric infusion center (hospital building – 1st floor)

Pharmacist Role: The IC-3 pharmacist's primary responsibilities include inpatient chemotherapy/immunotherapy order entry and verification (first check), inpatient chemotherapy/immunotherapy and supportive care management, inpatient chemotherapy/immunotherapy and supportive care patient education, and outpatient chemotherapy/immunotherapy review as available. The pharmacist remains available to the ICC team in-person or via telephone, Voalte, and Microsoft Teams. The IC-3 pharmacist also helps develop and update oncology/chemotherapy/immunotherapy pharmacy policies, protocols, and PowerPlans (including inpatient and outpatient for adults and pediatrics). Additional responsibilities include precepting, meeting attendance, and projects.

The DC-5 pharmacist focuses on order verification; pharmacist-driven protocols; patient counseling; profile reviews to assess medication regimen safety/efficacy, renal dosing needs, IV to PO conversion opportunities, and therapeutic duplication; medication histories; and assisting providers with pharmacy related inquiries.

Responsibilities of the other Infusion Center pharmacists (IC-1 and IC-2) include chemotherapy/immunotherapy or other non-oncology infusion medication order entry and verification, chemotherapy/immunotherapy and supportive care management, and chemotherapy/immunotherapy and antiemetic patient education. These pharmacists also remain available to IC RNs, medical oncology providers, gynecologic oncology provider, and other providers ordering infusions for this location via telephone, Voalte, and Microsoft Teams.

Expectations of Residents

Resident Role in the Experience:

Residents develop the skills required to provide comprehensive, patient-centered, pharmaceutical care to oncology patients and other types of individuals receiving treatment at the IC and inpatient areas. Residents review patient charts and profiles and conduct patient visits in order to identify and resolve patient-specific drug therapy problems. Residents are involved in a multitude of interdisciplinary activities, including tumor boards, supportive care team, and cancer research. Additionally, residents may spend time with oncologists seeing patients in clinic and the hospital, as well as observing surgery (when available). Residents also help ensure appropriate dispensing of pre-medications, chemotherapy, and immunotherapy; monitor patients' labs, vital signs, and functional status to ensure treatment is safe; conduct anti-emetic consultations; and provide drug information to providers, nurses, and other members of the cancer care team. Good communication and interpersonal skills are vital to success in this experience. Residents should focus on improving their knowledge base regarding common types of cancer, cancer treatments, and treatment adverse events as well as their patient counseling and team interaction skills.

Assignments:

Patient case discussions: ~ daily

- Verbally present patients (all assigned plus other interesting cases from other activities, such as tumor board or supportive care team) to the preceptor another pharmacist
- Use monitoring sheets/electronic medical record as needed during discussion

Topic discussions: 1 – 3 times weekly

- Read relevant literature related to assigned topics and be prepared to discuss information with the preceptor or another pharmacist
- Topic discussions include a mixture of in-depth discussions and "mini" topic discussions conducted in the midst of regular workflow

Time in Patient Care Area Expectations:

- 0700 – 0800: Residents attend various tumor boards
- 0800 – 1530 (depending on required activities): Residents perform patient reviews, participate in the IC pharmacists' activities, round/spend time in clinic with providers, and complete other learning experiences set up by the preceptor



Project Time Expectations:

- Residents are allowed 1 project day during the rotation. This should be decided upon at the start of the rotation and added to the Pharmacy Resident Calendar.
- An additional project day may be requested by the resident if needed based on workload (e.g., large deadlines approaching). This requires approval of the RPD and preceptor.
- Project day(s) should be discussed prior to rotation start to allow for appropriate scheduling in various areas of oncology pharmacy.

Meetings/Other Responsibilities Outside of Rotation Expectations:

Non-rotation required meetings should be scheduled on project days or in the afternoons, if possible, to optimize exposure to clinical opportunities.

Resident Progression Throughout the Learning Experience

Preceptor Interaction:

Day 1: Preceptor reviews the Oncology rotation activities, expectations, and assignments with the residents and tours the Adult IC, ICC, and Pediatric IC.

Daily: The preceptor interacts with residents on a daily basis.

- 0700: Tumor boards with residents
- 0800: Daily schedule review with residents
- 0830 – 1530: Preceptor performs clinical responsibilities alongside residents; discusses oncology topics and patients; reviews assignments

Resident Progression of Responsibility and Skills:

Week 1: Residents work alongside the preceptor to learn the IC-3 pharmacist's workflow and proper steps for verifying inpatient chemotherapy/immunotherapy. Residents focus on becoming comfortable with the reviewing oncology patients, determining order/regimen appropriateness, and determining supportive care needs. Residents start to attend tumor board and other interdisciplinary activities.

Week 2: Residents actively participate in the preceptor's daily activities and start to verify chemotherapy orders and educate patients. When in the IC, residents focus on learning the workflow and proper steps for verifying outpatient chemotherapy/immunotherapy. Residents focus on becoming comfortable with reviewing IC patients, determining order/regimen appropriateness, and determining supportive care needs. They are also oriented to using the pharmacist collaborative practice agreements in the IC and educating patients on chemotherapy and supportive care regimens.

Weeks 3 – 4: Residents continue to participate in the IC pharmacists' daily activities with the goal of gaining proficiency with common chemotherapy/immunotherapy regimens and cancer types. Residents participate in rounds and clinic with oncology providers as available. They may also spend time with the Oral Oncology and Pediatric Oncology pharmacists. Residents counsel new start chemotherapy patients on chemotherapy regimen and supportive care plans with preceptor guidance.

Weeks 5 – 6: Residents should be able to confidently verify chemotherapy/immunotherapy orders, determine order/regimen appropriateness, develop plans for supportive care, and counsel patients on their oncolytic therapy. Due to the complexity of cancer and cancer treatments and spending time in both inpatient and outpatient environments, residents usually require occasional to minimal supervision even at the end of the rotation.



Educational Objectives and Learning Activities

Goals and Objectives Taught and Evaluated:

Type/ Number	Bloom's Taxonomy & Description	Activities
Goal R1.1: Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process)		
Objective R1.1.1	(Analyzing) Collect relevant subjective and objective information about the patient.	<ul style="list-style-type: none"> Accurately gather and examine patient and medication-related information using a systematic approach utilizing appropriate resources within the electronic medical record (EMR) including but not limited to labs and procedures pertaining to chemotherapy/biotherapy monitoring or supportive care, weight changes, medication changes, and patient reported symptoms. Inspect for medication non-adherence including supportive care medications, chemotherapy (IV or oral), and biotherapy.
Objective R1.1.2	(Evaluating) Assess clinical information collected and analyze its impact on the patient's overall health goals.	<ul style="list-style-type: none"> Detect drug therapy problems (DTP) relating to oncology or supportive care for cancer patients using an organized approach. Assess medications for appropriate indications, effectiveness, safety, and compliance. Categorize medication-related toxicities or other medication issues or changes.
Objective R1.1.3	(Creating) Develop evidence-based, cost effective, and comprehensive patient-centered care plans.	<ul style="list-style-type: none"> Using patient-specific information, generate safe and appropriate medication therapy recommendations daily for optimizing management of various oncologic disease states and to address any DTPs identified. Create patient-specific antiemetic and supportive care regimens utilizing information from patient chart, patient interview, and cancer treatment guidelines.
Objective R1.1.4	(Applying) Implement care plans.	<ul style="list-style-type: none"> Recommend changes to medication therapy to providers using appropriate resources, rationale, and communication skills. Recommendations should include specific details about the medication (dose, dosage form, route of administration, frequency, and indication), monitoring parameters, and patient-specific goals. Review patients after recommendations are made to identify discrepancies in implementation of regimens and plans as discussed with the cancer care team. Discuss any follow up issues with preceptor and/or the appropriate provider. Accurately verify orders for oncology patients.
Objective R1.1.5	(Creating) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	<ul style="list-style-type: none"> Adapt anti-emetic regimens for oncology patients based on their response. Review patients' laboratory values and formulate recommendations for providers regarding holding chemotherapy or modifying doses.
Objective R1.1.6	(Analyzing) Identify and address medication-related needs of individual patients experiencing care transitions regarding physical location, level of care, providers, or access to medications.	<ul style="list-style-type: none"> Analyze medication lists to ensure appropriate continuation of patients' home medications upon admission to the hospital and infusion center as needed. Provide proper hand-off with outpatient oncology pharmacy team upon hospital discharge



Type/Number	Bloom's Taxonomy & Description	Activities
Goal R1.2: Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.		
Objective R1.2.1	(Applying) Collaborate and communicate with healthcare team members.	<ul style="list-style-type: none"> Investigate pharmacy-related items discussed at tumor boards. Actively participate in rounds/clinic with oncology providers. Communicate medication-related concerns and issues to all pertinent members of the oncology healthcare team, utilizing the appropriate method (e.g., face-to-face, telephone, Teams, Voalte). Include recommendations for management.
Objective R1.2.2	(Applying) Communicate effectively with patients and caregivers.	<ul style="list-style-type: none"> Interview patients, family members/caregivers about medication regimens, medication history, and drug allergies to allow for evaluation of effects on oncolytic therapy choices. Capture and document patient concerns with their oncology treatments and any adverse effects. Customize patient counseling on any new oncology-related medications, medication changes, and recommended monitoring based on patient health-literacy and patient and cancer treatment regimen specific needs.
Objective R1.2.3	(Applying) Document patient care activities in the medical record or where appropriate.	<ul style="list-style-type: none"> Document information (e.g., SOAP notes, Ad Hoc charting) in the patient's EMR as need, prior to the end of shift daily.

Evaluations

PharmAcademic™ is used for documentation of all formal evaluations. Evaluations must be completed no later than 7 days past the due date. Preceptors and residents meet to discuss all evaluations for the experience. Refer to policy RXRESGEN – 105 (Pharmacy Resident Assessment) for further details on expectations regarding evaluations.

Evaluation	Who	When
Midpoint Verbal Evaluation	Residents	End of week 3
Summative: Self-Evaluation	Residents	End of rotation
Summative Evaluation	Preceptor	End of rotation
Learning Experience Evaluation	Residents	End of rotation
Preceptor Evaluation	Residents	End of rotation



Orientation Rotation Syllabus

Contact Information

Preceptor(s): Melanie Townsend, PharmD, BCPS; Program Director, Pharmacy Residency
Office: Main Inpatient Pharmacy, Hospital Basement
Hours: 0900 – 1700, Monday – Friday
Phone: (406) 657-4842 office, (307) 760-9224 cell
Email: mtownsend@billingsclinic.org

General Description of the Practice Area

Length: 5 weeks

Type: Required

Experience Overview:

Orientation is a 5-week required rotation for PGY1 pharmacy residents in both program settings. It is one of the first rotations completed during the residency year. Orientation runs concurrently with the Pharmacy Practice rotation. Most of the orientation sessions occur during the first 2 weeks of the residency program, with the remainder taking place over the next 3 weeks. Participants in the Orientation sessions include the preceptor (Residency Program Director or RPD) and residents. The focuses of Orientation are to educate residents regarding policies, procedures, and expectations affecting their positions; determine each resident's individual experiences prior to residency and develop goals and a customized development plan for residency; discuss PharmAcademic™; and familiarize residents with Billings Clinic and the Pharmacy Department.

Role(s) of Pharmacist(s) in the Practice Area

Hours: Orientation activities are generally scheduled between 0700 – 1700 on weekdays

Workspace: Orientation sessions take place in various conference rooms/spaces throughout the organization.

Pharmacist Role: Orientation is facilitated by the RPD, and many of the sessions are led by the RPD. Various pharmacists and other healthcare team members also meet with the residents as needed to orient them to different topics. Unlike many other residency programs, the RPD is a full-time equivalent (FTE, 1) at Billings Clinic. This means the RPD is frequently available to meet with residents, assist preceptors, and participate in most residency activities.

Expectations of Residents

Resident Role in the Experience:

Residents in both program settings participate in Orientation together. Residents gain knowledge and confidence in transitioning from a student pharmacist to a new pharmacist practitioner. Residents focus on developing good organizational, time management, and work habits to lay a solid foundation for the residency year. Residents self-reflect on their strengths and areas needing improvement and set goals to address those areas. Residents also develop plans for professional engagement throughout residency and their career. Residents should strive to become integrated into the Pharmacy Department and organization by forming positive, professional relationships with others as well as familiarizing themselves with expectations for the year.

