الهيئة السعودية للتخصصات الصحية
Saudi Commission for Health Specialties

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Postgraduate Year 1 (PGY 1) Pharmacy Residency Program Manual 2025-2026

Program Code 02001

Pharmaceutical Care Services

King Abdulaziz Medical City

Central Region

Dear Residents

On behalf of the Pharmaceutical Care Department, I would like to congratulate you on your acceptance to the PGY-1 Pharmacy Practice Residency Program at King Abdulaziz Medical City in the Central Region.

Your residency program's main focus will be on developing your practical skills. Under the guidance of clinical specialists, you will be assigned clinical responsibilities, and you will also be given teaching duties to help you develop your teaching and communication skills. With the goal of improving your skills for collaboration and problem-solving, you will also take part in continuing service activities.

The two years ahead of you will be busy, but I am confident you will benefit from the residency program. Your investment of time and energy will reap rewards in the future.

I'm here to assist you in realizing your full potential as the residency program director. I'm looking forward to working with you and witnessing the growth of your career.

Sincerely,

Maram Al Dossari, PharmD, BCCCP
Critical Care Clinical Pharmacist
Program Director, Pharmacy Residency Training Program
King Abdulaziz Medical City-Central Region (KAMC-CR)

Purpose

This document outlines policies and procedures for the pharmacy practice residency program (PGY1) at King Abdulaziz Medical City-Central Region, and serve as reference for residents throughout the two years.

Program's Official Website:

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Section I:

Program Overview

PART I. Primary Site

King Abdulaziz Medical City- Central Region

King Abdulaziz Medical City (KAMC) - Central Region is a 1500-bed multi-facility tertiary care hospital affiliated with King Saud bin Abdulaziz University for Health Sciences (KSAU-HS)-College of Pharmacy. It is one of the leading healthcare institutions in the Kingdom of Saudi Arabia. Its mission is to provide medical services of highly specialized nature and promote medical research and education programs, including postgraduate education training, as well as contribute to the prevention of diseases. It provides the unique capability to engage each of our residents in patient care, project management, and practice management.

Mission

Ministry of National Guard Health Affairs (MNGHA) provides optimum healthcare to Saudi Arabian National Guard personnel, their dependents and other eligible patients. NGHA also provides excellent academic opportunities, conducts research, and participates in industry and community service programs in the health field.

Vision

National Guard Health Affairs will be recognized as an internationally acclaimed centers of excellence to enhance individual and public health status.

Core Values

National Guard Health Affairs adhere to core values taken from religious, social and professional principles, abiding by:

- Respect religious and social values
- Patient safety and satisfaction
- Quality performance
- Respect and dignity
- Transparency
- Teamwork
- Productive work environment
- Accountability
- Behavior and work ethic
- Excellence and innovation

Pharmaceutical Care Services

The Department of Pharmacy at KAMC-CR employs approximately 600 employees including pharmacists, technicians, and other support personnel who provide pharmacy services to patients and healthcare professionals.

Inpatient pharmacy services at KAMC-CR are provided by decentralized pharmacy satellites covering several patient care areas depending on the location and are responsible for the pharmaceutical care of the patients.

Outpatient pharmacy services at KAMC-CR are provided by several outpatient pharmacies depending on the location of ambulatory care services

Clinical Pharmacy services at KAMC-CR are provided by specialized clinical pharmacists based on the specialty, clinical pharmacists are actively involved in providing direct patient care within multidisciplinary team, providing drug information, performing pharmacokinetic evaluation and dosing for select medications, reviewing medications for renal and/or hepatic dose adjustment, evaluating patients for potential intravenous to oral medication interchange and monitoring target medications. Clinical pharmacy has several specialty areas including but not limiting parenteral nutrition, oncology, critical care, and transplant services.

The department provides 24-hour drug distribution from central pharmacy areas as well as satellite pharmacies throughout the hospital. Medication reliability and safety are integral to the provision of optimal pharmaceutical care and the pharmacy continually reviews medication incident reports, adverse drug events and medication errors to identify potential areas for improvement of systems.

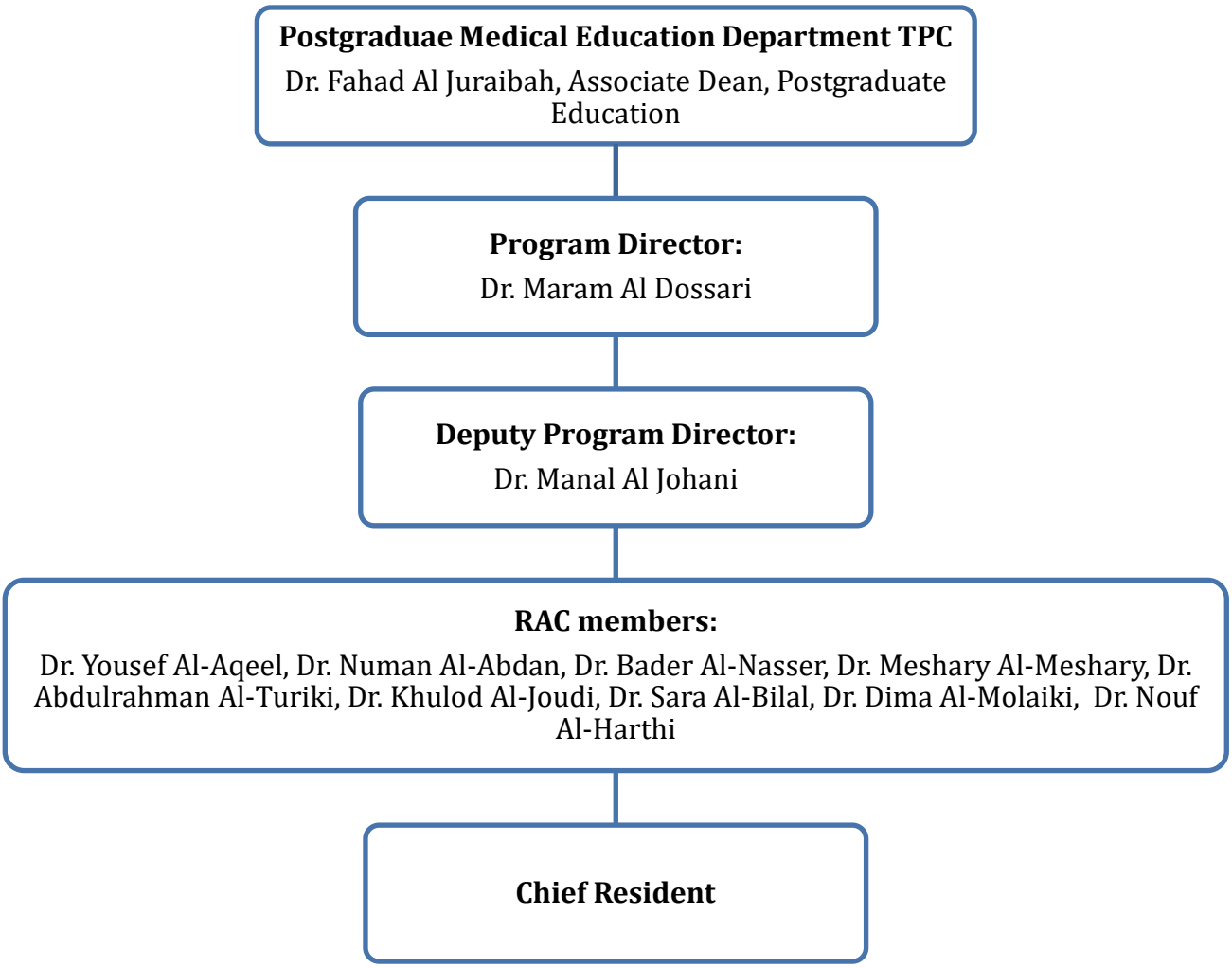
Active involvement in multidisciplinary quality assurance programs assists the pharmacy in evaluating the specific needs of its patients. The Department of Pharmacy works with the Pharmacy and Therapeutics (P&T) committee to review mediations for formulary status, to perform and review medication use evaluations, to develop medication use policies, and to contribute to clinical resource management activities of the medical center.

The P&T committee provides an interdisciplinary forum that facilitates consistent communication between the members of the Department of Pharmacy, physicians, nurses, and other allied health professionals.

In addition to the provision of inpatient, outpatient, and clinical pharmaceutical services, the pharmacy also serves as an Advanced Pharmacy Practice Experience (APPE), and cooperative education site for King Saud bin Abdulaziz University for Health Sciences (KSAU-HS)- College of Pharmacy.

Organizational Chart

- **Training Program Administrative Structure**



PART II. Program Overview

ASHP program code	**02001**
Accreditation status	Accredited
Director of Pharmacy	Dr. Yousif Al-Aqeel Director of Pharmaceutical Care Services Ext. 10800
Program director	Dr. Maram Al-Dossari Critical Care Clinical Pharmacist Pager #7588 Ext. 13312
Program deputy director	Dr. Manal Al-Johani Hematology/Oncology Clinical Pharmacist Pager #4509 Ext. 51381
Number positions	10
Residency program duration	24 months
Starting date	The first day of October each year
Benefit	1. Medical insurance (dental, vision, and prescription) Professional meeting 2. Mentorship program 3. Teaching certificate enrollment fee 4. Library with free database access 5. PC and personal desk with desktop for each resident in shared office with co-residents and select clinical staff 6. Four weeks paid time off (vacation), and one Eid holiday (either Fiter or Adha). Also, seven days of sick leave per year 7. Free Parking
Stipend and Salary	Refer to the Human Resources and Social Development Healthcare Jobs Policy and Procedures
Licensure	All residents should be licensed for pharmacy professional licensure
Duty hours	• Refer to APP 1428-08 Staff Attendance and Punctuality, and DPP 7330-01-02-00 Scope of Services Provided by Pharmaceutical Care Services, and ASHP duty hours requirement in the appendix • No moonlighting is allowed in this program

Program Purpose

PGY1 pharmacy residency programs build on Doctor of Pharmacy (Pharm.D.) or Bachelor in Pharmacy education and outcomes to contribute to the development of clinical pharmacists

responsible for medication-related care of patients with a wide range of conditions and eligible for postgraduate year two (PGY2) pharmacy residency training and board certification.

Outcomes

Pharmacists completing this program shall be competent and confident practitioners as evidenced by their ability to meet the educational competency required by ASHP as well as selective competencies customized for the program as shown below:

R1.	Patient Care
R2.	Advancing Practice and Improving Patient Care
R3.	Leadership and Management
R4.	Teaching, Education, and Dissemination of Knowledge
E.1	Pharmacy Research
E.6	Teaching and Learning

Program Description

The residency program at King Abdulaziz Medical City- Central Region is a two-year program that prepares its graduates to assume positions as advanced level patient care providers and to pursue post-graduate specialty residency training in a focused area of practice. The resident is expected to consider the goals and objectives for each rotation as a foundation for their experience.

The resident is expected to achieve the educational goals and objectives of the residency program as they relate to both administrative and professional practice skills. This implies that it is the responsibility of the resident to be fully present at all assigned activities of their current service, which include but are not limited to presentations, medical staff rounding, educational meetings, staffing requirements and administrative activities. During the training, the resident will report to and will be supervised by the rotation preceptor and the residency director. The residency program will provide each resident with specific learning/practice experiences designed to enable the resident to expand the scope of his/her practice skills.

Program Structure

The residency program is composed of 24-months. The residency is a hospital-based clinical experience with emphasis on pharmaceutical care. It provides clinical learning experiences that are generally five weeks in duration. These learning experiences aim to produce a well-rounded pharmacist. The residency program also includes the development and completion of a major project related to pharmacy practice, development of oral and written communication skills, patient education, participation in various departmental administrative committees, and practice in various pharmacy areas throughout the institution.

Our residency program offers personalized training tailored to each resident's interests and prior experience. While the program is customizable, all residents must complete core rotations essential for a well-rounded pharmacy practitioner. By graduation, residents will be

ready to practice as clinical pharmacists, equipped with the skills for optimal patient care, clinical research, publishing, and contributing to the pharmacy profession through education and committee work.

The first-year program is established to ensure that pharmacists possess the appropriate skills and knowledge to function effectively in various areas of pharmacy practice.

First Year		
Learning Experiences		**Duration**
General Orientation	Core rotations	1 week
Outpatient Pharmacy		5 weeks
Inpatient Pharmacy-I		
Inpatient Pharmacy-II		
Intravenous Admixture		
Administration		
Drug Information		
Medication Safety		
Introduction to Clinical Practice		
Clinical Rotation (internal medicine)		
Vacation		4 weeks
Holidays		10 days

The second-year residency experience is designed to develop skills, competencies, and professional expertise in clinical pharmacy practice.

Second Year		
Six Core Rotations		**Duration**
Internal Medicine I	Core rotations	5 weeks
Internal Medicine II		
Critical Care		
Cardiology		
Infectious Disease		
Repeated Core (Based on resident interest)		
Three Elective Rotations*		**Duration**
Elective Rotation 1 (on-site** or out-site)		5 weeks
Elective Rotation 2 (on-site** or out-site)		5 weeks
Elective Rotation 3 (on-site** or out-site)		5 weeks
Vacation		4 weeks
Holidays		10 days
For Out-site Rotation • MUST be: at ASHP accredited center • No more than 2 out-site rotation per PGY-1 program (R1 & R2) • Arrangement is the responsibility of the RPD		

* **Electives** are arranged at the request of the resident, availability and the approval of the RAC. ** **Onsite** elective rotations include Nephrology, Solid Organ Transplant, Pediatric, Pediatric ICU, Pediatric Cardiology, Oncology/Hematology, and Parenteral nutrition.

Other requirements over the 2 years

Other Requirements	Duration (Over the 2 Years)
Staffing (weekends, discharge pharmacies, and satellite pharmacies)	Longitudinal
Drug evaluation/monograph/protocol and guideline development	Longitudinal
Research project	Longitudinal
Presentations	Longitudinal
Medication Use Evaluation	Longitudinal
Teaching Certificate Program & Education	Longitudinal

Presentations

Each resident will deliver formal presentations and journal clubs. Residents will have the opportunity to teach various allied health care professionals including pharmacy student-trainees, medical students and residents with an affiliated college of pharmacy. Total number of required presentations as follow:

First year	Second year
• One topic review • One journal club • In-service (as required in any rotation)	• Participate in pharmacy grand round • Participate in teaching of pharmacy student • One journal club

PART III. Admission

Resident Qualifications

Qualifications of applicants to KAMC-CR PGY1 Residency Program are in accordance with criteria set by the Saudi Commission for Health Specialties (SCFHS) and National Guard Health Affairs (NGHA)

- Saudi Nationality
- Bachelor's degree in Pharmacy or Pharm.D with a GPA ≥ 3.5/5 or 2.8/4
- Graduate of an accredited College of Pharmacy by the Ministry of Education
- Residents must be licensed as pharmacists by the SCFHS
- Passing the interview based on the assessment of candidate form and interview selection form *(Appendix I)*
- Must be from the top 80 % of candidates based on SCFHS final score

- Accepted NGHA employees will be granted a release letter from their current position in the department
- Unemployed candidates who are not sponsored can apply directly to the MNGHA academic affairs for resident positions

The following should be provided in the application package of each candidate:

- Official pharmacy school certificate
- Official pharmacy school transcript
- A copy of the Saudi Pharmacy Licensure Examination (SPLE) result report
- Curriculum Vita
- Letter of intent including a statement of professional goals and reasons for pursuing the pharmacy practice residency addressed to the RPD
- Recent three letters of recommendation

PART IV. General Policy

Professional Conduct

- It is the responsibility and expectation of all residents participating in the KAMC-CR residency to always maintain the highest degree of professional conduct. The resident will display an attitude of professionalism in all aspects of his/her daily practice.
- Please refer to **APP 1439-02 Code of Ethics and Professional Conduct.**

Dress Code

- All residents are expected to dress in an appropriate professional manner whenever they are within the medical center or participating in or attending any function as a representative of the KAMC-CR. Employees whose appearance does not meet hospital or department standards may be required to change clothes or to address other appearance issues. Failure to follow the dress code may result in disciplinary action
- It is expected that the resident will wear a clean, always pressed white lab coat and closed formal shoes in patients' care areas.
- Please refer to **APP 1431-12 Ministry of National Guard Health Affairs MNGHA Dress Codes.**

Employee Badges

- KAMC-CR requires all personnel including residents to always wear his/her badge when they are within the medical center.
- Badges will be obtained from the KAMC-CR badging office during orientation week.
- If the employee badge is lost, the resident must report the loss immediately to security.

Paging System

- Each resident will be assigned a pager number at the beginning of the residency program
- The pager number will be connected to the resident's mobile number and he/she will receive bleeps as a message or calls and should be answered when providing patient care
- Pager numbers must be cleared before the end of the residency year.

Communication

- The resident is responsible for promoting good communication between the pharmacists, patients, physicians, nurses, and other healthcare professionals.
- The resident shall abide by the KAMC-CR hospital policies regarding the use of hospital and cellular phones within the hospital and inpatient care areas.
- Constructive criticism is a means of learning and is not meant to embarrass. Any conflicts that may arise between the resident and preceptor should be handled by discussing it with each other. If the resolution is not achieved, the situation needs to be discussed with the RPD to achieve resolution.

Patient Confidentiality

- Patient confidentiality should be strictly always maintained by all residents and
- It is the expectation that residents will not discuss patient-specific information with other patients, family members or other people not directly involved in the care of the patient. Similarly, residents will not discuss patients in front of other patients or in areas where people may overhear.
- Residents should not leave any confidential documents (e.g., profiles, charts, prescriptions, etc.) in public places.
- Residents should understand that inappropriate conduct (e.g., breach of confidentiality) will result in disciplinary action.
- Please refer to **APP 1439-09 Patient Information Confidentiality**

Duty Hours and Attendance

- The resident is expected to be onsite to perform all assigned and expected activities related to the residency program to meet the goals and objectives of the program as required by the residency program director and rotation preceptors
- The residents are solely responsible for meeting the obligations of their assigned service commitments.
- **The minimum working hours are 9 hours**; however, the hours of practice will vary from one rotation to another, according to the requirements determined by the preceptor and the program director.
- Please refer to **APP 1428-08 Staff Attendance and Punctuality,** and **DPP 7330-01-02-00 Scope of Services Provided by Pharmaceutical Care Services.**

- **Late reporting to work after 08:00 am or early leaving before 05:00 pm for more than 15 minutes without permission is not accepted at all, and will result in a warning letter.**
- Residents must have a minimum of one day in seven days free of duty (when averaged over four weeks).
- The weekend coverage & staffing schedules will be provided to the residents in the first week of orientation and will be updated monthly to identify the area of weekend coverage.
- To ensure adequate time off, the residency program complies with the ASHP standards and duty hour regulations. The program director and preceptors do not intend to violate these regulations, and it is the resident's responsibility to report all duty hours through the hospital **enterprise fingerprint attendance system** to ensure adequate time in and away from the program. Additionally, residents must fill and sign duty hour attestation through PharmAcademic™ on a monthly basis.
- Please refer to: ASHP Duty Hour Requirements for Pharmacy Residencies: https://www.ashp.org/-/media/assets/professional-development/residencies/docs/duty-hour-requirements.pdf
- Appointments for personal issues (physician, dentist, banking, etc.) should have minimal impact on rotation activities. Appointments must be approved by the RPD and preceptor at **least two days prior to the appointment**, ideally, before the start of the rotation, and **should always be communicated through email.**
- Any resident found absent without prior notification and approval will be subject to disciplinary action as per **APP 1432-23.**
- Conduct pre-disciplinary counseling for the concerned resident regarding missed scheduled time and the requirements to be present for the entire work schedule before issuing a warning letter.
- **No moonlighting allowed in the program.**

Conference Sponsorship

Sponsoring of scientific meeting attendance will be determined by the director of pharmaceutical care services and RPD based on available funds and the relevance/importance of the conference to the resident's intended training.

PART V. Resident Disciplinary Action

- Residents are expected to always conduct themselves in a professional manner and to follow all relevant departmental and hospital in addition to the program policies and procedures.
- Disciplinary action within the pharmacy residency program is aligned with postgraduate medical education policy and procedures as well as SCFHS regulations.
- **DPP 7330-13-03-11 Residents' Dismissal from the Residency Practice Program**

Disciplinary action will be initiated if a resident

- Does not follow policies and procedures of KAMC-CR Pharmaceutical Care Department or Residency Program.
- Does not present him/herself in a professional manner (including behavior or communication issues, and plagiarism).
- Does not make satisfactory progress on any of the residency goals or objectives.
- Does not make adequate progress towards the completion of residency requirements (e.g., residency project, rotation requirements, longitudinal activities, service requirements, etc.).
- Violation related to work schedule.

- In the event of the identification of a need for disciplinary action of a resident or if a resident fails to make satisfactory advancement in any aspect of the residency program because of any of the above situations, the following disciplinary steps shall be taken:
  1. RPD will give residents verbal counseling if he/she fail to meet the above requirements for the first time (except for violations related to working schedule; first violation necessitates a written warning, and plagiarism could necessitate immediate dismissal from the residency program). Residents will be counseled on the actions necessary to rectify the situation involved. RPD will also document this verbal counseling in the resident's personnel file, outlining a corrective action plan and specific goals for monitoring progress. The corrective plan will outline the criteria for successful remediation and include a timeline for remediation of no longer than four weeks. The RAC members must be informed of the action if they are not directly involved.
  2. If the resident meets the criteria for successful remediation, the resident must not regress for the duration of the residency to receive a certificate of completion.
  3. If the resident is not successful in completing the action steps, yet makes progress, a second resident corrective action plan can be executed. The second resident corrective action plan will be no longer than 4 weeks.
  4. If a resident fails to meet the criteria for successful remediation in the second corrective action plan, the RAC will meet and impose one of the following disciplinary actions against the resident:
     a. Giving written notice
     b. Giving a written warning
     c. Recommending a final written warning and placing the trainee under probation period
     d. Recommending retaking the training period for a period not exceeding twelve months during the entire program period
     e. Withholding the ASHP certificate of program completion
     f. Recommending dismissal

- Recommendations (D and E) mentioned above will require the approval of the Institutional Training Committee (ITC) and SCFHS Pharmacy Board Committee. No action of dismissal will be taken against the resident until the final approval of these two individuals. Disciplinary penalties can be applied without a graduated approach. The action will be documented again in the resident personnel file and will be presented to the Institutional Training Committee (ITC).
- The plagiarism could lead to immediate dismissal from the residency program, as determined by the RAC after review of the materials suspected of plagiarism.

PART VI. Leave Days

General Rules

1. Residents are required to complete and submit a Travel Request Application (TRA) form through SSHR system (attached below) in advance before any days off for any leaves as the following:
    - TRA should be submitted to the RPD or his/her designee at **least 2 months** before requested time off for any vacation of **more than 5 working days.**
    - TRA should be submitted to the RPD or his/her designee at **least a month** prior to requested time off for any vacation of **5 working days or fewer.**
2. The TRA is considered approved once it is approved by the RPD or his/her designee through SSHR system and the preceptor of the rotation in which the vacation will occur.
3. Once completed, this form must be kept in resident's leave file with the RPD and another copy in a specific folder in the resident portfolio. In addition, it must be scanned and sent to the Medical Education Office and HR.
4. Failure to comply with the above procedures will result in disapproval of the requested leave.
5. Unutilized vacation during the year cannot be shifted to the following year.
6. Once return from leave, the resident is required to fill the Notification of Return Form through SSHR system (attached below) and save it in resident portfolio.
7. For any days off during any rotation, the resident will work with his/her preceptor and the program director to ensure that alternative arrangements to meet program requirements are made to accommodate the absence. Exceptions may be granted at the discretion of the rotation preceptor and the program director.
8. No more than two days of emergency are allowed on one rotation to avoid compromising the quality of rotations, and the emergency will be counted from the annual leave, except for the compassionate leave.
9. Time away from the residency program does not exceed a combined total of the greater of 37 days per academic year.

Annual Vacation and Study Leave

1. Annual and study leave: **four weeks (28 days)**
2. For the first year (R1) you can take 3 weeks as annual vacation any time between rotations and **not within rotations.**
3. Because of the nature of residency training and preceptors' availabilities and schedules

and to ensure adequate learning at a high training standard without affecting residency requirements and patient care as well, the following rules will be applied on annual, and study leave:

- Residents will have their 3 weeks leave as one block in the month of Ramadan for R2 as scheduled by RAC.
- If resident (R2) wants to change annual leave timing, he/she should submit a request with justification to the RAC committee to be discussed and approved.
- If annual leave is approved by RAC to be taken at any time different than Ramadan, the resident must arrange his/her rotation as an outside rotation during Ramadan and his/her weekend staffing might be affected by an extra 2-4 shifts due to scheduling difficulties.
- One week will be utilized as study leave for SCFHS exam preparation, which will be arranged by the RPD once SCFHS announces the exam date.
- Exceptions for emergencies need to be discussed and approved by RAC.
- All leaves should be submitted through ORACLE system
- Please refer to **APP 1429-35 Employee Leave Entitlements**
    - Appendix A - Different Types of Leaves
    - Appendix B - Leave Request and Authorization
    - Appendix D - Notification of Return from Scheduled Leave

Holidays

- Residents are required to work in one official Eid holiday (either Al Fitr or Hajj) per resident's preference, availability and after approval of RAC.
- National Day is an official holiday for all residents, however if the department needs resident to staff during National Day, the department will guarantee a compensation day off.
- Foundation Day is an official holiday for all residents, however if the department needs resident to staff during Foundation Day, the department will guarantee a compensation day off.

Scientific Leave

- The resident can be granted scientific leave up to seven days per year to attend one scientific conference or seminar, and needs RPD approval.
- The resident must provide the attendance certificate to prove his/her attendance.
- RPD may require the residents to attend and actively participate in the hospital educational activity and/or residency showcase in the annual local pharmacy meeting conference.

Sick Leave/Maternity Leave/Marriage Leave/Emergency Leave

Sick Leave

- Sick leave reports from other governmental/private hospitals and dispensaries/polyclinics are accepted but should not exceed **seven days per year.** All sick leaves from other

governmental/private hospitals and dispensaries/polyclinics must be submitted and processed through Sehhaty Electronic Platform.

- A copy of the sick leave report must be uploaded into SSHR system.
- Any unprocessed sick leave must be considered absent from duty when the resident is proven to be responsible for not submitting the required sick leave to SSHR within one week of returning to work.
- Elective medical treatment and/or surgery may only be done during annual leave and does not qualify as sick leave.
- Please refer to **APP 1431-05 Employee Sick Leave.**

Maternity Leave

- Maternity leave must be granted to pregnant employees upon request. The proposed date of maternity leave must be finalized as soon as possible and no later than the 16th week of gestational. The estimated date of delivery, which is determined by the physician at employee health clinic (EHC) or Obstetrics Department must be indicated in the maternity leave form.
- Maternity leave must not start earlier than four weeks maximum determined by the employee prior to the expected date of delivery, previously determined by the physician
- Female resident is eligible for **90 days maternity,** it is prohibited to allow female staff to return back to work during the six weeks following the delivery date.
- Male resident is eligible for **3 days Paternity leave.**
- Please refer to **APP 1428-12 Maternity Leave**
- Please refer to **APP 1429-35 Employee Leave Entitlements**
    a. Appendix A - Different Types of Leaves
    b. Appendix B - Leave Request and Authorization
    c. Appendix D - Notification of Return from Scheduled Leave

Marriage Leave

- Resident is eligible for **5 days marriage leave**
- Please refer to **APP 1429-35 Employee Leave Entitlements**
    a. Appendix A - Different Types of Leaves
    b. Appendix B - Leave Request and Authorization
    c. Appendix D - Notification of Return from Scheduled Leave

Emergency Leave

- Emergency leave (compassionate leave): may not be booked electively, and emergency leave must be justified to the program director according to **DPP 9667-13 postgraduate trainee leave**.
- The emergency leave will be counted from the annual leave balance. If the resident does not have accrued annual leave, he/she can take emergency leave for a maximum period of five days per year after approval from the program director.
- The resident should notify the RPD or his/her designee, and direct preceptor via email no later than 15 minutes after the start of the working schedule. Failure to provide the required notification within the defined time can cause rejection of the emergency leave

request and constitutes an unauthorized absence. The emergency leave should be approved by the RPD or his/her designee.

- The residents should submit their emergency leave in ORACLE system immediately when they return to work.

Extended Leave of Absence

- Absence from the training program for 30 continuous days or 45 discontinuous days during the training program without accepted justification by the Training Program Committee (TPC) and Institutional Training Committee (ITC) will lead to termination from the training program as per Executive Regulations for Training, Termination, Saudi Commission for Health Specialties (1439H), **DPP 9667-13 postgraduate trainee leave**.

1. If the absence is justified and accepted by the TPC and ITC, the days off in excess of 40 days for each year must be compensated. This may be done either by using part of the 40 days leave entitlement in a subsequent year or at the end of the training period. Periods of missed training must be completed in order for the individual to be allowed to write the final qualifying examination in his/her specialty. Training is not considered completed until these extra days are made up.
2. In the event of a serious medical condition/sick leave requiring extended leave, residents have to compensate for the missing rotation during the sick leave period before completion of the program, and non-elective sick leave is not considered from the annual leave.
3. The RAC will make the final determination based on individual circumstances. Any extended leave of more than 90 days will result in repeating training year. If the leave becomes excessive or if residency requirements cannot be met, the members of RAC may utilize various criteria to judge whether the resident may continue or will be dismissed from the program.

Permissions:

- Permissions are only for emergency matters, that will not require a full day emergency leave and not more than 3 hours/shift.
- Residents **must not exceed nine hours of total permissions every rotation**. Otherwise, an official leave must be filed. Each permission **must not exceed 3 hours.**
- Unconsumed allowable hours of permission per rotation cannot be carried to the following rotations.
- The resident should notify the RPD or his/her designee, and direct preceptor via email at least one day before the working schedule. Failure to provide the required notification within the defined time can cause rejection of permission.
- The allowable hours of permission must be approved by RPD or his/her designee.
- Any resident requesting permission to arrive late or leave early for any reason will record the actual arrival or departure time by Enterprise Attendance System (EAS).
- Any resident found arrived late, or departed early without prior notification and

approval will be subject to disciplinary action as per **APP 1432-23.**

- Appointments for personal issues (physician, dentist, banking, etc.) should have minimal impact on rotation activities. Appointments must be approved by the RPD and preceptor at least two days prior to the appointment, ideally, before the start of the rotation, and should always be communicated through email.
- Conduct pre-disciplinary counseling for the concerned resident regarding missed scheduled time and the requirements to be present for the entire work schedule before issuing a warning letter.

PART VII. Program Administration

Residency Advisory Committee (RAC)

The Residency Advisory Committee governs the residency program. The Committee meets quarterly (or more often if needed) to review and discuss the progress of the residents. Interactive feedback within the committee is utilized to direct the resident in his/her current and upcoming residency activities and to provide mentoring and guidance in the resident's pharmacy practice. The committee is responsible for:

- Approving rotation goals and objectives.
- Assuring that the resident and the program meet the stated goals and objectives.
- Assuring that the program meets the ASHP and SCFHS standards.
- Developing the new residency program practice opportunities (preceptors, mentors, etc.).
- Approving clinical preceptors and rotations selection.
- Reviewing individual resident's plans, goals, rotation objectives, performance, overall resident progress and potential barriers to achieve program and resident's goals.
- Recruiting new residents and establishing residency applicants' requirements, applicant procedures, and interview process for evaluation and selection of the resident.
- Reviewing and maintaining the quality of the residency program.
- Deciding on residents' dismissal and corrective actions.
- Discussing any related issues or concerns in the Saudi Commission for Health Specialties (SCFHS).
- Maintaining, reviewing, updating, and approving the annual residency program manual.
- Matching new residents with mentors.
- Reviewing educational activities and approving any modifications.

- Each quarter, RAC members and residents will review all evaluations completed for that quarter for each resident. A summary of each resident 's overall progress will be presented. At that time, the individual plan will be reviewed and appropriate changes to the individual customized plan will be made.
- The RAC will focus on opportunities to improve resident performance and provide

continuity between learning experiences.

- The agenda for each RAC meeting will also include the progress on the following: the resident project; presentations, rotation and staffing, longitudinal requirement, and any residency related activity.
- Each residents' individual plan will be reviewed, and suggestions may be offered, if needed. If suggestions to residents' individual plans are offered during RAC meetings, the mentor and RPD will meet with the resident to discuss and plan for implementation, if needed
- Meetings at the end of every residency year to discuss areas of strength, opportunities for improvement, and strategies to improve the residency program.
- Meeting minutes will be completed by the pharmacy secretary.

RAC Members	
Chairperson	Residency Program Director
Members	• Director of Pharmaceutical Care Department • Assistant Director of Clinical Pharmacy • Deputy Residency Program Director • Manager of Staff and Development of Pharmaceutical Care Department • A representative of preceptors • One or more mentors per invitation • All residents

PGY 1 Pharmacy Resident Advisor (Mentor) – DPP 7330-13-03-09 Resident Mentor

Mentoring and advising are key elements of King Abdulaziz Medical City Central Region PGY1 Pharmacy Residency Program. To provide the resident with the opportunity for individualized mentoring and advising, RAC will work with each incoming resident to coordinate the selection of an individual resident mentor for the academic year.

The principal role of the resident mentor is to act as a personal contact for the resident in all matters dealing with the successful completion of the PGY1 residency program. The resident and his/her mentor will work with the resident to develop their residency plan and will monitor the plan's progress. The resident and mentor will collaborate and determine the degree of contact and involvement necessary to meet these objectives.