Assignments:

- Attend all orientation sessions with the preceptor and co-residents
- Review all required residency documents/resources and then complete the residency manual acknowledgement
- Write a personal biography for an organizational newsletter
- Select a formal mentor for the year
- Meet with RPD to discuss their initial development plan

Time in Patient Care Area Expectations: Orientation is a non-patient care rotation. Whenever possible, Orientation sessions are scheduled during times that minimize disruptions to Pharmacy Practice training.



Project Time Expectations: Residents are given some project time during Orientation (primarily in the first 2 weeks). Once Pharmacy Practice training begins, residents are not typically given project time. During that rotation, they may work on projects and assignments before and after their scheduled activities.

Meetings/Other Responsibilities Outside of Rotation Expectations: Residents should schedule meetings outside of required activity times. If they need to schedule a meeting during a time when a required activity is scheduled, they are required to discuss this conflict with the RPD in advance.

Resident Progression Throughout the Learning Experience

Preceptor Interaction and Resident Progression of Responsibility and Skills:

Day 1: Preceptor reviews the Orientation rotation activities, expectations, and assignments with the residents.

Weeks 1 – 2: Most Orientation sessions occur during this time. Residents gain familiarity with residency program policies and procedures, their schedules and assignments, and their program’s structure through regular participation in Orientation sessions. Residents also meet one-on-one to discuss their baseline self-assessment and self-reflections; learning styles; and educational, professional, and personal goals for the residency year, which are utilized for their initial development plans.

Weeks 3 – 4: Residents continue to actively participate in Orientation sessions with the preceptor and co-residents. By this time, residents should have a basic understanding of the residency program and their roles with the department and organization. Throughout this time, residents should start to refine their organizational, time management, and communication skills.

Week 5: Residents should be able to explain the various elements covered in the Orientation sessions. Residents should have a solid grasp of their schedules, assignments, and responsibilities for the remainder of the year.

Educational Objectives and Learning Activities

Goals and Objectives Taught and Evaluated:

Type/ Number	Bloom’s Taxonomy & Description	Activities
Goal R3.2: Demonstrate leadership skills that foster personal growth and professional engagement.		
Objective R3.2.1	(Applying) Apply a process of ongoing self-assessment and personal performance improvement.	<ul style="list-style-type: none"> Actively participate in Orientation sessions. Determine baseline strengths and areas of improvement related to the PGY1 CAGOs (competency areas, goals, and objectives). Develop 3 – 5 SMART goals (specific, measurable, achievable, relevant, and time-bound) for the first quarter of residency to address the areas of improvement identified. Employ effective time management skills by utilizing tools and/or strategies to organize residency-related requirements and personal commitments.
Objective R3.2.4	(Applying) Demonstrate engagement in the pharmacy profession and/or the population served.	<ul style="list-style-type: none"> Choose ≥1 professional pharmacy organization that aligns with personal interests and career goals. Construct a personal plan for professional engagement during residency. Identify ≥1 goal related to professional engagement to work on in the first quarter of residency.

**Evaluations**

PharmAcademic™ is used for documentation of all formal evaluations. Evaluations must be completed no later than 7 days past the due date. The preceptor and residents meet to discuss all evaluations for the experience. Refer to policy RXREGEN – 105 (Pharmacy Resident Assessment) for further details on expectations regarding evaluations.

Evaluation	Who	When
Summative: Self-Evaluation	Residents	End of rotation
Summative Evaluation	Preceptor	End of rotation
Learning Experience Evaluation	Residents	End of rotation
Preceptor Evaluation	Residents	End of rotation



Pharmacy Academia Longitudinal Syllabus

Contact Information

Preceptor(s): Melanie Townsend, PharmD, BCPS; Program Director, Pharmacy Residency
Office: Hospital Basement
Hours: 0900 – 1700, Monday – Friday
Phone: (406) 657-4842 office, (307) 760-9224 cell
Email: mtownsend@billingsclinic.org

General Description of the Practice Area

Length: 12-month longitudinal experience that runs throughout the residency year

Type: Required

Experience Overview:

Pharmacy Academia is a 12-month required longitudinal learning experience at Billings Clinic. The focus of the experience is to improve residents' skills with teaching. This is done through a variety of presentations, public speaking, and facilitating group discussions. Residents also gain experience with precepting and interacting with students. Also, residents attain a teaching certificate as part of the experience.

Billings Clinic is a community teaching healthcare organization with the mission of quality, compassionate care for all. It is dedicated to providing a welcoming and safe clinical learning environment for many types of learners. The organization is the experiential rotation site for students from multiple programs (e.g., medicine, pharmacy, nursing, physician assistant, OT/PT, dietary) and many different universities. Additionally, Billings Clinic operates multiple residency programs in pharmacy, medicine, surgery, psychiatry, and nursing. Preceptors of most of the experiential training programs at the organization are Billings Clinic employees and adjunct clinical faculty with their programs, rather than university employees.

For pharmacy, Billings Clinic is a primary site for both introductory and advanced pharmacy practice experience (IPPE and APPE) rotations for student pharmacists from several universities, with a majority from the University of Montana Skaggs School of Pharmacy followed by the University of Wyoming School of Pharmacy. There are approximately 2 to 6 pharmacy students on-site at any given time during the academic year.

As an organization focused on teaching, Billings Clinic offers many different types of continuing education (CE) programming. For example, Pharmacy Grand Rounds (PGR) is a monthly CE program for pharmacists, residents, and students in the Billings area. Nursing Grand Rounds (NGR) is a CE program for nurses, providers, and other interested healthcare professionals that is available once to twice a month. Likewise, Physician Grand Rounds is a weekly CE program for providers, nurses, pharmacists, and other healthcare professionals.

Role(s) of Pharmacist(s) in the Practice Area

Pharmacist Role:

Pharmacists throughout the department are involved in formal and informal education of colleagues and other members of the healthcare team. There are opportunities for pharmacists to present to the pharmacy staff at least monthly. Most formal presentations and educational activities in the Pharmacy Department (e.g., PGR, journal club, case presentations, in-services) occur on Wednesday afternoons. However, education also takes place at staff meetings and within the pharmacists' practice areas.

Likewise, pharmacists actively participate as preceptors for IPPE and APPE rotations for student pharmacists. Some of these pharmacists also precept residents. When serving as preceptors, they work closely with the department's clinical coordinators to oversee student learning, review their assignments, and evaluate student performance.



Expectations of Residents

Resident Role in the Experience:

Residents are involved in a variety of teaching activities throughout their year to help them refine their skills with developing high quality education, presenting to different types of audience, and assessing participant understanding and the effectiveness of education. Residents give didactic lectures; literature presentations, in-services; patient case presentations; topic discussions; and other types of education for patients, providers, and other healthcare professionals.

Additionally, residents gain experience with precepting and mentoring student pharmacists during their experiential rotations at Billings Clinic. Residents interact with students using the four preceptor roles: instructing, modeling, coaching, and facilitating. Residents attend student case presentations on a regular basis and provide students with feedback. They serve as resources for the students and provide guidance, if needed, with presentations, projects, drug information (DI) responses, or medication use evaluations. They may precept a student's DI response, case presentation, and/or other project or presentation, based on interest and availability. Similarly, residents may be assigned as the primary preceptor of a student pharmacist, and resident responsibilities as the student's preceptor are determined based on discussion between the rotation preceptor, resident, and students. Residents also provide NAPLEX review presentations for students.

Finally, residents complete the ASHP Teaching Certificate Program for Pharmacists. They should apply the skills learned in the program to their precepting and teaching activities. Good communication, presentation, and interpersonal skills are vital to success in this learning experience.

Assignments:

Presentations

- Patient cases: 1
 - One traditional patient case presentation using PowerPoint (up to 60 minutes). A handout is recommended. This presentation is developed with rotation preceptors and presented to pharmacy.
- Presentation of choice: 1
 - Residents choose to present on one of the following: patient case, in-service, or clinical controversy.
 - Format, timing (usually 30 – 60 minutes), and focus of the presentation is determined by the preferences and needs of the audiences where presenting, residents, and preceptors overseeing the presentations.
- Journal article presentations: 2
 - Two formal journal article presentations, with at least 1 using PowerPoint (up to 60 minutes).
 - First one is completed during Orientation the second one is completed during the remainder of the year.
 - Residents should use the provided templates as a guide.
- Pharmacy Grand Rounds: 2
 - One full CE presentation (50 – 60 minutes), and one short “pearl” presentation (8 – 10 minutes) on something learned at ASHP Midyear.
 - Residents should use PowerPoint to prepare the presentations.
- Nursing-based Education/In-services Grand Rounds CE: 45 minutes
 - Residents may present at NGR once or complete other shorter nursing-based in-services.
 - Format, timing, and focus of the presentation is determined by the preferences and needs of the audiences where presenting, residents, and preceptors overseeing the presentations.
- Rocky Physician Assistant's (PA) Program lecture: 1
 - One 60-minute classroom style lecture in the Introduction to Pharmacology class to new PA students.
 - Review and revise, as needed, the presentation content.
- NAPLEX review: 1
 - One 30- to 60-minute lecture on a pertinent NAPLEX topic followed by a 30- to 60-minute interactive assessment activity (e.g., game) to reinforce the information.
 - Residents may work together on the assessment activity.
 - Difficulty level of the assessment activity should be similar to questions on the NAPLEX.



Other

- ASHP Teaching Certificate Program for Pharmacists
 - Complete the online modules and assessment activities for all 3 tracks (core, academic, and experiential).
 - Develop a teaching philosophy and portfolio.
 - Submit all assessment activities, teaching philosophy, and portfolio to the preceptor for review.
 - Turn in all required documents to ASHP to earn the certificate.
- Student conferences (e.g., cases, journal clubs, in-services)
 - Actively participate in student pharmacist conferences held at Billings Clinic.
 - ≥1 resident attends each conference. Attendance is balanced amongst the residents.
- Topic discussions: ~ 2 per quarter
 - Read relevant information related to assigned topics and be prepared to discuss information with the preceptor and co-residents. Sometimes, student pharmacists are invited to the topic discussions.
 - Residents are expected to become proficient at leading the topic discussions.

Presentations Expectations:

- Select relevant content
- Include action-focused learning objectives
- Have content that flows logically, relates to the educational objectives, and is tailored to the audience
- Develop appropriate audio-visuals to meet the needs of the audience and that are visually appealing. Include a combination of text, bullets, tables, graphs, diagrams, charts, and pictures to best display the information.

Referencing Expectations:

- Use the University of Montana (UM) Drug Information Services (DIS) referencing guide for citations.
- Presentation slides should be referenced at the bottom and may include a full citation list at the end.
- Handouts should be referenced using in-text superscripts and a full citation list at the end.

Time in Patient Care Area Expectations: Pharmacy Academia is a non-patient care longitudinal experience. Most pharmacy-based educational activities for resident and students are scheduled on Wednesday afternoons from 1400 – 1700. Residents should communicate regularly with their rotation preceptors about their Academia-related responsibilities.

Project Time Expectations: Residents are given project days within their rotations to work on assignments related to Pharmacy Academia and other longitudinal learning experiences. These are arranged with rotation preceptors and the RPD at the start of rotations. One project day per rotation is allowed. An additional project day per rotation may be requested by residents if needed based on workload (e.g., large deadlines approaching). This requires approval of the RPD and rotation preceptor.

Meetings/Other Responsibilities Outside of Rotation Expectations: Residents are expected to attend the pharmacy-based presentations of their co-residents and the student conferences they are assigned. If a schedule conflict arises, residents need to discuss with the Pharmacy Academia preceptor in advance.

Resident Progression Throughout the Learning Experience

Preceptor Interaction:

Introduction: Preceptor reviews the Pharmacy Academia learning experience activities and expectations with the residents during the 1st quarter.

Weekly: Preceptor attends most, if not all, of the residents' formal presentations (e.g., case presentations, journal article presentations, Grand Round presentations, Rocky PA program lectures, project presentations). The preceptor works with student pharmacists' rotation preceptors to develop plans for residents to precept the students and solicits feedback from students on the residents' precepting abilities.

Daily: Preceptor is available most days for discussing upcoming presentation topics, public speaking skills, interactions with student pharmacists, teaching certificate program, or other Pharmacy Academia activities.



Resident Progression of Responsibility and Skills:

Months 1 – 3: In the first quarter, residents complete some of their initial presentations, which typically includes their Rocky PA program lecture, a journal article presentation, and possibly PGR or another presentation (e.g., in-service, patient case presentation). During this time, residents usually require frequent to occasional RPD and/or expert pharmacist input on their presentations (content and formatting). Presentation drafts and practice presentations are used to help build resident skills and confidence. Residents begin attending student conferences once they are finished with Pharmacy Practice training. Residents enroll in the ASHP Teaching Certificate Program and may begin completing the online modules and assessment activities.

Months 4 – 6: During the second quarter, residents complete additional presentations (e.g., in-services, journal club, patient cases). By this time, residents should begin demonstrating effective presentation skills, utilizing appropriate educational objectives, and trying some different audience interaction/assessment techniques with their presentations. Residents usually require occasional RPD and/or expert pharmacist input on their presentations. Presentation drafts and practice presentations may be used to help build resident skills and confidence. Residents continue to attend student conferences regularly. Participation at student conferences should include paying attention to the presentations, asking at least 1 question to each presenter, and completing an evaluation after the presentations. Residents continue with the teaching certificate program and complete the core track online modules and assessment activities.

Months 7 – 9: In the third quarter, residents complete additional presentations and start to present to different audiences (e.g., nurses, providers). By this time, residents should be able to showcase more polished presentation skills and the ability to tailor their presentation content to different audiences; they should also utilize at least one new type of audience interaction/assessment technique in ≥1 of their presentations. Residents typically require minimal RPD and/or expert pharmacist input on their presentations. Presentation drafts and practice presentations are often phased out but may be utilized if residents request this. Residents continue to actively participate in student conferences on a regular basis and should be more skilled at asking questions/providing feedback afterwards. They may have students with them on rotations or teach them in other ways (e.g., topic discussions). Residents continue with the teaching certificate program and complete the academic track online modules and assessment activities.

Months 10 – 12: During the fourth quarter, residents complete their remaining presentations, one of which includes the NAPLEX review for students. By this time, residents should be able to demonstrate confidence with presenting to a variety of audiences and should use different types of audio-visuals and audience interaction/assessment techniques in their presentations and teaching activities. Residents generally do not require RPD and/or expert pharmacist input on their presentations. Residents continue to actively participate in student conferences and may be asked to facilitate the conferences. Residents have students with them on rotation, as available, and operate in the primary preceptor role whenever possible. Residents may also precept students on specific projects. Residents complete the teaching certificate program, including the experiential track online modules and assessment activities, assembly of their teaching philosophy and portfolio, and submission of all required items to ASHP.

Educational Objectives and Learning Activities

Goals and Objectives Taught and Evaluated:

Type/ Number	Bloom’s Taxonomy & Description	Activities
Goal R3.2: Demonstrate leadership skills that foster personal growth and professional engagement.		
Objective R3.2.4	(Applying) Demonstrate engagement in the pharmacy profession and/or the population served.	<ul style="list-style-type: none"> Choose ≥1 professional pharmacy organization that aligns with personal interests and career goals. Construct a personal plan for professional engagement during residency and update it throughout the year. Identify ≥1 goal related to professional engagement to work on in each quarter of residency.
Goal 4.1: Provide effective medication and practice-related education.		
Objective R4.1.1	(Creating) Construct educational activities for the target audience.	<ul style="list-style-type: none"> Formulate relevant content and use appropriate formatting to develop presentation and teaching materials for a variety of learners.



Type/ Number	Bloom's Taxonomy & Description	Activities
Goal 4.1: Provide effective medication and practice-related education.		
Objective R4.1.2	(Creating) Create written communication to disseminate knowledge related to specific content, medication therapy, and/or practice area.	<ul style="list-style-type: none"> Develop written communication focused on patient, provider, and/or pharmacist education (e.g., brochure, handout, flyer; newsletter; drug information response; medication, disease, or guideline update) that meet the needs of the audience, is visually appealing, and is free of errors.
Objective R4.1.3	(Creating) Develop and demonstrate appropriate verbal communication to disseminate knowledge related to specific content, medication therapy, and/or practice area.	<ul style="list-style-type: none"> Build and refine speaking skills to create appropriate flow of information and active learning techniques when presenting to different audiences.
Objective R4.1.4	(Evaluating) Assess effectiveness of educational activities for the intended audience.	<ul style="list-style-type: none"> While teaching, assess audience understanding using different active learning techniques (e.g., questions, polling, think-pair-share activities). Assessment questions and activities should be related to educational objectives and presentation content.
Goal R4.2: Provide professional and practice-related training to meet learners' educational needs.		
Objective R4.2.1	(Evaluating) Employ appropriate preceptor role for a learning scenario.	<ul style="list-style-type: none"> Before selecting the appropriate role, determine the student's baseline knowledge and experience with specific tasks or topics. Choose the most appropriate preceptor role(s) to teach student pharmacists one-on-one and in group settings. Customize approach and role(s) utilized based on student needs.

Evaluations

PharmAcademic™ is used for documentation of all formal evaluations. Evaluations must be completed no later than 7 days past the due date. The preceptor and residents meet to discuss all evaluations for the experience. Refer to policy RXRESGEN – 105 (Pharmacy Resident Assessment) for further details on expectations regarding evaluations.

Evaluation	Who	When
Summative: Self-Evaluation	Residents	Evenly spaced throughout the experience (~once per quarter)
Summative Evaluation	Preceptor	Evenly spaced throughout the experience (~once per quarter)
Learning Experience Evaluation	Residents	Midpoint and end of the experience
Preceptor Evaluation	Residents	Midpoint and end of the experience



Pharmacy Administration/Medication Safety Longitudinal Syllabus

Contact Information

Primary Preceptor(s): Jacob Thiesse, PharmD, BCPS, MHSA, FAMIA | Director of Pharmacy
Office: Main Pharmacy, Hospital – Basement
Phone: 406-435-4196 | jthiesse@billingsclinic.org

Reina Coggins, PharmD, BCPS; Manager, Inpatient Pharmacy Services
Office: Main Pharmacy, Hospital – Basement
Phone: 406-657-4851 office | Email: rcoggins@billingsclinic.org

Alexis Robinson, PharmD, BCPS; Inpatient Pharmacy Clinical Coordinator
Office: Main Pharmacy, Hospital – Basement
Office: 406-657-4627 | Email: arobinson@billingsclinic.org

Other Instructor(s): Beth Stulc, PharmD; Manager, Outpatient Pharmacy Services
Email: bstulc2@billingsclinic.org

Erik Chosa, PharmD; Manager, Specialty Pharmacy
Email: echosa@billingsclinic.org

Shannon Heintz, MSN, RN; Medication Diversion Prevention Coordinator
Email: sheintz@billingsclinic.org

General Description of the Practice Area

Length: 9-month longitudinal experience from September – June

Type: Required

Experience Overview:

Pharmacy Administration/Medication Safety is a 10-month required longitudinal learning experience at Billings Clinic. The focus of the experience is to improve residents' skills with leadership and project management as well as provide them with exposure to various pharmacist administrative roles and making departmental and organizational changes. The experience also focuses on developing residents' skills in evaluating medication use processes related to medication errors and safety culture.

Billings Clinic and Logan Health in Kalispell, MT merged on September 1, 2023. Certain areas of the organizations have been unified into a system-wide approach. Other areas continue to operate independently, including the PGY1 pharmacy residency programs which are owned and solely operated by Billings Clinic.

Billings Clinic is the largest independent healthcare system in Montana and primarily serves patients from Montana, Wyoming, and the western Dakotas. It is a not-for-profit teaching organization led by a physician chief executive officer (CEO) and is governed by a board of community members, nurses, and physicians. The main campus located in Billings has a 336-bed hospital and a large multi-specialty clinic. Billings Clinic has more than 4,500 employees, including nearly 600 physicians and advanced practitioners offering more than 80 specialties. Within Billings, there are also 3 primary care clinics (Downtown, Heights, West End).

Billings Clinic has various affiliations and partnerships across Montana and the region. Regional access to services is a focus for the organization. Billings Clinic is consistently recognized nationally for excellent performance in patient quality, safety, and service.



Role(s) of Pharmacist(s) in the Practice Area

Pharmacist Role:

The Pharmacy Leadership team consists of two Directors of Pharmacy, multiple managers, several clinical coordinators, Medication Safety Officer (MSO), Informatics Coordinator, Medication Diversion Prevention Coordinator, and the Residency Program Director. The Pharmacy Leadership team is responsible for the management of nearly 180 employees, who provide pharmaceutical services in a variety of pharmacy settings, including hospital/inpatient pharmacy, infusion center pharmacy, ambulatory care, outpatient pharmacy, specialty pharmacy, long-term care, medication assistance, 340B program, informatics, and education. The leadership team oversees every aspect of pharmacy operations and the medication-use system, including clinical programs, budgeting, staffing, evaluations, formulary and inventory management, medication safety, medication diversion prevention, quality improvement, regulatory compliance, and much more. The team is involved in numerous multidisciplinary committees throughout the organization and is crucial to ensuring safe and effective use of medications at Billings Clinic.

Expectations of Residents

Resident Role in the Experience:

Residents work closely with the preceptors and other members of Pharmacy Leadership team to implement positive changes in the medication-use system. This is primarily accomplished through residents' projects and contribution to medication safety activities. Residents are involved in all aspects of their projects from planning, design, implementation, education, analysis, and follow-up as much as possible. Through team-based projects, they build their leadership, time management, organizational, and project management skills.

Residents also attend various committee meetings and participate in different administrative activities to gain a wider understanding of formal leadership roles within pharmacy and how pharmacy functions within the organization and region. Many of these meetings that residents attend focus on patient and medication safety as well as implementing change within the organization. Additionally, residents are exposed to regulatory items (e.g., DNV surveys) are available.

Assignments:

Drug monograph/formulary review: 1

- Select topic for review from list provided by preceptor(s) or RPD. Residents may also solicit ideas from others and/or develop their own ideas.
- Write up project utilizing provided template as a guide.
- Develop and communicate the interim deadlines for the project to the preceptor(s) and team. Overall deadline is provided by the preceptor(s) to residents.
- Present recommendations to appropriate key stakeholders (e.g., Pharmacy and Therapeutics Committee) using the appropriate format (e.g., PowerPoint, handout) for the audience.

Policy, Protocol, Standing Order, or PowerPlan Revision: 1

- Choose a policy, protocol, standing order, or PowerPlan for which pharmacy is responsible.
- Edit the policy, protocol, standing order, or PowerPlan based on best practice standards, departmental and organizational changes, and other pertinent information.
- Develop and communicate the interim deadlines for the project to the preceptor(s) and team. Overall deadline is provided by the preceptor(s) to residents.
- Present updated policy, protocol, standing order, or PowerPlan to appropriate stakeholders (e.g., Pharmacy and Therapeutics Committee) for approval.

Medication Storage Audits: ~20 audits per year

- Audit ~5 medication storage locations per quarter to ensure correct storage.
- Correct any immediately fixable issues. Escalate more complicated issues to the correct parties (e.g., Pharmacy Leadership)

Administrative topic discussions: 1 – 2 times quarterly (beginning in the 2nd quarter)

- Read all assigned materials related to the discussion topics. Residents should find supplemental resources for their selected topic(s) to augment the discussion.
- Residents should be prepared to discuss information with preceptor(s) and co-residents.



Administrative meeting attendance: multiple

- Attend administrative meetings as outlined by preceptor(s)
- Meet with the preceptor(s) or other Pharmacy representatives before and after the meeting to brief and debrief on meeting activities.

Safety Net reviews: at least once

- Meet with a member of the Pharmacy Leadership team to review Safety Net medication errors and near misses
- Participate in Safety Net event follow-up, as appropriate.

Time in Patient Care Area Expectations:

Pharmacy Administration is a non-patient care experience. Residents are expected to minimize disruptions to patient care when scheduling meetings with preceptor(s).

Project Time Expectations:

Residents are given project days within their rotations to work on assignments related to Pharmacy Administration/ Medication Safety and other longitudinal learning experiences. These are arranged with rotation preceptors and the RPD at the start of rotations. One project day is allowed per rotation. An additional project day per rotation may be requested by the resident if needed based on workload (e.g., large deadlines approaching). This requires approval of the RPD and rotation preceptor.