Key areas that will be addressed with mentor include:

- Research projects (initiation, completion, deadlines etc.).
- Time management.
- RAC meeting participation when needed.
- Periodic feedback to the mentee residents and RAC.
- Presentations selection and review.
- Helping the mentees in professional interpersonal relationships and conflict, career opportunities after residency and any other residency-related issues that may arise.

- The resident and hid/her mentor will collaborate with the RPD to complete the residents' quarterly assessments.

Selection of a resident mentor will be made by RAC during the orientation week. Matching mentors with mentees are based on sharing common career goals, work ethic, general attitude and disposition. Should circumstances during the residency year warrant reevaluation of the selection of a resident's mentor, discussion with and approval by the RAC will be required before any changes are made.

Mentors meetings take place quarterly (or more often if needed) to review and discuss the progress of the residents in research projects and any issues related to the mentorship of the residents.

Chief Resident

The Chief Resident serves to coordinate activities, ensure timely completion, and communication for resident activities and program requirements. The Chief Resident will encourage leadership and responsibility for the residency program. He/ She will act as a liaison between residents and RPD to help clarify issues and understand all policies and procedures of the residency program. The Chief Resident should be a second-year resident (R2) and is elected by the residents and assigned by RPD during the orientation week, and will be appointed for a 12-month period.

Chief Resident incentives:

- The chief resident will have a privilege of a half-day release from his/her duties every week as administrative hours within the institute.
- The chief resident will have a privilege of having one less on-call compared to his/her colleagues from the same level without affecting clinical coverage.
- **Refer to the Guideline for Chief Trainee** by MNGHA 2022.

Chief Resident Responsibilities/Duties:

- Provide necessary orientation (e.g., PharmAcademic™ & portfolios ... etc.) to new residents.
- Facilitates communication between residents as necessary.
- Solves daily minor issues raised by any resident related to his/her training and brings up difficult issues to RPD for guidance and approval.
- Reports any misconduct/violation by any resident to the RPD.
- Assess in arranging intra-site rotations.
- Arranges pharmacy grand rounds schedule, clinical hours, and extra educational activities.
- Reminds the pharmacy administrative staff to send a weekly reminder email to the pharmacy department regarding resident presentations.
- Organizes residency-related meetings.
- Attends the medical educational department's periodic meetings.

- Facilitate staffing schedule arrangement if needed.
- Prepares and arranges promotional exam review sessions.
- Provides orientation and guidance to the next chief resident.
- Other duties as assigned per RPD or his/her designees.

Residency Wellness Clinic

Training to become a healthcare professional takes a great deal of strength, stamina, mental fortitude, and, most importantly support. At KAMC-CR, we understand that the rigorous requirements residents must meet can result in stress and fatigue. That's why we created the Wellness Clinic that is available for all residents with no need for referral at the ACC on every other week basis. It fosters a compassionate learning environment where total wellness is a priority. We are advocates for the health and well-being of all residents, and offer access to various support services, including mental health programs and monthly gatherings on preventing burnout and depression. Information about the clinic location, access, and the available services are provided to the residents in the first week of orientation.

Additionally, the Department of Pharmaceutical Care sponsored a yearly retreat day with various activities during the month of July for all residents to gather.

Post-Residency Plans

While the focus of our program is the provision of patient care, our residents leave our programs and pursue a variety of different positions, including further PGY2 training, teaching positions, or clinical employment. A majority of PGY1 residents complete PGY2 residencies in specialty fields. From there, many have taken on roles as clinical pharmacists nationwide. Opportunities for residents upon completion of the PGY1 training program are abundant and represent a wide scope of practice styles and settings. RPD and mentors, in addition to the pharmacy administration, provide an open discussion with each resident to highlight these opportunities, taking into consideration resident preferences and the carrier needs.

Section II:

Program Requirements

PART I. Participation in Residency Orientation Program

A formal orientation program by postgraduate medical education for all residents is scheduled for the end of September of each year. A departmental and program orientation scheduled for the first week of October of each year. All new residents are expected to attend these sessions. A detailed schedule is provided to the resident and will include:

- A welcoming meeting for all new residents and introducing pharmacy residency program stakeholders.
- An introductory meeting with RAC members.
- A three days of general hospital orientation including:
    - NGHA Health-system.
    - Professional communication skills for healthcare providers.
    - Evidence-based medicine.
    - Introduction to clinical research.
    - Patient safety
    - Quality management.
    - Basic medication safety certifications.
    - Adverse Drug Reaction /Safety Reporting System (ADR/SRS).
- General pharmacy orientation that will introduce the residents to all operational aspects of the pharmacy.
- Information on specific learning experiences, goals and objectives, learning activities, and evaluation strategies, in addition to each resident's customized plan will be reviewed and discussed with the RPD.
- All ASHP and SCFHS requirements to be completed during the 2 years program will be reviewed in detail.
- All scheduled meetings, rotation and staffing schedules, assignment deadlines, responsibilities, and expectations will be outlined.
- Each resident will be assigned to a mentor. The introductory mentor-mentee meeting will take place for the 1st month.
- The resident, mentor, and the RPD will work to identify an appropriate resident project and work according to the research timeline.
- A badge and a pager will be provided for each resident during postgraduate medical education orientation.
- Residents are allocated office space in the resident office in the hospital. Each resident will have a desk complete with computer and telephone access
- NGHA email accounts, attendance system, BESTCare accesses, PharmAcademic™ and One45 accounts will be provided with individual orientation for each resident.
- A chief resident will be elected by the residents and announced, and his/her responsibilities will be discussed.
- A copy of this residency manual will be distributed to all residents.

PART II. Overall Program Completion Requirements

1. Compliance with all institutional, human resources, and departmental policies at KAMC-CR.
2. Successful completion of all required and elective assigned learning experiences totaling 18 rotations over the 2 years program.
3. Completion is evidenced by completing all required work assigned to the satisfaction of the learning experience preceptor and residency program director. Residents shall obtain '*achieved'* on a minimum of 80% of the program goals and have no more than 1 goal rated as *'needs improvement'* by the end of the second year.
4. Full participation in all required meetings and activities.
5. Full participation in all staffing responsibilities.
6. Completion of all residency assignments and requirements as defined by preceptors, program director, and Saudi Commission for Health Specialties (SCFHS).
7. Residents shall successfully complete a research project before September in the 2nd year of residency.

Successful completion will be indicated by:

1. A final evaluation by the mentor.
2. As instructed by the mentor, a written manuscript that meets guidelines for submission to a journal is submitted to the Program Director by August of the second year.
3. Satisfactory completion of assigned teaching requirements as part of the Pharmacy Resident Teaching Certificate.
4. Full and timely participation in the residency evaluation process, including adherence to any adjustments made to the residency program by the program director and the residency advisory committee.
5. Residents are under the auspices of the Saudi Commission for Health Specialties (SCFHS) and shall comply with the examination policy as outlined in the SCFHS manual.
6. The resident shall maintain a Residency Portfolio, development plan, and deliverables, which shall be a complete record of the resident's program activities. Residents are to maintain the portfolio and deliverables throughout the year and will be reviewed periodically by the resident's mentor. The portfolio shall be submitted to the RPD at the conclusion of the residency training program. **For the Residency Program Deliverables, refer to Appendix VI.**
7. Complete the exit interview and checklist.

Expected Timeline of Program Requirements

First Year R1 Requirements	
Month	**Task**
October	• Welcoming meeting • Medical Education Orientation • Pharmacy Department orientation • Mentor- mentee meeting • Research project identification
November	• Approval of research project idea by pharmacy research committee • Deadline is end of November
December	• **First** RAC meeting • Residency portfolio review
January	• IRB proposal submission to KAIMRC • Deadline is 1st week of January
March	• **Second** RAC meeting • Residency portfolio review
May	• Research data collection starting • Suggested date: 1st week of May
June	• **Third** RAC meeting • Residency portfolio review
August	• Research analysis • Suggested date: 1st week of Aug
September	• **Fourth** RAC meeting • Residency portfolio review

Second Year R2 Requirements	
Month	**Task**
December	• **First** RAC meeting • Residency portfolio review
March	• **Second** RAC meeting • Residency portfolio review
April	• Research manuscripts write up starting
June	• **Third** RAC meeting • Residency portfolio review
August	• Submit research abstract and final manuscript to the RPD
September	• **Fourth** RAC meeting • Residency portfolio review • Exit interview

Residents Events and Conferences

Events and Conferences	Expected date*	Comments/Requirements
NGHA Residents Annual Day	In **May** of each year – TBD	It is mandatory for R2 to present their research abstract
SCFHS Residents Research Annual Day - TBD	In **August** of each year, KSA	It is mandatory for R2 to present their research abstract
The Saudi International Pharmaceutical Conference & Workshop (SIPHA Conference)	In **January** of each year TBD, location TBD, KSA	An official scientific leave must be filled and approved by RPD or his/her designee
The Saudi Society of Clinical Pharmacy (SSCP) conference	In **September** of each year, KSA	An official scientific leave must be filled and approved by RPD or his/her designee
ASHP Midyear Conference	In **December** each year TBD, USA	An official scientific leave must be filled and approved by RPD or his/her designee
*All expected dates are subjected for changes depending on the final announced dates per specific committee		

PART III. Resident Longitudinal Activities *(some of the requirements will be updated based on SCFHS annual update)*

Level of Residency Year	
R1	
Drug Monograph & Medication Use Evaluation	● Each resident is required to complete **at least one drug monograph and medication use evaluation** during the first year of the residency program. ● Residents will prepare a written document focusing on the drug's place in therapy, with a literature-supported comparison and analysis of efficacy, safety, and cost analysis. Recommendations for or against formulary status may be presented to the Pharmacy and Therapeutics (P&T) Committee. ● During residency year 1, the resident is required to complete the assignment during drug Information rotation. The assignments should be submitted to and evaluated by the Clinical Pharmacist of Drug Information Center. ● The resident will report his/her progress in the monograph/drug evaluation to the RAC meeting and a final copy should be kept in the resident portfolio.
Pharmacy Improvement Project (PIP)	● Each resident is required to complete **at least one** Pharmacy improvement project (PIP) for the two years of residency program

	• Each resident will be assigned with specific improvement task force/ committee • One or more residents from different residency levels can work on same project. • It is the responsibility of RPD to distribute the assignments to each resident • The resident will work closely with the assigned committee to create a timeline to assure on-time submission of final version to the RAC before the due date. • The resident will report the progress of his/her assigned PIP to the RAC meeting and a final copy should be kept in the resident portfolio.
Development/Review of Guidelines & Protocols	• Each resident will be assigned with a pharmacist/ clinical pharmacist to update/ develop **at least** one guideline/protocol/order set/pathway during each residency year. • It is the responsibility of RPD to distribute the assignments to each resident. • The resident will work closely with the assigned pharmacist/ clinical pharmacist to create a timeline to assure on-time submission of final version to the RAC before the due date • The resident will report the progress of his/her assigned guideline or protocol to the RAC meeting and a final copy should be kept in the resident portfolio
Case Based Discussion (CbD), Mini- CEX	• Each resident is required to complete at least 6 CbDs (2 in ICP rotation, 4 in IM rotation) and at least 6 Mini-CEX (3 in ICP rotation, 3 in IM rotation).
R2	
Adverse Drug Reaction (ADR) Documentation	• Each R2 resident is required to report **at least four** Adverse Drug Reactions (ADR) and analyzing probability of ADR during the second year of the residency program. • The report should be evaluated and approved by the preceptor of the rotation before the final submission to the ADR Reporting System. • The resident will report his/her ADR reporting to the RAC meeting, and a final copy should be kept in the resident portfolio.
Pharmacy Improvement Project (PIP)	• Each resident is required to complete **at least one** Pharmacy improvement project (PIP) for the two years of residency program • Each resident will be assigned with specific improvement task force/ committee. • One or more residents from different residency levels can work on same project. • It is the responsibility of RPD to distribute the assignments to each resident. • The resident will work closely with the assigned committee to create a timeline to assure on-time submission of final version to the RAC before the due date.

	● The resident will report the progress of his/her assigned PIP to the RAC meeting and a final copy should be kept in the resident portfolio.
Development/Review of Guidelines & Protocols	● Each resident will be assigned with a pharmacist/ clinical pharmacist to update/ develop **at least** one guideline/protocol/order set/pathway during each residency year. ● It is the responsibility of RPD to distribute the assignments to each resident. ● The resident will work closely with the assigned pharmacist/ clinical pharmacist to create a timeline to assure on-time submission of final version to the RAC before the due date. ● The resident will report the progress of his/her assigned guideline or protocol to the RAC meeting and a final copy should be kept in the resident portfolio.
Case Based Discussion (CbD), Mini- CEX	● Each resident is required to complete at least 4 CbDs in EACH rotation (total of 36 CbDs) and at least 6 Mini-CEX in EACH rotation (total of 54 Mini-CEX).
Formulary Addition Request	● Trainee must complete one formulary addition request that is assigned and approved by RPD to complete training.

Staffing

Weekend Coverage:

- Beginning in October, all residents will begin weekend staffing training activities as scheduled and under close supervision of a licensed pharmacist.
- Weekend staffing requirements will be discussed during orientation and may be subject to change during the residency year.
- The weekend staffing schedule will be provided to the residents in the first week of the academic year and will be updated monthly to identify the area of weekend coverage
- If a resident would like to switch his/her weekend staffing with his/her colleague, it is the resident's responsibility to coordinate this switch, and it needs to be approved by RPD. This arrangement should be made at least one week before the staffing date.
- The residents are **not allowed to work more than 7 days in a row.**
- **Each resident will be assessed quarterly by the Program Director for his/her competency, and <u>if needed,</u> additional staffing days might be added to fulfill the maximum number of staffing days per the SCFHS policy.**

Weekend Coverage for R1

- Residents are scheduled for weekend coverage on an average of 2-4 shifts/month, a minimum of 12 shifts, and a maximum of 24 shifts per academic year.
- R1 residents will be scheduled for weekend coverage in inpatient satellite, ER, discharge pharmacy, or IV room as needed under direct supervision from a licensed pharmacist.
- Generally, R1 residents are expected to be at the hospital during the staffing time shift, which is between 0800 hrs. and 1700 hrs.

- It is the resident's responsibility to check the monthly schedule by the beginning of each month to know which area he/she is scheduled to.
- Generally, residents are expected to follow the inpatient, ER, and IV pharmacies' working hours based on the assigned area of weekend staffing coverage.
- Duties and responsibilities are **not limited** to the list below:
    - Follow assigned pharmacy duty hours and coverage as scheduled by the supervisor of the area.
    - Check and review discharge medication orders.
    - Counsel patients on their discharge medication.
    - Providing answers to all drug information questions received from any on-duty pharmacists or pharmacy technicians.
- A series of year one preparation checklists will be distributed among the residents during their orientation weeks. **Appendix II**

Weekend Coverage for R2

- The Year 2 residents will have short orientation lectures for three days before the beginning of the academic year, which are not counted as a rotation. Senior clinical pharmacists will conduct the lectures to cover specific topics to facilitate the residents' staffing/weekend coverage, includes: Weekend Clinical Pharmacy Coverage, Anticoagulation Overview, Approach and Management of Parenteral Nutrition in Hospitalized Patients, and Therapeutic Drug Monitoring Overview (see the table below).
- After the completion of the lectures, each resident will be scheduled for 2 days of shadowing before they start their weekend staffing. A series of year two preparation checklists will be distributed among the residents during their preparation week. **Appendix III.**

Time	Topic
Day 1	• Orientation to Weekend Clinical Coverage. • Discuss the Weekend Share per Resident. • Overview of the Weekend DPP. • Answer Questions of the Residents.
Day 2	• Comprehensive Overview of Anticoagulation. • Therapeutic Drug Monitoring Overview.
Day 3	• Approach and Management of Parenteral Nutrition in Hospitalized Patients.

- Residents are scheduled for weekend coverage on an average of 2-4 shifts/month, a minimum of 16 shifts, and a maximum of 32 shifts per academic year.
- Generally, R2 residents are expected to be at the hospital between 0800 hrs. and 1700 hrs. for their weekend clinical services staffing as per the weekend schedule.
- Residents will contact the clinical pharmacist in charge to discuss any recommendations. The resident is not allowed to initiate any interventions without prior approval/ arrangement with the clinical pharmacists covering the area.
- All documentation and notes in BESTCare **must be co-signed by the weekend in-charge clinical pharmacist.**

- Duties and responsibilities are **not limited** to the list below:
    - Providing therapeutic plans for therapeutic drug monitoring, anticoagulant medication dosing, and Total Parental Nutrition (TPN) with proper documentation and communication as scheduled.
    - TPN order entries in BESTCare and Abacus.
    - Providing answers to all drug information questions received from all healthcare providers under the area of coverage.
    - Replay and answer all consultations through the physician to pharmacist referral portal under the area of coverage.
    - Other assignments as endorsed by pharmacy staff or requested by RPD.

Clinical Weekend Procedure, Endorsement, and Handoff

- Sign-outs should be endorsed to the residents on call for the weekend by 1600 hr on Thursday.
- Patient's issues that need to be followed up by the weekend residents should be endorsed by saving the patient in BESTCare System under "*Weekend Coverage*'' with clearly documented full sign-out notes for each patient to maintain continuity of care and patient safety. Additionally, verbal endorsements from clinical pharmacists to residents are necessary for unusual and complex issues. Residents should review the patients in the *"Weekend Coverage'* folder and contact the primary clinical pharmacist for clarification as necessary by Thursday afternoon.
- Residents will provide patient care commensurate with his/her level of knowledge and skill under a combination of direct supervision and progressive independence based upon demonstrated competence and abilities. Residents are aware and oriented on the backup system whenever he/she need assistance to complete the responsibilities required of the on-call program.
- In all cases, therapeutic consultations and interventions must be reviewed by the in-charge pharmacist before recommendations are made by all R1 and R2 residents.
- Lists of patients who were followed up over the weekend by the residents should be saved in BESTCare System under *"Weekend Coverage"* with a handoff note /progress note for each patient so clinical pharmacists can check the list and make the necessary follow-up to maintain continuity of care and patient safety. Moreover, a verbal handoff endorsement from weekend residents to clinical pharmacists should be made by Sunday early whenever deemed necessary or for any pending unusual issues.
- Holiday and exam vacation coverage when the residents are not available will be determined by the Program Director and his/her designee.
- Each resident is responsible for arranging coverage with another resident and for notifying the chief resident if changes are made in coverage. The Program Director and his/her designee should be notified as well at least one week before. Last-minute schedule changes (except for emergencies) are not acceptable.

Residency Portfolio and Files in PharmAcademic™

Each resident must maintain an updated residency portfolio and his/her deliverables documents as a complete record of the resident's program activities throughout the 2 years. The resident should begin to keep this ongoing portfolio of activities from the first day of the program and update it **on a weekly basis**. At the conclusion of the residency training program, the program director retains the original portfolio. Completion of this record is a requirement for successful completion of the program. The residency portfolio must be saved in electronic format on a shared folder and shall contain the following items in the following order:

a) Introduction:
- i) Updated C.V
- ii) Acceptance letter
- iii) Resident academic and professional records

b) Resident schedules
- i) Program orientation schedule
- ii) Rotations schedule
- iii) Leave schedule (including signed TRA)

c) Rotations
- i) Projects and activities during each rotation

d) Quarterly development plan
- i) Quarterly customized development plan

e) Presentations
- i) Copy of the grand round presentation
- ii) Copy of the clinical hour presentation
- iii) Copy of any other presentations

f) Research project
- i) Project approval
- ii) Time plan
- iii) Proposal
- iv) IRB approval
- v) Data collection sheet and other project materials
- vi) Manuscript

g) Longitudinal activities
- i) Weekdays and weekend staffing schedule
- ii) Medication use evaluation (MUE)
- iii) Drug use evaluations (DUE) or drug monograph
- iv) Courses /workshops/conferences with certificates
- v) Developed/Reviewed Guidelines or Protocols
- vi) SRS/ADR reporting

h) Teaching certificate

i) Awards/Appreciation letters

j) Approved TRA

At the beginning of the residency program: The resident shall upload and update the following in PharmAcademic™™:	During the residency years: The resident shall upload the following in PharmAcademic™™:
Update and upload the following under my profile section: ○ Update account ○ Upload license under credential part ○ Upload CV	○ All quarterly progress reports ○ Presentations slides ○ In-services slides ○ Journal club slides ○ Research project documents (approved proposal, RAC approval, RAC quarter report, final data collection form, abstract (SCFHS Research Day, MNGHA Research Day, ASHP Midyear), manuscript) ○ MUE reports ○ Reviewed manuscripts for publication ○ Developed guideline ○ Developed protocols ○ Performance improvement Projects documents ○ Awareness days activity ○ Newsletter articles
Upload the following under file tab in resident's page: ○ License ○ Professional and academic record ○ Acceptance letter	

Resident Project

- The Research Project is a year-long, longitudinal learning experience at King Abdulaziz Medical City Central Region.
- The resident is responsible for identifying a project for the residency years that is timely and practical to the pharmaceutical care services and the institution.
- Each resident will carry out a research project during the two-year residency program. The project is to be conducted under the supervision of a mentor.
- Submission of the research project proposal is a requirement for the resident to be enrolled in the first-year exam.
- The resident and mentor will meet to discuss and select a research project that will meet the goals of the residency program and the needs of the department and institution.
- The resident can also participate in more than one research project (elective research project).

A. Project Selection / Scope of Projects/ Approval

- A list of potential projects will be generated and reviewed during preceptors and mentor meetings in addition to the residents' own ideas. Also, Pharmacy Research

Committee will share a list of potential research ideas to be discussed with the mentors.

- The research topics will be related **but not limited** to clinical practice issues at the King Abdulaziz Medical City-CR, quality improvement projects in Pharmaceutical Care Services, and medication safety.
- The following research types are not acceptable: review articles, case reports, case series, meta-analysis, editorials, and basic science topics.
- During preceptors and mentors meeting, the final list of potential projects should be discussed before it is distributed to the residents.
- Once the resident identifies his/her project, it should be approved by the pharmacy research committee before submitting an IRB approval request.

B. Objectives

The resident should be able to:

- Work with the mentor to develop and select research ideas.
- Conduct literature review.
- Formulate and develop project aims, goals and objectives.
- Develop the methodology necessary to complete the project and fulfill the project objectives.
- Develop data collection sheet.
- Develop the consent form (if needed).
- Collect/obtain the appropriate data necessary to meet the objectives of the project.
- Analyze the data obtained, utilizing statistical tests as appropriate.
- Evaluate and interpret the results obtained and formulate conclusions.
- Prepare a final manuscript suitable for publication, which concisely describes the background, specific objectives, methodology, results, conclusions and significance.

C. General Project Timeline

- Project management is a significant component of the residency project. The following timeline will serve as a general template for the resident to prepare his/her own individual timeline and project deadlines.
- The resident project completion sheet will be used to track project progress and will be kept in the residency portfolio.

Period	Project Tasks
October 1st – November 28th	• The resident, in conjunction with his/her mentor will identify a residency project. • Resident project plan approval sheet completed by the resident and signed by the resident mentor must be submitted to RPD no later than November 28th (See attached form) to be approved by the research committee. Earlier submission is encouraged. • If changes are needed, comments will be returned to the resident no later than three weeks from receipt of the project plan.

December 14th – January 1st	• The resident will submit a full written research proposal to the KAIMRC for review and approval. • The resident will work with his/her mentor to make the appropriate changes recommended by KAIMRC to attain final approval.
February 28th (1st Year) – June 30th (2nd Year)	• The resident will work within their individual project timeline to complete data collection, data analysis, and final project summaries. Status reports from the resident and the mentor should be completed and presented to the RAC as part of the quarterly evaluation.
July 1st – August 1st (2nd Year)	• A manuscript in **publishable form** will be submitted to the Residency Program Director by 1st of August of the second year. • During this time, consideration should be given to presenting study results to the KAMC division/clinical area, which has been most closely involved in the study or impacted by the study results.

D. Project Completion

- The project will be considered complete when the stated objectives have been met and all the collected data are analyzed and interpreted.
- All residents will present project results at the pharmacy grand rounds by the end of each academic year.
- Residents should be encouraged to present their research results at a national meeting.

E. Presentation in "Residents' Research Day"

- The research project must be presented in "Residents' Research Day" at the end of the second year, along with the results and conclusions of the project. Any resident who fails to present his/her research project without a valid excuse will not be awarded the graduation certificate.
- The project presentation will be a 10–15-minute oral presentation.

King Abdulaziz Medical City Central Region
PGY1 Pharmacy Residency Program
Pharmacy Practice Residency: Resident Project Plan Approval Sheet

PART I: PROJECT APPROVAL

Resident Name:
Title:

Aim:

Objectives:

- **Primary objective(s)**

  _____
  _____
  _____
  _____

- **Secondary Objective(s)**

  _____
  _____
  _____
  _____

Methodology (brief description):

_____
_____
_____
_____

Significance to the department/institution:

Signatures		
	Name and signature	Date
Resident		
Mentor		
Residency Program Director		

RESIDENT PROJECT COMPLETION SHEET

Resident: _____

Part II: Completed Project Components
(Include updates in the Quarterly Evaluation with RPD)

Project Timeline/Sign off	Date	Project Advisor
Project Submission to RAC Committee		
Submission to KAIMRC		
Abstract presented to RAC for Review		
Project manuscript submitted to RAC for review		
Completed manuscript submitted to RPD		
Completed Project presented in the Pharmacy Grand Rounds educational activity		

Teaching and Learning

Presentations:

- The presentation is a longitudinal experience at the pharmacy Residency Program at King Abdulaziz Medical City, Central Region.
- Trainee is required to attend all the lectures in the grand round & half day clinical hour days, and any excused absence must be approved by the RPD
- **During the first year of residency:** each resident is required to complete at least two journal club presentations and at least one topic presentation.
- **During the second year of residency:** each resident is required to complete at least two journal club presentations and at least one case presentation.
- Presentations are divided into grand round presentations and clinical hour presentations as follows:
    - **Grand round presentations: (weekly basis)**
        - 1 presentation/year for each R1 resident.
        - 1 presentation/year for each R2 resident.
    - **Clinical hour presentations including journal club, case presentation, clinical pearls (weekly basis during half-day activities)**
        - 2 presentations/year for each R1 resident.
        - 2 presentations/year for each R2 resident.
- The resident's mentor will serve as the primary resource for help and support for the resident in preparation of any incoming presentations and to assess and evaluate the resident's performance quarterly.
- The resident may select the topic for his/her presentation per his/her choice or from the shared presentation topic bank. However, the topic should be approved by the mentor at least 6 weeks before the presentation day.
- Once the topic is selected, it is the resident's responsibility to update the presentation shared folder with the topic title to avoid any duplication of the presented topics.
- The slides should be submitted to the mentor at least 3 weeks before the presentation day for review and approval. The mentor may refer the resident to another preceptor who is more content expert for slide review. It is the mentor's responsibility to initiate this referral.
- All residents are expected to attend all grand round presentations and half-day activities; all preceptors are aware of this protected time for academic activities.
- It is the responsibility of the chief resident to update the pharmacy administrative secretary about the announcement for the grand round presentation and to send an email to the clinical pharmacist and residents about the half-day activity announcement.

	Presentation time	Audience's question time
Grand round presentations	25 minutes	5 minutes
Clinical hour presentations	45 minutes	15 minutes

Continuing Medical Education (CME)

- The resident must complete 20 CMEs in each academic year and provide proof from SCFHS Mumaris-Plus to be promoted or complete training.

Volunteering

Trainees are required to participate in conducting at least one volunteering-based activity in each academic year targeting the public (non-medical field) such as awareness campaign, presenting a lecture to the community. etc., and provide certificate of participation to be promoted or complete training.

Pharmacy Resident Teaching and Learning Certificate Program at NGHA-CR

Background

The American Society of Health-System Pharmacists (ASHP) residency accreditation standards note that delivering effective education is a foundational skill that should be taught during a residency program. Many of our residency graduates will be teachers and educators—as preceptors of students and residents, for patients, other health professionals and in academia. The **Pharmacy Resident Teaching and Learning Certificate** program is offered by Pharmacy Residency Program at NGHA-CR in collaboration with KSAU-HS College of Pharmacy.

Goal

The goal of **Pharmacy Resident Teaching and Learning Certificate** program is to provide pharmacy residents with a structured educational program to enhance teaching skills in the most common educational settings. The goals of the program will be achieved by resident participation in discussions and workshops, completion of active assignments and a variety of actual teaching experiences. Each resident in the program will work under the guidance and supervision of the assigned teaching mentor to assure that the goals are being achieved.

Objectives

1. Gain foundational knowledge in educational theory, principles of learning and effective teaching techniques.
2. Develop a personal written teaching philosophy.
3. Develop and demonstrate proficiency in the development, delivery and assessment of a variety of effective instructional methods including small group facilitation, large group learning, active learning, and precepting.
4. Demonstrate the ability to effectively assess student performance.

Eligible Participants

All pharmacy residents in NGHA-CR pharmacy residency programs are eligible to participate.

Successful Completion of the Certificate Program

Residents who successfully complete all requirements and submit a completed electronic portfolio will receive a certificate of completion of the program. This will be awarded at the residency graduation ceremony.

Specific Program Elements

1. **Pedagogy Seminars** will consist of 8 hours on specific teaching topics along with open discussions with the audience to further enhance understanding and application of the topics. Required topical readings will be assigned per speaker request. Topics included but not limited to: Teaching philosophies and methodologies and teaching portfolios, developing a professional presentation, student precepting; dealing with difficult students, small group facilitation, student assessment, writing objectives and exam questions, how to effectively deliver feedback to learner, and others.
2. **Didactic experiences** will consist of two formal, peer-reviewed lectures ***(two grand round presentations of one hour in length each)*** given by the participant during the residency year with mentoring by the mentor/preceptor/or residency program director. Other requirements for didactic experiences include delivered to a minimum of ten people consisting of healthcare professionals and/or students; contain written, measurable learning objectives; reviewed and practiced prior to the presentation; development of a minimum of three assessment questions; written evaluation by learners and teaching mentor.
3. **Experiential experiences** will consist of the participant serving as a preceptor in conjunction with a primary preceptor on record for at least one student rotation. The rotation period for the precepted student should be at least 5 weeks rotation for an APPE student. The participant should develop the following in conjunction with the primary preceptor on record: syllabus of experiential experience, rotation calendar and list of student activities as required by the pharmacy school (to include regular topic discussions), evaluations of the student, evaluation from the preceptor on record, self-evaluation.
4. **Small group facilitation** experiences will consist of two 1-hour small group meetings. Each small group must have a minimum of five participants and consist of healthcare professionals, residents, or students. Examples of small group facilitation experiences include patient case review, journal article review, disease state review, or other topic review. Guided questions to facilitate discussion with the group and feedback should be documented. Evaluations of all experiences should be documented.
5. **Teaching Philosophy** should be developed by the participant throughout the year and periodically revised by a mentor faculty. This self-reflective document of the participant's concept and approach that underlies their teaching will become a part of the teaching portfolio upon completion of the program.
6. **A Teaching Portfolio** will be maintained throughout and completed at the conclusion of the program by the participant as a compilation and documentation of all teaching

experiences and development of a teaching philosophy. The teaching portfolio will be kept electronically in a standardized format.

Section III:

Educational Goal and Outcomes

Designate Learning Activities for Learning Experiences and Write Learning Experience Descriptors (Appendix I):

Sample: Name of Learning Activities (To be completed by Preceptors):
Preceptor:
Extension/Pager and email:

1. General Description.
    - Related Policies & Procedures
2. Role of Pharmacist.
3. Expectations of Residents
    - Related reading materials
4. Goals Selected and Learning Activities
5. Progression of the Residents over the Period of the Learning Experience (include progression timeline)
6. Evaluation Strategy - After resident and preceptor have completed and signed the evaluation form, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Orientation

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Maram Aldossari	AldossariMa6@mngha.med.sa	7588	13312
Dr. Manal Aljohani	AljohaniMa6@mngha.med.sa	4509	51381

General Description:

Orientation is a Two-week required learning experience for all residents in their first year of residency at King Abdulaziz Medical City. First week Orientation includes the Medical Education general orientation (focusing on Residents' rights, roles, responsibilities, organizational policies and procedures; employee code of conduct education; environment of care, safety, and compliance training; and cultural competence training).

The second week orientation includes pharmaceutical care service-specific orientation; orientation to the hospital electronic medical record system BESTCare, residents' offices and access, pharmacy locations, how to create and maintain portfolios, overview of PharmAcademic™ and Mumaris Plus, weekend staffing and scheduling. In addition to the residency program policies and procedures, expectations, PGY1 Pharmacy Standards, and PGY1 Pharmacy Competency Areas, Goals, and Objectives (CAGOs), the program evaluation strategy. Residents will also meet with the RAC members, mentors, and preceptors at the end of orientation week to discuss residents' expectations, learning experience objectives, performance feedback, and professional development.

A series of orientation checklists will be distributed among the residents during their orientation weeks. **Appendix I.**

Role(s) of Pharmacist(s):

All pharmacists and clinical pharmacists are expected to participate in training, guiding, and developing the residents during their training period.

During residency orientation week, the clinical pharmacist plays a key role in introducing residents to the scope of pharmacy services, hospital policies, and clinical practice standards, while outlining expectations for documentation, communication, and patient care activities. The pharmacist also explains the residency structure, performance expectations, and project requirements while fostering professional development through mentorship, guidance on evidence-based practice, and the use of drug information resources. Additionally, they help residents integrate into the healthcare team by facilitating introductions, modeling professionalism, and promoting a culture of collaboration and patient-centered care.