Meetings/Other Responsibilities Outside of Rotation Expectations:

Meeting with key stakeholders is an important aspect of this experience. Residents should schedule meetings with preceptor(s) and other individuals in advance, allowing enough preparation time to facilitate good conversations at the meetings.

Resident Progression Throughout the Learning Experience

Preceptor Interaction:

Introduction: Preceptor(s) review the Pharmacy Administration/Medication Safety learning experience activities and expectations with the residents prior to the end of the 1st quarter.

Daily: Preceptor(s) are available most days for discussing projects, upcoming presentations, administrative topics, or other Pharmacy Administration/Medication Safety activities.

Other: Preceptor(s) attend administrative meetings as well as lead topic discussions with the residents. As unique opportunities arise (e.g., DNV surveys, Board of Pharmacy inspections), residents are integrated into activities with the Pharmacy Leadership team whenever possible.

Resident Progression of Responsibility and Skills:

Months 1 – 3: In the first quarter, residents receive an introduction to the required administrative projects and may begin selecting topics. Residents may start their medication storage audits. They receive a list of the administrative meetings they should plan to attend throughout the year. Residents usually attend a Pharmacy and Therapeutics (P&T) Committee meeting before they present to the group. During this time, residents usually require input from preceptor(s), RPD, and/or expert pharmacists on projects and presentations. Drafts of deliverables and practice presentations are used to help build resident skills and confidence.

Months 4 – 6: During the second quarter, residents may begin working on their monographs and may start their policy, protocol, or standing order revision. Residents may start attending the required administrative meetings and participating in topic discussions with the preceptor(s). Residents continue to conduct their medication storage audits and should start to feel competent with the process. With projects, residents receive an introduction from the preceptor(s) and/or RPD. Then, they should take on the role of project leader by planning, conducting, analyzing, and presenting their projects appropriately. However, it is expected that residents will require a decent amount of direction, modeling, and coaching from the preceptor(s), RPD, and/or expert pharmacists on projects and presentations. Drafts of deliverables and practice presentations are usually used to help build resident skills and confidence.



Months 7 – 9: In the third quarter, residents typically complete their monographs during this time and usually have attended several administrative meetings. They should have their policy, protocol, or standing order selected and a timeline for editing planned out. During meetings, residents start to participate in committee activities (e.g., analyzing medication errors) as appropriate. Residents should also start speaking up at departmental meetings and contribute to departmental activities. Residents continue to actively participate in topic discussions. They should routinely contribute to the discussions with questions and examples from their practice. Residents continue to conduct their medication storage audits and should be able to complete these in an efficient manner with little input from preceptor(s). With projects, residents may require some coaching from the preceptor(s), RPD, and/or expert pharmacists on projects and presentations, but it is expected that residents can navigate most project steps on their own and will reach out with questions.

Months 10 – 12: During the 4th quarter, residents complete their remaining administrative projects, medication storage audits, and topic discussions as well as attend any remaining required meetings. They provide proper hand-off by communicating any follow-up that will be required on the projects post-residency. Residents are expected to be the leaders of their projects and should require only minimal input from the preceptor(s), RPD, and/or expert pharmacists. They should be able to conduct the medication storage audits independently and properly follow-up with minimal to no assistance from preceptor(s).

Educational Objectives and Learning Activities

Goals and Objectives Taught and Evaluated:

Type/ Number	Bloom's Taxonomy & Description	Activities
Goal R1.3: Promote safe and effective access to medication therapy.		
Objective R1.3.2	(Applying) Participate in medication event reporting.	<ul style="list-style-type: none"> Use the Safety Net system to report medication errors and near-misses. Practice analyzing medication errors and near-misses during relevant meetings (e.g., meeting with Pharmacy Leadership, Safety Event Classification [SEC]).
Goal 1.4: Participate in the identification and implementation of medication-related interventions for a patient population (population health management).		
Objective R1.4.2	(Creating) Prepare or revise a drug class review, monograph, treatment guideline, treatment protocol, utilization management criteria, and/or order set.	<ul style="list-style-type: none"> Develop a drug monograph/formulary review on a single medication, group of medications, or therapeutic class. Present recommendations to key stakeholders (e.g., Pharmacy and Therapeutics Committee, providers). Adapt a pharmacy-related policy, protocol, standing order, or PowerPlan using evidence-based resources and current departmental and organizational information.
Goal R3.1: Demonstrate leadership skills that contribute to departmental and/or organizational excellence in the advancement of pharmacy services.		
Objective R3.1.1	(Understanding) Explain factors that influence current pharmacy needs and future planning.	<ul style="list-style-type: none"> Discuss recommendations from drug monograph/formulary review and policy/protocol/standing order/PowerPlan revision and their impact on Pharmacy Department and organization.
Objective R3.1.2	(Understanding) Describe external factors that influence the pharmacy and its role in the larger healthcare environment.	<ul style="list-style-type: none"> Actively participate in administrative topic discussions with preceptor(s) and co-residents. Explain how pharmacy functions within the larger healthcare system.



Type/ Number	Bloom's Taxonomy & Description	Activities
Goal R3.2: Demonstrate leadership skills that foster personal growth and professional engagement.		
Objective R3.2.2	(Applying) Demonstrate personal and interpersonal skills to manage entrusted responsibilities.	<ul style="list-style-type: none"> Plan and conduct internal audits of different medication storage areas. Select and schedule interim timelines for assigned projects. Identify barriers and problems that may delay projects or require adjustment to project timetables. Communicate these promptly to preceptor(s).
Objective R3.2.3	(Applying) Demonstrate responsibility and professional behaviors.	<ul style="list-style-type: none"> Based projects and internal audits, identify areas within pharmacy practice or medication storage needing correction or enhancement. Suggest ways to address those issues.

Evaluations

PharmAcademic™ is used for documentation of all formal evaluations. Evaluations must be completed no later than 7 days past the due date. Preceptors and residents meet to discuss all evaluations for the experience. Refer to policy RXRESGEN – 105 (Pharmacy Resident Assessment) for further details on expectations regarding evaluations.

Evaluation	Who	When
Summative: Self-Evaluation	Residents	Evenly spaced throughout the experience (~once per quarter)
Summative Evaluation	Preceptor	Evenly spaced throughout the experience (~once per quarter)
Learning Experience Evaluation	Residents	Midpoint and end of the experience
Preceptor Evaluation	Residents	Midpoint and end of the experience



Pharmacy Practice – Inpatient Rotation Syllabus

Contact Information

Preceptor(s): Elizabeth Klein, PharmD, BCPS; Lead Clinical Pharmacist, Main Inpatient Pharmacy Team
Phone: Main Pharmacy – 406-657-4086, Cell – 701-471-7203
Email: eklein1@billingsclinic.org

Chris Gilstrap, PharmD, BCCCP; Clinical Pharmacist, Main Inpatient Pharmacy Team
Email: cgilstrap@billingsclinic.org

Jacob Holland, PharmD, BCPS; Clinical Pharmacist, Main Inpatient Pharmacy Team
Email: jholland@billingsclinic.org

General Description of the Practice Area

Length: 6 weeks

Type: Required

Experience Overview:

Pharmacy Practice is a 6-week required rotation for residents in the PGY1 program in the acute care setting and runs concurrently with the Orientation rotation. Therefore, it is one of the first rotations residents complete. Residents train for approximately 6 weeks in various inpatient pharmacy areas.

Billings Clinic hospital has 336 beds with an average daily census around 250 patients. Inpatient pharmacists provide coverage to all areas of the hospital, emergency department, and some outpatient/clinic/procedural areas, including the Surgery Center (SC). The SC has 6 beds and averages 35 – 40 patients per day. There is also overlap between the inpatient pharmacy staff and adult Infusion Center (IC), whereby cross-coverage from inpatient staff to the IC is sometimes needed. Inpatient pharmacists work in the Main Inpatient Pharmacy and many decentralized units: Inpatient Medical (IPM), Inpatient Surgical (IPS), Inpatient Cancer Care unit (ICC), Cardiovascular Unit (CVU), Intensive Care Unit (ICU), Emergency Department (ED), Family Birth Center (FBC)/Neonatal Intensive Care Unit (NICU)/Inpatient Pediatrics Unit (IPU), and Psychiatry. There are also pharmacist specialists in internal medicine and infectious diseases.

Automated dispensing machines (ADCs) are located throughout the organization. For inpatient areas, approximately 90% of medications are stored in ADCs; the remainder are sent from the Main Inpatient Pharmacy using a once daily cart fill. Pharmacy technicians restock the ADCs daily based on pars as well as do supplemental restocks for urgent outages. For patient-specific medications not available in the ADC, a once daily cart fill runs for all medication types. Once orders are verified, first doses of medications not stored in the ADCs are received, prepared, and sent by Pharmacy around the clock. Some items (e.g., first doses, STAT medications) are sent up via the pneumatic tube system, while the remainder are delivered by Pharmacy.

Role(s) of Pharmacist(s) in the Practice Area

Pharmacist Role: The Main Inpatient pharmacists focus on order processing for Outpatient Surgery and Surgery Center, as well as provide coverage to miscellaneous areas, such as the Cardiac Catheterization Lab, Dialysis, Pre-Admission Testing, and Radiology. Additionally, main pharmacists provide secondary coverage for specialty areas of the Family Birth Center, Inpatient Pediatrics, and the Psychiatric Units and primary coverage for these areas on weekends and after hours. Several outpatient clinics also utilize the Main Inpatient Pharmacy services, such as Pediatric Oncology/Hematology, Allergy, and Ophthalmology.



Lastly, the Main Inpatient Pharmacy's major role is to perform the traditional aspects of a hospital pharmacy, verifying intravenous admixtures (including chemotherapy and parenteral nutrition) and unit-dose products, supervising technicians and the dispensing workflow, and answering telephone calls and drug information questions. Additionally, validating appropriate preparation of both non-sterile compounded preparations and batches comprise a significant portion of the day. A summary of average volume for various tasks is listed below:

- Order verification: 100 – 300 orders
- Sterile compound verification: 100 – 200 doses
- Medications tubed: 30 – 80

Information regarding other pharmacist shift times, locations, and responsibilities can be found in the residents' orientation materials. Generally, though, the decentralized pharmacists are frequently involved in order processing, pharmacist-driven protocols, and patient counseling. Residents gain exposure to decentralized pharmacist workflow in both the Medical/Surgical arena and Critical Care.

Hours/Workspace:

Pharmacist coverage in Main Inpatient Pharmacy is provided by 2 – 3 pharmacists seven days a week as indicated below. All of the shifts listed below operate out of the main inpatient pharmacy (hospital building – basement)

- Early Screener (ES) shift: 0630 – 1700 daily
- Late Screener (LS) shift: 1200 – 2230 daily
- Lead Main (LD-MN) shift: 0700 – 1730 Monday – Friday
- Main Float (MN-F) shift: 0700 – 1730, Saturday – Sunday
- Night (N) shift: 2030 – 0700 daily

Various decentralized with which residents gain exposure during Pharmacy Practice are: DC1, DC2, DC3, DC4, DC5, CVU, and NICU. They also get some introductory training with the Psychiatry pharmacist.

Expectations of Residents

Resident Role in the Experience:

Throughout the rotation, residents gain experience with medication order verification, pharmacy protocols, interaction with various members of the healthcare team and a wide variety of other pharmacy experiences. The primary purpose of the Pharmacy Practice rotation is to prepare residents for success in their Staffing longitudinal experience.

Residents spend time throughout the rotation in the Main Inpatient Pharmacy and decentralized pharmacy work areas. Residents are expected to develop sufficient skills in dispensing, drug distribution, and workflow management in order to provide high quality patient care, interact positively with the Pharmacy staff and other healthcare personnel, and be able function appropriately within the medication-use system during longitudinal staffing shifts. Residents complete required training and competencies similar to other pharmacists but in an accelerated time frame. Residents should strive to improve their knowledge of the medication-use system and how different personnel (e.g., pharmacists, technicians, nurses, providers) work together to provide optimal patient care.