Expectations of Residents:

Residents must complete the orientation checklist as assigned during the orientation period. The orientation week for new residents is a critical foundational experience designed to equip them with the knowledge and skills needed to start the residency program successfully. During this time, residents will engage in various activities, including completing hospital-wide new employee orientation, which covers important topics like patient safety, infection

control, and institutional policies and procedures. A major focus of the week is providing extensive training on the BESTCare (the electronic health record) system and other essential hospital software. Residents will also participate in department-specific training to familiarize themselves with pharmacy workflow, communication protocols, and key personnel. This is also when residents will create their initial administrative accounts and credentials. Residents are expected to be active and engaged participants, using this opportunity to build rapport with co-residents, preceptors, and other healthcare team members. The main goal of the orientation week is to ensure residents have a solid operational and administrative foundation, enabling a smooth transition into their clinical rotations with confidence.

Residents will review the hospital and pharmacy department orientation checklists. They are responsible for reading the Residency Manual. Residents should know how to locate, interpret, and use online guidelines, policies, and procedures from the department and hospital intranet system. Additionally, residents are expected to arrive on time, take personal responsibility for reading training materials, and ask clarifying questions at each training location if they are unsure about expectations or how to improve further.

Progression of Residents:

<table>
<tr><th colspan="3">First Year Residents</th></tr>
<tr><th colspan="3">Attend all Medical Education general orientation lectures</th></tr>
<tr><th>Day 1</th><th>Day 2</th><th>Day 3</th></tr>
<tr><td>• Welcoming
• Residents' rights & roles, responsibilities.
• Professionalism and Medical Ethics
• Residents' evaluation, and promoting patient safety, what is expected?
• Evidence-based point of care clinical resource for better patient care</td><td>• Medical errors: An Overlooked Contributor of mortality & morbidity
• Patient safety measurements
• Medication safety and prescription errors
• Procedural & Surgical errors & Harm
• Consultant based care & supervision: know your limitation
• Patient safety: Real Stories from the Frontlines</td><td>• Electronic Health Record (BESTCare)
• Clinical documentation integrity (BESTCare, clinical documentation standards & mortality)
• Safety Management Department
• Fire Department
• The etiquette of communication with patients</td></tr>
<tr><th colspan="2">Day 4</th><th>Day 5: Exam Day</th></tr>
<tr><td colspan="2">• Infection Prevention and Control Program: Preventing Hospital Acquired Infections (HAIs)
• Right Care Right Now
• Occupational Health and exposure management of Blood-Borne pathogens
• Overview on Antimicrobial Stewardship Program
• Responding to deteriorating patient
• MNGAH Patient Experience program Goals
• Compassionate & Patient centered care</td><td>• Basic medication safety (BMS)
• Fire and Life Safety In-Service Training
• Annual Infection Control Education
• Quality and Patient Safety Standard Certification
• Right Care Right Now</td></tr>
</table>

• sHeartbreaking Journeys: real stories of Patient Struggles	

The second week of orientation includes pharmaceutical care service-specific orientation:

Day 1	Day 2
• Mission & Vision of the Department • Organization Chart/Chain of Command • Policy & Procedure • Ethics and professions Attitudes • Employee Relations Manual • Formulary System • Dress Code • Working Hours/Electronic Attendance System/Breaks • Emergency Coding System • Fire and Safety • Medication Safety Issues • Continuing Education Program • Schedules • Phone System • Paging System • Payment Time • Vacations: Annual/Eid Holidays/National Day and Foundation Day • Sick Reports/Elective Surgery • Safety Reporting System (SRS) Electronic Incidents Reporting System • Tour in Pharmaceutical Care Services/Introduction to Staff • Email • Memos and Board • Meetings • Quality Improvement Orientation	• Hospital ID badges, pagers, emails and BESTCare users • Saudi Commission for Health Specialties (SCFHS) Mumaris Plus training • PharmAcademic™ training • BESTCare System training

Day 3	Day 4	Day 5
• BESTCare System training • Design of the residency program • Review of the Residency Manual • Program competencies, goals, and objectives • Program requirements • Description of required and elective learning experiences • Evaluation strategy • Complete the resident's initial Self-Evaluation evaluation • Residency-related policies and regulations. *Copy of the	• Rotation Schedules • Staffing Schedules • Leaves Schedules • Presentation Topics & Schedules • How to fill in the development plan • Mentorship	• Meet the Residency Advisory Committee (RAC) • Introduced as the new batch of PGY1 during the Grand Rounds • Office hours of the Program Director her/his designee

residency manual, polices, and regulations shared by email • Specific residents' responsibilities		
*All lectures will be from 8:00 AM to 4:00 PM		

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R3.2	**Demonstrate leadership skills that foster personal growth and professional engagement.**	
R3.2.1	(Cognitive - Applying) Apply a process of ongoing self-assessment and personal performance improvement.	• Complete an initial self-assessment in preparation for the development plan. • Complete a self-assessment in preparation for the quarterly development plan. • Identify clinical knowledge gaps and develop an action plan to help address/close knowledge gaps. • Identify administrative and/or project management knowledge and skill gaps and develop an action plan to help address/close the skill gaps. • Complete a summative self-evaluation. • Complete self-assessment related to wellbeing and resilience.
R3.2.2	(Cognitive - Applying) Demonstrate personal and interpersonal skills to manage entrusted responsibilities.	• Leverage relationships with physicians, nurses, co-workers, and students to complete entrusted responsibilities. • Prioritize and organize tasks to complete entrusted responsibilities. • Apply effective workload and time management skills to appropriately meet responsibilities within the confines of a reasonable workday. • Set SMART goals (Specific, Measurable, Achievable, Relevant, Time-bound goals), implement action steps, and take accountability for progress on assigned projects. • Complete daily and longitudinal responsibilities (e.g., patient care, projects, management, and meetings). • Identify issues or barriers and create potential solutions or management strategies. • Execute assigned work ensuring development of quality product(s) within assigned timelines. • Facilitate assigned meeting(s) and prepare meeting minutes.
R3.2.3	(Cognitive - Applying) Demonstrate responsibility and professional behaviors.	• Prioritize patients/activities within the structure of the day. • Complete assigned projects by established deadlines. • Comply with organizational policies, procedures, and required trainings (e.g., HIPAA compliance, etc.). • Integrate the pharmacists' responsibilities within the healthcare continuum through focused medication-related planning and outcomes. • Interact cooperatively, collaboratively, and respectfully with others and display emotional intelligence. • Take responsibility for resolving conflicts and/or errors. • Demonstrate responsibility to committees or informal workgroup projects, tasks, or goals (e.g., contribute to committee discussions, identify pertinent background information, identify data for collection, interpret data, implement corrective action) through engagement.

Evaluation Strategy:

After the resident and the preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both their performance on selected activities and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
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[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Staffing Longitudinal Learning Experience

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Maram Aldossari	AldossariMa6@mngha.med.sa	7588	13312
Dr. Manal Aljohani	AljohaniMa6@mngha.med.sa	4509	51381

General Description:

Staffing is a longitudinal learning experience that will provide resident with a formal and organized approach to develop foundational practice skills in hospital pharmacy practice. Furthermore, the resident will develop knowledge and skills in various aspects of dispensing that include using appropriate techniques to dispense medications, resolving medication related problems, understanding the medication use process, utilizing medical informatics, and providing an effective patient counselling.

Staffing will be equally assigned to all residents before the start of each year. Each resident is expected to have 2-4 staffing shifts per month. During the first-year staffing will be mainly focusing on discharge pharmacy across all three hospitals. For the first year of the residency the minimum number of staffing per academic year will be 12 with a maximum of 24 staffing days (following the Saudi Commission for Health Specialties (SCFHS) requirements). Where in the second year the staffing will be mainly focusing on clinical coverage. The minimum number of staffing per academic year will be 16 with a maximum of 32 staffing days (following the Saudi Commission for Health Specialties (SCFHS) requirements).

Each resident will be assigned to **two staffing shifts for shadowing at the beginning of each academic year** with a senior pharmacist. The resident will be assessed quarterly by the Program Director for his/her competency, and if needed, additional staffing days might be added to fulfill the maximum number of staffing days per the SCFHS policy.

Role(s) of Pharmacist(s):

In the first year staffing the resident will have comprehensive 1:1 training in the assigned discharge pharmacy. Residents are expected to fulfill the competency during their rotations before the beginning of their staffing.

Before the start of the second year, the residents will have refreshment comprehensive lectures and workshops over 4 days by held by senior clinical pharmacists including Weekend Clinical Coverage Orientation, Oral Anticoagulation - Warfarin Comprehensive Overview, Approach and Management of Parenteral Nutrition in Hospitalized Patients, and Therapeutic Drug Monitoring Overview. After the completion of the lectures each resident will be scheduled 2 days of shadowing before they start their weekends staffing.

All pharmacists and technicians work as a team in providing patient care across the organization. All clinical pharmacists are expected to be trained on, demonstrate competence with, and routinely complete the routine pharmacy clinical consults that are available during the official working hours (pharmacokinetics services, dosing and monitoring of antimicrobials, anticoagulation dosing and monitoring service, parenteral nutrition service,

pain management service, renal and hepatic dosing service, IV to PO service, therapeutic interchange service, and discharge medication education).

Expectations of Residents:

Residents will also be required to utilize their clinical knowledge to:

- Review dosing of medications (heparin, warfarin, argatroban, vancomycin, aminoglycosides, total parenteral nutrition, etc.).
- To perform other clinically-driven tasks including <u>but not limited to:</u>
    - Total Parenteral Nutrition (TPN) ordering.
    - Renal dose adjustments, drug interaction and labs monitoring.
    - Discharge medication reconciliation review.
    - Answering drug information questions.
    - Residents will be expected to increase their independence level each quarter.

Weekend Coverage:

- Beginning in October, all residents will begin weekend staffing training activities as scheduled and under close supervision of a licensed pharmacist.
- Weekend staffing requirements will be discussed during orientation and may be subject to change during the residency year.
- The weekend staffing schedule will be provided to the residents in the first week of orientation and will be updated monthly to identify the area of weekend coverage
- Residents are scheduled for weekend coverage on an average of once every 3 weeks according to the weekend schedule.
- If a resident would like to switch his/her weekend staffing with his/her colleague, it is the resident's responsibility to coordinate this switch, and it needs to be approved by RPD. This arrangement should be made at least one week before the staffing date.
- The residents are **not allowed to work more than 7 days in a row.**
- **Each resident will be assessed quarterly by the Program Director for his/her competency, and <u>if needed,</u> additional staffing days might be added to fulfill the maximum number of staffing days per the SCFHS policy.**

Weekend Coverage for R1

- Residents are scheduled for weekend coverage on an average of 2-4 shifts/month, a minimum of 12 shifts, and a maximum of 24 shifts per academic year.
- R1 residents will be scheduled for weekend coverage in inpatient satellite, ER, discharge pharmacy, or IV room as needed under direct supervision from licensed pharmacist.
- It is the resident's responsibility to check the monthly schedule by the beginning of each month to know which area he/she is scheduled to.
- Generally, residents are expected to follow inpatient, ER, IV pharmacies working hours based on the assigned area of weekend staffing coverage.
- Duties and responsibilities are **<u>not limited</u>** to the list below:
    - Follow assigned pharmacy duty hours and coverage as scheduled by the supervisor of the area.
    - Check and review discharge medication orders.

- Counsel patients on their discharge medication.
- Providing answers to all drug information questions received from any on-duty pharmacists or pharmacy technicians.

Weekend Coverage for R2

- Residents are scheduled for weekend coverage on an average of 2-4 shifts/month, minimum of 16 shifts and maximum of 32 shifts per academic year.
- Generally, R2 residents are expected to be at the hospital between 0800 hrs and 1700 hrs for their weekend clinical services staffing as per the weekend schedule.
- Residents will contact the clinical pharmacist in charge to discuss any recommendations. The resident is not allowed to initialize any interventions without prior approval/ arrangement with the clinical pharmacists covering the area.
- All documentation and notes in BESTCare **must be co-signed by the weekend in-charge clinical pharmacist.**
- Duties and responsibilities are **not limited** to the list below:
  - Proving therapeutic plans for therapeutic drug monitoring, anticoagulants dosing, and Total Parental Nutrition (TPN) with proper documentation and communication as scheduled.
  - TPN order entries in BESTCare and Abacus.
  - Providing answers to all drug information questions received from all healthcare providers under the area of coverage.
  - Replay and answer all consultations through physician to pharmacist referral portal under the area of coverage.
  - Other assignments as endorsed by pharmacy staff or requested by RPD.

Clinical Weekend Procedure, Endorsement, and Handoff

- Sign-outs should be endorsed to the residents on call for the weekend by 1600 hrs on Thursday.
- Patient's issues that need to be followed up by the weekend residents should be endorsed by saving the patient in BESTCare System under "*Weekend Coverage*'' with a clearly documented in full sign-out notes for each patient (either as pharmacist note or progress note) to maintain continuity-of-care and patient safety. Additionally, verbal endorsements from clinical pharmacists to residents are necessary for unusual and complex issues. Residents should review the patients in *"Weekend Coverage'* folder and contact the primary clinical pharmacist for clarification as necessary by Thursday afternoon.
- Residents will provide patient care commensurate with his/her level of knowledge and skill under a combination of direct supervision and progressive independence based upon demonstrated competence and abilities. Residents are aware and oriented on the backup system whenever he/she needs assistance to complete the responsibilities required of the on-call program.
- In all cases, therapeutic consultations and interventions must be reviewed by the in-charge pharmacist before recommendations are made by all R1 and R2 residents.
- Lists of patients who were followed up over the weekend by the residents should be saved in BESTCare System under *"Weekend Coverage"* with handoff note /progress note for

each patient so clinical pharmacists can check the list and make the necessary follow-up to maintain continuity-of-care and patient safety. Moreover, a verbal handoff endorsement from weekend resident to clinical pharmacists should be made by Sunday early whenever deemed necessary or for any pending unusual issues.

- Holiday and exam vacation coverage when the residents are not available will be determined by the Program Director and his/her designee.
- Each resident is responsible for arranging coverage with another resident and for notifying the chief resident if changes are made in coverage. The Program Director and his/her designee should be notified as well at least one week before. Last-minute schedule changes (except for emergencies) are not acceptable

Progression of Residents:

Length of time the resident spends in each of the phases will be personalized based upon the resident's abilities. Typical progression is as follows:

Quarter	Progression of Residents
Quarter 1	• Residents will be expected to perform all the required staffing tasks with oversight from their supervising pharmacist. • Resident will work up a portion of the team's patients (number to be determined by the in-charge pharmacist).
Quarter 2	• Residents will work up assigned patient's management (number will be increased) and monitoring plans and present them to the in-charge pharmacist. • The resident's comfort level and competence will be assessed each quarter to determine if additional exposure to a specific area is warranted.
Quarter 3	• Resident should be able to work up all the assigned patients, with limited questions on routine tasks. • The resident's comfort level and competence will continue to be assessed to determine if additional exposure to a specific area is warranted.
Quarter 4	• The resident should be able to fully function as a pharmacist in all staffing roles by the end of Quarter 4
**** In all cases, therapeutic consultations and interventions must be reviewed by the back-up pharmacist before recommendations are made by all the resident**	

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R1.1	**Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process).**	
R1.1.1	(Cognitive - Analyzing) Collect relevant subjective and objective information about the patient.	• Collect pertinent information on each assigned patient from available resources (e.g., medical record, patient's nurse, caregiver, and/or patient) every morning prior to rounds and record data on a secure patient monitoring form. • Review labs, medical record, and interview patients before adjusting the medication. • Review laboratory values, medication administration, and other pertinent data prior to adjusting medications in pharmacy-managed protocols.

		• Perform a medication history, review medical record, and contact patient's pharmacy or prescribing physician as needed when performing medication reconciliation. • Recommend, order, and/or conduct appropriate testing for patients according to evidence-based medicine and pharmacy policies and procedures.
R1.1.2	(Cognitive - **Evaluating**) Assess clinical information collected and analyze its impact on the patient's overall health goals.	• Identify any issues with medication therapy and discuss issues identified with preceptor at assigned time daily. • Based on information collected while performing medication reconciliation, identify any issues that need to be addressed. • Determine the appropriateness of medication orders (e.g., indication, dose, route, frequency, rate of administration, drug interactions, adherence, cost) prior to (verifying, ordering, prescribing, refilling). • When performing daily profile review, identify any needed changes. • Identify and prioritize unmet health care needs based upon professional judgement and the patient's values, preferences, priorities and goals.
R1.1.3	(Cognitive - Creating) Develop evidence-based, cost-effective, and comprehensive patient-centered care plans.	• Start patient on a dosing regimen designed to achieve target levels for all new "per pharmacy protocol" medication orders. • Develop a patient specific plan integrating knowledge of patient specific information, ethical, quality of life, and pharmacoeconomic issues. • Use knowledge of primary literature and guidelines to identify therapeutic goals for patient based on medications and disease states.
R1.1.4	(Cognitive - Applying) Implement care plans.	• After multi-disciplinary rounds, ensure all medication changes discussed have been ordered and verified. • Send new prescriptions to patient's pharmacy if any changes made to the patient's medication regimen during clinic visit. • Address medication- and health-related problems and execute preventive care strategies, including vaccine administration. • Initiate, modify, discontinue, or administer medication therapy as authorized. • Provide education and self-management training to the patient or caregiver.
Goal R1.2	**Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.**	
R1.2.1	(Cognitive - Applying) Collaborate and communicate with healthcare team members.	• While on rounds, be prepared to identify medication-related problems and make evidence-based recommendations for solutions to the team. • Participate in daily rounds with assigned team and provide recommendations on assigned patients and answer drug information questions in a timely manner. • Work with physicians and nurses to resolve issues found when reconciling patients' medications prescribed on admission with medications taken as outpatient.

		• Contact prescribing physician to resolve issues found when verifying medication orders. • Contact prescribing physician to resolve issues when reviewing prior authorization requests. • Work with nurses and other health care providers to resolve missing doses and other medication distribution issues brought to your attention while staffing. • Provide accurate and timely responses to drug information questions from other healthcare team members.
R1.2.3	(Cognitive - Applying) Document patient care activities in the medical record or where appropriate.	• For pharmacy consults, document an initial consult note and then a follow-up note in the EHR whenever drug level results are reported by the lab or the medication regimen is changed. • Document pharmacy interventions in ivent per pharmacy's policy. • Document medication management in appropriate format according to platform.
Goal R1.3	**Promote safe and effective access to medication therapy.**	
R1.3.3	(Cognitive - Evaluating) Manage the process for preparing, dispensing, and administering (when appropriate) medications.	• Verify & dispense discharge medication. • Review Patient medication history Serve as the 1st or 2nd pharmacist verification for medication orders. • Compound medication products consistent with USP Standards. • Manage all support personnel in the pharmacy to safely and accurately dispense prescriptions. • Complete all steps in the final check of filled prescriptions to ensure accuracy.

Evaluation Strategy:

After the resident and the preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both their performance on selected activities and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor	Resident	All Preceptors of this	End of learning experience

Evaluation		Learning Experience	and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Research Project Longitudinal Learning Experience

Preceptor(s): Varies, as assigned

General description:
This is a longitudinal experience (24 months) each resident is required to design, develop and complete an original research project. This includes a final manuscript of research results. The resident is highly encouraged to generate the research idea on their own; however, the preceptors will generate ideas if the resident is unable to do so in a timely manner. The research should be directly related to patient care. The resident is expected to assume the responsibility of primary investigator of the research project, and complete all data collection and analysis with the help of biostatistician.

Role(s) of Pharmacist(s):
Pharmacists contribute to research in general by providing their expertise and insights. Pharmacists have a unique perspective on the healthcare system, and they can help to identify research questions that are important to patients and healthcare providers. Pharmacists can also help to design and conduct research studies, and they can help to interpret and communicate the results of research.

Expectations of Residents:
The resident is expected to complete the research project by the end of the second residency year.

Progression of Residents:
- Finalizing research idea: By end of October of year 1
- Literature Review: By November – December of year 1
- Writing the proposal: By December – February of year 1

Research Project Timeline	**Duration**
Introduction and Background	3 weeks
Study objectives and Ethical considerations	1 week
Methodology • Study design • Outcome measured (primary and secondary) • Participants • Study period • Data collection • Inclusion criteria • Exclusion criteria • Data analysis	4 weeks
Completing necessary documents for submission to The King Abdullah International Medical Research Center (KAIMRC)	1 week
KAIMRC IRB Approval	2-3 weeks
Data collection	March – June
Data analysis and research Results	July – August
Writing manuscript	**January – May of the Second Year**

Introduction	January
Method	February
Results	March
Discussion	April – May
Conclusion	May
Abstract	May
Submitting to target journals	June
Prepare abstract for ASHP	Deadline October
Finalize the ASHP poster	Deadline October
Prepare Abstract for KAMC-RD residents research day	Deadline December
Prepare Abstract SCFHS research day	Deadline December
Prepare abstract for ASHP	Deadline October

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R2.1	**Conduct practice advancement projects.**	
R2.1.1	(Cognitive - **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.	• Examine a project topic's significance to the practice setting and related to best practices. • Choose year-long project from list provided or submit a proposal for a different project to improve clinical care, patient safety, healthcare operations that can be completed within residency year. • Conduct a literature search and draw appropriate conclusions from the literature in identifying a residency project topic and/or research question. • Develop an idea for a new service or revision of a current service and discuss with preceptor.
***R2.1.2**	(Cognitive - Creating) Develop a project plan.	• Develop project plan and obtain necessary approvals. • Develop a project plan that ensures PHI is safeguarded (follows organizational policies and procedures). • Document a project plan with proposed deadlines and ongoing revisions as necessary. • Evaluate literature review to support the design of the project
R2.1.3	(Cognitive - Applying) Implement project plan.	• Execute the project plan (e.g., collect data, implement new service) and make appropriate adjustments as needed. • Schedule and attend regular meetings with [preceptor(s), project committee(s)] to review progress on project plan. • Collect data for assigned project
R2.1.4	(Cognitive - **Analyzing**) Analyze project results. [New]	• Analyze data collected for major project. • Draw appropriate conclusions from literature in design of Residency Project. • Analyze data for assigned project
R2.1.5	(Cognitive - **Evaluating**) Assess potential or future changes aimed at improving pharmacy practice,	• Identify future questions based on the impact of the project • Identify limitations of the project and potential modifications or changes for the future

	improvement of clinical care, patient safety, healthcare operations, or specific question related to patient care.	• Assess potential changes based on results for assigned project at [P&T, Medication Safety, leadership] committee(s).
***R2.1.6**	(Cognitive - **Creating**) Develop and present a final report.	• Document and present report for assigned project at [P&T, Medication Safety, leadership] committee(s). • Present project at a regional residency conference. • Present project to audiences external to the pharmacy department. • Document a project report using an accepted manuscript style suitable for publication in the professional literature.
**Indicates Objective results in a resident deliverable*		

Evaluation Strategy:

After the resident and the preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both their performance on selected activities and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Elective Research Project Longitudinal Learning Experience

Preceptor(s): Varies, as assigned

General description:
Residents have the option to have another elective research project. The resident is expected to secede if he/she will have this elective longitudinal by the end of the first quarter of the first year. This is a longitudinal experience (24 months). This elective research experience requires the Program Director approval. The resident is highly encouraged to generate the research idea on their own or he/she can directly communicate with a preceptor of their area of interest. All researches should be directly related to patient care. The resident is expected to assume the responsibility of primary investigator of the research project, and complete all data collection and analysis with the help of biostatistician, and have a major role in manuscript writing.

Role(s) of Pharmacist(s):
Pharmacists contribute to research in general by providing their expertise and insights. Pharmacists have a unique perspective on the healthcare system, and they can help to identify research questions that are important to patients and healthcare providers. Pharmacists can also help to design and conduct research studies, and they can help to interpret and communicate the results of research.

Expectations of Residents:
The resident is expected to complete the research project by the end of the second residency year.

Progression of Residents:
- Finalizing research idea: By end of October of year 1
- Literature Review: By November – December of year 1
- Writing the proposal: By December – February of year 1

Research Project Timeline	Duration
Introduction and Background	3 weeks
Study objectives and Ethical considerations	1 week
Methodology • Study design • Outcome measured (primary and secondary) • Participants • Study period • Data collection • Inclusion criteria • Exclusion criteria • Data analysis	4 weeks
Completing necessary documents for submission to The King Abdullah International Medical Research Center (KAIMRC)	1 week
KAIMRC IRB Approval	2-3 weeks
Data collection	March – June

Data analysis and research Results	July – August
Writing manuscript	**January – May of the Second Year**
Introduction	January
Method	February
Results	March
Discussion	April – May
Conclusion	May
Abstract	May
Submitting to target journals	June
Prepare abstract for ASHP	Deadline October
Finalize the ASHP poster	Deadline October
Prepare Abstract for KAMC-RD residents research day	Deadline December
Prepare Abstract SCFHS research day	Deadline December
Prepare abstract for ASHP	Deadline October

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R2.1	**Conduct practice advancement projects.**	
R2.1.1	(Cognitive - **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.	• Examine a project topic's significance to the practice setting and related to best practices. • Choose year-long project from list provided or submit a proposal for a different project to improve clinical care, patient safety, healthcare operations that can be completed within residency year. • Conduct a literature search and draw appropriate conclusions from the literature in identifying a residency project topic and/or research question. • Develop an idea for a new service or revision of a current service and discuss with preceptor.
***R2.1.2**	(Cognitive - Creating) Develop a project plan.	• Develop project plan and obtain necessary approvals. • Develop a project plan that ensures PHI is safeguarded (follows organizational policies and procedures). • Document a project plan with proposed deadlines and ongoing revisions as necessary. Evaluate literature review to support the design of the project
R2.1.3	(Cognitive - Applying) Implement project plan.	• Execute the project plan (e.g., collect data, implement new service) and make appropriate adjustments as needed. • Schedule and attend regular meetings with [preceptor(s), project committee(s)] to review progress on project plan. • Collect data for assigned project
R2.1.4	(Cognitive - **Analyzing**) Analyze project results. [New]	• Analyze data collected for major project. • Draw appropriate conclusions from literature in design of Residency Project. • Analyze data for assigned project.
R2.1.5	(Cognitive - **Evaluating**) Assess potential or future changes aimed at improving	• Identify future questions based on the impact of the project • Identify limitations of the project and potential modifications or changes for the future

	pharmacy practice, improvement of clinical care, patient safety, healthcare operations, or specific question related to patient care.	• Assess potential changes based on results for assigned project at [P&T, Medication Safety, leadership] committee(s).
***R2.1.6**	(Cognitive - **Creating**) Develop and present a final report.	• Document and present report for assigned project at [P&T, Medication Safety, leadership] committee(s). • Present project at a regional residency conference. • Present project to audiences external to the pharmacy department. • Document a project report using an accepted manuscript style suitable for publication in the professional literature.
**Indicates Objective results in a resident deliverable*		

Evaluation Strategy:

After the resident and the preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both their performance on selected activities and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Presentations Longitudinal Learning Experience

Preceptor(s): Varies, as assigned

General Description:
Each PGY1 resident is formally required to deliver three distinct presentations annually to the assembled pharmacy staff and trainees. These include one Grand Rounds presentation, which entails a comprehensive review of a relevant clinical topic, and two Clinical Hour presentations, structured as a critical appraisal of primary literature, presented as a journal club. Both presentations are integral to the resident's professional development, serving as opportunities to demonstrate advanced understanding of pharmacotherapy, critical thinking, and effective communication. Following each presentation, a dedicated period will be allocated for questions and discussion. All presentations will be rigorously evaluated against a predefined rubric (Appendix VI), with significant consideration given to the resident's ability to engage and inform a diverse audience, which encompasses pharmacists, clinical pharmacists, residents across all training levels, pharmacy school interns, and pharmacy technicians.

Role(s) of Pharmacist(s):
The role of the pharmacist, particularly the clinical pharmacist and designated mentor, is paramount to the resident's professional growth and the quality of the academic program. Clinical pharmacists and mentors bear the responsibility of thoroughly reviewing the resident's presentation content, meticulously checking for accuracy, clinical relevance, and adherence to evidence-based practices. They are expected to offer constructive feedback at various stages, including providing the resident with opportunities for rehearsal to refine their delivery, clarity, and time management. This dedicated mentorship ensures that each Grand Rounds and Clinical Hour presentation not only meets the high standards of the program but also serves as a robust learning experience for the presenting resident and the entire pharmacy audience.

Expectations of Residents:
Under the direct supervision of a preceptor, the pharmacy resident is responsible for preparing and delivering formal presentations that demonstrate their ability to critically analyze and communicate complex clinical topics to an interdisciplinary audience. A key expectation is the successful completion of one Grand Rounds presentation, which requires the resident to conduct an in-depth review of a relevant, current, and evidence-based topic in pharmacy. The resident will be responsible for a comprehensive literature search, critical appraisal of the data, and the creation of a professional and engaging presentation that includes learning objectives, a clear narrative, and clinical recommendations. Additionally, the resident is required to prepare and deliver one Clinical Hour presentation, which typically focuses on a case-based discussion or a more focused therapeutic update. All presentations must adhere to a formal structure, be delivered with a high level of professionalism, and demonstrate the resident’s ability to articulate complex concepts clearly and confidently. These presentations are a critical component of the residency program, serving as a platform for the resident to showcase their expertise and contribute to the education of their peers and colleagues.

Progression of Residents:

The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the presentation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Timeline	Stage	Description
During orientation week	Orientation and Topic Selection	Receiving the presentations expected scheduled time for grand round & clinical hours Introduction to presentation expectations, topic selection, and initial literature search.
Four Weeks before the presentation	Content Outline and Literature Review	Developing content outlines, refining learning objectives, and integrating evidence-based data.
Three Weeks before the presentation	Draft Slides and Preceptor Feedback	Creating complete draft slides with visual aids, practicing delivery, and revising based on feedback.
Two Weeks before the presentation	Rehearsals and Delivery Practice	Final revision Conducting rehearsals

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R3.2	**Demonstrate leadership skills that foster personal growth and professional engagement.**	
R3.2.1	(Cognitive - Applying) Apply a process of ongoing self-assessment and personal performance improvement.	• Complete an initial self-assessment in preparation for the development plan. • Complete a self-assessment in preparation for the quarterly development plan. • Identify clinical knowledge gaps and develop an action plan to help address/close knowledge gaps. • Identify administrative and/or project management knowledge and skill gaps and develop an action plan to help address/close the skill gaps. • Complete a summative self-evaluation. • Complete self-assessment related to wellbeing and resilience.
R3.2.2	(Cognitive - Applying) Demonstrate personal and interpersonal skills to manage entrusted responsibilities.	• Leverage relationships with physicians, nurses, co-workers, and students to complete entrusted responsibilities. • Prioritize and organize tasks to complete entrusted responsibilities. • Apply effective workload and time management skills to appropriately meet responsibilities within the confines of a reasonable workday.

		• Set SMART goals (Specific, Measurable, Achievable, Relevant, Time-bound goals), implement action steps, and take accountability for progress on assigned projects. • Complete daily and longitudinal responsibilities (e.g., patient care, projects, management, and meetings). • Identify issues or barriers and create potential solutions or management strategies. • Execute assigned work ensuring development of quality product(s) within assigned timelines. • Facilitate assigned meeting(s) and prepare meeting minutes.
R3.2.3	(Cognitive - Applying) Demonstrate responsibility and professional behaviors.	• Prioritize patients/activities within the structure of the day. • Complete assigned projects by established deadlines. • Comply with organizational policies, procedures, and required trainings (e.g., HIPAA compliance, etc.). • Integrate the pharmacists' responsibilities within the healthcare continuum through focused medication related planning and outcomes. • Interact cooperatively, collaboratively, and respectfully with others and display emotional intelligence. • Take responsibility for resolving conflicts and/or errors. • Demonstrate responsibility to committees or informal workgroup projects, tasks, or goals (e.g., contribute to committee discussions, identify pertinent background information, identify data for collection, interpret data, implement corrective action) through engagement.
R3.2.4	(Cognitive - Applying) Demonstrate engagement in the pharmacy profession and/or the population served.	• Engage in local or international professional society activities. • Participate in a community organization.
Goal R4.1	**Provide effective medication and practice-related education.**	
R4.1.1	(Cognitive - Applying) Design effective educational activities.	• Prepare an evidence-based in-service on assigned topic for pharmacy staff. • Prepare and/or redesign an in-service to nurses on an assigned topic. • Prepare an evidence-based presentation for a multidisciplinary audience. • Design and/or redesign a disease specific patient education program. • Prepare a journal club discussion. • Construct a set of educational activities for APPE and/or IPPE students.
*R4.1.2	(Cognitive - **Creating**) Create written communication to disseminate knowledge related to	• Prepare a written summary of an assigned journal article and disseminate content to an external audience. • Prepare a written presentation as a standalone educational resource for dissemination. • Write patient education materials (e.g., brochure, handout).

	specific content, medication therapy, and/or practice area.	• Write educational materials for health care providers (e.g., newsletter, medication or disease management update).
R4.1.3	(Cognitive - Applying) Use effective written communication to disseminate knowledge.	• Present an evidence-based in-service on assigned topic for pharmacy staff. • Present an in-service to nurses on an assigned topic. • Present an evidence-based presentation for a multidisciplinary audience. • Present a disease specific patient education program. • Lead a journal club discussion. • Facilitate an educational discussion with APPE and/or IPPE students on assigned topics.
R4.1.4	(Cognitive - Applying) Appropriately assess effectiveness of education.	• Verbally assess learner understanding at the end of a small discussion. • Write assessment and/or test questions to evaluate effectiveness of learning activity. • Develop and implement an assessment form to gather feedback for a presentation. • Evaluate learner retention of a prior learning experience and application in subsequent activities. • Poll audience during a presentation for engagement and assessment of educational effectiveness. • Respond to learner self-assessments by reinforcing educational objectives/topics during a presentation to aid in learning. • Assess learning activity evaluations to reflect on efficacy of appropriate educational content and/or presentation skills. • Assess the effectiveness of a precepting activity.
Goal R4.2	**Provide professional and practice-related training to meet learners' educational needs.**	
R4.2.1	(Cognitive - Analyzing) When engaged in teaching, select a preceptor role that meets learners' educational needs.	• Differentiate the learner's level of knowledge and/or skill and the level of preceptorship needed. • Implement the appropriate preceptor role for learners, based on your analysis. • Adjust precepting activities to accommodate learner's performance.

Evaluation Strategy:

After the resident and the preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both their performance on selected activities and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed

Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Teaching Certificate Longitudinal Learning Experience

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Atheer Al Dairem	aldairemat@mngha.med.sa	9401	-

General Description:

Practicing pharmacists frequently take on the role of educating student pharmacists, pharmacy technicians, fellow pharmacists, and other members of the healthcare team. Their professional training provides them with a wealth of knowledge to share, yet many lack formal instruction in the core principles of effective teaching.

Role(s) of Pharmacist(s):

- Precepting and Mentoring
  - Assisting in the supervision and training of pharmacy students or junior residents during clinical rotations.
  - Providing guidance on patient care, clinical decision-making, and workflow management.
- Didactic and Informal Teaching
  - Delivering presentations, case discussions, or topic reviews to students, peers, and healthcare teams.
  - Participating in journal clubs, in-services, and interprofessional education sessions.
- Clinical Teaching in Practice Settings
  - Teaching by example through daily patient care activities.
  - Explaining therapeutic decisions, medication management strategies, and evidence-based practices to learners.
- Providing Feedback and Assessment
  - Evaluating students' / residents' performance and offering constructive feedback to support their growth.
  - Assisting preceptors in assessing learners' progress toward rotation objectives.

Expectations of Residents:

- Active Participation in Program Activities
  - Attend all grand rounds, clinical hours, workshops, seminars, and discussions related to teaching and learning principles.
- Develop and Apply Teaching Skills
  - Prepare and deliver didactic presentations, case discussions, and/or skills labs.
  - Participate in experiential teaching by precepting or co-precepting student pharmacists on rotations.
- Create Teaching Materials
  - Provide and Receive Feedback: Offer constructive feedback to students and peers.
  - Accept and reflect on feedback from faculty, preceptors, and program mentors to improve teaching skills.
- Demonstrate Professional Growth
  - Show progression in teaching confidence, effectiveness, and understanding of educational strategies.

- Exhibit professionalism and accountability in all teaching activities.

Progression of the Residents:

Session	Date	Time	Topics	Facilitators
1	TBA	1:00–4:00 PM	• Orientation and Discussion of Program Requirements • Introduction to Teaching Portfolio • Developing a Teaching Philosophy	1. Dr. Atheer Aldairem 2. Dr. Mohammed Alzahrani 3. Prof. Alaa Yaseen 4. Rawan Alnafisah
2	TBA	1:00–4:00 PM	• Learning Styles • Assessment of Learners • OSCE	1. Dr. Osama Alwassil 2. Dr. Abdulmjeed Alshehri
3	TBA	1:00–4:00 PM	• Developing Teaching Outcomes and Learning Objectives • Precepting Skills	1. Dr. Omar Al Shaya 2. Dr. Nada Al Suhebany
4	TBA	1:00–4:00 PM	• Presentation/Lecturing Skills • Active Learning Techniques	1. Dr. Atheer Aldairem 2. Dr. Mohammed Alzahrani
• All Workshops will be 3 hours in length • Pre-workshop reading will be required prior to each workshop to allow for optimal discussions during workshops.				

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R3.2	**Demonstrate leadership skills that foster personal growth and professional engagement.**	
R3.2.1	(Cognitive - Applying) Apply a process of ongoing self-assessment and personal performance improvement.	• Complete an initial self-assessment in preparation for the development plan • Complete a self-assessment in preparation for the quarterly development plan. • Identify clinical knowledge gaps and develop an action plan to help address/close knowledge gaps. • Identify administrative and/or project management knowledge and skill gaps and develop an action plan to help address/close the skill gaps. • Complete a summative self-evaluation. • Complete self-assessment related to wellbeing and resilience.
R3.2.2	(Cognitive - Applying) Demonstrate personal and interpersonal skills to manage entrusted responsibilities.	• Leverage relationships with physicians, nurses, co-workers, and students to complete entrusted responsibilities. • Prioritize and organize tasks to complete entrusted responsibilities. • Apply effective workload and time management skills to appropriately meet responsibilities within the confines of a reasonable workday. • Set SMART goals (Specific, Measurable, Achievable, Relevant, Time-bound goals), implement action steps, and take accountability for progress on assigned projects.

		• Complete daily and longitudinal responsibilities (e.g., patient care, projects, management, and meetings). • Identify issues or barriers and create potential solutions or management strategies. • Execute assigned work ensuring development of quality product(s) within assigned timelines. • Facilitate assigned meeting(s) and prepare meeting minutes.
R3.2.3	(Cognitive - Applying) Demonstrate responsibility and professional behaviors.	• Prioritize patients/activities within the structure of the day. • Complete assigned projects by established deadlines. • Comply with organizational policies, procedures, and required trainings (e.g., HIPAA compliance, etc.). • Integrate the pharmacists' responsibilities within the healthcare continuum through focused medication related planning and outcomes. • Interact cooperatively, collaboratively, and respectfully with others and display emotional intelligence. • Take responsibility for resolving conflicts and/or errors. • Demonstrate responsibility to committees or informal workgroup projects, tasks, or goals (e.g., contribute to committee discussions, identify pertinent background information, identify data for collection, interpret data, implement corrective action) through engagement.
R3.2.4	(Cognitive - Applying) Demonstrate engagement in the pharmacy profession and/or the population served.	• Participate in the state's pharmacy association legislation day. • Engage in a local or state professional society activities. • Participate in a community organization. • Participate in two health fairs.

Evaluation Strategy:

After the resident and the preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both their performance on selected activities and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Medication Use Evaluation Longitudinal Learning Experience

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Laila Carolina Abu Esba	abuesbala@Mngha.med.sa	2957	12555
Dr. Reham Alhoraibi	alhoraibire@mngha.med.sa	6683	13097

General Description:

Medication Use Evaluation (MUE) is a performance improvement method that focuses on evaluating and improving the use of medications to enhance patient outcomes. It is a structured, evidence-based process used to assess the appropriateness, safety, and effectiveness of medication therapy across the continuum of care. MUE is particularly useful for high-cost, high-risk, or high-use medications, and it helps institutions ensure that drug therapy aligns with approved indications, clinical guidelines, and best practices. MUE can lead to changes in policies, formulary decisions, and education efforts aimed at optimizing medication use.

Role(s) of Pharmacist(s):

- Identifying and proposing medication-related topics for evaluation based on clinical relevance, cost, safety concerns, or prescribing trends.
- Reviewing clinical guidelines, published evidence, and institutional protocols related to the medication or therapeutic area under evaluation.
- Participating in data collection, analysis, and interpretation.
- Assisting in drafting reports or presentations for the Pharmacy & Therapeutics (P&T) committee or departmental meetings.
- Supporting implementation and follow-up of any interventions resulting from the MUE findings.

Expectations of Residents:

- Demonstrate a clear understanding of the purpose, process, and impact of MUE.
- Participate in at least one MUE project, from planning to completion.
- Accurately collect and analyze data with attention to detail and ethical standards.
- Present findings effectively in written or oral formats.
- Take initiative in identifying potential areas for future MUE projects that support quality and safety goals.
- For the MUE template, refer to **Appendix IX.**

Progression of the Residents:

The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the project, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the

residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Quarter	Progression of Residents
First	• Observes and understands the MUE process. • Reviews past MUE reports. • Assists with literature search and basic data entry.
Second	• Leads portions of the MUE process (e.g., data analysis, report writing). • Presents findings internally. • Begins proposing practice changes
Third	• Independently manages a full MUE project. • Presents results to P&T or leadership committees. • Participates in the implementation of changes.

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R2.1	**Conduct practice advancement projects.**	
R2.1.1	(Cognitive - **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.	• Examine a project topic's significance to the practice setting and related to best practices. • Choose year-long project from list provided or submit a proposal for a different project to improve clinical care, patient safety, healthcare operations that can be completed within residency year. • Conduct a literature search and draw appropriate conclusions from the literature in identifying a residency project topic and/or research question. • Develop an idea for a new service or revision of a current service and discuss with preceptor.
***R2.1.2**	(Cognitive - Creating) Develop a project plan.	• Develop project plan and obtain necessary approvals. • Develop a project plan that ensures PHI is safeguarded (follows organizational policies and procedures). • Document a project plan with proposed deadlines and ongoing revisions as necessary. Evaluate literature review to support the design of the project
R2.1.3	(Cognitive - Applying) Implement project plan.	• Execute the project plan (e.g., collect data, implement new service) and make appropriate adjustments as needed. • Schedule and attend regular meetings with [preceptor(s), project committee(s)] to review progress on project plan. • Collect data for assigned project
R2.1.4	(Cognitive - **Analyzing**) Analyze project results.	• Analyze data collected for major project. • Draw appropriate conclusions from literature in design of Residency Project. • Analyze data for assigned project.
R2.1.5	(Cognitive - **Evaluating**) Assess potential or future changes aimed at improving pharmacy practice,	• Identify future questions based on the impact of the project • Identify limitations of the project and potential modifications or changes for the future

	improvement of clinical care, patient safety, healthcare operations, or specific question related to patient care.	• Assess potential changes based on results for assigned project at [P&T, Medication Safety, leadership] committee(s).
***R2.1.6**	(Cognitive - **Creating**) Develop and present a final report.	• Document and present report for assigned project at [P&T, Medication Safety, leadership] committee(s). • Present project at a regional residency conference. • Present project to audiences external to the pharmacy department. • Document a project report using an accepted manuscript style suitable for publication in the professional literature.
**Indicates Objective results in a resident deliverable*		

Evaluation Strategy:

After resident and preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Drug Use Evaluation Longitudinal Learning Experience

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Laila Carolina Abu Esba	abuesbala@Mngha.med.sa	2957	12555
Dr. Reham Alhoraibi	alhoraibire@mngha.med.sa	6683	13097

General Description:

Drug Use Evaluation (DUE), is a structured, ongoing, systematic process designed to ensure that medications are used appropriately, safely, and effectively. It involves the review and analysis of prescribing patterns, dispensing, administration, and patient outcomes. The goals of DUE include promoting optimal therapy, reducing medication-related problems, ensuring adherence to clinical guidelines, and supporting cost-effective medication use. DUE may be retrospective, concurrent, or prospective.

Role(s) of Pharmacist(s):

- Identifying medications or therapeutic classes of concern for evaluation.
- Reviewing literature and clinical guidelines to develop criteria for appropriate use.
- Collecting, analyzing, and interpreting medication use data.
- Proposing evidence-based recommendations for improvement.
- Presenting findings to the pharmacy and therapeutics (P&T) committee or other institutional stakeholders.
- Assisting in the implementation of interventions based on DUE outcomes.

Expectations of Residents:

- Demonstrate understanding of DUE principles and methodology.
- Participate actively in at least one DUE project under supervision.
- Apply critical thinking and evidence-based medicine in analyzing drug use patterns.
- Show initiative in identifying potential areas for evaluation or improvement.
- Comply with ethical and regulatory standards in data handling and reporting.
- For the DUE template, refer to **Appendix X.**

Progression of the Residents:

The assessment of the resident's progress and achievement of learning experience goals will be determined by their ability to perform the associated objectives. At the end of the project, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the learning experience within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Progression of Residents
First Week	• Each resident will be assigned to DUE during his/her drug information rotation

	• Introduction to DUE concepts, institutional policies, and data sources. • Participating in basic data collection and literature review tasks.
Second Week	• Performing data analysis and interpreting results. • Presenting findings informally to the preceptor or pharmacy team.
Third Week	• Independently managing a complete DUE project. • Presenting results formally to hospital committees (e.g., P&T). • Contributing to policy development or system-level recommendations. • Supporting the implementation and monitoring of interventions.

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R2.1	**Conduct practice advancement projects.**	
R2.1.1	(Cognitive - **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.	• Examine a project topic's significance to the practice setting and related to best practices. • Choose year-long project from list provided or submit a proposal for a different project to improve clinical care, patient safety, healthcare operations that can be completed within residency year. • Conduct a literature search and draw appropriate conclusions from the literature in identifying a residency project topic and/or research question. • Develop an idea for a new service or revision of a current service and discuss with preceptor.
***R2.1.2**	(Cognitive - Creating) Develop a project plan.	• Develop project plan and obtain necessary approvals. • Develop a project plan that ensures PHI is safeguarded (follows organizational policies and procedures). • Document a project plan with proposed deadlines and ongoing revisions as necessary. Evaluate literature review to support the design of the project
R2.1.3	(Cognitive - Applying) Implement project plan.	• Execute the project plan (e.g., collect data, implement new service) and make appropriate adjustments as needed. • Schedule and attend regular meetings with [preceptor(s), project committee(s)] to review progress on project plan. • Collect data for assigned project
R2.1.4	(Cognitive - **Analyzing**) Analyze project results.	• Analyze data collected for major project. • Draw appropriate conclusions from literature in design of Residency Project. • Analyze data for assigned project.
R2.1.5	(Cognitive - **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.	• Identify future questions based on the impact of the project • Identify limitations of the project and potential modifications or changes for the future • Assess potential changes based on results for assigned project at [P&T, Medication Safety, leadership] committee(s).

***R2.1.6**	(Cognitive - **Creating**) Develop and present a final report.	• Document and present report for assigned project at [P&T, Medication Safety, leadership] committee(s). • Present project at a regional residency conference. • Present project to audiences external to the pharmacy department. • Document a project report using an accepted manuscript style suitable for publication in the professional literature.
**Indicates Objective results in a resident deliverable*		

Evaluation Strategy:

After resident and preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Drug Monograph Longitudinal Learning Experience

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Laila Carolina Abu Esba	abuesbala@Mngha.med.sa	2957	12555
Dr. Reham Alhoraibi	alhoraibire@mngha.med.sa	6683	13097

General Description:

Drug Monograph provides residents the opportunity to develop the skills required to critically evaluate scientific literature, assess medication safety, efficacy, and cost-effectiveness, and communicate findings to a multidisciplinary audience. This activity aligns with the residency goal of contributing to the medication-use process and the formulary management system through Pharmacy & Therapeutics (P&T) committee participation.

Residents will select a medication under consideration for formulary addition or restriction. They will conduct a comprehensive review of available literature, including clinical trials, pharmacology, pharmacokinetics, safety, therapeutic role, guidelines, and pharmacoeconomic data. The resident will then synthesize findings into a written monograph that follows institutional and ASHP-recommended formats.

Role(s) of Pharmacist(s):

- Identifying medications or therapeutic classes of concern for evaluation.
- Reviewing literature and clinical guidelines to develop criteria for appropriate use.
- Collecting, analyzing, and interpreting medication use data.
- Proposing evidence-based recommendations for improvement.
- Presenting findings to the pharmacy and therapeutics (P&T) committee or other institutional stakeholders.

Expectations of the Resident:

- Demonstrate understanding of Drug Monograph principles and methodology.
- Apply critical thinking and evidence-based medicine in analyzing drug use patterns.
- Show initiative in identifying potential areas for evaluation or improvement.
- Comply with ethical and regulatory standards in data handling and reporting.
- Evaluate pharmacologic, pharmacokinetic, therapeutic, safety, and economic data of the drug.
- Compare the drug to existing formulary and non-formulary alternatives.
- Prepare a written drug monograph according to institutional template and ASHP standards.
- For the Drug Monograph template, refer to **Appendix XI.**

Progression of the Residents:

The assessment of the resident's progress and achievement of learning experience goals will be determined by their ability to perform the associated objectives. At the end of the project,

the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the learning experience within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Progression of Residents
First Week	• The resident will be assigned to Drug Monograph during his/her drug information rotation • Introduction to Drug Monograph concepts, institutional policies, and data sources. • Participating in basic data collection and literature review tasks.
Second Week	• Performing data analysis and interpreting results. • Presenting findings informally to the preceptor or pharmacy team.
Third Week	• Independently managing a complete Drug Monograph project. • Presenting results formally to hospital committees (e.g., P&T). • Contributing to policy development or system-level recommendations. • Supporting the implementation and monitoring of interventions.

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R2.1	**Conduct practice advancement projects.**	
R2.1.1	(Cognitive - **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.	• Examine a project topic's significance to the practice setting and related to best practices. • Choose year-long project from list provided or submit a proposal for a different project to improve clinical care, patient safety, healthcare operations that can be completed within residency year. • Conduct a literature search and draw appropriate conclusions from the literature in identifying a residency project topic and/or research question. • Develop an idea for a new service or revision of a current service and discuss with preceptor.
***R2.1.2**	(Cognitive - Creating) Develop a project plan.	• Develop project plan and obtain necessary approvals. • Develop a project plan that ensures PHI is safeguarded (follows organizational policies and procedures). • Document a project plan with proposed deadlines and ongoing revisions as necessary. Evaluate literature review to support the design of the project
R2.1.3	(Cognitive - Applying) Implement project plan.	• Execute the project plan (e.g., collect data, implement new service) and make appropriate adjustments as needed. • Schedule and attend regular meetings with [preceptor(s), project committee(s)] to review progress on project plan. • Collect data for assigned project

R2.1.4	(Cognitive - **Analyzing**) Analyze project results.	• Analyze data collected for major project. • Draw appropriate conclusions from literature in design of Residency Project. • Analyze data for assigned project.
R2.1.5	(Cognitive - **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.	• Identify future questions based on the impact of the project • Identify limitations of the project and potential modifications or changes for the future • Assess potential changes based on results for assigned project at [P&T, Medication Safety, leadership] committee(s).
***R2.1.6**	(Cognitive - **Creating**) Develop and present a final report.	• Document and present report for assigned project at [P&T, Medication Safety, leadership] committee(s). • Present project at a regional residency conference. • Present project to audiences external to the pharmacy department. • Document a project report using an accepted manuscript style suitable for publication in the professional literature.
**Indicates Objective results in a resident deliverable*		

Evaluation Strategy:

After resident and preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Administration

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Yousef Alaqeel	alaqeelyo@mngha.med.sa	8311	10800 / 12550

General Description:

The administration rotation is a 5-week block rotation in which the resident becomes familiar with policy development and review, organization and department structure, management skills, human resources, economic rationale and problem-solving techniques, strategic planning, departmental performance improvement efforts, quality and safety practices, information systems and budgeting. The resident becomes integrated in the main department initiatives multitasking on different projects over the 5-week period.

Related Policies and Procedures:

1. Hospital and Pharmacy Policies & Procedures:
    - DPP 7330-12-01-00 Responsibilities of Pharmacy Quality Improvement (QI) Section
    - DPP 7330-12-03-00 Criteria for Good Catch and Safety Report Awards
    - APP 1427-29 Recall of Medications Medical Supplies Devices and Equipment
    - APP 1443-04 High Alert Medication
    - APP 1426-01 Drug Samples
    - APP 1435-09: MNG-HA Drug Formulary - Addition, Deletion and Evaluation.
        a. Appendix A- Corporate Pharmacy & Therapeutic Committee Workflow.
        b. Appendix E- Drug Formulary Addition Request
        c. Appendix I- New Dosage Form and Strength Addition Request Form
        d. Appendix F- Guidelines for Medication Deletion from MNGHA Drug Formulary
    - DPP of King Abdullah International Medical Research Center Reference Number 9812/AR/D05V04 Managing Investigational Products
2. JCIA Accreditation Standards for Hospitals
3. Best Practices for Health-System Pharmacy (most recent edition)
4. ASHP goals
5. ASHP policy positions
6. Others as determined like organization chart of the pharmacy

Role(s) of Pharmacist(s):

This learning experience is precepted primarily by the Pharmacy Director, whose responsibilities include leading the pharmacy departments and medication management services across all facilities, which include the facilitation and management of the system pharmacy strategic plan, policies, and procedures, and ensuring applicable rules, regulations, and best practices are followed. The Pharmacy Director also, develops and manages the budget annually for the department, negotiates contracts with pharmacy automation and other vendors, exercises financial responsibility in routinely developing and implementing medication and pharmacy service cost-savings and quality initiatives, and facilitates the development and expansion of pharmacy services across the organization.

The residents also will be exposed to other members of the leadership team (supervisors, managers, director, etc.), these pharmacists are responsible for coordinating new hire pharmacists, formulary management, managing drug shortages, system process improvement initiatives, emergency preparedness, and committee service/leadership.

Expectations of Residents:

The resident is expected to be on-time on all meetings, along with maintaining a professional calendar within the organization's email management system. The resident is also must always demonstrate professional written and verbal communication and to meet all assigned due dates and project timelines and demonstrate flexibility with schedule and assigned project prioritization changes based on organizational needs. Moreover, the residents are expected to Conduct and/or take minutes for the attended meetings, participate in hospital-wide meetings with members of the leadership team, complete management/leadership-focused mini projects and writing assignments, as assigned and conduct presentation on any management/leadership-focused topics.

Residents are required to attend a variety of meetings and committees throughout the month, including:

1. Regional Pharmacy and Therapeutic Committee
2. Corporate pharmacy and therapeutic committee
3. Corporate antimicrobial committee
4. Corporate Medication Safety Committee
5. Departmental meetings

Progression of Residents:

The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Progression of Residents
Week 1	• Introduce the structure of the pharmacy department. • Discuss expectations, goals, and learning plan. • Begin evaluating the resident's baseline understanding of the administration concepts. • Department & organization chart overview.
Week 2-5	• Introduction to regulatory/accreditation bodies. • Attend leadership/department meetings. • Participate in departmental admin projects if any.

	• Expose resident to operation and financial management • Discuss leadership models, change management, and conflict resolution.

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R3.1	**Demonstrate leadership skills that contribute to departmental and/or organizational excellence in the advancement of pharmacy services.**	
R3.1.1	(Cognitive - Understanding) Explain factors that influence current pharmacy needs and future planning.	• Review and discuss with pharmacy director assigned topics related to factors that influence current pharmacy needs and future planning. • Review organization's and/or pharmacy's strategic plan and describe the process for assessing the pharmacy department's current and future needs to inform future plans. • Participates in pharmacy administration learning series, modules, lectures (e.g., budgeting, operations and systems, credentialing and privileging, quality metrics, or other relevant topics) and discuss key learnings with pharmacy leaders.
R3.1.2	(Cognitive - Understanding) Describe external factors that influence the pharmacy and its role in the larger healthcare environment.	• Review and discuss with pharmacy director assigned topics related to external factors that influence pharmacy's role in the larger healthcare environment. • Participates in pharmacy administration discussions related to external factors that influence pharmacy (e.g., board of pharmacy decisions, state and federal regulations, payors, pharmacy associations' activities, accrediting and/or regulatory organizations' quality metrics) and discuss key learnings with pharmacy leaders.
Goal R3.2	**Demonstrate leadership skills that foster personal growth and professional engagement.**	
R3.2.1	(Applying) Apply a process of ongoing self-assessment and personal performance improvement.	• Complete an initial self-assessment in preparation for the development plan • Complete a self-assessment in preparation for the quarterly development plan. • Identify clinical knowledge gaps and develop an action plan to help address/close knowledge gaps. • Identify administrative and/or project management knowledge and skill gaps and develop an action plan to help address/close the skill gaps. • Complete a summative self-evaluation. • Complete self-assessment related to wellbeing and resilience.
R3.2.2	(Cognitive - Applying) Demonstrate personal and interpersonal skills to manage entrusted responsibilities.	• Leverage relationships with physicians, nurses, co-workers, and students to complete entrusted responsibilities. • Prioritize and organize tasks to complete entrusted responsibilities. • Apply effective workload and time management skills to appropriately meet responsibilities within the confines of a reasonable workday. • Set SMART goals (Specific, Measurable, Achievable, Relevant, Time-bound goals), implement action steps, and take accountability for progress on assigned projects. • Complete daily and longitudinal responsibilities (e.g., patient care, projects, management, and meetings). • Identify issues or barriers and create potential solutions or management strategies.

		• Execute assigned work ensuring development of quality product(s) within assigned timelines. • Facilitate assigned meeting(s) and prepare meeting minutes.
R3.2.3	(Cognitive - Applying) Demonstrate responsibility and professional behaviors.	• Prioritize patients/activities within the structure of the day. • Complete assigned projects by established deadlines. • Comply with organizational policies, procedures, and required trainings (e.g., HIPAA compliance, etc.). • Integrate the pharmacists' responsibilities within the healthcare continuum through focused medication related planning and outcomes. • Interact cooperatively, collaboratively, and respectfully with others and display emotional intelligence. • Take responsibility for resolving conflicts and/or errors. • Demonstrate responsibility to committees or informal workgroup projects, tasks, or goals (e.g., contribute to committee discussions, identify pertinent background information, identify data for collection, interpret data, implement corrective action) through engagement.
R3.2.4	(Cognitive - Applying) Demonstrate engagement in the pharmacy profession and/or the population served.	• Participate in the state's pharmacy association legislation day. • Engage in a local or state professional society activities. • Participate in a community organization. • Participate in two health fairs.

Evaluation Strategy:

After the resident and the preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both their performance on selected activities and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed

[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].

Outpatient Pharmacy

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Mr. Thamer Alotaibi	otaibitk@ngha.med.sa	4141	18638
Mrs. Alhanouf Alshammari	alshammarial2@mngha.med.sa	9541	56540
Mr. Bander Alrasheedi	alrasheediba@MNGHA.MED.SA	1126	50701

General Description:

National Guard King Abdulaziz Medical City and King Abdullah Specialized Children Hospital in Riyadh encompasses the main outpatient pharmacies in KASCH and KAMC, cardiac outpatient pharmacy in KAMC, medical protocol pharmacy KAMC, and ER pharmacies in KASCH and KAMC. These pharmacies collectively dispense about 2000 prescriptions on daily basis.

Each different pharmacy area mentioned above, serves a different segment of patients with different clinical services. The resident is required through the five weeks rotation to familiarize and comprehend the different treatment approaches, techniques, procedures or technologies involved in each pharmacy setting and demonstrate his/her medical competency and proficiency.

The five-week rotation will focus heavily on certain required skills including but not limited:

- Reviewing physician medication orders for appropriateness.
- Identifying possible dosing, scheduling, contraindication, allergy, drug-drug interactions.
- Attaining all the essential techniques of professional communication.

Such skills would enable the resident to confidently liaise with doctors to follow-through a drug order/ request clarification/ or suggest formulary changes whenever appropriate. Moreover, it will ensure the effective communication with the patients to convey any vital information properly (drug name, strength, indication, dose, interval, possible side effects, and Refill instructions).

Related Policies and Procedures:

- DPP 7330-04-01-00 Ambulatory Pharmaceutical Care Services
- DPP 7330-04-02-00 Ambulatory Care Prescription Workflow
- DPP 7330-04-02-01 Ambulatory Care Medication Order Processing
- DPP 7330-04-02-03 Ambulatory Care Prescription Filling
- DPP 7330-04-02-04 Ambulatory Care Medication Dispensing
- DPP 7330-04-02-05 Guidelines for Dispensing Cytotoxic Medications
- DPP 7330-04-02-06 Prescription Refill and Abandoned Refill Prescriptions
- DPP 7330-04-03-00 Guidelines for Use of Acitretin and Isotretinoin
- DPP 7330-04-06-00 Pharmacy to Nursing and Physician Communication (Green Slip)
- DPP 7330-04-07-00 Emergency Care Center Pharmacy

Role(s) of Pharmacist(s):

The pharmacist process different types of prescriptions according to the policy and standard of practice. Also, the pharmacist provides patient counselling about the dispensed medications.

Expectations of Residents:

The resident is expected to read the related polices and reading material during the rotation and ask for discussion/clarification from the preceptor when needed, review prescriptions for appropriateness, identifying possible dosing, scheduling, contraindication, allergy, drug-drug interactions. Furthermore, attain all the essential techniques of professional communication while providing counselling with the patients. In addition to presenting an in-service to the staff (when applicable) and/or conducting a performance improvement project (when applicable).

Progression of Residents:

The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Interaction
Day 1	**Preceptor will introduce resident to the area staff.** • Preceptor will provide an area tour. • Preceptor will identify & discuss with residents all policies and procedures related to the working area. • Preceptor will discuss medication supply calculations.
Week 1-2	**Location: Main outpatient pharmacy** • Residents will be introduced to all available information resources (online Lexi.com, Micromedex and Clinical key available at the intranet of the hospital). • A thorough orientation on utilizing BESTCare system will be provided. • Resident will be acquainted with medication classifications, and the different storage areas of cytotoxic, narcotic, controlled and restricted medications. • Residents will be able to identify handling of medication safety procedures look-alike and sound alike medications and high alert medications. • Resident will be introduced to handover and verbal/telephone communication.
Week 3	**Location: Cardiac outpatient pharmacy** • Preceptor will introduce resident to area staff. • Preceptor will provide an area tour. • Preceptor will identify all policies and procedures related to the working area.

Period	Interaction
	• Resident will discuss with preceptor the outcomes from previous week of training. • Resident will start handling phone calls from healthcare professionals. • Resident will be reviewing and verifying label information for medication refill orders for selected medical patients under direct supervision of a pharmacist. • Resident will be able to dispense and counsel patients with chronic diseases medications under supervision of a pharmacist.
Week 4	**Location: Emergency pharmacy** • Preceptor will introduce resident to area staff. • Preceptor will provide an area tour. • Preceptor will identify all policy and procedures related to the working area. • Resident will discuss with preceptor the outcomes from previous week training • Snapshot evaluation for two objectives will be discussed and completed.
Week 5	**Location: outpatient main pharmacy/ KASCH main outpatient pharmacy** • Preceptor will introduce resident to area staff. • Preceptor will provide an area tour. • Preceptor will identify all policy and procedures related to the working area. • Resident will discuss with preceptor the outcomes from the previous week of training. • Preceptor will explain the policy for non-formulary medications, narcotics and controlled medications, phone refill, and extemporaneous Preparations. • Resident and preceptor will meet to evaluate the learning experience and to complete summative evaluations.

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R1.1	**Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process).**	
R1.1.1	(Cognitive - Analyzing) Collect relevant subjective and objective information about the patient.	• Collect pertinent information on each assigned patient from available resources (e.g., medical record, patient's nurse, caregiver, and/or patient) every morning prior to rounds and record data on a secure patient monitoring form. • Review labs, medical record, and interview patients before adjusting any medication. • Review laboratory values, medication administration, and other pertinent data prior to adjusting medications in pharmacy-managed protocols. • Perform a medication history, review medical record, and contact patient's pharmacy or prescribing physician as needed when performing medication reconciliation. • Recommend, order, and/or conduct appropriate testing for patients according to evidence-based medicine and pharmacy policies and procedures.
R1.1.2	(Cognitive - **Evaluating**) Assess clinical information collected and	• Identify any issues with medication therapy and discuss issues identified with preceptor at assigned time daily. • Based on information collected while performing medication reconciliation, identify any issues that need to be addressed.

	analyze its impact on the patient's overall health goals.	• Determine the appropriateness of medication orders (e.g., indication, dose, route, frequency, rate of administration, drug interactions, adherence, cost) prior to verifying, ordering, prescribing, and refilling. • When performing daily profile review, identify any needed changes. • Identify and prioritize unmet health care needs based upon professional judgement and the patient's values, preferences, priorities and goals.
Goal R1.2	**Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.**	
R1.2.1	(Cognitive - Applying) Collaborate and communicate with healthcare team members.	• While on rounds, be prepared to identify medication-related problems and make evidence-based recommendations for solutions to the team. • Participate in daily rounds with assigned team and provide recommendations on assigned patients and answer drug information questions in a timely manner. • Work with physicians and nurses to resolve issues found when reconciling patients' medications prescribed on admission with medications taken as outpatient. • Contact prescribing physician to resolve issues found when verifying medication orders. • Contact prescribing physician to resolve issues when reviewing prior authorization requests. • Work with nurses and other health care providers to resolve missing doses and other medication distribution issues brought to your attention while staffing. • Provide accurate and timely responses to drug information questions from other healthcare team members.
R1.2.2	(Cognitive - Applying) Communicate effectively with patients and caregivers.	• Provide medication education to patients, their families, and/or caregivers for all patients on assigned floor who are scheduled to be discharged. • Counsel patients who are receiving new medications. • Perform any needed discharge counseling for patients, their families, and/or caregivers as part of medication reconciliation duties for patients on assigned floors. • Perform medication histories on assigned patients. • Educate patients on medication changes using appropriate patient counseling method.
Goal R3.2	**Demonstrate leadership skills that foster personal growth and professional engagement.**	
R3.2.3	(Cognitive - Applying) Demonstrate responsibility and professional behaviors.	• Prioritize patients/activities within the structure of the day. • Complete assigned projects by established deadlines. • Comply with organizational policies, procedures, and required trainings (e.g., HIPAA compliance, etc.). • Integrate the pharmacists' responsibilities within the healthcare continuum through focused medication related planning and outcomes. • Interact cooperatively, collaboratively, and respectfully with others and display emotional intelligence. • Take responsibility for resolving conflicts and/or errors. • Demonstrate responsibility to committees or informal workgroup projects, tasks, or goals (e.g., contribute to committee discussions, identify pertinent background information, identify data for collection, interpret data, implement corrective action) through engagement.

R3.2.4	(Cognitive - Applying) Demonstrate engagement in the pharmacy profession and/or the population served.	• Engage in local or international professional society activities. • Participate in a community organization.