Assignments:

Inpatient Pharmacist Orientation/Training Checklist

- Train on the assigned pharmacist shifts. Use checklist as a guide to ensure all items are covered.
- Have preceptor(s) or other pharmacists conducting the training sign off on the relevant orientation/training items
- Submit checklist to RPD at the end of the rotation

Topic discussions: 1 – 2 per week

- Bring forth questions and examples related to discussion topics
- Work through mock exercises with preceptor(s)
- Actively discuss information with the preceptor(s) and co-residents



Time in Patient Care Area Expectations:

There are no set rotation hours for the Pharmacy Practice rotation. The hours each day vary based on the shift/ pharmacist who residents are assigned to train with. With the exception of meetings, residents should be in their respective patient care area for 8 hours throughout the corresponding pharmacist shift on weekdays and for the entire 10-hour corresponding shift on weekends. Shift hours for the residents are adjusted to 8 hours per day on weekdays.

Usual shifts/times for resident training with the various shifts include:

- Early Screener (ES) shift: 0800 – 1630 (weekdays), 0630 – 1700 (weekends)
- Late Screener (LS) shift: 1200 – 2030
- Lead Main (LD-MN) shift: 0800 – 1630
- DC1 shift: 0700 – 1530 (including vancomycin/ID protocol training days)
- DC2 shift: 0800 – 1630
- DC3 shift: 1000 – 1830
- DC4 shift: 1000 – 1800
- DC5 shift: 0900 – 1730
- CVU shift: 0800 – 1630
- NICU shift: 0700 – 1530

Project Time Expectations:

Residents are not actively given project time during the Pharmacy Practice rotation. They may work on projects and assignments before and after their scheduled activities.

Meetings/Other Responsibilities Outside of Rotation Expectations:

When possible, residents should strive to schedule meetings outside of required training and activity times, to maximize patient care exposure opportunities. If they need to schedule a meeting during a time when a required activity is scheduled, they should discuss this conflict with the preceptor(s) in advance.

Resident Progression Throughout the Learning Experience

Preceptor Interaction:

Introduction: Preceptor(s) reviews the Pharmacy Practice rotation activities, expectations, schedule, and assignments with the residents and tours the Main Inpatient Pharmacy and decentralized pharmacy work areas. This typically occurs in the first 2 weeks of residency, prior to the start of training.

During Rotation: Residents train with a variety of inpatient pharmacists throughout the Pharmacy Practice rotation. The rotation preceptor(s) directly train the residents in the Main Inpatient Pharmacy and gather feedback from other pharmacists (trainers) to accurately track the residents' progress in other areas. Residents meet with the rotation preceptor(s) on at least a weekly basis for topics discussions and check-ins to discuss progress and challenges of the experience.

Resident Progression of Responsibility and Skills:

Prior to Rotation: Residents are introduced to the different pharmacy information systems, policies, procedures, protocols, and clinical services by the preceptor(s) or other pharmacists. Residents begin working on the required organizational and departmental competencies and are given the pharmacist orientation/training checklist.

During Rotation: The amount of independence residents achieve during Pharmacy Practice is often related to the timing of when they achieve their Montana pharmacist license. When residents are training as interns prior to pharmacist licensure, trainers oversee the residents' work very closely. As residents become licensed, trainers provide residents with more autonomy by allowing them to do more of the daily tasks with the goal of working towards occasional supervision. The preceptor(s) and other pharmacists are always available to answer questions and provide feedback to the residents.

Weeks 1 – 2: Residents train in the Main Inpatient Pharmacy (including weekends). They also train in different decentralized pharmacy areas and may also complete their assigned protocol training days. Residents focus on learning the pharmacy information systems and workflow, specifically focusing on order processing, and product verification. While training, residents actively participate in the daily activities of their assigned locations with the goal of gaining a basic understanding of each pharmacy area and the associated pharmacist responsibilities.



An additional goal for the Main Inpatient Pharmacy is for residents to become comfortable with the pharmacist and technician workflow for both weekdays and weekends. During the first 2 weeks of rotation, residents generally require frequent supervision on 100% of tasks.

Weeks 3 – 4: Residents train in the Main Inpatient Pharmacy (including weekends) if they have not done so already. They also train in different decentralized pharmacy areas and may complete their assigned protocol training days. Residents focus on learning triaging and managing their workflow, particularly how to balance all the tasks. Residents are often challenged to start answering phone calls and addressing technician questions. Residents also focus on relationship building with the staff and understanding the overall medication dispensing system. During weeks 3 and 4 of rotation, residents generally need frequent to occasional supervision on 60 – 75% of tasks.

Weeks 5 – 6: Residents train in the Main Inpatient Pharmacy (including weekends) for a second time if they have not done so already. They finish training in different decentralized pharmacy areas and complete their assigned protocol training days if not done so already. Residents continue to focus on learning the pharmacy information systems and workflow, specifically focusing on triaging problems and working independently. They are challenged to take on full responsibilities of their shifts as much as possible and rely on their trainers only when needed. At the end of the rotation, residents should be able to perform most tasks necessary of a main inpatient pharmacist with confidence and have basic knowledge of decentralized pharmacy operations. During weeks 5 and 6 of rotation, residents generally require occasional supervision on 50% or fewer of tasks (usually for more complex situations such as chemotherapy and neonatal TPNs).

Educational Objectives and Learning Activities

Goals and Objectives Taught and Evaluated:

Type/ Number	Bloom's Taxonomy & Description	Learning Activities
Goal R1.3: Promote safe and effective access to medication therapy.		
Objective R1.3.1	(Applying) Facilitate the medication-use process related to formulary management or medication access.	<ul style="list-style-type: none"> When receiving orders for non-formulary products, contact providers to recommend formulary alternatives. If utilization of non-formulary products is required, develop a plan to ensure adequate amounts are obtained according to Pharmacy Department policies and procedures. Communicate needs for ordering non-formulary products to Pharmacy Purchasing. Management approval may be required.
Objective R1.3.3	(Evaluating) Manage the process for preparing, dispensing, and administering (when appropriate) medications.	<ul style="list-style-type: none"> Interpret and accurately verify and input medication orders using the Clinical Information System (CIS) in accordance with Billings Clinic departmental and organizational policies and procedures. Prioritize customer service by answering telephone calls using the “4 rings and 4 things” process. Determine the requestor’s questions/needs and address them promptly. Determine and complete all required steps (e.g., ordering medications, ordering labs, writing SOAP notes, communication) when managing pharmacy-driven protocols. Evaluate and verify the accuracy of medications prepared by pharmacy technicians using a variety of processes and technologies (e.g., manually, DoseEdge, Simplifi797, packager, bagger, FluiDose).



Type/ Number	Bloom's Taxonomy & Description	Learning Activities
Goal R3.2: Demonstrate leadership skills that foster personal growth and professional engagement.		
Objective R3.2.2	(Applying) Demonstrate personal and interpersonal skills to manage entrusted responsibilities.	<ul style="list-style-type: none"> Utilize a standardized process for verifying orders, processing protocols, and checking medications. Determine higher acuity medications and properly prioritize workload to address the most immediate issues, keeping in mind lower acuity tasks. Act on tasks in the multi-patient task list (MPTL), pharmacy patient monitor (PPM), and other areas (DoseEdge, product verification) in a timely manner.
Objective R3.2.3	(Applying) Demonstrate responsibility and professional behaviors.	<ul style="list-style-type: none"> Demonstrate teamwork by pulling medications from the Central Pharmacy Manager (CPM) carousels and other storage areas, tubing medications as needed to ensure timely administration to patients, sorting medications in DoseEdge, and stocking/restocking items in CPM. Practice giving real-time feedback to technicians and other pharmacists when issues (e.g., orders, products) are identified.

Evaluations

PharmAcademic™ is used for documentation of all formal evaluations. Evaluations must be completed no later than 7 days past the due date. Preceptors and residents meet to discuss all evaluations for the experience. Refer to policy RXREGEN – 105 (Pharmacy Resident Assessment) for further details on expectations regarding evaluations.

Evaluation	Who	When
Midpoint Verbal Evaluation	Residents	End of week 3
Summative: Self-Evaluation	Residents	End of rotation
Summative Evaluation	Preceptor	End of rotation
Learning Experience Evaluation	Residents	End of rotation
Preceptor Evaluation	Residents	End of rotation



Practice Advancement Projects Longitudinal Syllabus

Contact Information

Preceptor(s): Melanie Townsend, PharmD, BCPS; Program Director, Pharmacy Residency
Office: Hospital Basement
Hours: 0900 – 1700, Monday – Friday
Phone: (406) 657-4842 office, (307) 760-9224 cell
Email: mtownsend@billingsclinic.org

Other preceptors are selected based on projects

General Description of the Practice Area

Length: 12-month longitudinal experience throughout the year

Type: Required

Experience Overview:

Practice Advancement Projects is a required, 12-month, longitudinal learning experience at Billings Clinic. During the year, residents develop and complete at least one major project focused on prospective quality improvement (may or may not meet the rigor and standards of formal research) on some element of pharmacy practice, utilizing the support and guidance of experienced project advisors. Residents are provided direction through each step of their projects. The primary purpose of the learning experience is to provide residents with experience in development, implementation, analysis, and presentation a major project. Residents also complete medication use evaluations (MUEs) as part of this experience.

At Billings Clinic, research is conducted in multiple ways. The Collaborative Science and Innovation (CSI) department is comprised of physicians, professional research scientists, informaticists, and other research staff. Their purpose is to partner with scientists, physicians, nurses, clinicians, and other healthcare professionals across the organization to investigate and integrate novel strategies and innovative models to improve patient outcomes. CSI facilitates the Privacy and Exemption Committee at the organization and helps coordinate with external institutional review boards (IRBs).

Additionally, clinical research and studies (phases I – IV) are conducted at Billings Clinic in multiple areas (e.g., cardiology, diabetes, infectious diseases, trauma). Likewise, Billings Clinic Cancer Center provides patients with state-of-the-art cancer care, which includes a quality research program. They participate in research through clinical trials with multiple groups (e.g., Montana Cancer Consortium, National Community Oncology Research Program, National Cancer Institute, Southwest Oncology Group). At any one time, there are more than 100 clinical trials that are available for different cancer diagnoses.

Moreover, Billings Clinic supports and fosters the development of nurse-led research and evidence-based practice at part of its Magnet journey. The overall goals of nursing research are to prevent disease and disability, eliminate pain and symptoms caused by disease states, and enhance palliative and end of life care.

Finally, Billings Clinic embraces continuous quality improvement (CQI) and rapid process improvement (RPI). Billings Clinic utilizes High Reliability Organization (HRO) to communicate amongst staff members. The goal of HRO is *zero harm* to patients by developing standardized, safe, and reliable processes. HRO skills are taught to all employees during new employee orientation. These along with the tools used in CQI and RPI are integral to successful resident projects.

Role(s) of Pharmacist(s) in the Practice Area

Pharmacist Role: The Pharmacy Department does not have a dedicated pharmacist resource for overseeing pharmacy practice research. Most research-related activities occurring within the department are completed by residents. However, there are other research activities (e.g., nursing research, medical resident research, investigational drug trials, Collaborative Science and Innovation projects) that occur throughout Billings Clinic, to which residents may be exposed.



Many CQI initiatives within the Pharmacy Department are led by the Medication Safety Officer (MSO), other members of Pharmacy Leadership, or clinical pharmacists. At Billings Clinic, the MSO is a pharmacist FTE (full-time equivalent). They focus on addressing medication-related safety events throughout the organization that are entered into the reporting system (Safety Net). They partner with departments to address system-based issues and implement best practices for medication management.

Many of the ideas for residents' major projects ideas come from the MSO. However, managers, lead pharmacists, and other pharmacists submit major project and MUE ideas and work with residents on their teams. Residents typically have teams that include a combination of pharmacists in leadership roles and front-line staff.

Throughout the Practice Advancement Projects longitudinal experience, the RPD serves as the study coordinator or a co-investigator for each resident's major project and helps establish project timelines. Residents' primary project preceptors and project teams have several responsibilities, including aiding residents in choosing projects that can be completed in the allotted timeframe of one year, assisting in the design and write-up of the project protocols, coordinating the assistance of a statistician, aiding in obtaining necessary approvals (e.g., Privacy and Exemption Committee, institutional review board), and preparation of presentations and manuscripts related to the projects. The RPD also assists residents with their MUE.