Evaluation Strategy:

After the resident and the preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both their performance on selected activities and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Inpatient Pharmacy I

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Mr. Sattam Alharbi	Harbisn1@mngha.med.sa	1777	13744
Mrs. Alaa Alharthi	AlharthiAl3@mngha.med.sa	-	-
Col. Abdulaziz Al Rashedi	RashediAb@MNGHA.MED.SA	6669	56514

General Description:

The inpatient pharmacy at King Abdelaziz Medical City - Riyadh provides pharmaceutical care following international health care quality and patient safety accreditation standards of the Joint Commission and International (JCI) and national organization Saudi Central Board for Accreditation of Healthcare Institutions (CBAHI) standards through utilizing the state-of-the-art pharmacy computerized physician order entry (CPOE). Inpatient Pharmacy staff review, process, and prepare medication orders of a very complex nature for the tertiary care patient population including adults, pediatrics, and neonates. Also, they are also responsible for answering and attending medical emergencies, i.e., code blue on a 24/7 basis.

Related Policies and Procedures:

- DPP 7330-05-01-00 Inpatient Pharmacy Services
- DPP 7330-05-01-01 Inpatient Pharmacy Services - Work Overview
- DPP 7330-05-01-02 Inpatient Pharmacy Services - Pharmacy Satellites
- DPP 7330-05-02-00 Inpatient Medication Supply
- DPP 7330-05-03 Medication Order Processing Dispensing
- DPP 7330-05-08-00 Handling Discharge Medication Orders
- DPP 7330-05-18-00 Medication Delivery Schedule Route

Role(s) of Pharmacist(s):

During the Inpatient I rotation, the pharmacist's role centers on foundational medication management of discharge pharmacies, which includes accurate order verification, safe dispensing practices, and ensuring medication safety through comprehensive drug utilization review. They are responsible for pharmacokinetic monitoring, documenting and reporting adverse drug reactions, and providing essential drug information to other healthcare professionals.

Expectations of Residents:

Under the direct supervision of a preceptor, the pharmacy resident on the Inpatient I rotation is responsible for guaranteeing the safe and effective use of medications for all assigned inpatient teams, with a particular focus on the discharge process. This foundational experience requires the resident to actively participate in all aspects of patient care, from admission to discharge. The resident is expected to demonstrate proficiency in medication reconciliation for newly admitted patients, ensuring a comprehensive and accurate medication history. A key part of the resident's role is to manage discharge pharmacy responsibilities, including patient counseling, reviewing and processing discharge

prescriptions, and coordinating with outpatient pharmacies. The resident will serve as a reliable source of drug information, educating both healthcare professionals and patients. Furthermore, they must become an integral and collaborative member of the inpatient care team, contributing to patient care discussions and ensuring a smooth and safe transition of care for all patients.

Suggested reading materials:

- ASHP statement on unit dose drug distribution.
- ASHP statement on the pharmacist's responsibility for distribution and control of drug products.
- ASHP technical assistance bulletin on hospital drug distribution and control.
- ASHP technical assistance bulletin on single unit and unit dose packages of drugs.
- ASHP technical assistance bulletin on repackaging oral solids and liquids in single unit and unit dose packages.
- Drug distribution and control: preparation and handling positions.
- ASHP guidelines on handling hazardous drugs.
- ASHP technical assistance bulletin on compounding non-sterile products in pharmacies.

Progression of Residents:

The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Progression of Residents
Week 1	**Day 1**
	• Preceptor will introduce the resident to area and staff pharmacists. • Preceptor will provide an area tour. • Resident will be provided with reading materials containing for shifts details and job descriptions • Preceptor will identify medical units covered by inpatient/discharge pharmacy • Identification of Policies and Procedures: Clarification of specific policies and procedures governing the working environment. • Comprehensive Information on the CPOE System: Detailed guidance provided by the preceptor regarding the Computerized Physician Order Entry (CPOE) system. Ensuring residents have complete information and comprehension of the system by providing comprehensive reading materials and instructions.
	Day 2-5
	• Discharge pharmacy overview.

	• Residents will identify floors covered by the pharmacy. • The preceptor will explain different types of orders (out on pass, self-medication, discharge medication) processed by the pharmacy. • In the first week residents will shadow the pharmacist for order verification and processing orders in the system.
Week 2	**Day 1-2**
	• Pharmacy repackaging overview and the benefits of medication repackaging for hospitalized patients. • Resident will be provided with reading materials containing shift details and job descriptions • Identification of Policies and Procedures: Clarification of specific policies and procedures governing the working environment. • Residents will identify the medication repackaging process and the distribution process after repackaging. • The preceptor will explain the workflow and how to ensure the safety, efficacy, and quality of medications throughout their repackaging process until they reach the patient
	Day 3-5
	• Controlled Drugs overview. • Resident will be provided with reading materials containing shift details and job descriptions • Identification of Policies and Procedures: Clarification of specific policies and procedures governing the working environment. • The preceptor will explain the workflow, how to file the controlled drug prescriptions, check the previous day's Narcotic and Psychotropic substances sheets submitted by the units/wards, check the Narcotic and Psychotropic substances sheets of each unit/ward for any drug requests, collect empty Narcotic and Psychotropic ampoules, prepare all unit doses form of Narcotic and Psychotropic substances for inpatient use, Prepare stocks requested by the satellite pharmacies and Primary Healthcare Clinics, and other required work related to controlled Drugs.
Week 3-5	• Resident should be able to handle order verification and processing orders in the system. • Residents should be able to verify orders accurately and efficiently. • Residents should double-check all prepared medications. • Residents should verify more complicated orders like high alert drugs and STAT orders under supervision. • Residents should answer phone calls from health care professionals under supervision. • Residents should utilize all available information resources (online formulary, lexi.com, and Micromedex). • Resident will prepare different types of labels such as oral, topical, inhalation, and injectable from the generated fill list. • Resident will be checking (the right patient, drug, dose and concentration, route,

	due time, and expiration date) for prepared medication. • Residents will recognize IV administration guidelines and practice calculating doses. • Resident will be reviewing the IVIG guidelines and discussing them with the preceptor.

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R1.1	**Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process).**	
R1.1.1	(Cognitive - Analyzing) Collect relevant subjective and objective information about the patient.	• Collect pertinent information on each assigned patient from available resources (e.g., medical record, patient's nurse, caregiver, and/or patient) every morning prior to rounds and record data on a secure patient monitoring form. • Review labs, medical record, and interview patients before adjusting any medication. • Review laboratory values, medication administration, and other pertinent data prior to adjusting medications in pharmacy-managed protocols. • Perform a medication history, review medical record, and contact patient's pharmacy or prescribing physician as needed when performing medication reconciliation. • Recommend, order, and/or conduct appropriate testing for patients according to evidence-based medicine and pharmacy policies and procedures.
R1.1.6	(Cognitive - Applying) Ensure implementation of therapeutic regimens and monitoring plans (care plans) by taking appropriate follow-up actions.	• Complete admission medication reconciliation for all assigned patients daily. • Complete discharge medication reconciliation and medication education for all assigned patients daily. • When patients are transferred from critical care to a medical/surgical unit, communicate any necessary information to the pharmacist assigned to the medical/surgical unit. • Identify new patients at the pharmacy and conduct medication reconciliation and resolve any medication issues. • Anticipate (or advise) on any required changes when a member is being discharged (inpatient to outpatient). • Review formulary options for a patient prior to selecting a medication for therapy.
Goal R1.2	**Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.**	
R1.2.1	(Cognitive - Applying) Collaborate and communicate with healthcare team members.	• While on rounds, be prepared to identify medication-related problems and make evidence-based recommendations for solutions to the team. • Participate in daily rounds with assigned team and provide recommendations on assigned patients and answer drug information questions in a timely manner.

		• Work with physicians and nurses to resolve issues found when reconciling patients' medications prescribed on admission with medications taken as outpatient. • Contact prescribing physician to resolve issues found when verifying medication orders. • Contact prescribing physician to resolve issues when reviewing prior authorization requests. • Work with nurses and other health care providers to resolve missing doses and other medication distribution issues brought to your attention while staffing. • Provide accurate and timely responses to drug information questions from other healthcare team members.
Goal R1.3	**Promote safe and effective access to medication therapy.**	
R1.3.1	(Cognitive - Applying) Facilitate the medication-use process related to formulary management or medication access.	• Review non-formulary drug requests to determine if they meet criteria for approval. • When a non-formulary or "patient's own drug" is prescribed, ensure bar-coding of the medication is completed before dispensing. • Recommend formulary therapeutic alternatives for non-formulary medications, as appropriate. • Facilitate outreach to and coordination with the prescriber to resolve prior authorization issues.
R1.3.2	(Cognitive - Applying) Participate in medication event reporting.	• Document validated adverse drug events in the system's incident reporting system. • Demonstrate adverse drug event reporting process to other disciplines.
R1.3.3	(Cognitive - Evaluating) Manage the process for preparing, dispensing, and administering (when appropriate) medications.	• Perform order verification, check IV solutions, and other patient-specific medications prior to dispensing. • Serve as the 1st or 2nd pharmacist verification for chemotherapy orders. • Compound medication products consistent with USP Standards. • Prepare medications needed during codes. • Manage all support personnel in the pharmacy to safely and accurately dispense prescriptions. • Complete all steps in the final check of filled prescriptions to ensure accuracy.
Goal R3.2	**Demonstrate leadership skills that foster personal growth and professional engagement.**	
R3.2.2	(Cognitive - Applying) Demonstrate personal and interpersonal skills to manage entrusted responsibilities.	• Leverage relationships with physicians, nurses, co-workers, and students to complete entrusted responsibilities. • Prioritize and organize tasks to complete entrusted responsibilities. • Apply effective workload and time management skills to appropriately meet responsibilities within the confines of a reasonable workday. • Set SMART goals (Specific, Measurable, Achievable, Relevant, Time-bound goals), implement action steps, and take accountability for progress on assigned projects. • Complete daily and longitudinal responsibilities (e.g., patient care, projects, management, and meetings).

		• Identify issues or barriers and create potential solutions or management strategies. • Execute assigned work ensuring development of quality product(s) within assigned timelines. • Facilitate assigned meeting(s) and prepare meeting minutes.
R3.2.3	(Cognitive - Applying) Demonstrate responsibility and professional behaviors.	•

Evaluation Strategy:

After resident and preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Inpatient Pharmacy II

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Mr. Sattam Alharbi	Harbisn1@mngha.med.sa	1777	13744
Dr. Alaa Alharthi	AlharthiAl3@mngha.med.sa	-	-
Col. Abdulaziz Al Rashedi	RashediAb@MNGHA.MED.SA	6669	56514

General Description:

Satellite pharmacies at King Abdulaziz Medical City - Riyadh provide pharmaceutical care following international health care quality and patient safety accreditation standards of the Joint Commission and International (JCI) and national organization Saudi Central Board for Accreditation of Healthcare Institutions (CBAHI). Currently, there are twelve satellite pharmacies available in three hospitals inside KAMC. Pharmacists' responsibilities include verifying and processing medication orders for different medical, surgical, and cardiac units including critical care units, operating and recovery rooms using computerized physician order entry (CPOE).

The main hospital hosts a total of six satellite pharmacies, each tailored to specific healthcare units:

- Two ICU Satellite Pharmacies.
- Surgical Satellite Pharmacy.
- ER Satellite Pharmacy
- Long-term Satellite Pharmacy.
- Cardiac Satellite Pharmacy.

King Abdullah Specialist Children Hospital (KASCH) hosts a total of five satellite pharmacies, each tailored to specific healthcare units:

- Two pediatrics satellite pharmacies.
- Two chemo Satellite Pharmacies.
- ICU Satellite Pharmacy

Women's Health Hospital (WHH), hosts one satellite pharmacy

Related Policies and Procedures:

- DPP 7330-05-01-00 Inpatient Pharmacy Services
- DPP 7330-05-01-01 Inpatient Pharmacy Services - Work Overview
- DPP 7330-05-01-02 Inpatient Pharmacy Services - Pharmacy Satellites
- DPP 7330-05-02-00 Inpatient Medication Supply
- DPP 7330-05-03 Medication Order Processing Dispensing
- DPP 7330-05-19-00 Storage of Inpatient Pharmacy Documents
- DPP 7330-05-21-00 Nurse Medication Requisition (Blue Slip)
- DPP 7330-05-18-00 Medication Delivery Schedule Route
- DPP 7330-05-20-00 Home Health Care Medication Process
- DPP 7330-05-05-00 Returning and Proper Recycling of Medications
- DPP 7330-05-09-00 Reordering and Stocking in Inpatient Pharmacy Areas
- DPP 7330-06-17-00 Guidelines for the Safe Handling of Parenteral Cytotoxic Agents

- DPP 7330-06-18-00 Chemotherapy Ordering and Preparation Procedures
- DPP 7330-06-15-00 Late Mixing of IV Medications
- DPP 7330-06-21-00 Light Sensitive Oral and Intravenous Medications
- DPP 7330-08-02-00 Compounding Non-Sterile Products
- DPP 7330-09-04-00 Poisoning and Antidotes
- DPP 7330-09-05-00 Automatic Dosage Change
- DPP 7330-09-11-00 Automatic Substitution
- DPP 7330-10-03-00 General Procedure in Prescribing and Dispensing Narcotic and Psychotropic Substances
- DPP 7330-16-05-00 Profiling and Dispensing When the Computer System is Down
- APP 1430-41 Code blue Activation Cardiopulmonary
- APP 1444-01 Medication Administration and Monitoring
- APP 1436-03 Standard Medication Administration Times
- APP 1435-07 Patient Care Handover and Verbal-Telephone Communication
- APP 1442-11 Off-Label Use of Medications
- APP 1443-04 High Alert Medication
- APP 1434-07 Adverse Drug Events-Documentation
- APP 1429-02 Look Alike Sound Alike Medications
- APP 1433-36 Medication Storage and Security

Role(s) of Pharmacist(s):

During the Inpatient II rotation, the pharmacist's role centers on foundational medication management for the inpatient, which includes accurate order verification, safe dispensing practices, and ensuring medication safety through comprehensive drug utilization review as well as participation in code blue. They are responsible for pharmacokinetic monitoring, documenting and reporting adverse drug reactions, and providing essential drug information to other healthcare professionals.

Expectations of Residents:

Under the direct supervision of a preceptor, the pharmacy resident on the Inpatient II rotation is responsible for guaranteeing the safe and effective use of medications for patients assigned to various teams, with a particular focus on advanced pharmacy functions within the satellite pharmacies. This advanced rotation requires the resident to expand their clinical skills and operational knowledge. The resident is expected to demonstrate proficiency in managing the day-to-day operations of a satellite pharmacy, including handling advanced medication requests, troubleshooting dispensing issues, and overseeing controlled substance management. A key part of the resident's role is to provide specialized clinical support directly from the satellite, addressing complex therapeutic drug monitoring, and serving as a key resource for the medical and nursing staff in that area. The resident will also be responsible for developing and implementing evidence-based therapeutic plans, monitoring for efficacy and adverse effects, and providing clear, concise recommendations during interdisciplinary rounds. Furthermore, they must become an integral and collaborative member of the satellite care team, contributing to patient care discussions and ensuring positive drug therapy outcomes.

Progression of Residents:

The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Progression of Residents
Week 1	**Day 1-2**
	● The preceptor will introduce the resident to all satellite pharmacy areas and staff pharmacists. ● Introduction to different satellite pharmacies and pharmacist responsibilities will be provided. ● The preceptor will provide a tour for residents around all satellite pharmacy areas and identify floors covered by satellite pharmacies. ● The preceptor will identify policies and procedures clarification of specific policies and procedures governing the working environment. Emphasis on understanding and adherence to established protocols within satellite pharmacies. ● Resident will be provided with reading materials containing shift details and job descriptions ● Resident will be provided with a schedule of covering in different pharmacy satellites. ● The preceptor will provide residents with full information related to CPOE system reading manual.
	Day 3-5
	● The preceptor will explain different types of orders (drips, chemo protocols, oral medications, and intravenous fluids) processed by the pharmacy. ● In the first week residents will shadow the pharmacist for order verification and processing orders in the system.
Week 2-5	● Residents should be able to verify orders accurately and efficiently. ● Residents should double-check all prepared medications. ● Residents should verify more complicated orders like high alert drugs and STAT orders under supervision. ● Residents should answer phone calls from health care professionals under supervision. ● Residents should utilize all available information resources (online formulary, lexi.com and Micromedex). ● Residents will process drips with special consideration to pediatric and adult dosing calculation, right concentration and rate of infusion, central and peripheral administration, and volume restrictions under supervision.

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R1.1	**Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process).**	
R1.1.1	(Cognitive - Analyzing) Collect relevant subjective and objective information about the patient.	• Collect pertinent information on each assigned patient from available resources (e.g., medical record, patient's nurse, caregiver, and/or patient) every morning prior to rounds and record data on a secure patient monitoring form. • Review labs, medical record, and interview patients before adjusting any medication. • Review laboratory values, medication administration, and other pertinent data prior to adjusting medications in pharmacy-managed protocols. • Perform a medication history, review medical record, and contact patient's pharmacy or prescribing physician as needed when performing medication reconciliation. • Recommend, order, and/or conduct appropriate testing for patients according to evidence-based medicine and pharmacy policies and procedures.
Goal R1.2	**Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.**	
R1.2.1	(Cognitive - Applying) Collaborate and communicate with healthcare team members.	• • While on rounds, be prepared to identify medication-related problems and make evidence-based recommendations for solutions to the team. • Participate in daily rounds with assigned team and provide recommendations on assigned patients and answer drug information questions in a timely manner. • Work with physicians and nurses to resolve issues found when reconciling patients' medications prescribed on admission with medications taken as outpatient. • Contact prescribing physician to resolve issues found when verifying medication orders. • Contact prescribing physician to resolve issues when reviewing prior authorization requests. • Work with nurses and other health care providers to resolve missing doses and other medication distribution issues brought to your attention while staffing. • Provide accurate and timely responses to drug information questions from other healthcare team members.
Goal R1.3	**Promote safe and effective access to medication therapy.**	
R1.3.2	(Cognitive - Applying) Participate in medication event reporting.	• Document validated adverse drug events in the system's incident reporting system. • Demonstrate adverse drug event reporting process to other disciplines.
R1.3.3	(Cognitive - Evaluating) Manage the process for preparing, dispensing, and administering (when	• Perform order verification, check IV solutions, and other patient-specific medications prior to dispensing. • Serve as the 1st or 2nd pharmacist verification for chemotherapy orders. • Compound medication products consistent with USP Standards.

	appropriate) medications.	• Manage all support personnel in the pharmacy to safely and accurately dispense prescriptions. • Complete all steps in the final check of filled prescriptions to ensure accuracy.
Goal R3.2	**Demonstrate leadership skills that foster personal growth and professional engagement.**	
R3.2.2	(Cognitive - Applying) Demonstrate personal and interpersonal skills to manage entrusted responsibilities.	• Leverage relationships with physicians, nurses, co-workers, and students to complete entrusted responsibilities. • Prioritize and organize tasks to complete entrusted responsibilities. • Apply effective workload and time management skills to appropriately meet responsibilities within the confines of a reasonable workday. • Set SMART goals (Specific, Measurable, Achievable, Relevant, Time-bound • goals), implement action steps, and take • accountability for progress on assigned projects. • Complete daily and longitudinal responsibilities (e.g., patient care, projects, management, and meetings). • Identify issues or barriers and create potential solutions or management strategies. • Execute assigned work ensuring development of quality product(s) within assigned timelines. • Facilitate assigned meeting(s) and prepare meeting minutes.
R3.2.3	(Cognitive - Applying) Demonstrate responsibility and professional behaviors.	• Prioritize patients/activities within the structure of the day. • Complete assigned projects by established • deadlines. • Comply with organizational policies, procedures, and required trainings (e.g., HIPAA compliance, etc.). • Integrate the pharmacists' responsibilities within the healthcare continuum through focused medication related planning and outcomes. • Interact cooperatively, collaboratively, and respectfully with others and display emotional intelligence. • Take responsibility for resolving conflicts and/or errors. • Demonstrate responsibility to committees or informal workgroup projects, tasks, or goals (e.g., contribute to committee discussions, identify pertinent background information, identify data for collection, interpret data, implement corrective action) through engagement.
R3.2.4	(Cognitive - Applying) Demonstrate engagement in the pharmacy profession and/or the population served.	• Engage in local or international professional society activities. • Participate in a community organization.

Evaluation Strategy:

After resident and preceptor have completed and signed the evaluation forms, the resident

and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Sterile Admixture

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Mr. Sattam Alharbi	Harbisn1@mngha.med.sa	1777	13744
Dr.Fatima Alhassan	alhassanfa1@mngha.med.sa	9967	50026
Col.Abdulaziz Al Rashedi	RashediAb@MNGHA.MED.SA	6669	56514

General Description:

The Intravenous admixture services at King Abdulaziz Medical City, Riyadh complies with chapter USP 797 and National Institute for Occupational Safety and Health (NOISH) guidelines. The preparation process of the IV admixtures is a combination of both manual aseptic techniques and Baxa for TPN compounding. During the 5 weeks learning experience, the resident will gain knowledge about aseptic technique, chapter USP 797, the various types of laminar air hoods. At the end of this learning experience resident is expected to show complete knowledge and ability to perform main intravenous preparation tasks.

Related Policies and Procedures:

- DPP 7330-06-01-00 Aseptic Preparation and Final Inspection of Sterile Products
- DPP 7330-06-01-01 Aseptic Technique Principles of Laminar Flow Hoods
- DPP 7330-06-01-02 Personnel Aseptic Procedure
- DPP 7330-06-01-05 Proper Aseptic Manipulation of Vials and Ampoules
- DPP 7330-06-02-00 Labeling of Compounded Sterile Preparation
- DPP 7330-06-07-00 General Cleaning of Pharmacy Areas by Pharmacy Personnel
- DPP 7330-06-10-00 IV Equipment Maintenance and Testing
- DPP 7330-06-11-00 IV Personnel Training and Testing
- DPP 7330-06-12-00 Preparation of First Doses of IV Emergency Drugs
- DPP 7330-06-13-00 Total Parenteral Nutrition Orders
- DPP 7330-06-20-00 Batch of Intravenous Medications
- DPP 7330-05-20-00 Home Health Care Medication Process

Role(s) of Pharmacist(s):

In the Sterile Products/Compounding the pharmacist has critical role in ensuring the safe and accurate preparation of sterile medications, adhering strictly to current Good Manufacturing Practices (cGMP) and United States Pharmacopeia (USP) standards, particularly USP <797> and USP <800>. This involves actively participating in all facets of the sterile compounding process, including meticulous aseptic technique during preparation, proper gowning and garbing, accurate calculations and measurements for sterile formulations, and performing rigorous quality control checks. The resident will develop expertise in managing sterile product workflows, identifying and mitigating potential risks associated with compounding high-alert medications and hazardous drugs, and contributing to environmental monitoring and quality assurance programs within the sterile compounding facility. Furthermore, they will critically evaluate compounding policies and procedures, engage in root cause analysis of errors, and provide education to other healthcare professionals on safe sterile product handling and administration, ultimately safeguarding patient safety and optimizing medication delivery.

Expectations of Residents:

Under the direct supervision of a preceptor, the pharmacy resident on the Sterile Preparations rotation is responsible for ensuring the safe, accurate, and compliant preparation of all compounded sterile products (CSPs) within the institution. The resident is expected to develop a comprehensive understanding of and proficiency in USP <797> and <800> regulations, applying these standards to all aspects of the compounding process, from garbing to final product release. This hands-on rotation requires the resident to demonstrate skill in aseptic technique, performing both routine and complex sterile compounding procedures for various medication types, including chemotherapy, parenteral nutrition, and IV admixtures. A key expectation is the resident's role in quality assurance, which involves conducting environmental monitoring, participating in media fills, and performing visual inspections of compounded products. The resident will also be involved in maintaining compounding equipment, reviewing and updating standard operating procedures, and providing education to technicians and pharmacists on best practices for sterile compounding.

Suggested reading materials:

- ASHP guidelines on quality assurance for pharmacy-prepared sterile products.
- ASHP guidelines on handling hazardous drugs.
- ASHP technical assistance bulletin on handling cytotoxic and hazardous drugs.
- ASHP technical assistance bulletin on pharmacy-prepared ophthalmic products.
- Safe practices for parenteral nutrition formulations.

Progression of Residents:

The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Progression of Residents
Day 1	• Introduction to staff and area. • Identification of all related policies and procedures. • Introduction of Aseptic Technique and USP797. • Watching ASHP Aseptic Technique DVD.
Week 1	**Under direct supervision and guidance:** • Residents will prepare premixed antibiotics. • Prepare IV syringes and IVPB. • Handling IV returns. • Proper disposable expired IV medications.

Period	Progression of Residents
Week 2	**Under direct supervision and guidance:** • Resident be will preparing different IV medication from label run. • Preparing special dilutions. • Resident is expected to develop appropriate technique and accuracy. • Preceptor and resident will discuss medication stability and suitable diluents.
Week 3	**Under direct supervision and guidance:** • Resident will be preparing Total Parenteral Nutrition. • Properly handle Automated TPN mixing machine. • Preparing TPN for NICU under supervision. • Discussion with preceptor solubility and compatibility of TPN. • Completion of Snapshot evaluation for two selected objectives will be discussed and completed.
Week 4	**Under direct supervision and guidance:** • Resident will be preparing new and STAT medications (under supervision). • Preparing short stability and expansive medication. • Preparing blood products and demonstrating necessary precautions.
Week 5	• Residents should demonstrate full competency in processing and preparing all IV and should be able to handle the different responsibilities in all shifts. • Resident will provide mini-in-service about topic or project requested by preceptor. • Resident and preceptor will meet to evaluate the learning experience and to complete summative evaluations.

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R1.1	**Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process).**	
R1.1.1	(Cognitive - Analyzing) Collect relevant subjective and objective information about the patient.	• Collect pertinent information on each assigned patient from available resources (e.g., medical record, patient's nurse, caregiver, and/or patient) every morning prior to rounds and record data on a secure • patient monitoring form. • Review labs, medical record, and interview patients before adjusting any medication. • Review laboratory values, medication administration, and other pertinent data prior to adjusting medications in pharmacy-managed protocols. • Perform a medication history, review medical record, and contact patient's pharmacy or prescribing physician as needed when performing medication reconciliation. • Recommend, order, and/or conduct appropriate testing for patients according to evidence-based medicine and pharmacy policies and procedures.
Goal R1.2	**Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.**	
R1.2.1	(Cognitive - Applying) Collaborate and	• While on rounds, be prepared to identify medication-related problems and make evidence-based recommendations for solutions to the team.

	communicate with healthcare team members.	• Participate in daily rounds with assigned team and provide recommendations on assigned patients and answer drug information questions in a timely manner. • Work with physicians and nurses to resolve issues found when reconciling patients' medications prescribed on admission with medications taken as outpatient. • Contact prescribing physician to resolve issues found when verifying medication orders. • Contact prescribing physician to resolve issues when reviewing prior authorization requests. • Work with nurses and other health care providers to resolve missing doses and other medication distribution issues brought to your attention while staffing. • Provide accurate and timely responses to drug information questions from other healthcare team members.
Goal R1.3	**Promote safe and effective access to medication therapy.**	
R1.3.1	(Cognitive - Applying) Facilitate the medication-use process related to formulary management or medication access.	• Review non-formulary drug requests to determine if they meet criteria for approval. • When a non-formulary or "patient's own drug" is prescribed, ensure bar-coding of the medication is completed before dispensing. • Recommend formulary therapeutic alternatives for non-formulary medications, as appropriate. • Facilitate outreach to and coordination with the prescriber to resolve prior authorization issues.
R1.3.2	(Cognitive - Applying) Participate in medication event reporting.	• Document validated adverse drug events in the system's incident reporting system. • Demonstrate adverse drug event reporting process to other disciplines.
R1.3.3	(Cognitive - Evaluating) Manage the process for preparing, dispensing, and administering (when appropriate) medications.	• Perform order verification, check IV solutions, and other patient-specific medications prior to dispensing. • Serve as the 1st or 2nd pharmacist verification for chemotherapy orders. • Compound medication products consistent with USP Standards. • Manage all support personnel in the pharmacy to safely and accurately dispense prescriptions. • Complete all steps in the final check of filled prescriptions to ensure accuracy.
Goal R3.2	**Demonstrate leadership skills that foster personal growth and professional engagement.**	
R3.2.2	(Cognitive - Applying) Demonstrate personal and interpersonal skills to manage entrusted responsibilities.	• Leverage relationships with physicians, nurses, co-workers, and students to complete entrusted responsibilities. • Prioritize and organize tasks to complete entrusted responsibilities. • Apply effective workload and time management skills to appropriately meet responsibilities within the confines of a reasonable workday. • Set SMART goals (Specific, Measurable, Achievable, Relevant, Time-bound goals), implement action steps, and take accountability for progress on assigned projects. • Complete daily and longitudinal responsibilities (e.g., patient care, projects, management, and meetings).

		• Identify issues or barriers and create potential solutions or management strategies. • Execute assigned work ensuring development of quality product(s) within assigned timelines. • Facilitate assigned meeting(s) and prepare meeting minutes.
R3.2.3	(Cognitive - Applying) Demonstrate responsibility and professional behaviors.	• Prioritize patients/activities within the structure of the day. • Complete assigned projects by established deadlines. • Comply with organizational policies, procedures, and required trainings (e.g., HIPAA compliance, etc.). • Integrate the pharmacists' responsibilities within the healthcare continuum through focused medication related planning and outcomes. • Interact cooperatively, collaboratively, and respectfully with others and display emotional intelligence. • Take responsibility for resolving conflicts and/or errors. • Demonstrate responsibility to committees or informal workgroup projects, tasks, or goals (e.g., contribute to committee discussions, identify pertinent background information, identify data for collection, interpret data, implement corrective action) through engagement.

Evaluation Strategy:

After resident and preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Drug Information

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Laila Carolina Abu Esba	abuesbala@Mngha.med.sa	2957	12555
Dr. Reham Alhoraibi	alhoraibire@mngha.med.sa	6683	13097

General Description:

The Drug Information rotation is a required 5-week rotation in the first year of the residency program. The rotation will expose the resident to advanced concepts in Drug Information and application of Evidence Based Medicine. Furthermore, it allows the resident to contribute to the modern practice of drug information through the completion of projects to support the medication management process. The DIC functions include providing comprehensive, unbiased, evidenced-based medication information, supporting the activities of the Pharmacy and Therapeutic (P&T) Committee, disseminating drug safety alerts, maintaining updated and appropriate drug information resources, supporting the professional development of pharmacy staff.

Related Policies and Procedures:

- DPP7330-07-03-00 Drug and Poison Information Center (DPIC)
- APP1434-07 Adverse Drug Events-Documentation
- APP 1435-09: MNG-HA Drug Formulary - Addition, Deletion and Evaluation.
  a. Appendix A- Corporate Pharmacy & Therapeutic Committee Workflow.
  b. Appendix E- Drug Formulary Addition Request.
  c. Appendix F- Guidelines for Medication Deletion from MNGHA Drug Formulary
  d. Appendix G- Drug Evaluation Work Dynamics Guide
  e. Appendix H- Drug Evaluation Form
  f. Appendix I- New Dosage Form and Strength Addition Request Form.
  g. Appendix J- New Dosage Form and Strength Addition -Evaluation Form

Role(s) of Pharmacist(s):

During the Drug Information rotation, the pharmacist a pivotal role in acting as an authoritative resource for evidence-based medication knowledge. This involves skillfully responding to complex drug information requests from healthcare professionals across various disciplines by employing a systematic approach to literature searching, critical appraisal of primary and secondary sources, and synthesis of data to formulate well-supported, patient-specific recommendations. The resident will also actively contribute to medication policy development, such as preparing comprehensive drug monographs for Pharmacy and Therapeutics Committee meetings, conducting medication use evaluations, and assisting in the development of clinical guidelines. Furthermore, they will engage in proactive drug information dissemination, potentially through presentations, newsletters, or contributing to the institution's drug information databases, ultimately enhancing safe, effective, and rational medication use throughout the healthcare system.

Expectations of Residents:

Under the direct supervision of a preceptor, the pharmacy resident on the Drug Information

rotation is responsible for serving as a primary resource for evidence-based medication information for healthcare professionals and staff. The resident is expected to develop expertise in formulating, conducting, and evaluating systematic literature searches to answer complex and time-sensitive drug information questions. This includes critically appraising primary literature to provide unbiased and well-supported recommendations. A key function of this rotation is the resident's responsibility to prepare and present drug monographs, formulary reviews, and institutional guidelines for the Pharmacy and Therapeutics Committee. The resident will also be involved in managing the institution's drug information resources, responding to external inquiries, and providing drug-related education to other pharmacy residents, students, and hospital staff. Success in this rotation requires exceptional written and verbal communication skills, along with the ability to synthesize complex information into clear and actionable recommendations.

Suggested Reading Materials:

- ASHP statement on the pharmacy and therapeutics committee.
- ASHP statement on the formulary system.
- ASHP guidelines on formulary system management.
- ASHP guidelines on preventing medication errors in hospitals.
- ASHP statement on pharmaceutical care.
- ASHP guidelines on a standardized method for pharmaceutical care.
- ASHP statement on the pharmacist's role in infection control.
- Drug Information: A Guide for Pharmacist (Chapter 2, 3).

Progression of Residents:

The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Progression of Residents

Week 1	**Day 1**
	• Preceptor will introduce resident to area staff.
	• Preceptor will provide an area tour.
	• Preceptor will discuss with the resident the objectives of the DI rotation & residents' responsibilities.
	• Preceptor will provide orientation on the available resources and website subscription.
	• Preceptor will provide the following reading materials:
	  ○ Drug information service policy and Procedures (DPP).
	  ○ Maintenance of drug information center resources policy
	  ○ Off-label Use of Medications policy

	○ ASHP Guidelines on the Provision of Medication Information by Pharmacists. ○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 1
	Day 2
	• Resident will start observing the questions received by DI pharmacist and their approach to answer. • Preceptor will meet with resident to discuss questions and previous reading materials. • Resident will subscribe to the following websites to revive drug safety alerts to their email: ○ US-FDA: https://public.govdelivery.com/accounts/USFDA/subscriber/new ○ UK (MHRA): https://public.govdelivery.com/accounts/UKMHRA/subscriber/new?topic_id=UKMHRA_0044 ○ Health Canada: https://recallsrappels.canada.ca/en/form/subscribe ○ SFDA: https://www.sfda.gov.sa/en/safety_alert (they don't have email subscription so you need to open their website on a daily bases to monitor for new alerts) ○ EMA: https://www.ema.europa.eu/en (they don't have email subscription so you need to open their website on a daily bases to monitor for new alerts) • Resident will continue reading the material: ○ Adverse Drug Events - Documentation and Reporting Requirements ○ Allergy Status - Identification and Documentation ○ Safety Reporting System ○ ASHP: Medication Misadventure. ○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 2
	Day 3
	• Resident will continue to observe the questions received by DI pharmacist and their approach to answer. • Resident will be documenting question on the Electronic DIC Form. • Preceptor will discuss questions with the resident and previous reading materials. • Resident will start the daily monitoring of drug safety alert and raise concerning alerts to the preceptor for • discussion • Resident will continue reading the material: ○ Recall of Medications ○ Drug Shortage - Management and Procurement Drug ○ Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 3
	Day 4
	• Resident will continue to observe the questions received by DI pharmacist and their approach to answer. • Resident will be documenting questions on the Electronic DIC Form. • Preceptor will meet with resident to discuss questions and reading materials. • Resident will receive a reported ADR for evaluation, documenting severity and possibility score. • Resident will continue reading the material: ○ Drug utilization evaluation policy

	○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter
	Day 5
	• Resident will continue to observe the questions received by DI pharmacist and their approach to answer. • Resident will be documenting questions on the Electronic DIC Form. • Preceptor will meet with resident to discuss questions and reading materials. • Resident will continue reading the material: ○ Oral Dosage Forms That Should Not be Crushed Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 5-6
Week 2	**Day 1**
	• Preceptor will introduce the resident to email Etiquette, and methods of writing written responses. • Resident will be responsible for answers and documenting phone questions. • Resident will start to take DI questions independently, search for the appropriate answer, discuss with preceptor and provide the answer. • Preceptor will meet with resident to discuss questions and reading materials. • Resident will be introduced to the concept of formulary management and the P&T committee • Resident will be assigned to complete a medication use evaluation MUE • Resident will be assigned to complete a drug evaluation for Formulary addition consideration. • Resident will continue reading the material: ○ Formulary system policy ○ Pharmacy and Therapeutic Committee DPPs. ○ ASHP statement for P&T Committee. ○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 7 ○ o Principles of Research Design and Drug Literature Evaluation chapter 1, 2
	Day 2
	• Resident will continue to respond to received DIC questions by email. • Resident will continue to answer and document phone questions. • Resident will complete the first section of the drug evaluation (gathering general information about the drugs and the disease it is intended to be used for) • Resident will continue the daily monitoring of drug safety alert and raise concerning alerts to the preceptor • for discussion • Resident will continue reading the material: ○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 8 ○ Principles of Research Design and Drug Literature Evaluation chapter 3
	Day 3
	• Resident will continue to respond to received DIC questions by email. • Resident will continue to answer and document phone questions. • Resident will complete the first section of the drug evaluation (gathering general information about the drugs • and the disease it is intended to be used for)

	• Resident will continue the daily monitoring of drug safety alert and raise concerning alerts to the preceptor
	• for discussion
	• Resident will continue reading the material:
	• ASHP Technical Assistance Bulletin on the Evaluation of Drugs for Formularies.
	  ○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 9
	  ○ Principles of Research Design and Drug Literature Evaluation chapter 4

	Day 4

	• Resident will continue to respond to received DIC questions by email.
	• Resident will continue to answer and document phone questions.
	• Resident will start compiling the evidence related to the drug being evaluated, and list them in a systematic way. See Table 2: in the Pharmacoeconomics Principles and Best Practice: A Practical Guide
	• Resident will continue the daily monitoring of drug safety alert and raise concerning alerts to the preceptor for discussion
	• Resident will continue reading the material:
	• ASHP Technical Assistance Bulletin on the Evaluation of Drugs for Formularies.
	  ○ Principles of Research Design and Drug Literature Evaluation chapter 5
	  ○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 10

	Day 5

	• Resident will continue to check DIC emails.
	• Resident will continue to answer and document phone questions.
	• Resident will be submitting drug monograph evaluation draft # 1.
	• Preceptor will meet with resident to discuss questions and previous reading materials.
	• Resident will continue the daily monitoring of drug safety alert and raise concerning alerts to the preceptor for discussion
	• Resident will continue reading the material:
	  ○ Principles of Research Design and Drug Literature Evaluation chapter 6, 7
	  ○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 11, 12

Week 3	**Day 1**

	• Resident will continue to check DIC emails.
	• Resident will continue to answer and document phone questions. Preceptor will meet with resident to discuss progress.
	• Snapshot evaluation for two objectives will be discussed and completed.
	• Resident will complete an analysis of a drug safety alert and summarize the recommendations
	• Resident will continue reading the material:
	  ○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 13
	  ○ Principles of Research Design and Drug Literature Evaluation chapter 8

	Day 2
	• Resident will continue to check DIC emails. • Resident will continue to answer and document phone questions. • Resident will discuss with the preceptor the studies compiled in relation to the assigned drug evaluation and select together those that will be included for a full critical appraisal.

	• Preceptor will meet with resident to discuss progress.
	• Resident will attend a meeting with a pharmaceutical company representative to observe negotiations on behalf of the P&T
	• Resident will complete writing the drug safety alert summary
	• Resident will continue reading the material:
	  ○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 14
	  ○ Principles of Research Design and Drug Literature Evaluation chapter 9

	Day 3

	• Resident will continue to check DIC emails.
	• Resident will continue to answer and document phone questions.
	• Preceptor will meet with resident to discuss questions and previous reading materials.
	• Resident will start the critical appraisal of the studies selected for the drug evaluation
	• Resident will receive a reported ADR for evaluation, documenting severity and possibility score.
	• Resident will attend a P&T meeting as per scheduled during the rotation, and take the minutes to be discussed in details with the preceptor
	• Resident will continue reading the material:
	  ○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 15
	  ○ Principles of Research Design and Drug Literature Evaluation chapter 10

	Day 4

	• Resident will continue to check DIC emails.
	• Resident will continue to answer and document phone questions.
	• The resident will handle a drug shortage issue, analyze the reasons, review various relevant resources, communicate with end-users, and develop a plan to overcome the shortage
	• Resident will continue reading the material:
	  ○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 16
	  ○ Principles of Research Design and Drug Literature Evaluation chapter 11

	Day 5

	• Preceptor will meet with resident to discuss questions and previous reading materials.
	• Resident will continue to check DIC emails.
	• Resident will continue to answer and document phone questions.
	• Resident will observe how the preceptor updates the formulary, restriction list and procurement orders.
	• Preceptor will meet with resident to report and assess progress.
	• Resident will continue reading the material:
	  ○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 17, 18
	  ○ Principles of Research Design and Drug Literature Evaluation chapter 12

Week 4	**Day 1**
	• Resident will continue to check DIC emails. • Resident will continue to answer and document phone questions. • Preceptor will meet with resident to report and assess progress. • Resident will continue the daily monitoring of drug safety alert and raise concerning alerts to the preceptor for discussion • Principles of Research Design and Drug Literature Evaluation

	○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 19 ○ Principles of Research Design and Drug Literature Evaluation chapter 13
	Day 2
	• Resident will continue to check DIC emails. • Resident will continue to answer and document phone questions. • Preceptor will meet with resident to discuss progress. • Resident will present a mini-in-service about any selected topic or new drug chosen by the preceptors. • Resident will continue the daily monitoring of drug safety alert and raise concerning alerts to the preceptor for discussion • Resident will continue reading the material: ○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 20 ○ Principles of Research Design and Drug Literature Evaluation chapter 14
	Day 3
	• Resident will continue to check DIC emails. • Resident will continue to answer and document phone questions. • Resident should have completed the critical appraisal of the studies selected for the drug evaluation and discuss the findings and limitation of the studies with the preceptor • Resident will give a mock presentation of their drug evaluation to the preceptor and review the comments and feedback. • Resident will continue reading the material: ○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 21 ○ Principles of Research Design and Drug Literature Evaluation chapter 15
	Day 4
	• Resident will continue to check DIC emails. • Resident will continue to answer and document phone questions. • Preceptor will meet with resident to report and assess progress. • Resident will start the finalizing the conclusion of the critical appraisal of the studies selected for the drug evaluation • Resident will assist in estimating quantities for a drug newly introduced to the formulary • Resident will continue reading the material: ○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 22 ○ Principles of Research Design and Drug Literature Evaluation chapter 16
	Day 5
	• Resident will start the finalizing the conclusion of the critical appraisal of the studies selected for the drug evaluation • Preceptor will meet with resident to discuss submitted materials. • Resident will continue reading the material: ○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 23, 24 ○ Principles of Research Design and Drug Literature Evaluation chapter 17
Week 5	**Day 1**
	• Preceptor will meet with resident to report and assess progress. • Resident will continue to check DIC emails.

	• Resident will continue the daily monitoring of drug safety alert and raise concerning alerts to the preceptor • for discussion • Resident will continue to answer and document phone questions. • Resident will continue reading the material: ○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 25 ○ Principles of Research Design and Drug Literature Evaluation chapter 18
	Day 2
	• Resident will continue to check DIC emails. • Resident will continue to answer and document phone questions. • Resident will complete writing and summarizing a drug safety alert with recommended action plan to be discussed and presented to the medication safety committee • Preceptor will meet with resident to repot progress. • Resident will continue reading the material: ○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 26 ○ Principles of Research Design and Drug Literature Evaluation chapter 19
	Day 3
	• Resident will finalize and submit the drug evaluation complete package • Resident will continue to check DIC emails. • Resident will continue to answer and document phone questions. • Resident will submit the contribution written related to the ADR quarterly report • Resident will continue reading the material: ○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 27 ○ Principles of Research Design and Drug Literature Evaluation chapter 20
	Day 4
	• Resident will continue to check DIC emails. • Resident will continue to answer and document phone questions. • Preceptor will meet with resident to report and assess progress. • Resident will continue reading the material: ○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 28 ○ Principles of Research Design and Drug Literature Evaluation chapter 21
	Day 5
	• Resident will finalize and submit all pending assigned projects. • Will address any final enquires with the preceptor. • Resident and preceptor will meet to evaluate the learning experience and to complete summative evaluations. • Resident will continue reading the material: ○ Drug Information: A Guide for Pharmacists, 7e by Patrick M. et. al. chapter 29, 30 ○ Principles of Research Design and Drug Literature Evaluation chapter 22

Other Activities during the rotation:

- Review non-formulary drug requests to determine if they meet the criteria for approval.

- Recommend formulary therapeutic alternatives for non-formulary medications, as appropriate.
- Document validated adverse drug events in the system's incident reporting system.
- Demonstrate adverse drug event reporting process to other disciplines.
- Report adverse medication events to the Saudi Food and Drug Authority (SFDA).
- Analyze adverse drug reactions
- Present aggregated patient data (e.g., adverse drug events, quality data) at assigned organizational meetings.
- Complete assigned medication-use evaluation.
- Assess current pharmacy quality measures and develop and implement a process to improve patient outcomes.
- Prepare assigned drug class review/monograph for presentation at the appropriate organization committee.
- Develop or revise assigned treatment guideline or protocol for consideration by appropriate stakeholders.
- Develop or revise an existing collaborative practice agreement, statewide protocol, or standing order.
- Develop or revise assigned utilization management criteria for consideration by appropriate stakeholders.

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R1.1	**Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process).**	
R1.1.3	(Cognitive - Analyzing) Collect information on which to base safe and effective medication therapy.	• Start patient on a dosing regimen designed to achieve target levels for all new "per pharmacy protocol" medication orders. • Develop a patient specific plan integrating knowledge of patient specific information, ethical, quality of life, and pharmacoeconomic issues. • Use knowledge of primary literature and guidelines to identify therapeutic goals for patient based on medications and disease states
Goal R1.3	**Promote safe and effective access to medication therapy.**	
R1.3.1	(Cognitive - Applying) Facilitate the medication-use process related to formulary management or medication access.	• Review non-formulary drug requests to determine if they meet criteria for approval. • When a non-formulary or "patient's own drug" is prescribed, ensure bar-coding of the medication is completed before dispensing. • Recommend formulary therapeutic alternatives for non-formulary medications, as appropriate. • Help patients experiencing medication access issues navigate through patient assistance programs. • Facilitate outreach to and coordination with the prescriber to resolve prior authorization issues
R1.3.2	(Cognitive - Applying) Participate in medication event reporting.	• Document validated adverse drug events in the system's incident reporting system. • Demonstrate adverse drug event reporting process to other disciplines. • Report medication adverse event to MedWatch.

		• Report vaccine adverse event to Vaccine Adverse Event Reporting System (VAERS).
Goal R1.4	**Participate in the identification and implementation of medication-related interventions for a patient population (population health management).**	
R1.4.1	(Cognitive - Applying) Deliver and/or enhance a population health service, program, or process to improve medication-related quality measures.	• Present aggregated patient data (e.g., adverse drug events, quality data) at assigned organizational meeting. • Complete assigned medication-use evaluation. • Assess current pharmacy quality measures and develop and implement a process to improve patient outcomes.
R1.4.2	(Cognitive - Creating) Prepare or revise a drug class review, monograph, treatment guideline, treatment protocol, utilization management criteria, and/or order set.	• Prepare assigned drug class review/monograph for presentation at the appropriate organization committee. • Develop or revise assigned treatment guideline or protocol for consideration by appropriate stakeholders. • Develop or revise an existing collaborative practice agreement, statewide protocol, or standing order. • Develop or revise assigned utilization management criteria for consideration by appropriate stakeholders.
Goal R3.1	**Demonstrate leadership skills that contribute to departmental and/or organizational excellence in the advancement of pharmacy services.**	
R3.1.1	(Cognitive - Understanding) Explain factors that influence current pharmacy needs and future planning.	• Review and discuss with pharmacy director assigned topics related to factors that influence current pharmacy needs and future planning. • Review organization's and/or pharmacy's strategic plan and describe the process for assessing the pharmacy department's current and future needs to inform future plans. • Participates in pharmacy administration learning series, modules, lectures (e.g., budgeting, operations and systems, credentialing and privileging, quality metrics, or other relevant topics) and discuss key learnings with pharmacy leaders.
Goal R3.2	**Demonstrate leadership skills that foster personal growth and professional engagement.**	
R3.2.3	(Cognitive - Applying) Demonstrate responsibility and professional behaviors.	• Prioritize patients/activities within the structure of the day. • Complete assigned projects by established deadlines. • Comply with organizational policies, procedures, and required trainings (e.g., HIPAA compliance, etc.). • Integrate the pharmacists' responsibilities within the healthcare continuum through focused medication related planning and outcomes. • Interact cooperatively, collaboratively, and respectfully with others and display emotional intelligence. • Take responsibility for resolving conflicts and/or errors. • Demonstrate responsibility to committees or informal workgroup projects, tasks, or goals (e.g., contribute to committee discussions,

		identify pertinent background information, identify data for collection, interpret data, implement corrective action) through engagement
R3.2.4	(Cognitive - Applying) Demonstrate engagement in the pharmacy profession and/or the population served.	• Engage in local or international professional society activities. • Participate in a community organization

Evaluation Strategy:

After the resident and preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
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Pharm-Academic			
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Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
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[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Medication Safety

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Mashael Alshakra	ShakraM@MNGHA.MED.SA	-	14551
Mrs. Ghada Merdawi	MardawiG@MNGHA.MED.SA	-	11029

General Description:

This is a 5-week rotation designed to allow residents to gain an appreciation and understanding of the medication safety experience in identifying ways to enhance the medication use system to minimize the risk of adverse drug events. The resident will have the opportunity to provide evidence-based information for initiatives being considered by the medication safety team. The resident will gain an understanding of the administrative duties related to medication safety and the clinical analysis of medication variance reports. The resident will demonstrate the ability to work in interdisciplinary teams to enhance medication safety and patient safety within King Abdulaziz Medical City.

Related Policies and Procedures:

- APP 1433-16 ALLERGY STATUS-IDENTIFICATION
  - Appendix A-Emergency Management of Anaphylaxis Algorithm in Adult
  - Appendix B-Emergency Management of Anaphylaxis in Infant and Children
  - Appendix C-Anaphylaxis Kit
  - Appendix D-Aspirin-NSAIDs Drug Hypersensitivity
  - Appendix E-Opioid Intolerance Decision Algorithm
  - Appendix F-Penicillin Allergy Cross-Reactivity Algorithm
  - Appendix G-Sulfonamide Drugs Allergy Cross-Reactivity Algorithm
  - Appendix H-Aromatic Anticonvulsants Sensitivity Algorithm

Role(s) of Pharmacist(s):

The Medication Safety clinical pharmacy assumes a proactive and analytical role in identifying, preventing, and mitigating medication-related errors and adverse drug events across the healthcare system. This involves actively participating in medication event reporting and analysis, conducting root cause analyses of significant medication errors, and developing actionable strategies to improve patient safety. The resident will engage in prospective medication safety initiatives such as high-alert medication system reviews, formulary management with a safety focus, and the implementation of technology-driven safety solutions like barcode medication administration and smart pump libraries. Furthermore, they will contribute to developing and refining medication safety policies and procedures, educate healthcare professionals on best practices for safe medication use, and collaborate with interdisciplinary teams to foster a culture of safety throughout the organization, ultimately striving to optimize patient outcomes by minimizing medication-related harm.

Expectations of Residents:

Under the direct supervision of a preceptor, the pharmacy resident on the Medication Safety rotation is responsible for proactively identifying, preventing, and mitigating medication-related errors to enhance patient safety across the institution. The resident is expected to

develop a systematic approach to analyzing medication error reports, conducting root cause analyses, and identifying trends and system-based vulnerabilities. This role involves active participation in institutional committees, such as the Pharmacy and Therapeutics Committee or Medication Safety Committee, where the resident will be tasked with developing and implementing process improvement initiatives and presenting data-driven recommendations. The resident will also conduct proactive risk assessments for new medications, technologies, or processes, and will be responsible for providing education to staff on best practices for medication administration, documentation, and storage. A critical component of this rotation is the resident's ability to engage with staff at all levels to foster a culture of safety and transparent reporting.

The resident is required to attend all scheduled medication safety meetings and provide evidence-based input on proposed initiatives, as requested. Attendance at these meetings will depend on agenda items. Possible meetings include the following:

- Prepare accurate and effective meeting minutes for the Medication Safety meetings during the rotation month that satisfy the requirements of organizational, regulatory, and accreditation considerations, as applicable.

Recommended readings:

- ASHP policy for automation and information technology.
- ASHP statement on the pharmacist's role in clinical informatics.
- ASHP statement on the pharmacy technician's role in pharmacy informatics.
- ASHP guidelines on the safe use of automated dispensing devices.
- Health Care Informatics: A Skills-Based Resource, ASHP.
- Best Practices for Health-System Pharmacy.
- Pharmacy Informatics textbook by Philips.
- Building Core Competencies in Pharmacy Informatics textbook.
- ASHP guidelines on preventing medication errors in hospitals.
- ASHP statement on the role of the medication safety leader.
- ASHP Guideline on preventing medication errors in hospitals.
- Medication Errors, Michael Cohen APha. 2nd edition.
- Medication Safety; A guide for healthcare facilities, Manasse Thompson, ASHP.
- Acute Care; ISMP Medication Safety Alert.
- Pathways for Medication Safety, Leading a Strategic Planning Effort; A Partnership: American Hospital Association, Health Research and Education Trust, Institute for Safe Medication Practices.

Progression of Residents:

The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and

skills in a structured and supportive environment.

Period	Progression of Residents
Weak 1	• Review ISMP target best practices for 2020 -2021. • Identify drug distribution improvement project. • Work with pharmacy staff to review various reporting tools to identify ADRs.
Week 2	• Obtain necessary approvals from management/committees for project. • Educate Staff on targeted medication distribution/workflow improvement project.
Week 3-5	• Continue staff education. • Attend required meetings.

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R1.3	**Promote safe and effective access to medication therapy.**	
R1.3.2	(Cognitive - Applying) Participate in medication event reporting.	• Document validated adverse drug events in the system's incident reporting system. • Demonstrate adverse drug event reporting process to other disciplines.
Goal R2.1	**Conduct practice advancement projects.**	
R2.1.1	(Cognitive - **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.	• Examine a project topic's significance to the practice setting and related to best practices. • Choose year-long project from list provided or submit a proposal for a different project to improve clinical care, patient safety, healthcare operations that can be completed within residency year. • Conduct a literature search and draw appropriate conclusions from the literature in identifying a residency project topic and/or research question. • Develop an idea for a new service or revision of a current service and discuss with preceptor. • Compare assigned aspect of the hospital's medication-use system to best practice utilizing ASHP best practice documents or other sources (e.g., ISMP, ASPEN). Identify opportunities for improvement and discuss with preceptor Identify 3 opportunities for improvement of the medication- use system during rotation and provide recommendations for potential changes at the regular medication safety center meeting.
***R2.1.2**	(Cognitive - Creating) Develop a project plan.	• Develop project plan and obtain necessary approvals. • Develop a project plan that ensures PHI is safeguarded (follows organizational policies and procedures). • Document a project plan with proposed deadlines and ongoing revisions as necessary. • Evaluate literature review to support the design of the project.
R2.1.3	(Cognitive - Applying) Implement project plan.	• Execute the project plan (e.g., collect data, implement new service) and make appropriate adjustments as needed. • Schedule and attend regular meetings with [preceptor(s), project committee(s)] to review progress on project plan. Collect data for assigned project [MUE, Adverse Drug Event analysis, clinical

		program development/enhancement/analysis, business plan, pipeline forecast, cost or budget analysis, quality assurance]
R2.1.4	**(**Cognitive - **Analyzing**) Analyze project results.	• Analyze data collected for major project. • Draw appropriate conclusions from literature in design of Residency Project. • Analyze data for assigned project [MUE, Adverse Drug Event analysis, clinical program development/enhancement /analysis, business plan, pipeline forecast, cost or budget analysis, quality assurance].
R2.1.5	**(**Cognitive - **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.	• Identify future questions based on the impact of the project. • Identify limitations of the project and potential modifications or changes for the future. • Assess potential changes based on results for assigned project [MUE, Adverse Drug Event analysis, clinical program development/enhancement/analysis, business plan, pipeline forecast, cost or budget analysis, quality assurance] at [P&T, Medication Safety, leadership] committee(s).
R2.1.6	(Cognitive - Creating) Develop and present a final report.	• Document and present report for assigned project [MUE, Adverse Drug Event analysis, clinical program development/enhancement/analysis, business plan, pipeline forecast, cost or budget analysis, quality assurance] at [P&T, Medication Safety, leadership] committee(s). • Present project at a regional residency conference. • Present project to audiences external to the pharmacy department. • Document a project report using an accepted manuscript style suitable for publication in the professional literature.
**Indicates Objective results in a resident deliverable.*		

Evaluation Strategy:

After resident and preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed

Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Introduction to Clinical Practice

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Abdulrhaman Alamri	amriab@mngha.med.sa	1312	12329
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Dr. Dimah Alharbi	alharbidi@mngha.med.sa	1107	11162
Dr. Meshari Al Meshari	almesharyme@ngha.med.sa	7285	16530
Dr. Shahad Al Mahmoud	ALMAHMOUDSH@MNGHA.MED.SA	6652	-
Dr. Majed Al Mutair	almutairima27@Mngha.med.sa	8862	10735
Dr. Atheer Al Dairem	aldairemat@mngha.med.sa	9401	-

General Description:

This is a 5-week rotation designed to allow residents to gain an appreciation and understanding of the pharmaceutical care concept and its impact on global patient care. It develops the necessary skills to integrate information from the basic pharmaceutical and medical sciences to direct patient care in an efficient and effective manner. In addition, the rotation will allow the resident to develop skills needed to adequately provide patient-specific, evidence-based treatment recommendations and monitoring plans that are enacted in a multi-disciplinary setting. Residents should practice the necessary skills to communicate effectively with patients and health care professionals.

Related Policies and Procedures

- DPP 7330-07-01-00 Patient Assessment and Reassessment by Clinical Pharmacist
- DPP 7330-07-02-00 Clinical Pharmacist Consultation Service
- DPP 7330-07-03-00 Drug and Poison Information Center (DPIC)
- DPP 7330-07-04-00 Ambulatory Anticoagulation Services
- DPP 7330-07-05-00 Therapeutic Drug Monitoring
- DPP 7330-07-06-00 Discharge Medication Counseling
- DPP 7330-07-07-00 Falls Risk Prevention and Management

Role(s) of Pharmacist(s):

The Clinical Pharmacist has the foundational skills necessary for direct patient care, focusing on the core responsibilities of a pharmacist within a clinical setting. This involves actively participating in patient profile review, identifying potential drug-related problems such as drug interactions, therapeutic duplications, and sub-optimal dosing, and formulating basic pharmaceutical care plans. The resident will begin to develop effective communication skills by interacting with patients for medication histories and counseling and collaborating with healthcare teams during interdisciplinary rounds. They will also gain proficiency in utilizing various drug information resources to answer basic medication-related questions and document their clinical interventions, thereby laying the groundwork for more advanced clinical responsibilities in subsequent rotations and understanding the pharmacist's integral role in optimizing patient outcomes.

Expectations of Residents:

Under the direct supervision of a preceptor, the pharmacy resident is responsible for guaranteeing the safe and effective use of medications for all assigned critical care patients. This multifaceted role requires the resident to actively manage a range of clinical duties, including performing medication reconciliation, accurately addressing formal consults for both formulary and non-formulary drug requests, and conducting therapeutic drug monitoring to ensure optimal patient outcomes. Beyond these routine tasks, the resident is expected to be a vital source of drug information, providing crucial education to healthcare professionals, patients, and their caregivers. Ultimately, the resident must fully embrace patient care responsibilities, striving to achieve positive drug therapy outcomes, and become an integral, active member of the assigned team. Success hinges on a foundation of strong communication and interpersonal skills, combined with the ability to develop efficient strategies for handling all clinical responsibilities within the demanding and fast-paced critical care environment.

Residents should develop skills in the following but not limited to:

- Writing progress notes and SOAP notes.
- Review of systems.
- Pharmacokinetics of aminoglycosides and vancomycin.
- Laboratories values, procedures and microbiology results interpretation.
- Case presentation- ASHP format.
- In-service presentations as needed.
- Communication skills with health care team.

Disease states / Suggested reading material:

Common disease states in which the resident will be expected to gain proficiency through literature review, topic discussion, and/or direct patient care experience including, but not limited to:

- American Diabetes Association Guidelines.
- JNC VIII guidelines.
- ACCP CHEST VTE prevention and treatment guidelines.
- ACC/AHA- associated guidelines as appropriate.
- IDSA guidelines on community-acquired pneumonia, catheter-associated infections, hepatitis B and C, and cellulitis.
- NKF / KDOQI – associated guidelines as appropriate.
- GOLD guidelines for chronic obstructive airway disease.
- National Asthma education and prevention program guidelines.
- Others as appropriate

Progression of Residents:

The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the

residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Progression of Residents
Day 1	• Preceptor to review learning activities and expectations with the resident.
Week 1-2	• Residents work up assigned patients and present to the preceptor prior to team rounds. • Preceptor will attend and participate in team rounds (modeling clinical pharmacist's role on the healthcare team).
Week 3-4	• Residents work up assigned patients and present to the preceptor prior to team rounds. • Preceptor may attend and participate in team rounds (coaching the resident to take on more responsibilities as the clinical pharmacist on the team).
Week 5	• Residents work up assigned patients and present to the preceptor prior to team rounds. • Preceptor may attend and observe the resident's participation in team rounds and will always be available for questions in all aspects of the learning experience (Facilitating the resident as the clinical pharmacist on the team).
Weekly: (TBA by the preceptor in the beginning of the learning experience)	
• Discussion of general disease states frequently encountered in adult medicine.	

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R1.1	**Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process).**	
R1.1.1	(Cognitive - Analyzing) Collect relevant subjective and objective information about the patient.	• Collect pertinent information on each assigned patient from available resources (e.g., medical record, patient's nurse, caregiver, and/or patient) every morning prior to rounds and record data on a secure patient monitoring form. • Review labs, medical record, and interview patients before adjusting any medication. • Review laboratory values, medication administration, and other pertinent data prior to adjusting medications in pharmacy-managed protocols. • Perform a medication history, review medical record, and contact patient's pharmacy or prescribing physician as needed when performing medication reconciliation. • Recommend, order, and/or conduct appropriate testing for patients according to evidence-based medicine and pharmacy policies and procedures.
R1.1.2	(Cognitive - Evaluating) Assess clinical information collected and analyze its impact on the patient's overall health goals.	• Identify any issues with medication therapy and discuss issues identified with preceptor at assigned time daily. • Based on information collected while performing medication reconciliation, identify any issues that need to be addressed. • Determine the appropriateness of medication orders (e.g., indication, dose, route, frequency, rate of administration, drug

		interactions, adherence, cost) prior to verifying, ordering, prescribing, and refilling. • When performing daily profile review, identify any needed changes. • Identify and prioritize unmet health care needs based upon professional judgement and the patient's values, preferences, priorities and goals.
R1.1.6	(Cognitive - Analyzing) Identify and address medication-related needs of individual patients experiencing care transitions regarding physical location, level of care, providers, or access to medications.	• Complete admission medication reconciliation for all assigned patients daily. • Complete discharge medication reconciliation and medication education for all assigned patients daily. • When patients are transferred from critical care to a medical/surgical unit, communicate any necessary information to the pharmacist assigned to the medical/surgical unit. • Identify new patients at the pharmacy and conduct medication reconciliation and resolve any medication issues. • Anticipate (or advise) on any required changes when a member is being discharged (inpatient to outpatient). • Review formulary options for a patient prior to selecting a medication for therapy.
Goal R1.2	**Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.**	
R1.2.1	(Cognitive - Applying) Collaborate and communicate with healthcare team members.	• While on rounds, be prepared to identify medication-related problems and make evidence-based recommendations for solutions to the team. • Participate in daily rounds with assigned team and provide recommendations on assigned patients and answer drug information questions in a timely manner. • Work with physicians and nurses to resolve issues found when reconciling patients' medications prescribed on admission with medications taken as outpatient. • Contact prescribing physician to resolve issues found when verifying medication orders. • Contact prescribing physician to resolve issues when reviewing prior authorization requests. • Work with nurses and other health care providers to resolve missing doses and other medication distribution issues brought to your attention while staffing. • Provide accurate and timely responses to drug information questions from other healthcare team members.
R1.2.2	(Cognitive - Applying) Communicate effectively with patients and caregivers.	• Provide medication education to patients, their families, and/or caregivers for all patients on assigned floor who are scheduled to be discharged. • Counsel patients who are receiving new medications. • Perform any needed discharge counseling for patients, their families, and/or caregivers as part of medication reconciliation duties for patients on assigned floors. • Perform medication histories on assigned patients. • Educate patients on medication changes using appropriate patient counseling method.

R1.2.3	(Cognitive - Applying) Document patient care activities in the medical record or where appropriate.	• For pharmacy consults, document an initial consult note and then a follow-up note in the EHR whenever drug level results are reported by the lab or the medication regimen is changed. • Document pharmacy interventions in ivent per pharmacy's policy. • Document medication management in appropriate format according to platform.
Goal R3.2	**Demonstrate leadership skills that foster personal growth and professional engagement.**	
R3.2.1	(Cognitive - Applying) Apply a process of ongoing self-assessment and personal performance improvement.	• Complete an initial self-assessment in preparation for the development plan. • Complete a self-assessment in preparation for the quarterly development plan. • Identify clinical knowledge gaps and develop an action plan to help address/close knowledge gaps. • Identify administrative and/or project management knowledge and skill gaps and develop an action plan to help address/close the skill gaps. • Complete a summative self-evaluation. • Complete self-assessment related to wellbeing and resilience.

Evaluation Strategy

After resident and preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Internal Medicine I

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Abdulrhman Alturaiki	alturaikiab@mngha.med.sa	3209	18758
Dr. Dalal Al Abdulkareem	alabdulkareemda@mngha.med.sa	6767	13548
Dr. Fahad Aldhahri	aldhahrifa@mngha.med.sa	7020	12023
Dr. Kholud Aljoudi	aljoudikh@mngha.med.sa	4371	12520
Dr. Maha Almolaiki	almolaikima@Mngha.med.sa	8488	19410
Dr. Maram Aljohani	Aljohnima@MNGHA.MED.SA	4372	-
Dr. Atheer Al Dairem	aldairemat@mngha.med.sa	9401	-

General Description:

This is a 5-week rotation designed to allow residents to gain an appreciation and understanding of the pharmaceutical care concept and its impact on global patient care. It develops the necessary skills to interpret patient laboratory and procedural data, integrate information from the basic pharmaceutical and medical sciences to direct patient care in an efficient and effective manner. In addition, the rotation will allow the resident to develop the skills needed to provide adequate patient-specific, evidence-based treatment recommendations and monitoring plans. Residents will be guided to identify the patient's medical problems and present them in an acceptable format. Residents should practice the necessary skills to communicate effectively with patients and healthcare professionals.