Expectations of Residents

Resident Role in the Experience:

Residents serve as the leaders and principal investigators on their major projects. They gain skills in project management and team leadership. Residents are encouraged to select major projects that are focused on improving pharmacy practice and should choose major projects that will ultimately benefit the Pharmacy Department or Billings Clinic. Projects should be feasible, interesting, novel, ethical, and relevant. The major projects may be research or quality improvement and must be prospective. Projects may be each resident's own choice or selected from a list of potential projects. All major projects have a primary pharmacist preceptor. Other pharmacists and non-pharmacists (e.g., nurses, physicians) are added to the teams as needed to provide the appropriate expertise for successful completion of the project.

Residents are expected to develop, implement, analyze, present, and write up their major projects. As leaders of their projects, residents help establish and adhere to project timelines, communicate frequently with their project teams and the RPD, and utilize their project teams and other resources appropriately. Effective time management and communication are key to residents' success in this experience.

Residents also take part in different MUEs throughout the year. During the initial group MUE, they work together with co-residents and the RPD to conduct a small MUE. Later in the year, they each complete their own larger MUE that focused on population-health.

Assignments:

CITI Program Certification Courses: 2

- Residents complete the CITI Program certifications that are required for project submission to the Privacy and Exemption Committee
 - Good Clinical Practice for Research
 - Human Subjects Research
- Major Project co-investigators are also required to complete CITI training.

Major Project: 1

- Residents help establish and follow the project timelines and serve as the principal investigators on their projects.
- Major project milestones include topic selection, project proposal development, approval from key stakeholders, intervention deployment/process change, data collection, data analysis, presentations, and manuscript development.



MUEs: 2

- Residents complete 1 group MUE with co-residents and the RPD.
- Residents complete their own, individual MUE that focuses on population health.
- Residents should use the templates provided for the MUE write ups and presentations.

Time in Patient Care Area Expectations: Practice Advancement Projects is a non-patient care longitudinal experience. Residents should communicate regularly with their rotation preceptors about their project-related responsibilities. Residents are expected to minimize disruptions to patient care when scheduling meetings with their teams.

Project Time Expectations: Residents are given dedicated project days to work on their projects. Two weeks (10 days) are allotted in February and one week (5 days) is allotted in March. Additionally, residents may use flexible time in December (~2 weeks, up to 10 days) for their major projects.

Meetings/Other Responsibilities Outside of Rotation Expectations: Meeting with key stakeholders is an important aspect of this experience. Residents should schedule meetings with preceptor(s) and other individuals in advance, allowing enough preparation time to facilitate good conversations at the meetings.

Resident Progression Throughout the Learning Experience

Preceptor Interaction:

The RPD is actively involved in the residents' major projects.

- Assist residents in refining initial project ideas/proposals and selection of a major project.
- Help residents pick their major project teams, including the primary preceptors.
- Serve as study coordinator, as needed, throughout the major projects. This includes assisting teams with guiding residents through the major project milestones.

Project teams, including the primary preceptors, are chosen after residents select their major projects. Primary preceptors interact with the residents approximately monthly but may meet more often, if needed.

Both the major project teams and RPD provide feedback to the residents on their project proposals, abstracts, presentations, manuscripts, and overall performance related to conduct, management, and leadership of the projects.

For MUEs, the RPD is the primary preceptor but also works closely with the subject expert/MUE requestor and other members of Pharmacy Leadership as needed.

Resident Progression of Responsibility and Skills:

Months 1 – 3: In the first quarter, residents develop proposals for 2 potential major project ideas and then select 1 of those topics with assistance of the RPD. Residents establish major project teams and begin developing their full project proposals. They also complete CITI Program training and submit their ASHP poster presentation abstract on their major project. Residents also complete the group MUE with the RPD. In the group MUE, tasks are divided amongst residents as evenly as possible. During this time, residents have frequent input from the RPD and their teams to help guide the process.

Months 4 – 6: During the 2nd quarter, residents submit their finalized major project proposals, obtain funding for their projects (if needed), and secure the necessary approvals (e.g., Privacy and Exemption Committee, IRB). Residents present their major projects' purpose and methods in poster format, generally at the ASHP Midyear Clinical Meeting. Additionally, residents complete any education and training prior to major project implementation. Residents may begin implementing their major projects, if all approvals and necessary steps are completed. Residents contact appropriate individuals to assist with data mining. Residents typically start on their individual MUEs, and some may finish them by the end of the 2nd quarter. During this time, residents should start to take on more of an active role as project leader but generally require occasional input from the RPD and their teams, particularly with development of the project proposal and deliverables.



Months 7 – 9: In the 3rd quarter, residents implement their major projects, if not done so already. Residents complete data collection for their major projects. Residents should communicate with their major project teams regularly during this time. They should meet with their primary preceptor for the major project frequently (e.g., every 2 to 3 weeks) and their whole project team periodically (e.g., every 4 to 6 weeks). Residents should be actively leading and managing their projects with minimal supervision by the RPD and their teams. Additionally, residents submit abstracts of their projects in preparation for a state pharmacy conference and/or a regional residency conference. Moreover, the residents submit a portion of their manuscripts for review by their teams and RPD. Finally, residents complete their individual MUEs if not done so already. They subsequently make recommendations on how to address any problems identified during the MUE and may start to take action on them.

Months 10 – 12: During the 4th quarter, residents analyze their major project data, organize the information, and present their major projects to several audiences. Residents complete a major project manuscript before the end of the residency year. Residents analyze the impact and sustainability of their projects and finalize all project-related items before the end of residency (including any MUE follow-up), ensuring a smooth transition to others as needed. By this time, residents should be able to perform a majority of the duties of a project leader with confidence and require little supervision from the RPD and their project teams.

Educational Objectives and Learning Activities

Goals and Objectives Taught and Evaluated:

Type/ Number	Bloom's Taxonomy & Description	Activities
Goal 1.4: Participate in the identification and implementation of medication-related interventions for a patient population (population health management).		
Objective R1.4.1	(Applying) Deliver and/or enhance a population health service, program, or process to improve medication-related quality measures.	<ul style="list-style-type: none"> Select, plan, and complete medication-use evaluations (MUEs) based on topics important to the department. Based on results of the MUEs, identify areas within pharmacy or the organization that need correction or enhancement. Suggest ideas to address those issues.
Goal R2.1: Conduct practice advancement projects.		
Objective R2.1.1	(Analyzing) Identify a project topic, or demonstrate understanding of an assigned project, to improve pharmacy practice, improvement of clinical care, patient safety, healthcare operations, or investigate gaps in knowledge related to patient care.	<ul style="list-style-type: none"> Through literature searches, discussion with colleagues, and personal investigation, discover gaps in pharmacy practice research and/or areas within the medication-use system that need improvement. Analyze the necessary background information from key stakeholders to ascertain the true problem or research question.
Objective R2.1.2	(Creating) Develop a project plan.	<ul style="list-style-type: none"> Develop a complete major project proposal, including IRB paperwork if required, to address the identified problem or research question. Create appropriate MUE methods to address the topic(s) being reviewed.
Objective R2.1.3	(Applying) Implement project plan.	<ul style="list-style-type: none"> Educate the necessary parties prior to the implementing the major project. Organize workflow to systematically collect project data.
Objective R2.1.4	(Analyzing) Analyze project results.	<ul style="list-style-type: none"> Compare data pre- vs. post-implementation of the major project. Examine MUE data and compare it to evidence-based information, best practice guidelines, and/or established benchmarks.



Type/ Number	Bloom's Taxonomy & Description	Activities
Goal R2.1: Conduct practice advancement projects.		
Objective R2.1.5	(Evaluating) Assess potential or future changes aimed at improving pharmacy practice, improvement of clinical care, patient safety, healthcare operations, or specific question related to patient care.	<ul style="list-style-type: none"> Evaluate statistical significance of major project results. Determine clinical significance of major project findings. Assess importance of MUE results and determine how to address any issues identified in the population reviewed.
Objective R2.1.6	(Creating) Develop and present a final report.	<ul style="list-style-type: none"> Develop presentation slides and present major project and MUEs to different audiences. Compile a complete write-up or manuscript to summarize the major project and MUEs.
Goal 3.2: Demonstrate leadership skills that foster personal growth and professional engagement.		
Objective R3.2.1	(Applying) Apply a process of ongoing self-assessment and personal performance improvement.	<ul style="list-style-type: none"> Identify strengths and areas of improvement related to assigned projects (e.g., clinical, personal). Implement changes to address the weaknesses. Demonstrate effective leadership and project management skills throughout the major project and MUEs.
Objective R3.2.2	(Applying) Demonstrate personal and interpersonal skills to manage entrusted responsibilities.	<ul style="list-style-type: none"> Organize time effectively to complete all major project and MUE steps on-time. Delegate tasks as applicable. Identify barriers and problems that may delay projects or require adjustment to project timetables. Communicate these promptly to the team. Plan and conduct project team meetings. Utilize proactive strategies to communicate with team members and key stakeholders via appropriate methods (e.g., email, telephone, face-to-face).

Evaluations

PharmAcademic™ is used for documentation of all formal evaluations. Evaluations must be completed no later than 7 days past the due date. Preceptors and residents meet to discuss all evaluations for the experience. Refer to policy RXRESGEN – 105 (Pharmacy Resident Assessment) for further details on expectations regarding evaluations.

Evaluation	Who	When
Summative: Self-Evaluation	Residents	Evenly spaced throughout the experience (~once per quarter)
Summative Evaluation	Preceptor	Evenly spaced throughout the experience (~once per quarter)
Learning Experience Evaluation	Residents	Middle and end of the experience
Preceptor Evaluation	Residents	Middle and end of the experience



Psychiatry – Inpatient Rotation Syllabus

Contact Information

Preceptor(s): Victoria Kuryluk, PharmD, BCPP; Clinical Pharmacist Specialist, Psychiatry
Office: Inpatient Psychiatry
Hours: 0800 – 1630, Monday – Friday
Phone: 406-435-3928 office
Email: vkuryluk@billingsclinic.org

General Description of the Practice Area

Length: 5 weeks (residents in ambulatory care setting), 5 – 6 weeks (residents in acute care setting)

Type: Required (residents in ambulatory care setting), Elective (residents in acute care setting)

Experience Overview

Psychiatry is a 5-week required rotation for the PGY1 residents of the program in the ambulatory care setting. It is also available as a 5 – 6-week elective rotation for the PGY1 residents of the program in the acute care setting. The Billings Clinic Psychiatric Department provides psychiatric stabilization, hospitalization, and follow-up services to children, adolescents, adults, and geriatrics. The Psychiatric Adult Treatment Unit (PATU) provides inpatient services for adults (≥ 18 years), including geriatric care for patients transitioning between inpatient psychiatric care and nursing home care. Child and adolescent (≤ 17 years) services are provided in the inpatient Psychiatric Youth Treatment Unit (PYTU). The Youth Partial Hospitalization Program (YPHP) provides outpatient day treatment and education for children and adolescents (ages 7 – 17 years) who can benefit from active treatment in a therapeutic setting. The Psychiatric Stabilization Unit (PSU) is an observation unit for patients of all ages who need emergency psychiatric evaluation after being medically cleared in the Emergency Department. PSU utilizes an open-concept model with recliners and other amenities for patients instead of traditional rooms.

The Psychiatric Center at Billings Clinic is a 44-bed facility, which can vary bed assignments depending on need. PYTU can house a maximum of 12 youth patients, and PATU can accommodate up to 36 adults. Providers on the unit include board-certified Psychiatric physicians and nurse practitioners.

Most common disease states treated in Inpatient Psychiatry include but are not limited to:

- Anxiety disorders
- Bipolar and related disorders
- Mood disorders
- Schizophrenia spectrum and other psychotic disorders (schizophrenia, schizoaffective disorder, catatonia)
- Substance use disorders (alcohol, cannabis, stimulant and opioid)

Residents work with medical students from the University of Washington and Pacific Northwest University, as well as the Billings Clinic Psychiatric Residents from to complete topic discussions, round on patients, and engage in interdisciplinary teaching.

Role(s) of Pharmacist(s) in the Practice Area

Hours: The pharmacist is available from 0800 – 1630 on weekdays, excluding holidays, vacation, professional travel, or other times when scheduling does not permit coverage.

Workspace: Inpatient unit swing hallway (between PATU and PYTU); PATU provider dictation area

Pharmacist's Role: The pharmacist's primary responsibilities include multidisciplinary treatment team rounds; patient profile reviews; order verification; pharmacist-driven protocols (clozapine and warfarin); answering drug information questions; provider, resident, staff, and patient education; updating and creating PowerPlans for use in Inpatient Psychiatry; working with other departments on quality improvement and medication safety initiatives; and participating in psychiatry residency psychopharmacology didactics and supervision.



The pharmacist may also work with providers to perform chart reviews to determine patient eligibility for a variety of psychiatric medication interventions, including but not limited to long-acting injectables and intranasal ketamine for treatment-resistant depression and suicidality.

A typical day is structured as follows:

Time	Task(s)
0800 – 0900	Task prioritization, queue review (e.g., ROSTER, Pharmacy Patient Monitor, MPTL), and patient profile reviews to determine the most acute tasks (e.g., protocols requiring action, STAT orders) and prepare for multidisciplinary treatment team rounds.
0900 – 1000	PATU treatment team rounds with psychiatrists, resident psychiatrists, nurse practitioners, nurses, case managers, review specialist and psych pharmacists.
1000 – 1100	PYTU treatment team rounds with child and adolescent (CAP) psychiatrists, resident psychiatrists, nurses, case managers, and psych pharmacists.
1100 – 1200	Rounds with psychiatrists and advanced practice providers
1200 – 1600	Workload management – the pharmacist balances their main responsibilities in addition to provider interactions, precepting, meeting attendance, and projects. Before leaving for the day, the pharmacist ensures psych orders, protocols, documentation, and tasks (e.g., ROSTER, MPTL) are completed, and there is a plan for addressing any outstanding items.
1600 – 1630	Sign out – the pharmacist provides a hand-off to the Main Inpatient pharmacists as needed (verbal, phone, or Teams usually).

Expectations of Residents

Resident Role in the Experience:

Resident pharmacists are expected to become integral members of the multidisciplinary healthcare team working closely with the pharmacist, psychiatrists, resident psychiatrists, nurses, and other healthcare professionals. Residents develop the skills required to provide comprehensive, patient-centered, pharmaceutical care to child, adolescent, and adult patients with mental health conditions. Residents actively participate in rounds with the pharmacist and psychiatric providers throughout the day. They also assist with the pharmacist’s clinical duties, including pharmacist-driven protocols and order verification (residents of the program in the acute care setting); and multidisciplinary rounds.

Additionally, residents provide staff and patient education, assist with obtaining medication histories and medication reconciliation, and answer drug information questions. Resident responsibilities are added in a progressive manner throughout the rotation with the goal of functioning as an independent clinical resource to providers and staff by the end of their rotation. Residents shall strive to improve their abilities to provide evidence-based, patient-centered care to patients experiencing an acute mental health condition. They should also focus on improving their interprofessional team interaction skills as well as their patient interviewing and education skills.

Assignments:

Patient case discussions: daily

- Verbally present patients to the preceptor and/or psychiatrist
- Use monitoring sheets/electronic medical record as needed during discussion

Topic discussions: at least once weekly

- Read relevant literature related to assigned topics, complete the assigned worksheets, and be prepared to discuss information with the preceptor (± students, resident psychiatrists); usually includes reviewing patient cases to apply the information.
- Topic discussions are a mixture of in-depth discussions and “mini” discussions conducted during regular workflow.
- Residents are expected to become proficient at leading the topic discussions according to preceptor’s specified format, which is shared with residents at the start of the rotation.
- Topic list usually includes major depressive disorder, bipolar disorder, schizophrenia, and anxiety disorders



Time in Patient Care Area Expectations:

- 0800 – 0900: Residents perform patient reviews, present patients to the preceptor, and prepare for rounds
- 0900 – 1000: PATU multidisciplinary treatment team rounds on adult patients
- 1000 – 1100: PYTU multidisciplinary treatment team rounds on youth patients
- 1100 – 1200: Rounds with the psychiatrists/nurse practitioners
- Afternoons: Residents spend time in the pharmacist's workstation providing clinical services to the patients, completing topic discussions, and following up on issues from the morning activities.
- Residents should expect to participate in patient care from at least 0800 – 1200 daily and provide a proper sign-out of patients and any pending issues before leaving for the day.

Project Time Expectations:

- Residents should prepare to schedule project time at the start of the rotation, with the expectation of updating the preceptor/schedule with any changes to rotation and resident needs.
- Residents may take 1 project day during the rotation. This should be added to the Pharmacy Resident Calendar.
- An additional project day may be requested by the resident if needed based on workload (e.g., large deadlines approaching). This requires approval of the RPD and preceptor.
- Residents should avoid taking project time during important rotation activities whenever possible (e.g., clinical rounds)

Meetings/Other Responsibilities Outside of Rotation Expectations:

- Meetings and other responsibilities not related to the rotation should be scheduled during project time whenever possible.
- However, if that is not feasible, meetings should take place in the afternoons after team rounds/clinical work is completed.

Resident Progression Throughout the Learning Experience

Preceptor Interaction:

Day 1: Preceptor reviews the Psychiatry rotation activities, expectations, and assignments with the residents and tours the Psych Center. Residents should be prepared to discuss/choose topic discussions at the start of the rotation.

Daily: Preceptor interacts with residents daily.

- Mornings: reviews patients and rounds with residents
- Afternoons: clinical duties, topic discussions, patient reviews

Resident Progression of Responsibility and Skills:

Residents should use tracking sheets and ROSTER to keep pertinent information organized. An example is sent at the beginning of the rotation, but residents are encouraged to adjust the sheet or develop their own. Minimally, daily tracking should include:

- A focus on pharmacotherapy for psychiatric conditions (e.g., evidence for medication use, appropriate dosing, drug interactions, and monitoring recommendations)
- Background information (e.g., chief complaint; history of present illness; social, surgical, and past medical history; initial vitals; and pertinent labs) and patient demographics
- Summary of any consultations ordered and reviewed
- Daily changes in clinical course, eventually being able to hone into those items that could guide future therapy

Week 1: Residents work one-on-one with the preceptor to learn the psychiatric pharmacist's workflow and participate in their clinical duties. Residents focus on understanding the basics of common psychiatric medications and disease states during this time. Residents are assigned a minimum of 3 patients at the beginning of their rotation and should follow those patients until a) hospital discharge, b) transfer out of the Psych Center, or c) the end of the residents' rotation. Residents should add 2 – 3 patients weekly with a goal of following all patients by the 4th week of rotation.



Week 2: Residents actively participate in the pharmacist’s daily activities and are typically responsible for 5 – 6 patients. Residents focus on gaining proficiency with patient monitoring and multidisciplinary team interactions, including developing medication therapy recommendations and making interventions on medication-related problems. Responsibilities (e.g., protocols, phone calls, rounding) are progressively added to the residents as they are able to handle them.

Weeks 3 – 4: Residents continue to participate in the pharmacist’s daily activities and should be following most patients on the unit(s) assigned, usually around 10 patients. Participation in rounds should include independently making recommendations to improve patient care and working with providers on each patient. By the end of week 3, residents of the program in the acute care setting are encouraged to handle all protocols on PATU and verify orders for the patients they are following. Residents of the program in the ambulatory care setting start following patients in the PTU and/or PSU, depending upon interest and skill level.

Weeks 5 – 6: Residents should be able to perform many of the pharmacist’s duties with confidence, namely actively participating in treatment team, answering drug information questions, and educating patients/clarifying medication histories. Residents are given the opportunity to function independently as the pharmacist as their skill level allows and is appropriate for their program setting. By the end of week 5, residents of the program in the acute care setting are encouraged to handle all protocols on PATU, verify all orders for PATU, and complete patient monitoring and discharge counseling on all patients they are following. Residents of the program in the ambulatory care setting should be following patients in the PATU, PTU, and PSU, depending upon interest and skill level. These responsibilities may be adjusted based on resident comfort and progress during the rotation.

Educational Objectives and Learning Activities

Goals and Objectives Taught and Evaluated:

Type/ Number	Bloom’s Taxonomy & Description	Learning Activities
Goal R1.1: Provide safe and effective patient care services following JCPP (Pharmacists’ Patient Care Process)		
Objective R1.1.1	(Analyzing) Collect relevant subjective and objective information about the patient.	<ul style="list-style-type: none"> Gather and compare patient and medication-related information using multiple sources (EMR, providers, nurses, patients, etc.). Focus on collecting items most relevant to their psychiatric conditions and reason(s) for admission.
Objective R1.1.2	(Evaluating) Assess clinical information collected and analyze its impact on the patient’s overall health goals.	<ul style="list-style-type: none"> Determine the most important psychiatric-related medication issues and compile them in a logical manner to allow for discussion with other members of the healthcare team.
Objective R1.1.3	(Creating) Develop evidence-based, cost effective, and comprehensive patient-centered care plans.	<ul style="list-style-type: none"> Using patient-specific information, develop safe and appropriate medication therapy recommendations daily for optimizing management of various disease states and to address any drug therapy problems identified. Devise appropriate doses for warfarin and clozapine using established pharmacist-driven protocols.
Objective R1.1.4	(Applying) Implement care plans.	<ul style="list-style-type: none"> During rounds and treatment team, recommend changes to medication therapy to providers to optimize patient care. Accurately verify orders for inpatient psychiatric patients (PGY1 residents of the program in the acute care setting)



Type/ Number	Bloom's Taxonomy & Description	Learning Activities
Goal R1.1: Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process)		
Objective R1.1.5	(Creating) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	<ul style="list-style-type: none"> • Create a daily workflow to review patients after rounds/treatment team and determine if all care plans discussed have been implemented. Discuss with preceptor and/or the appropriate provider as indicated. • Adapt care plans for patients based on relevant information (e.g., lab values, objective scoring, symptoms) and present those to the team.
Objective R1.1.6	(Analyzing) Identify and address medication-related needs of individual patients experiencing care transitions regarding physical location, level of care, providers, or access to medications.	<ul style="list-style-type: none"> • Discover patients needing updated medication lists and assist ADT (admission-discharge-transfer) nurses and medication history technicians in obtaining or clarifying medication histories from patients, as needed. • Inspect outpatient medication lists and ensure appropriate continuation of patients' home medications upon admission to the hospital. • Prior to discharge, assist with patient access to specialty medications (e.g., long-acting injectable antipsychotics)
Goal R1.2: Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.		
Objective R1.2.1	(Applying) Collaborate and communicate with healthcare team members.	<ul style="list-style-type: none"> • Utilize patient care rounds and post-rounds follow-up to build professional relationships with the psychiatric hospitalists. • Articulate pharmacy-related concerns during treatment team on PATU and PTYU to other members of the healthcare team.
Objective R1.2.2	(Applying) Communicate effectively with patients and caregivers.	<ul style="list-style-type: none"> • Educate patients, family members, and/or caregivers on psychiatric medications and appropriate follow up.

Evaluations

PharmAcademic™ is used for documentation of all formal evaluations. Evaluations must be completed no later than 7 days past the due date. Preceptors and residents meet to discuss all evaluations for the experience. Refer to policy RXRESGEN – 105 (Pharmacy Resident Assessment) for further details on expectations regarding evaluations.

Evaluation	Who	When
Midpoint Verbal Evaluation	Residents	End of week 3
Summative: Self-Evaluation	Residents	End of rotation
Summative Evaluation	Preceptor	End of rotation
Learning Experience Evaluation	Residents	End of rotation
Preceptor Evaluation	Residents	End of rotation



Staffing – Inpatient Longitudinal Syllabus

Contact Information

Preceptor(s): Jacob Holland, PharmD, BCPS; Clinical Pharmacist, Main Inpatient Pharmacy Team
Office: Main Inpatient Pharmacy
Hours: 1200 – 2230, 7 on/7 off
Phone: (406) 657-4095 – Main Pharmacy
Email: jholland@billingsclinic.org

Christopher Gilstrap, PharmD, BCCCP; Clinical Pharmacist, Main Inpatient Pharmacy Team
Office: Main Inpatient Pharmacy
Hours: 1200 – 2230, 7 on/7 off
Phone: (406) 657-4095 – Main Pharmacy
Email: cgilstrap@billingsclinic.org

General Description of the Practice Area

Length: 10-month longitudinal experience from September – June.