Role(s) of Pharmacist(s):

The clinical pharmacist on the team is responsible for ensuring safe and effective medication use for all patients admitted to the team. Routine responsibilities include reconciling medications for all patients admitted to the team based off of the admission medication history, addressing formal consults for non-formulary medication requests, pharmacy clinical consults for therapeutic drug monitoring (e.g., pharmacokinetics, anticoagulation, parenteral nutrition, etc.), and participating in multidisciplinary rounds. The pharmacist will also provide drug information and education to healthcare professionals as well as patients and caregivers.

Expectations of Residents:

Under the direct supervision of a preceptor, the pharmacy resident is responsible for guaranteeing the safe and effective use of medications for all assigned critical care patients. This multifaceted role requires the resident to actively manage a range of clinical duties, including performing medication reconciliation, accurately addressing formal consults for both formulary and non-formulary drug requests, and conducting therapeutic drug monitoring to ensure optimal patient outcomes. Beyond these routine tasks, the resident is expected to be a vital source of drug information, providing crucial education to healthcare professionals, patients, and their caregivers. Ultimately, the resident must fully embrace patient care responsibilities, striving to achieve positive drug therapy outcomes, and become an integral, active member of the internal medicine team. Success hinges on a foundation of strong communication and interpersonal skills, combined with the ability to develop efficient

strategies for handling all clinical responsibilities within the demanding and fast-paced critical care environment.

Residents 'should develop skills in the following but not limited to:

- SOAP format case presentations.
- Medical problem list identification.
- Laboratories values, procedures and microbiology results interpretation.
- Best care note writing as SOAP.

Disease states / Suggested reading material:

Common disease states in which the resident will be expected to gain proficiency through literature review, topic discussion, and/or direct patient care experience including, but not limited to:

- GOLD guidelines for chronic obstructive airway disease.
- GINA guidelines for bronchial asthma (Adult).
- Hypertension guideline JNC, AHA/ACC, NICE.
- ADA guidelines for diabetes mellitus and hyperglycemic crisis.
- Lab interpretation references as appropriate.
- TDM for aminoglycoside and vancomycin.

Progression of Residents:

The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Progression of Residents
Day 1	• Preceptor to review learning activities and expectations with the resident.
Week 1-2	• Resident to work up assigned patients and practice lab interpretation to be presented to the preceptor. • The preceptor will attend and participate in team rounds (modeling pharmacists' role on the healthcare team). • Residents shall work up case presentations per the preceptor's request.
Week 3-4	• Residents work up assigned patient management and monitoring plans and present them to the preceptor. • Residents shall present 2 SOAP case presentations including the management and monitoring plan to the preceptor and the pharmacy residents.
Week 5	• Resident to work up assigned patients and present to preceptor resident may attend the medical rounds with the preceptor.

Weekly: (TBA by the preceptor in the beginning of the learning experience)
• Discussion of general disease states frequently encountered in adult medicine. • One topic per week.

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R1.1	**Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process).**	
R1.1.1	(Cognitive - Analyzing) Collect relevant subjective and objective information about the patient.	• Collect pertinent information on each assigned patient from available resources (e.g., medical record, patient's nurse, caregiver, and/or patient) every morning prior to rounds and record data on a secure patient monitoring form. • Review labs, medical record, and interview patients before adjusting any medication. • Review laboratory values, medication administration, and other pertinent data prior to adjusting medications in pharmacy-managed protocols. • Perform a medication history, review medical record, and contact patient's pharmacy or prescribing physician as needed when performing medication reconciliation. • Recommend, order, and/or conduct appropriate testing for patients according to evidence-based medicine and pharmacy policies and procedures.
R1.1.2	(Cognitive - **Evaluating**) Assess clinical information collected and analyze its impact on the patient's overall health goals.	• Identify any issues with medication therapy and discuss issues identified with preceptor at assigned time daily. • Based on information collected while performing medication reconciliation, identify any issues that need to be addressed. • Determine the appropriateness of medication orders (e.g., indication, dose, route, frequency, rate of administration, drug interactions, adherence, cost) prior to verifying, ordering, prescribing, and refilling. • When performing daily profile review, identify any needed changes. • Identify and prioritize unmet health care needs based upon professional judgement and the patient's values, preferences, priorities and goals.
R1.1.3	(Cognitive - Creating) Develop evidence-based, cost effective, and comprehensive patient-centered care plans.	• Start patient on a dosing regimen designed to achieve target levels for all new "per pharmacy protocol" medication orders. • Develop a patient specific plan integrating knowledge of patient specific information, ethical, quality of life, and pharmacoeconomic issues. • Use knowledge of primary literature and guidelines to identify therapeutic goals for patient based on medications and disease states.
R1.1.4	(Cognitive - Applying) Implement care plans.	• After multi-disciplinary rounds, ensure all medication changes discussed have been ordered and verified. • Send new prescriptions to patient's pharmacy if any changes made to the patient's medication regimen during clinic visit.

		• Address medication- and health-related problems and execute preventive care strategies, including vaccine administration. • Initiate, modify, discontinue, or administer medication therapy as authorized. • Provide education and self-management training to the patient or caregiver.
R1.1.5	(Cognitive - **Creating**) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	• Review all assigned patients managed per pharmacy protocols and order any needed labs or dosing changes based on assessment. • Evaluate medication appropriateness, effectiveness, and safety and patient adherence through available health data, biometric test results, and patient feedback. • Evaluate clinical endpoints that contribute to the patient's overall health. • Evaluate outcomes of care including progress toward or the achievement of goals of therapy. • Complete follow-up for patients according to collaborative practice agreements or statewide protocol.
R1.1.6	(Cognitive - **Analyzing**) Identify and address medication-related needs of individual patients experiencing care transitions regarding physical location, level of care, providers, or access to medications.	• Complete admission medication reconciliation for all assigned patients daily. • Complete discharge medication reconciliation and medication education for all assigned patients daily. • When patients are transferred from critical care to a medical/surgical unit, communicate any necessary information to the pharmacist assigned to the medical/surgical unit. • Identify new patients at the pharmacy and conduct medication reconciliation and resolve any medication issues. • Anticipate (or advise) on any required changes when a member is being discharged (inpatient to outpatient). • Review formulary options for a patient prior to selecting a medication for therapy.
Goal R1.2	**Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.**	
R1.2.1	(Cognitive - Applying) Collaborate and communicate with healthcare team members.	• While on rounds, be prepared to identify medication-related problems and make evidence-based recommendations for solutions to the team. • Participate in daily rounds with assigned team and provide recommendations on assigned patients and answer drug information questions in a timely manner. • Work with physicians and nurses to resolve issues found when reconciling patients' medications prescribed on admission with medications taken as outpatient. • Contact prescribing physician to resolve issues found when verifying medication orders. • Contact prescribing physician to resolve issues when reviewing prior authorization requests. • Work with nurses and other health care providers to resolve missing doses and other medication distribution issues brought to your attention while staffing.

		• Provide accurate and timely responses to drug information questions from other healthcare team members.
R1.2.2	(Cognitive - Applying) Communicate effectively with patients and caregivers.	• Provide medication education to patients, their families, and/or caregivers for all patients on assigned floor who are scheduled to be discharged. • Counsel patients who are receiving new medications. • Perform any needed discharge counseling for patients, their families, and/or caregivers as part of medication reconciliation duties for patients on assigned floors. • Perform medication histories on assigned patients. Educate patients on medication changes using appropriate patient counseling method.
R1.2.3	(Cognitive - Applying) Document patient care activities in the medical record or where appropriate.	• For pharmacy consults, document an initial consult note and then a follow-up note in the EHR whenever drug level results are reported by the lab or the medication regimen is changed. • Document pharmacy interventions in ivent per pharmacy's policy. • Document medication management in appropriate format according to platform.

Evaluation Strategy:

After the resident and preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Internal Medicine II

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Abdulrhman Alturaiki	alturaikiab@mngha.med.sa	3209	18758
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Dr. Fahad Aldhahri	aldhahrifa@mngha.med.sa	7020	12023
Dr. Kholud Aljoudi	aljoudikh@mngha.med.sa	4371	12520
Dr. Maha Almolaiki	almolaikima@Mngha.med.sa	8488	19410
Dr. Maram Aljohani	Aljohnima@MNGHA.MED.SA	4372	-
Dr. Atheer Al Dairem	aldairemat@mngha.med.sa	9401	-

General Description:

The Internal Medicine II serves as one of the required five-week general medicine rotations for PGY1-pharmacy residents. This rotation allows the provision of evidence-based patient-centered care to patients admitted to a General Medicine ward. The residents become fully integrated into the internal medicine interdisciplinary team, round on a daily basis with internal medicine physician teams and focus on management of drug therapy in patients with multiple medical problems

Role(s) of Pharmacist(s):

The clinical pharmacist on the team is responsible for ensuring safe and effective medication use for all patients admitted to the team. Routine responsibilities include reconciling medications for all patients admitted to the team based off of the admission medication history, addressing formal consults for non-formulary medication requests, pharmacy clinical consults for therapeutic drug monitoring (e.g., pharmacokinetics, anticoagulation, parenteral nutrition, etc.), and participating in multidisciplinary rounds. The pharmacist will also provide drug information and education to healthcare professionals as well as patients and caregivers.

Expectations of Residents:

Under the direct supervision of a preceptor, the pharmacy resident is responsible for guaranteeing the safe and effective use of medications for all assigned critical care patients. This multifaceted role requires the resident to actively manage a range of clinical duties, including performing medication reconciliation, accurately addressing formal consults for both formulary and non-formulary drug requests, and conducting therapeutic drug monitoring to ensure optimal patient outcomes. Beyond these routine tasks, the resident is expected to be a vital source of drug information, providing crucial education to healthcare professionals, patients, and their caregivers. Ultimately, the resident must fully embrace patient care responsibilities, striving to achieve positive drug therapy outcomes, and become an integral, active member of the internal medicine team. Success hinges on a foundation of strong communication and interpersonal skills, combined with the ability to develop efficient strategies for handling all clinical responsibilities within the demanding and fast-paced critical care environment.

Residents should develop skills in the following but not limited to:

- Writing progress notes and SOAP Notes
    - Therapeutic drug monitoring (aminoglycosides, vancomycin, digoxin, antiepileptic)
    - Laboratories and microbiology test interpretation
    - Procedure's review
- Case presentation- ASHP format
- In-service presentations to physicians, nurses, or pharmacists (as needed)

Disease states / Suggested reading material:
Common disease states in which the resident will be expected to gain proficiency through literature review, topic discussion, and/or direct patient care experience including, but not limited to:

- Management of common infectious diseases
    - Community and hospital acquired pneumonia
    - Skin and soft tissue infections
    - Urinary tract infections
    - Bacteremia
    - Endocarditis and meningitis
    - Osteomyelitis
- Thromboembolic disease
- Acute and chronic renal failure
- Endocrine disorders
- Management of acute heart failure
- ACC/AHA guidelines of stroke
- ACCP CHEST VTE prevention and treatment guidelines

Progression of Residents:
The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Progression of Residents
Day 1	• Preceptor to review learning activities and expectations with the resident.
Week 1-2	• Residents work up assigned patients and present to the preceptor prior to team rounds. • Preceptor will attend and participate in team rounds (modeling pharmacists' role on the healthcare team). • Residents shall work up a case presentation, if needed.
Week 3-4	• Residents work up assigned patients and present to the preceptor prior to team rounds. • Preceptor may attend and participate in team rounds (coaching the resident to take on

	more responsibilities as the pharmacist on the team).
Week 5	• Residents work up assigned patients and present to the preceptor prior to team rounds. • Preceptor may attend and observe the resident's participation in team rounds and will always be available for questions in all aspects of the learning experience (facilitating the resident as the pharmacist on the team). • Resident to present case presentation, if needed.
Weekly: (TBA by the preceptor in the beginning of the learning experience)	
• Discussion of general disease states frequently encountered in adult medicine. One topic per week.	

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R1.1	**Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process).**	
R1.1.1	(Cognitive - Analyzing) Collect relevant subjective and objective information about the patient.	• Collect pertinent information on each assigned patient from available resources (e.g., medical record, patient's nurse, caregiver, and/or patient) every morning prior to rounds and record data on a secure patient monitoring form. • Review labs, medical record, and interview patients before adjusting any medication. • Review laboratory values, medication administration, and other pertinent data prior to adjusting medications in pharmacy-managed protocols. • Perform a medication history, review medical record, and contact patient's pharmacy or prescribing physician as needed when performing medication reconciliation. • Recommend, order, and/or conduct appropriate testing for patients according to evidence-based medicine and pharmacy policies and procedures.
R1.1.2	(Cognitive - **Evaluating**) Assess clinical information collected and analyze its impact on the patient's overall health goals.	• Identify any issues with medication therapy and discuss issues identified with preceptor at assigned time daily. • Based on information collected while performing medication reconciliation, identify any issues that need to be addressed. • Determine the appropriateness of medication orders (e.g., indication, dose, route, frequency, rate of administration, drug interactions, adherence, cost) prior to verifying, ordering, prescribing, and refilling. • When performing daily profile review, identify any needed changes. • Identify and prioritize unmet health care needs based upon professional judgement and the patient's values, preferences, priorities and goals.
R1.1.3	(Cognitive - Creating) Develop evidence-based, cost effective, and comprehensive patient-centered care plans.	• Start patient on a dosing regimen designed to achieve target levels for all new "per pharmacy protocol" medication orders. • Develop a patient specific plan integrating knowledge of patient specific information, ethical, quality of life, and pharmacoeconomic issues. • Use knowledge of primary literature and guidelines to identify therapeutic goals for patient based on medications and disease states.

R1.1.4	(Cognitive - Applying) Implement care plans.	• After multi-disciplinary rounds, ensure all medication changes discussed have been ordered and verified. • Send new prescriptions to patient's pharmacy if any changes made to the patient's medication regimen during clinic visit. • Address medication- and health-related problems and execute preventive care strategies, including vaccine administration. • Initiate, modify, discontinue, or administer medication therapy as authorized. • Provide education and self-management training to the patient or caregiver.
R1.1.5	(Cognitive - **Creating**) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	• Review all assigned patients managed per pharmacy protocols and order any needed labs or dosing changes based on assessment. • Evaluate medication appropriateness, effectiveness, and safety and patient adherence through available health data, biometric test results, and patient feedback. • Evaluate clinical endpoints that contribute to the patient's overall health. • Evaluate outcomes of care including progress toward or the achievement of goals of therapy. • Complete follow-up for patients according to collaborative practice agreements or statewide protocol.
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.	• Complete admission medication reconciliation for all assigned patients daily. • Complete discharge medication reconciliation and medication education for all assigned patients daily. • When patients are transferred from critical care to a medical/surgical unit, communicate any necessary information to the pharmacist assigned to the medical/surgical unit. • Identify new patients at the pharmacy and conduct medication reconciliation and resolve any medication issues. • Anticipate (or advise) on any required changes when a member is being discharged (inpatient to outpatient). • Review formulary options for a patient prior to selecting a medication for therapy.
Goal R1.2	**Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.**	
R1.2.1	(Cognitive - Applying) Collaborate and communicate with healthcare team members.	• While on rounds, be prepared to identify medication-related problems and make evidence-based recommendations for solutions to the team. • Participate in daily rounds with assigned team and provide recommendations on assigned patients and answer drug information questions in a timely manner. • Work with physicians and nurses to resolve issues found when reconciling patients' medications prescribed on admission with medications taken as outpatient. • Contact prescribing physician to resolve issues found when verifying medication orders. • Contact prescribing physician to resolve issues when reviewing prior authorization requests.

		• Work with nurses and other health care providers to resolve missing doses and other medication distribution issues brought to your attention while staffing. • Provide accurate and timely responses to drug information questions from other healthcare team members.
R1.2.2	(Cognitive - Applying) Communicate effectively with patients and caregivers.	• Provide medication education to patients, their families, and/or caregivers for all patients on assigned floor who are scheduled to be discharged. • Counsel patients who are receiving new medications. • Perform any needed discharge counseling for patients, their families, and/or caregivers as part of medication reconciliation duties for patients on assigned floors. • Perform medication histories on assigned patients. • Educate patients on medication changes using appropriate patient counseling method.
R1.2.3	(Cognitive - Applying) Document patient care activities in the medical record or where appropriate.	• For pharmacy consults, document an initial consult note and then a follow-up note in the EHR whenever drug level results are reported by the lab or the medication regimen is changed. • Document pharmacy interventions in ivent per pharmacy's policy. • Document medication management in appropriate format according to platform.
Goal R4.1	**Provide effective medication and practice-related education.**	
***R4.1.1**	(Cognitive - **Creating**) Construct educational activities for the target audience.	• Prepare an evidence-based in-service on assigned topic for pharmacy staff. • Prepare and/or redesign an in-service to nurses on an assigned topic. • Prepare an evidence-based presentation for a multidisciplinary audience. • Design and/or redesign a disease specific patient education program. • Prepare a journal club discussion. • Construct a set of educational activities for APPE and/or IPPE students.
***R4.1.3**	(Cognitive - **Creating**) Develop and demonstrate appropriate verbal communication to disseminate knowledge related to specific content, medication therapy, and/or practice area.	• Present an evidence-based in-service on assigned topic for pharmacy staff. • Present an in-service to nurses on an assigned topic. • Present an evidence-based presentation for a multidisciplinary audience. • Present a disease specific patient education program. • Lead a journal club discussion. • Facilitate an educational discussion with APPE and/or IPPE students on assigned topics
**Indicates Objective results in a resident deliverable*		

Evaluation Strategy:

After the resident and preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide

feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Cardiology I

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Sara Al Yousif	yousifs@mngha.med.sa	7573	11957
Dr. Sultan Al Raddadi	raddadis@ngha.med.sa	6959	16538
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Dr. Alaa Al Anazi	alenazial3@MNGHA.MED.SA	1883	15163
Dr. Majed Al Mutair	almutairima27@Mngha.med.sa	8862	10735
Dr. Lama Al Fuhid	fehaidl@ksau-hs.edu.sa	3183	84-95008

General Description:

Adult Cardiology is a required five-weeks learning experience at the King Abdulaziz Medical City Cardiac Center (KACC). There are 19 Coronary Care Unit (CCU) beds, 50 Cardiac Ward beds (High Dependence Unit). The team includes a consultant physician, an associate physician, an assistant and /or fellow physician, medical residents, medical interns, and medical students. Other disciplines on the team include the clinical pharmacy specialist, pharmacy students/residents, a respiratory therapist, a clinical dietitian and the primary nurse. Adult Cardiology department includes several divisions like Cardiac Imaging, Cardiac Catheterization Lab, and medical and surgical cardiac ICU.

The pharmacy resident is responsible for identifying and resolving medication therapy issues for patients and will work toward assuming care of all patients on the unit throughout the learning experience. The resident will provide and document therapeutic drug monitoring services for patients on their team receiving drugs requiring monitoring including, but not limited to, aminoglycosides and vancomycin.

Documentation must be completed on the day service was provided. The resident is responsible for providing and documenting education to patients on their treatment who will be discharged receiving anticoagulation.

Role(s) of Pharmacist(s):

The clinical pharmacist on the team is responsible for ensuring safe and effective medication use for all patients admitted to the team. Routine responsibilities include reconciling medications for all patients admitted to the team based off of the admission medication history, addressing formal consults for non-formulary medication requests, pharmacy clinical consults for therapeutic drug monitoring (e.g., pharmacokinetics, anticoagulation, parenteral nutrition, etc.), and participating in multidisciplinary rounds. The pharmacist will also provide drug information and education to healthcare professionals as well as patients and caregivers.

Expectations of Residents:

Under the direct supervision of a preceptor, the pharmacy resident is responsible for guaranteeing the safe and effective use of medications for all assigned critical care patients. This multifaceted role requires the resident to actively manage a range of clinical duties, including performing medication reconciliation, accurately addressing formal consults for

both formulary and non-formulary drug requests, and conducting therapeutic drug monitoring to ensure optimal patient outcomes. Beyond these routine tasks, the resident is expected to be a vital source of drug information, providing crucial education to healthcare professionals, patients, and their caregivers. Ultimately, the resident must fully embrace patient care responsibilities, striving to achieve positive drug therapy outcomes, and become an integral, active member of the cardiology team. Success hinges on a foundation of strong communication and interpersonal skills, combined with the ability to develop efficient strategies for handling all clinical responsibilities within the demanding and fast-paced critical care environment.

Disease states / Suggested reading material:

Common disease states in which the resident will be expected to gain proficiency through literature review, topic discussion, and/or direct patient care experience including, but not limited to:

- Chronic stable angina.
- Acute and Chronic Heart failure.
- Atrial fibrillation/flutter.
- Ventricular tachycardia/ventricular fibrillation
- Electrolyte disorders.
- Infective endocarditis.
- Hypertension.
- Hyperlipidemia.
- Thromboembolic treatment and prophylaxis.
- Acute coronary syndrome
- Others common disorders like DM, thyroid disorders, infectious diseases (pneumonias, UTI), and anemia.

Progression of Residents:

The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Progression of Residents
Day 1	● Preceptor to review the rotation learning activities and expectations with the resident.
Week - 1-2	● Residents work up assigned patients and present to the preceptor prior to team rounds. ● Preceptor to attend and participate in team rounds (modeling clinical pharmacists' role in the health care team).

Week - 3-4	• Residents work up assigned patients and present to the preceptor prior to team rounds. • The preceptor may attend and participate in team rounds (coaching the resident to take on more responsibilities as the clinical pharmacist in the team).
Week 5	• Residents work up assigned patients and present to the preceptor prior to team rounds. • The preceptor may attend and observe the residents' participation in team rounds, and/or may expect a summary report from the resident regarding rounding activities and the application of recommendations made by the resident. • The preceptor will always be available for questions and will follow patients independently to monitor resident skill development in all aspects of the learning experience (facilitating the resident as the clinical pharmacist in the team).
Daily	• Resident review assigned patients pre-rounds. • Attending medical rounds • Preceptor office hours available for topic discussions, reviewing progress notes, patient updates, etc from 14:30 – 17:00

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R1.1	**Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process).**	
R1.1.1	(Cognitive - Analyzing) Collect relevant subjective and objective information about the patient.	• Collect pertinent information on each assigned patient from available resources (e.g., medical record, patient's nurse, caregiver, and/or patient) every morning prior to rounds and record data on a secure patient monitoring form. • Review labs, medical record, and interview patients before adjusting any medication. • Review laboratory values, medication administration, and other pertinent data prior to adjusting medications in pharmacy-managed protocols. • Perform a medication history, review medical record, and contact patient's pharmacy or prescribing physician as needed when performing medication reconciliation. • Recommend, order, and/or conduct appropriate testing for patients according to evidence-based medicine and pharmacy policies and procedures.
R1.1.2	(Cognitive - **Evaluating**) Assess clinical information collected and analyze its impact on the patient's overall health goals.	• Identify any issues with medication therapy and discuss issues identified with preceptor at assigned time daily. • Based on information collected while performing medication reconciliation, identify any issues that need to be addressed. • Determine the appropriateness of medication orders (e.g., indication, dose, route, frequency, rate of administration, drug interactions, adherence, cost) prior to verifying, ordering, prescribing, and refilling. • When performing daily profile review, identify any needed changes.

		• Identify and prioritize unmet health care needs based upon professional judgement and the patient's values, preferences, priorities and goals.
R1.1.3	(Cognitive - Creating) Develop evidence-based, cost effective, and comprehensive patient-centered care plans.	• Start patient on a dosing regimen designed to achieve target levels for all new "per pharmacy protocol" medication orders. • Develop a patient specific plan integrating knowledge of patient specific information, ethical, quality of life, and pharmacoeconomic issues. • Use knowledge of primary literature and guidelines to identify therapeutic goals for patient based on medications and disease states.
R1.1.4	(Cognitive - Applying) Implement care plans.	• After multi-disciplinary rounds, ensure all medication changes discussed have been ordered and verified. • Send new prescriptions to patient's pharmacy if any changes made to the patient's medication regimen during clinic visit. • Address medication- and health-related problems and execute preventive care strategies, including vaccine administration. • Initiate, modify, discontinue, or administer medication therapy as authorized. • Provide education and self-management training to the patient or caregiver.
R1.1.5	(Cognitive - **Creating**) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	• Review all assigned patients managed per pharmacy protocols and order any needed labs or dosing changes based on assessment. • Evaluate medication appropriateness, effectiveness, and safety and patient adherence through available health data, biometric test results, and patient feedback. • Evaluate clinical endpoints that contribute to the patient's overall health. • Evaluate outcomes of care including progress toward or the achievement of goals of therapy. • Complete follow-up for patients according to collaborative practice agreements or statewide protocol. • Review all assigned patients managed per pharmacy protocols and order any needed labs or dosing changes based on assessment. • Evaluate medication appropriateness, effectiveness, and safety and patient adherence through available health data, biometric test results, and patient feedback. • Evaluate clinical endpoints that contribute to the patient's overall health. • Evaluate outcomes of care including progress toward or the achievement of goals of therapy. • Complete follow-up for patients according to collaborative practice agreements or statewide protocol.
R1.1.6	(Cognitive - **Analyzing**) Identify and address medication-related needs of individual patients	• Complete admission medication reconciliation for all assigned patients daily. • Complete discharge medication reconciliation and medication education for all assigned patients daily.

	experiencing care transitions regarding physical location, level of care, providers, or access to medications.	• When patients are transferred from critical care to a medical/surgical unit, communicate any necessary information to the pharmacist assigned to the medical/surgical unit. • Identify new patients at the pharmacy and conduct medication reconciliation and resolve any medication issues. • Anticipate (or advise) on any required changes when a member is being discharged (inpatient to outpatient). • Review formulary options for a patient prior to selecting a medication for therapy.
Goal R1.2	**Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.**	
R1.2.1	(Cognitive - Applying) Collaborate and communicate with healthcare team members.	• While on rounds, be prepared to identify medication-related problems and make evidence-based recommendations for solutions to the team. • Participate in daily rounds with assigned team and provide recommendations on assigned patients and answer drug information questions in a timely manner. • Work with physicians and nurses to resolve issues found when reconciling patients' medications prescribed on admission with medications taken as outpatient. • Contact prescribing physician to resolve issues found when verifying medication orders. • Contact prescribing physician to resolve issues when reviewing prior authorization requests. • Work with nurses and other health care providers to resolve missing doses and other medication distribution issues brought to your attention while staffing. • Provide accurate and timely responses to drug information questions from other healthcare team members.
R1.2.2	(Cognitive - Applying) Communicate effectively with patients and caregivers.	• Provide medication education to patients, their families, and/or caregivers for all patients on assigned floor who are scheduled to be discharged. • Counsel patients who are receiving new medications. • Perform any needed discharge counseling for patients, their families, and/or caregivers as part of medication reconciliation duties for patients on assigned floors. • Perform medication histories on assigned patients. • Educate patients on medication changes using appropriate patient counseling method.
R1.2.3	(Cognitive - Applying) Document patient care activities in the medical record or where appropriate.	• For pharmacy consults, document an initial consult note and then a follow-up note in the EHR whenever drug level results are reported by the lab or the medication regimen is changed. • Document pharmacy interventions in ivent per pharmacy's policy. • Document medication management in appropriate format according to platform
Goal R4.2	**Provide professional and practice-related training to meet learners' educational needs.**	
R4.2.1	(Cognitive - **Evaluating**) Employ appropriate	• Differentiate the learner's level of knowledge and/or skill and the level of preceptorship needed.

	preceptor role for a learning scenario.	• Implement the appropriate preceptor role for learners, based on your analysis. • Adjust precepting activities to accommodate learner's performance.

Evaluation Strategy:

After the resident and preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Cardiology II

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Sara Al Yousif	yousifs@mngha.med.sa	7573	11957
Dr. Sultan Al Raddadi	raddadis@ngha.med.sa	6959	16538
Dr. Lolwa Al Abdulmohesen	alabdelmuhsinlo@ngha.med.sa	9009	15650
Dr. Alaa Al Anazi	alenazial3@MNGHA.MED.SA	1883	15163
Dr. Majed Al Mutair	almutairima27@Mngha.med.sa	8862	10735
Dr. Lama Al Fuhid	fehaidl@ksau-hs.edu.sa	3183	84-95008

General Description:

The King Abdulaziz Cardiac Surgery is one of the most comprehensive programs for the management of heart problems in Saudi Arabia and the Gulf Region. This internationally accredited center provides a complete range of high-quality cardiac services to both adults and pediatrics. To meet these growing responsibilities, the facility currently operates four State of the Art Catheterization Laboratories, four Operating Rooms (OR's) and a growing number of beds and cardiac related support services. Also, there are two Intensive Care Units (ICU): Adult Cardiac Surgical ICU (ACICU) and Medical Cardiac ICU (MCICU) with 8 beds in each unit. The cardiac surgeries performed include Coronary Artery Bypass Graft (CABG), valve replacement surgeries, and correction of congenital cardiac anomalies.

The pharmacy resident is responsible for identifying, preventing and resolving medication therapy issues (drug related problems) for patients and will work toward assuming care of all patients on the unit throughout the learning experience. Good communication and interpersonal skills are vital for success in this experience.

Documentation must be completed on the day service was provided. The resident is responsible for providing and documenting education to patients on their team who will be discharged receiving anticoagulation. Education and documentation must be provided no later than the day of discharge.

Role(s) of Pharmacist(s):

The clinical pharmacist on the team is responsible for ensuring safe and effective medication use for all patients admitted to the team. Routine responsibilities include reconciling medications for all patients admitted to the team based off of the admission medication history, addressing formal consults for non-formulary medication requests, pharmacy clinical consults for therapeutic drug monitoring (e.g., pharmacokinetics, anticoagulation, parenteral nutrition, etc.), and participating in multidisciplinary rounds. The pharmacist will also provide drug information and education to healthcare professionals as well as patients and caregivers.

Expectations of Residents:

Under the direct supervision of a preceptor, the pharmacy resident is responsible for guaranteeing the safe and effective use of medications for all assigned critical care patients. This multifaceted role requires the resident to actively manage a range of clinical duties,

including performing medication reconciliation, accurately addressing formal consults for both formulary and non-formulary drug requests, and conducting therapeutic drug monitoring to ensure optimal patient outcomes. Beyond these routine tasks, the resident is expected to be a vital source of drug information, providing crucial education to healthcare professionals, patients, and their caregivers. Ultimately, the resident must fully embrace patient care responsibilities, striving to achieve positive drug therapy outcomes, and become an integral, active member of the cardiology team. Success hinges on a foundation of strong communication and interpersonal skills, combined with the ability to develop efficient strategies for handling all clinical responsibilities within the demanding and fast-paced critical care environment.

Disease states / Suggested reading material:
Common disease states in which the resident will be expected to gain proficiency through literature review, topic discussion, and/or direct patient care experience including, but not limited to:

- Valvular heart disease.
- Cardiovascular device indications.
- Adult's cardiac surgeries: Implication of postoperative drug therapy.
- Assessment of hemodynamic parameters: Inotropic/ vasopressor agents.
- Hypertensive urgency and emergency.
- End stage HF and Cardiogenic Shock management (IABP, ECMO, LVAD, etc.).