Residents staff clinical pharmacist shifts on a rotating basis approximately every 2 – 4 weekends. Residents are also assigned one holiday (usually New Year's Day or Memorial Day). Residents staff approximately 15 weekends, which is typically broken down as follows: 9 Early Screener (ES) shifts and 6 Decentralized #4 (DC-4) shifts. They are given 1 compensation day off surrounding their staffing weekends (usually Friday before or Monday after). They work full pharmacist shifts (10 hours each) in place of other pharmacists (i.e., residents are not “extra” help).

Type: Required

Experience Overview:

Staffing is a required 10-month longitudinal learning experience for residents in the PGY1 program in the acute care setting. The Staffing longitudinal learning experience is a continuation and augmentation of concepts introduced in the Pharmacy Practice rotation. The focus of the Staffing longitudinal learning experience is on the provision of hospital pharmacy services as they relate to other healthcare practitioners. The residents staff the weekends and care for the patients within the 336-bed hospital system. The average daily census is approximately 250 patients.

Inpatient pharmacists provide coverage to all areas of the hospital, emergency department, and some outpatient/clinic/procedural areas, including the Surgery Center. See Pharmacy Practice learning experience description for details on where inpatient pharmacists are located. Automated dispensing machines (ADCs) are located throughout the hospital and used to store a large majority (90% or more) of medications, so they are readily available in the various units. The remaining medications are sent from the Main Inpatient Pharmacy using a once daily cart fill. Pharmacy technicians restock the ADCs daily based on pars as well as do supplemental restocks for urgent outages. For patient-specific medications not available in the ADC, a once daily cart fill runs for all medication types. Once orders are verified, first doses of medications not stored in the ADCs are received, prepared, and sent by Pharmacy around the clock. Some items (e.g., first doses, STAT medications) are sent up via the pneumatic tube system, while the remainder are delivered by Pharmacy.

The inpatient pharmacy uses many different operational systems including but not limited to Cerner, DoseEdge, Omnicell, Abacus, Pak Edge, and FluiDose to prepare and dispense medications.

While staffing, residents collaborate with a multidisciplinary staff consisting of providers, nurses, respiratory therapists, and much more to coordinate pharmaceutical care for the patients within the inpatient setting.



Role(s) of Pharmacist(s) in the Practice Area

Hours: Pharmacist coverage in Main Inpatient Pharmacy is provided by 2 – 3 pharmacists seven days a week as indicated below:

- Early Screener (ES) shift: 0630 – 1700 daily
- Late Screener (LS) shift: 1200 – 2230 daily
- Lead Main (LD-MN) shift: 0700 – 1730 Monday – Friday
- Main Float (MN-F) shift: 0700 – 1730, Saturday – Sunday
- Night (N) shift: 2030 – 0700 daily

There are a variety of decentralized shifts (select ones listed below).

- Decentralized 1 (DC-1) shift: 0500 – 1530 daily
- Decentralized 2 (DC-2) shift: 0700 – 1730 daily
- Decentralized 3 (DC-3) shift: 0930 – 2000 daily
- Decentralized 4 (DC-4) shift: 1000 – 2030 daily
- Decentralized 5 (DC-5) shift: 0830 – 1900 Monday – Friday

Residents split their weekends between the role of the Early Screen (ES) shift and the Decentralized #4 (DC-4) shift. On ES weekends, residents are stationed in the basement pharmacy for the entirety of their shift. When working the DC-4 shift, residents work out of the decentralized pharmacist desk on 2 South (Inpatient Surgical) from 1000 – 1800. At 1800, residents move to the Main Inpatient Pharmacy where they work for the remainder of their shift.

Pharmacist Role:

While working in the centralized pharmacy for ES shifts, the pharmacists focus on the verification of new medication orders and dispensing medications to the various units throughout the inpatient care setting. These processes include:

- Order verification using Cerner Pharmacy Patient Monitor
- Verifying unit-dose medications packaged in PakEdge or compounds created utilizing Simplifi797
- Verifying patient-specific medications on the check counter and tubing to the appropriate location
- Supervising technicians and the dispensing workflow
- Dispensing medications utilizing the Central Pharmacy Management (CPM) carousel
- Verifying intravenous medications made within the pharmacy clean rooms utilizing DoseEdge
- Answering phone calls from hospital staff regarding all types of pharmacy-related questions (e.g., medication recommendations, dosing, medication administration, missing medication requests, available products)
- Dispensing controlled substances from the Omnicell narcotic vault and sending to specified units in secured tubes

For the decentralized pharmacists on weekends, their role involves more direct patient care. The pharmacists arrive for the day and communicate with their fellow co-workers to see how they may assist and help with workflow and what tasks they can do. The patient care tasks on the shift vary and include:

- Order verification using Cerner Pharmacy Patient Monitor
- Responding to medical emergencies (RSI, CPR, level 1 stroke alerts, level 1 traumas)
- Completing pharmacist-driven protocols (e.g., heparin, warfarin, vancomycin, DKA, TPN)
- Educating patients (e.g., anticoagulant discharges)

Expectations of Residents

Resident Role in the Experience:

While staffing the weekends in either the ES or DC-4 position, residents focus on becoming proficient in the tasks listed above for each specific area. Residents are expected to arrive on time and work the duration of their shift. Aside from their meal break, they should remain in their work area (i.e., working from their office is not allowed during staffing).

Residents are expected to be professional and courteous and strive to improve their pharmacy practice, problem-solving, teamwork, and communication skills throughout the year, with the goal in mind to be an independently practicing pharmacist by the end of the year.



Residents are expected to provide a complete hand-off at the end of their shift for any items that are unfinished or require further follow-up. This hand-off includes a verbal report out to the Pharmacist on Duty (POD). Additionally, residents need to e-mail **all pertinent parties** involved in the resolution or follow-up (e.g., pharmacist specialist, purchasing, management, next day pharmacists). The email should include the important details to prevent lapses in patient care.

Assignments:

Topic discussions: quarterly

- Read any required materials required prior to topic discussion and come ready with questions and examples related to discussion topics
- Work through mock exercises with preceptor(s)
- Actively discuss information with the preceptor(s) and co-residents

Project Time Expectations:

Residents should focus solely on staffing during their assigned shifts. They may work on projects and other residency assignments before and after their scheduled shifts but not during staffing.

Meetings/Other Responsibilities Outside of Rotation Expectations:

Residents should attend the following meetings regularly:

- Inpatient Pharmacists Staff Meeting – every 3 weeks on Tuesdays (1200 – 1300)
- Inpatient Pharmacists' Huddle – every Friday (1145 – 1150)

Resident Progression Throughout the Learning Experience

Preceptor Interaction:

Introduction: Preceptor(s) review the Staffing longitudinal learning experience activities, schedule, and expectations with the residents prior to their first staffing weekend.

Weekly: Preceptor(s) are available to review resident performance, facilitate topic discussions, and provide guidance/answer questions.

Remainder: Preceptor(s) regularly staff weekends and holidays with the residents while they are working in the Main Inpatient Pharmacy. When residents staff with other pharmacists on the DC-4 shift, the preceptor(s) gather feedback from those individuals on resident performance.

Resident Progression of Responsibility and Skills:

Month 1: Toward the end of the first quarter, residents begin their staffing assignments and are assigned shifts in the Main Inpatient Pharmacy. Residents focus on gaining proficiency with their role as a central pharmacist, including order processing, product verification, triaging problems, answering drug information requests, technician supervision, and workflow management. Residents should be familiar with the different systems used in the Main Pharmacy (e.g., Cerner, DoseEdge, Abacus, PakEdge) and should have all the appropriate login information set-up and ready for staffing in the following months.

Months 2 – 4: During the second quarter, residents are assigned shifts in the Main Inpatient Pharmacy as well as begin completing DC-4 shifts. Residents should start to feel confident in their role as a central pharmacist and should begin to demonstrate ownership of the medication-use process. Residents focus on workflow management and understanding the flow and order of the processes in the Main Pharmacy to better help them in managing their own practice and time effectively. Residents also focus on gaining experience as the DC-4 pharmacist, namely verifying orders, managing pharmacist-driven protocols, counseling patients prior to discharge, and interacting with nurses and providers. Residents should actively participate in topic discussions. During discussions, they should begin contributing by asking questions and sharing examples from their practice.

Months 5 – 7: Throughout the third quarter, residents are assigned staffing shifts approximately every 2 weeks, which allows them to build competence and confidence in their skills in both Main Inpatient Pharmacy and when working as a decentralized pharmacist.



Residents focus on improving their efficiency by taking on more protocols and orders during this period. Residents also work to improve their communication and teamwork skills by identifying what they can do to help and communicating this with the team while also providing good hand-off at the end of their shift. Residents continue to actively participate in topic discussions, including asking questions and providing examples from their practice. By this point, residents should be able to explain similarities and differences between various pharmacy processes as well as useful problem-solving techniques in specific staffing situations.

Months 8 – 10: In the fourth quarter, residents finish up their staffing shifts. By the end of the year, they should be able to perform the majority of tasks necessary for a centralized and decentralized pharmacist with confidence. Residents should demonstrate ownership of the medication-use process and should have strong professional relationships with the pharmacy technicians and pharmacist co-workers. Residents continue to contribute to topic discussions with questions and examples from their practice. They should be able to identify weaknesses in the medication-use process and generate ideas to address them.

Educational Objectives and Learning Activities

Goals and Objectives Taught and Evaluated:

Type/ Number	Bloom’s Taxonomy & Description	Learning Activities
Goal R1.3: Promote safe and effective access to medication therapy.		
Objective R1.3.1	(Applying) Facilitate the medication-use process related to formulary management or medication access.	<ul style="list-style-type: none"> • Develop professional relationships with providers by contacting them when receiving orders for non-formulary products. Discuss necessity and recommend formulary alternatives as appropriate. • If utilization of non-formulary products is required, ensure adequate amounts are obtained according to Pharmacy Department policies and procedures. Communicate needs for ordering non-formulary products to Pharmacy Purchasing. Management approval may be required.
Objective R1.3.3	(Evaluating) Manage the process for preparing, dispensing, and administering (when appropriate) medications.	<ul style="list-style-type: none"> • Critically evaluate, verify, and input medication orders using the Clinical Information System (CIS) in accordance with Billings Clinic departmental and organizational policies and procedures. • Prioritize customer service by answering telephone calls using the “4 rings and 4 things” method. Determine the requestor’s questions/needs and address them promptly. • Assess patient-specific information and complete all required steps (e.g., ordering medications, ordering labs, writing SOAP notes, communication) when managing pharmacy-driven protocols. • Judge the accuracy of medications prepared by pharmacy technicians using a variety of processes and technologies (e.g., manually, DoseEdge, Simplifi797, packager, bagger, FluidDose).



Objective	Bloom's Taxonomy	Learning Activities
Goal 3.2: Demonstrate leadership skills that foster personal growth and professional engagement.		
Objective R3.2.2	(Applying) Demonstrate personal and interpersonal skills to manage entrusted responsibilities.	<ul style="list-style-type: none"> Utilize the circle approach or another standardized process for verifying orders, processing protocols, checking products, and completing other pieces of workflow. Identify higher acuity medications and plan workload to address the most immediate issues first, keeping in mind lower acuity tasks.
Objective R3.2.3	(Applying) Demonstrate responsibility and professional behaviors.	<ul style="list-style-type: none"> Showcase teamwork by pulling medications from CPM, tubing medications as needed to ensure timely administration to patients, sorting medications in DoseEdge, and stocking/restocking items in CPM. Practice giving real-time, professional feedback to technicians and other pharmacists when issues (e.g., orders, products) are identified.

Evaluations

PharmAcademic™ is used for documentation of all formal evaluations. Evaluations must be completed no later than 7 days past the due date. Preceptors and residents meet to discuss all evaluations for the experience. Refer to policy RXRESGEN – 105 (Pharmacy Resident Assessment) for further details on expectations regarding evaluations.

Evaluation	Who	When
Summative: Self-Evaluation	Residents	Evenly spaced throughout the experience (~once per quarter)
Summative Evaluation	Preceptor	Evenly spaced throughout the experience (~once per quarter)
Learning Experience Evaluation	Residents	Midpoint and end of the experience
Preceptor Evaluation	Residents	Midpoint and end of the experience