Progression of Residents:
The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Progression of Residents
Day 1	• Preceptor to review the rotation learning activities and expectations with resident.
Week 1-2	• Residents work up assigned patients and present to the preceptor prior to team rounds. • Preceptor to attend and participate in team rounds (modeling clinical pharmacists' role in the health care team).
Week 3-4	• Residents work up assigned patients and present to the preceptor prior to team rounds. • Preceptor may attend and participate in team rounds (coaching the resident to take on more responsibilities as the clinical pharmacist in the team).
Week 5	• Residents work up assigned patients and present to the preceptor prior to

	team rounds. • Preceptor may attend and observe the residents' participation in team rounds, and/or may expect a summary report from the resident regarding rounding activities and use of recommendations made by the resident. • Preceptor will always be available for questions and will follow patients independently to monitor resident skill development in all aspects of the learning experience (facilitating the resident as the clinical pharmacist in the team).
Daily	• Resident review assigned patients pre-rounds. • Attending medical rounds • Preceptor office hours available for topic discussions, reviewing progress notes, patient updates, etc from 14:30 – 17:00

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R1.1	**Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process).**	
R1.1.1	(Cognitive - Analyzing) Collect relevant subjective and objective information about the patient.	• Collect pertinent information on each assigned patient from available resources (e.g., medical record, patient's nurse, caregiver, and/or patient) every morning prior to rounds and record data on a secure patient monitoring form. • Review labs, medical record, and interview patients before adjusting the medication. • Review laboratory values, medication administration, and other pertinent data prior to adjusting medications in pharmacy-managed protocols. • Perform a medication history, review medical record, and contact patient's pharmacy or prescribing physician as needed when performing medication reconciliation. • Recommend, order, and/or conduct appropriate testing for patients according to evidence-based medicine and pharmacy policies and procedures.
R1.1.2	(Cognitive - **Evaluating**) Assess clinical information collected and analyze its impact on the patient's overall health goals.	• Identify any issues with medication therapy and discuss issues identified with preceptor at assigned time daily. • Based on information collected while performing medication reconciliation, identify any issues that need to be addressed. • Determine the appropriateness of medication orders (e.g., indication, dose, route, frequency, rate of administration, drug interactions, adherence, cost) prior to (verifying, ordering, prescribing, refilling). • When performing daily profile review, identify any needed changes. • Identify and prioritize unmet health care needs based upon professional judgement and the patient's values, preferences, priorities and goals.
R1.1.3	(Cognitive - Creating) Develop evidence-based, cost effective, and comprehensive	• Start patient on a dosing regimen designed to achieve target levels for all new "per pharmacy protocol" medication orders.

	patient-centered care plans.	• Develop a patient specific plan integrating knowledge of patient specific information, ethical, quality of life, and pharmacoeconomic issues. • Use knowledge of primary literature and guidelines to identify therapeutic goals for patient based on medications and disease states.
R1.1.4	(Cognitive - Applying) Implement care plans.	• After multi-disciplinary rounds, ensure all medication changes discussed have been ordered and verified. • Send new prescriptions to patient's pharmacy if any changes made to the patient's medication regimen during clinic visit. • Address medication- and health-related problems and execute preventive care strategies, including vaccine administration. • Initiate, modify, discontinue, or administer medication therapy as authorized. • Provide education and self-management training to the patient or caregiver. • Schedule appropriate follow-up and monitoring. • Contribute to coordination of care, including the referral or transition of the patient to another healthcare professional.
R1.1.5	(Cognitive - **Creating**) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	• Review all assigned patients managed per pharmacy protocols and order any needed labs or dosing changes based on assessment. • Evaluate medication appropriateness, effectiveness, and safety and patient adherence through available health data, biometric test results, and patient feedback. • Evaluate clinical endpoints that contribute to the patient's overall health. • Evaluate outcomes of care including progress toward or the achievement of goals of therapy. • Complete follow-up for patients according to collaborative practice agreements or statewide protocol. • Review all assigned patients managed per pharmacy protocols and order any needed labs or dosing changes based on assessment. • Evaluate medication appropriateness, effectiveness, and safety and patient adherence through available health data, biometric test results, and patient feedback. • Evaluate clinical endpoints that contribute to the patient's overall health. • Evaluate outcomes of care including progress toward or the achievement of goals of therapy. • Complete follow-up for patients according to collaborative practice agreements or statewide protocol.
R1.1.6	(Cognitive - **Analyzing**) Identify and address medication-related needs of individual patients experiencing care transitions regarding physical	• Complete admission medication reconciliation for all assigned patients daily. • Complete discharge medication reconciliation and medication education for all assigned patients daily. • When patients are transferred from critical care to a medical/surgical unit, communicate any necessary information to the pharmacist assigned to the medical/surgical unit.

	location, level of care, providers, or access to medications.	• Identify new patients at the pharmacy and conduct medication reconciliation and resolve any medication issues. • Anticipate (or advise) on any required changes when a member is being discharged (inpatient to outpatient). • Review formulary options for a patient prior to selecting a medication for therapy. • Complete admission medication reconciliation for all assigned patients daily. • When patients are transferred from critical care to a Cardiac step-down unit, communicate any necessary information to the clinical pharmacist assigned to the unit. • When patients on anticoagulation discharged from hospital are to be followed by ambulatory anticoagulation clinic, provide inpatient counseling and follow up plan / referral.
Goal R1.2	**Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.**	
R1.2.1	(Cognitive - Applying) Collaborate and communicate with healthcare team members.	• Engage in daily rounds with the designated cardiology team. (Starting 7:15 AM) • Offer plan to your designated patients and promptly respond to inquiries on drug information. • While on rounds, be prepared to identify medication-related problems and make evidence-based recommendations for solutions to the team. • Participate in daily rounds with assigned team and provide recommendations on assigned patients and answer drug information questions in a timely manner. • Work with physicians and nurses to resolve issues found when reconciling patients' medications prescribed on admission with medications taken as outpatient. • Contact prescribing physician to resolve issues found when verifying medication orders. • Contact prescribing physician to resolve issues when reviewing prior authorization requests. • Work with nurses and other health care providers to resolve missing doses and other medication distribution issues brought to your attention while staffing.
R1.2.2	(Cognitive - Applying) Communicate effectively with patients and caregivers.	• Provide medication education to patients, their families, and/or caregivers for all patients on assigned floor who are scheduled to be discharged. • Provide medication education to patients, their families, and/or caregivers via home visits, MTM telephonic outreach to patients, integrated healthcare, etc. • Counsel patients who are receiving new medications. • Perform any needed discharge counseling for patients, their families, and/or caregivers as part of medication reconciliation duties for patients on assigned floors. • Perform medication histories on assigned patients. • Conduct an organized, patient focused interview for all assigned clinic patients.

		• Educate patients on medication changes using appropriate patient counseling method
R1.2.3	(Cognitive - Applying) Document patient care activities in the medical record or where appropriate.	• For pharmacy consults, document an initial consult note and then a follow-up note in the EHR whenever drug level results are reported by the lab or the medication regimen is changed. • Document a patient care note in the medical record every time a patient is seen by you in clinic. • Document pharmacy interventions in ivent per pharmacy's policy. • Document medication management in appropriate format according to platform. • Document information according to collaborative practice agreement or statewide protocol. • Document patient interactions and interventions in eCare plan. • Document prior authorization decisions in the appropriate record system. • For pharmacy consults, document an initial consult note and then a follow-up note in the EHR whenever drug level results are reported by the lab or the medication regimen is changed.
Goal R4.1	**Provide effective medication and practice-related education.**	
***R4.1.1**	(Cognitive - **Creating**) Construct educational activities for the target audience.	• Prepare an evidence-based in-service on assigned topic for pharmacy staff. • Prepare and/or redesign an in-service to nurses on an assigned topic. • Prepare an evidence-based CE accredited presentation for pharmacy staff. • Prepare an evidence-based presentation for a multidisciplinary audience. • Design and/or redesign a disease specific patient education program. • Prepare a journal club discussion. • Prepare a talk on pharmacy to high school students. • Construct a set of educational activities for APPE and/or IPPE students.
***R4.1.3**	(Cognitive - **Creating**) Develop and demonstrate appropriate verbal communication to disseminate knowledge related to specific content, medication therapy, and/or practice area.	• Present an evidence-based in-service on assigned topic for pharmacy staff. • Present an in-service to nurses on an assigned topic. • Present an evidence-based CE accredited presentation for pharmacy staff. • Present an evidence-based presentation for a multidisciplinary audience. • Present a disease specific patient education program. • Lead a journal club discussion. • Deliver a presentation on the pharmacy profession to high school students. • Facilitate an educational discussion with APPE and/or IPPE students on assigned topics
R4.1.4	(Cognitive - **Evaluating**) Assess effectiveness of educational activities	• Verbally assess learner understanding at the end of a small discussion. • Write assessment and/or test questions to evaluate effectiveness of learning activity.

	for the intended audience.	• Develop and implement an assessment form to gather feedback for a presentation. • Evaluate learner retention of a prior learning experience and application in subsequent activities. • Poll audience during a presentation for engagement and assessment of educational effectiveness. • Respond to learner self-assessments by reinforcing educational objectives/topics during a presentation to aid in learning. • Assess learning activity evaluations to reflect on efficacy of appropriate educational content and/or presentation skills. • Assess the effectiveness of a precepting activity.
**Indicates Objective results in a resident deliverable*		

Evaluation Strategy:

After the resident and preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Critical Care I

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Shmeylan Al Harbi	harbishm@mngha.med.sa	4501	12390
Dr. Jawaher Gramish	gramishj@mngha.med.sa	1941	13343
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Dr. Khalid Alsuliman	alsulaimankh@Mngha.med.sa	6432	13698
Dr. Maram Aldossari	ALDOSSARIMA6@mngha.med.sa	7588	11162
Dr. Nouf Alharthi	alharthino@MNGHA.MED.SA	3867	51372
Dr. Rahaf Alqahtani	Alqahtanira@mngha.med.sa	9733	12548
Dr. Maha Assadon	ASSADOONMA@mngha.med.sa	2908	10892

General Description:

The Adult Critical Care rotation is a required five-week learning experience at King Abdulaziz Medical City, Riyadh. The resident will have the option to choose among the available critical care units (Surgical Intensive Care Unit (SICU), Medical Intensive Care Unit (ICU2), Neuro Intensive care, Burn Unit, Trauma Intensive Care (TICU). There are 60 ICU beds in the hospital. The teams are subdivided into 5 all teams including a consultant intensivist, an assistant and/or fellow physician, and medical residents. Other disciplines on the team include a clinical pharmacist, clinical dietician, a respiratory therapist, pharmacy residents and/or pharmacy students, and the primary nurse.

The purpose of the ICU rotation is to allow the residents to become familiar with aspects of critical care medicine. The resident will further expand his/her knowledge base and refine his/her pharmacotherapeutic skills in the identification and resolution of drug therapy problems in critically ill medical patients. The resident will fully assume patient care responsibility and assure positive drug therapy outcomes for one team while the preceptor rounds on the other team. Furthermore, the pharmacy resident is expected to become an active member of the critical care team throughout the learning experience.

The resident will provide and document therapeutic drug monitoring service for their patients on their team receiving drugs requiring monitoring including, but not limited to, aminoglycosides and vancomycin. Good communication and interpersonal skills are vital to success in this experience. The resident must devise efficient strategies for accomplishing the required activities in a limited time frame.

Role(s) of Pharmacist(s):

The clinical pharmacist role is to provide drug information and to ensure the appropriateness of drug therapy utilizing the safest, most effective, and cost-effective pharmacotherapy. Other responsibilities include medication reconciliation, therapeutic drug monitoring (TDM), reporting adverse drug reactions, addressing formal consults for non-formulary drug requests and providing education to the healthcare team. In addition to attending antibiotics

stewardship meeting, medication dose adjustment(s) for acute renal/hepatic failure, anticoagulation reversal and management of drug toxicity and prepare and adjust total parenteral nutrition.

Expectations of Residents:

Under the direct supervision of a preceptor, the pharmacy resident is responsible for guaranteeing the safe and effective use of medications for all assigned critical care patients. This multifaceted role requires the resident to actively manage a range of clinical duties, including performing medication reconciliation, accurately addressing formal consults for both formulary and non-formulary drug requests, and conducting therapeutic drug monitoring to ensure optimal patient outcomes. Beyond these routine tasks, the resident is expected to be a vital source of drug information, providing crucial education to healthcare professionals, patients, and their caregivers. Ultimately, the resident must fully embrace patient care responsibilities, striving to achieve positive drug therapy outcomes, and become an integral, active member of the critical care team. Success hinges on a foundation of strong communication and interpersonal skills, combined with the ability to develop efficient strategies for handling all clinical responsibilities within the demanding and fast-paced critical care environment.

Disease states / Suggested reading material:

Common disease states/therapeutic issues of which the resident will be expected to gain understanding through literature review, topic discussion, and direct patient experience include:

- Venous thromboembolism prophylaxis.
- Stress ulcer prophylaxis.
- Sepsis and infection.
- Antibiotic use in patients receiving CRRT.
- Infection in critically ill patients.
- Severe sepsis and septic shock.
- Pain, agitation, and delirium in the ICU.
- **Optional Depending on Units Covering**
    - Pharmacokinetic and pharmacodynamic considerations in burn injury.
    - Thrombolytic therapy in acute ischemic stroke.
    - Treatment of traumatic brain injury.
    - Surgical wound care.

Progression of Residents:

The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and

skills in a structured and supportive environment.

Period	Progression of Residents
Day 1	• Meet with the preceptor and discuss the team members, how the team works as a unit, and the collaborative arrangements with physicians and nurses. • Preceptor will review the learning activities and expectations with residents.
Week 1	• Residents shall work up all patients in the designated team and they should identify drug-related problems before rounds. He/she shall present to the preceptor one-two patients following a systesm-by-system format on a daily basis. • Preceptor to attend and participate in team rounds (modeling clinical pharmacists' role in the health care team).
Week 2	• Residents shall continue working up all patients in the designated team and they should continue identifying drug-related problems before rounds. He/she shall present to the preceptor one-two patients following a system-by-system format on a daily basis. • Residents should give one in-service during this period.
Week 3-4	• Residents work up assigned patients and present to the preceptor prior to team rounds. • Preceptor may attend and participate in team rounds (coaching the resident to take on more responsibilities as the clinical pharmacist in the team). • Case presentation may be presented during this period and all assignments have to be finalized as well.
Week 5	• Residents work up assigned patients and present to the preceptor prior to team rounds. • Preceptor will always be available for questions and will follow patients independently to monitor resident skill development in all aspects of the learning experience (facilitating the resident as the clinical pharmacist in the team).
Daily	• Resident review assigned patients pre-rounds. • Attending medical rounds • Preceptor office hours available for topic discussions, reviewing progress notes, patient updates, etc from 14:30 – 17:00

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R1.1	**Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process).**	
R1.1.1	(Cognitive - Analyzing) Collect relevant subjective and objective information about the patient.	• Collect pertinent information on each assigned patient from available resources (e.g., medical record, patient's nurse, caregiver, and/or patient) every morning prior to rounds and record data on a secure patient monitoring form. • Review labs, medical record, and interview patients before adjusting the medication. • Review laboratory values, medication administration, and other pertinent data prior to adjusting medications in pharmacy-managed protocols.

		• Perform a medication history, review • medical record, and contact patient's pharmacy or • prescribing physician as needed when performing medication reconciliation. • Recommend, order, and/or conduct appropriate testing for patients according to evidence-based medicine and pharmacy policies and procedures.
R1.1.2	(Cognitive - **Evaluating**) Assess clinical information collected and analyze its impact on the patient's overall health goals.	• Identify any issues with medication therapy and discuss issues identified with preceptor at assigned time daily. • Based on information collected while performing medication reconciliation, identify any issues that need to be addressed. • Determine the appropriateness of medication orders (e.g., indication, dose, route, frequency, rate of administration, drug interactions, adherence, cost) prior to (verifying, ordering, prescribing, refilling). • When performing daily profile review, identify any needed changes. • Identify and prioritize unmet health care needs based upon professional judgement and the patient's values, preferences, priorities and goals.
R1.1.3	(Cognitive - Creating) Develop evidence-based, cost-effective, and comprehensive patient-centered care plans.	• Start patient on a dosing regimen designed to achieve target levels for all new "per pharmacy protocol" medication orders. • Develop a patient specific plan integrating knowledge of patient specific information, ethical, quality of life, and pharmacoeconomic issues. • Use knowledge of primary literature and guidelines to identify therapeutic goals for patient based on medications and disease states.
R1.1.4	(Cognitive - Applying) Implement care plans.	• After multi-disciplinary rounds, ensure all medication changes discussed have been ordered and verified. • Send new prescriptions to patient's pharmacy if any changes made to the patient's medication regimen during clinic visit. • Address medication- and health-related problems and execute preventive care strategies, including vaccine administration. • Initiate, modify, discontinue, or administer medication therapy as authorized. • Provide education and self-management training to the patient or caregiver. • Schedule appropriate follow-up and monitoring. • Contribute to coordination of care, including the referral or transition of the patient to another healthcare professional.
R1.1.5	(Cognitive - **Creating**) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	• Review all assigned patients managed per pharmacy protocols and order any needed labs or dosing changes based on assessment. • Evaluate medication appropriateness, effectiveness, and safety and patient adherence through available health data, biometric test results, and patient feedback. • Evaluate clinical endpoints that contribute to the patient's overall health. • Evaluate outcomes of care including progress toward or the achievement of goals of therapy.

		• Complete follow-up for patients according to collaborative practice agreements or statewide protocol.
R1.1.6	(Cognitive - **Analyzing**) Identify and address medication-related needs of individual patients experiencing care transitions regarding physical location, level of care, providers, or access to medications.	• Complete admission medication reconciliation for all assigned patients daily. • Complete discharge medication reconciliation and medication education for all assigned patients daily. • When patients are transferred from critical care to a medical/surgical unit, communicate any necessary information to the pharmacist assigned to the medical/surgical unit.
Goal R1.2	**Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.**	
R1.2.1	(Cognitive - Applying) Collaborate and communicate with healthcare team members.	• While on rounds, be prepared to identify medication-related problems and make evidence-based recommendations for solutions to the team. • Participate in daily rounds with assigned team and provide recommendations on assigned patients and answer drug information questions in a timely manner. • Work with physicians and nurses to resolve issues found when reconciling patients' medications prescribed on admission with medications taken as outpatient. • Contact prescribing physician to resolve issues found when verifying medication orders. • Contact prescribing physician to resolve issues when reviewing prior authorization requests. • Work with nurses and other health care providers to resolve missing doses and other medication distribution issues brought to your attention while staffing.
R1.2.2	(Cognitive - Applying) Communicate effectively with patients and caregivers.	• Provide medication education to patients, their families, and/or caregivers for all patients on assigned floor who are scheduled to be discharged. • Provide medication education to patients, their families, and/or caregivers via home visits, MTM telephonic outreach to patients, integrated healthcare, etc. • Counsel patients who are receiving new medications. • Perform any needed discharge counseling for patients, their families, and/or caregivers as part of medication reconciliation duties for patients on assigned floors. • Perform medication histories on assigned patients. • Conduct an organized, patient focused interview for all assigned clinic patients. • Educate patients on medication changes using appropriate patient counseling method.

R1.2.3	(Cognitive - Applying) Document patient care activities in the medical record or where appropriate. s	• For pharmacy consults, document an initial consult note and then a follow-up note in the EHR whenever drug level results are reported by the lab or the medication regimen is changed. • Document a patient care note in the medical record every time a patient is seen by you in clinic. • Document pharmacy interventions in ivent per pharmacy's policy. • Document medication management in appropriate format according to platform. • Document information according to collaborative practice agreement or statewide protocol. • Document patient interactions and interventions in eCare plan. • Document prior authorization decisions in the appropriate record system.
Goal R4.2	**Provide professional and practice-related training to meet learners' educational needs.**	
R4.2.1	(Cognitive - Creating) Create written communication to disseminate knowledge related to specific content, medication therapy, and/or practice area.	• Differentiate the learner's level of knowledge and/or skill and the level of preceptorship needed. • Implement the appropriate preceptor role for learners, based on your analysis. • Adjust precepting activities to accommodate learner's performance.

Evaluation Strategy:

After resident and preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Critical Care II

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Shmeylan Al Harbi	harbishm@mngha.med.sa	4501	12390
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Dr. Khalid Alsuliman	alsulaimankh@Mngha.med.sa	6432	13698
Dr. Maram Aldossari	ALDOSSARIMA6@mngha.med.sa	7588	11162
Dr. Nouf Alharthi	alharthino@MNGHA.MED.SA	3867	51372
Dr. Rahaf Alqahtani	Alqahtanira@mngha.med.sa	9733	12548
Dr. Maha Assadon	ASSADOONMA@mngha.med.sa	2908	10892

General Description:

The Adult Critical Care rotation is a required five-week learning experience at King Abdulaziz Medical City, Riyadh. The resident will have the option to choose among the available critical care units (Surgical Intensive Care Unit (SICU), Medical Intensive Care Unit (ICU2), Neuro Intensive care, Burn Unit, Trauma Intensive Care (TICU). There are 60 ICU beds in the hospital. The teams are subdivided into 5 all teams including a consultant intensivist, an assistant and/or fellow physician, and medical residents. Other disciplines on the team include a clinical pharmacist, clinical dietician, a respiratory therapist, pharmacy residents and/or pharmacy students, and the primary nurse.

The purpose of the ICU rotation is to allow the residents to become familiar with aspects of critical care medicine. The resident will further expand his/her knowledge base and refine his/her pharmacotherapeutic skills in the identification and resolution of drug therapy problems in critically ill medical patients. The resident will fully assume patient care responsibility and assure positive drug therapy outcomes for one team while the preceptor rounds on the other team. Furthermore, the pharmacy resident is expected to become an active member of the critical care team throughout the learning experience.

The resident will provide and document therapeutic drug monitoring service for their patients on their team receiving drugs requiring monitoring including, but not limited to, aminoglycosides and vancomycin. Good communication and interpersonal skills are vital to success in this experience. The resident must devise efficient strategies for accomplishing the required activities in a limited time frame.

Role(s) of Pharmacist(s):

The clinical pharmacist role is to provide drug information and to ensure the appropriateness of drug therapy utilizing the safest, most effective, and cost-effective pharmacotherapy. Other responsibilities include medication reconciliation, therapeutic drug monitoring (TDM), reporting adverse drug reactions, addressing formal consults for non-formulary drug requests and providing education to the healthcare team. In addition to attending antibiotics stewardship meeting, medication dose adjustment(s) for acute renal/hepatic failure, anticoagulation reversal and management of drug toxicity and prepare and adjust total

parenteral nutrition.

Expectations of Residents:
Under the direct supervision of a preceptor, the pharmacy resident is responsible for guaranteeing the safe and effective use of medications for all assigned critical care patients. This multifaceted role requires the resident to actively manage a range of clinical duties, including performing medication reconciliation, accurately addressing formal consults for both formulary and non-formulary drug requests, and conducting therapeutic drug monitoring to ensure optimal patient outcomes. Beyond these routine tasks, the resident is expected to be a vital source of drug information, providing crucial education to healthcare professionals, patients, and their caregivers. Ultimately, the resident must fully embrace patient care responsibilities, striving to achieve positive drug therapy outcomes, and become an integral, active member of the critical care team. Success hinges on a foundation of strong communication and interpersonal skills, combined with the ability to develop efficient strategies for handling all clinical responsibilities within the demanding and fast-paced critical care environment.

Disease states / Suggested reading material:
Common disease states/therapeutic issues of which the resident will be expected to gain understanding through literature review, topic discussion, and direct patient experience include:

- Cardiac arrest and advanced cardiac life support.
- Nosocomial infections (VAP, line infections, C difficile).
- Thrombotic and bleeding diathesis in critically ill patients.
- Glycemic control.
- Vasopressor agents.
- Nutrition in the ICU.
- **Optional Depending on Units Covering**
    - Pharmacokinetic and pharmacodynamic considerations in burn injury
    - Thrombolytic therapy in acute ischemic stroke
    - Treatment of traumatic brain injury
    - Surgical wound care

Progression of Residents:
The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Residents' progression

Day 1	• Meet with the preceptor and discuss the team members, how the team works as a unit, and the collaborative arrangements with physicians and nurses. • Preceptor will review the learning activities and expectations with residents.
Week 1	• Residents shall work up all patients in the designated team and they should identify drug-related problems before rounds. He/she shall present to the preceptor two-three patients following a system-by-system format on a daily basis. • Preceptor to attend and participate in team rounds (modeling clinical pharmacists' role in the health care team).
Week 2	• Residents shall continue working up all patients in the designated team and they should continue identifying drug-related problems before rounds. He/she shall present to the preceptor three-four patients following a system-by-system format on a daily basis. • Resident should give one in-service during this period.
Week 3-4	• Residents work up assigned patients and present to the preceptor prior to team rounds. • Preceptor may attend and participate in team rounds (coaching the resident to take on more responsibilities as the clinical pharmacist in the team). • Case presentation may be presented during this period and all assignments have to be finalized as well.
Week 5	• Residents work up assigned patients and present to the preceptor prior to team rounds. • Preceptor will always be available for questions and will follow patients independently to monitor resident skill development in all aspects of the learning experience (facilitating the resident as the clinical pharmacist in the team).
Daily	• Resident review assigned patients pre-rounds. • Attending medical rounds • Preceptor office hours available for topic discussions, reviewing progress notes, patient updates, etc from 14:30 – 17:00

Goals Selected and Learning Activities:

Goals	Objectives	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.	• Collect pertinent information on each assigned patient from available resources (e.g., medical record, patient's nurse, caregiver, and/or patient) every morning prior to rounds and record data on a secure patient monitoring form. • Review labs, medical record, and interview patients before adjusting the medication. • Review laboratory values, medication administration, and other pertinent data prior to adjusting medications in pharmacy-managed protocols.

		• Perform a medication history, review medical record, and contact patient's pharmacy or prescribing physician as needed when performing medication reconciliation. • Recommend, order, and/or conduct appropriate testing for patients according to evidence-based medicine and pharmacy policies and procedures.
R1.1.2	(**Evaluating**) Assess clinical information collected and analyze its impact on the patient's overall health goals.	• Identify any issues with medication therapy and discuss issues identified with preceptor at assigned time daily. • Based on information collected while performing medication reconciliation, identify any issues that need to be addressed. • Determine the appropriateness of medication orders (e.g., indication, dose, route, frequency, rate of administration, drug interactions, adherence, cost) prior to (verifying, ordering, prescribing, refilling). • When performing daily profile review, identify any needed changes. • Identify and prioritize unmet health care needs based upon professional judgement and the patient's values, preferences, priorities and goals.
R1.1.3	(Creating) Develop evidence-based, cost effective, and comprehensive patient-centered care plans.	• Start patient on a dosing regimen designed to achieve target levels for all new "per pharmacy protocol" medication orders. • Develop a patient specific plan integrating knowledge of patient specific information, ethical, quality of life, and pharmacoeconomic issues. • Use knowledge of primary literature and guidelines to identify therapeutic goals for patient based on medications and disease states
R1.1.4	(Applying) Implement care plans.	• After multi-disciplinary rounds, ensure all medication changes discussed have been ordered and verified. • Send new prescriptions to patient's pharmacy if any changes made to the patient's medication regimen during clinic visit. • Address medication- and health-related problems and execute preventive care strategies, including vaccine administration. • Initiate, modify, discontinue, or administer medication therapy as authorized. • Provide education and self-management training to the patient or caregiver. • Schedule appropriate follow-up and monitoring. • Contribute to coordination of care, including the referral or transition of the patient to another healthcare professional.
R1.1.5	(**Creating**) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	• Review all assigned patients managed per pharmacy protocols and order any needed labs or dosing changes based on assessment. • Evaluate medication appropriateness, effectiveness, and safety and patient adherence through available health data, biometric test results, and patient feedback. • Evaluate clinical endpoints that contribute to the patient's overall health. • Evaluate outcomes of care including progress toward or the achievement of goals of therapy. • Complete follow-up for patients according to collaborative practice agreements or statewide protocol.

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.	• Complete admission medication reconciliation for all assigned patients daily. • Complete discharge medication reconciliation and medication education for all assigned patients daily. • When patients are transferred from critical care to a medical/surgical unit, communicate any necessary information to the pharmacist assigned to the medical/surgical unit.
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.	• While on rounds, be prepared to identify medication-related problems and make evidence-based recommendations for solutions to the team. • Participate in daily rounds with assigned team and provide recommendations on assigned patients and answer drug information questions in a timely manner. • Work with physicians and nurses to resolve issues found when reconciling patients' medications prescribed on admission with medications taken as outpatient. • Contact prescribing physician to resolve issues found when verifying medication orders. • Discuss recommendations with the provider for medication therapy changes outside the current collaborative practice agreement.
R1.2.2	(Applying) Communicate effectively with patients and caregivers.	• Provide medication education to patients, their families, and/or caregivers for all patients on assigned floor who are scheduled to be discharged. • Counsel patients who are receiving new medications. • Perform any needed discharge counseling for patients, their families, and/or caregivers as part of medication reconciliation duties for patients on assigned floors. • Perform medication histories on assigned patients. • Educate patients on medication changes using appropriate patient counseling method.
R1.2.3	(Applying) Document patient care activities in the medical record or where appropriate.	• For pharmacy consults, document an initial consult note and then a follow-up note in the EHR whenever drug level results are reported by the lab or the medication regimen is changed. • Document a patient care note in the medical record every time a patient is seen by you in clinic. • Document pharmacy interventions in ivent per pharmacy's policy. • Document medication management in appropriate format according to platform. • Document information according to collaborative practice agreement or statewide protocol.

		• Document patient interactions and interventions in eCare plan. • Document prior authorization decisions in the appropriate record system.
Goal R4.2	**Provide professional and practice-related training to meet learners' educational needs.**	
R4.2.1	(Cognitive - Creating) Create written communication to disseminate knowledge related to specific content, medication therapy, and/or practice area.	• Write a newsletter article for pharmacy department, health-system newsletter, providers). • Prepare a written summary of an assigned journal article and disseminate content to an external audience. • Prepare a written presentation as a standalone educational resource for dissemination.

Evaluation Strategy:

After the resident and preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Infectious Diseases I

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
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General Description:

Infectious diseases (ID) is an core five-week rotation aiming to introduce pharmacy practice residents to a wide variety of adult ID cases and activities. Because ID service is a consultation-based specialty, ID patients will be distributed around the hospital.

The primary responsibility of the pharmacy residents during this rotation is attending and effectively participating in daily rounds and teaching activities. Residents will be also responsible for reviewing all patients' medications, formulating therapeutic plans, pharmacotherapeutic decision making, therapeutic drug monitoring, ADR reporting, patient counseling, and responding to ID team's drug information questions.

Role(s) of Pharmacist(s):

The clinical pharmacy specialist on the team is responsible for providing drug information related to patient care, and prospective therapeutic drug monitoring to ensure provision of safe, efficacious, and cost-effective pharmacotherapy. Routine responsibilities include: reconciling medications for all patients admitted to the service, therapeutic drug monitoring, addressing formal consults for non-formulary drug requests and attending antibiotics stewardship meetings. The pharmacist will also provide drug information and education to healthcare professionals as well and patients and caregivers.

Expectations of Residents:

Under the direct supervision of a preceptor, the pharmacy resident is responsible for guaranteeing the safe and effective use of medications for all assigned critical care patients. This multifaceted role requires the resident to actively manage a range of clinical duties, including performing medication reconciliation, accurately addressing formal consults for both formulary and non-formulary drug requests, and conducting therapeutic drug monitoring to ensure optimal patient outcomes. Beyond these routine tasks, the resident is expected to be a vital source of drug information, providing crucial education to healthcare professionals, patients, and their caregivers. Ultimately, the resident must fully embrace patient care responsibilities, striving to achieve positive drug therapy outcomes, and become an integral, active member of the infectious disease team. Success hinges on a foundation of strong communication and interpersonal skills, combined with the ability to develop efficient strategies for handling all clinical responsibilities within the demanding and fast-paced critical care environment.

Disease states / Suggested reading material:

The resident is expected to read and understand basic concepts on the following **prior to** starting this rotation:

- Pharmacokinetic and pharmacodynamic principles in antimicrobial therapy
- Classes of antimicrobials and their spectrum of activity

Common disease states and topics in which the resident will be expected to gain proficiency through literature review, topic discussion, and/or direct patient care experience including, but not limited to:

- Skin and soft tissue infections.
- Bone and joint infections.
- Pneumonia.
- Urinary Tract Infections.
- Sepsis and Septic shock.
- Complicated intra-abdominal infections.
- Endocarditis.
- CNS infections.
- Tuberculosis.
- Brucellosis.
- Fungal infections.
- Sexually transmitted diseases.
- Malaria.
- Viral hepatitis.
- Anthelmintic agents.
- Laboratory tests to direct antimicrobial pharmacotherapy.

Progression of Residents:

The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Progression of Residents
Day 1	• Meet with the preceptor and discuss the team members, how the team works as a unit, and the collaborative arrangements with physicians and nurses. • Preceptor will review the learning activities and expectations with residents.
Week 1	• Resident shall work up all patients in the designated team and they should identify drug-related problems before rounds. He/she shall present to the preceptor two-three patients following a system-by-system format on a daily basis. • Preceptor to attend and participate in team rounds (modeling clinical pharmacists' role in the health care team).
Week 2	• Resident shall continue working up all patients in the designated team and they should continue identifying drug-related problems before rounds. He/she shall present to the preceptor three-four patients following a system-by-system format

	on a daily basis. • Resident should give one in-service during this period.
Week 3-4	• Resident to work up assigned patients and present to preceptor prior to team rounds. • Preceptor may attend and participate in team rounds (coaching the resident to take on more responsibilities as the clinical pharmacist in the team). • Case presentation may be presented during this period and all assignments have to be finalized as well.
Week 5	• Resident to work up assigned patients and present to preceptor prior to team rounds. • Preceptor will always be available for questions and will follow patients independently to monitor resident skill development in all aspects of the learning experience (facilitating the resident as the clinical pharmacist in the team).
Daily	• Resident review assigned patients pre-rounds. • Attending medical rounds • Preceptor office hours available for topic discussions, reviewing progress notes, patient updates, etc from 14:30 – 17:00

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R1.1	**Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process).**	
R1.1.1	(Cognitive - Analyzing) Collect relevant subjective and objective information about the patient.	• Collect pertinent information on each assigned patient from available resources (e.g., medical record, patient's nurse, caregiver, and/or patient) every morning prior to rounds and record data on a secure patient monitoring form. • Review labs, medical record, and interview patients before adjusting the medication. • Review laboratory values, medication administration, and other pertinent data prior to adjusting medications in pharmacy-managed protocols. • Perform a medication history, review medical record, and contact patient's pharmacy or prescribing physician as needed when performing medication reconciliation. • Recommend, order, and/or conduct appropriate testing for patients according to evidence-based medicine and pharmacy policies and procedures.
R1.1.2	(Cognitive - Evaluating) Assess clinical information collected and analyze its impact on the patient's overall health goals.	• Identify any issues with medication therapy and discuss issues identified with preceptor at assigned time daily. • Based on information collected while performing medication reconciliation, identify any issues that need to be addressed. • Determine the appropriateness of medication orders (e.g., indication, dose, route, frequency, rate of administration, drug interactions, adherence, cost) prior to (verifying, ordering, prescribing, refilling). • When performing daily profile review, identify any needed changes. • Identify and prioritize unmet health care needs based upon professional judgement and the patient's values, preferences, priorities and goals.

R1.1.3	(Cognitive - Creating) Develop evidence-based, cost effective, and comprehensive patient-centered care plans.	• Start patient on a dosing regimen designed to achieve target levels for all new "per pharmacy protocol" medication orders. • Develop a patient specific plan integrating knowledge of patient specific information, ethical, quality of life, and pharmacoeconomic issues. • Use knowledge of primary literature and guidelines to identify therapeutic goals for patient based on medications and disease states.
R1.1.4	(Cognitive - Applying) Implement care plans.	• After multi-disciplinary rounds, ensure all medication changes discussed have been ordered and verified. • Send new prescriptions to patient's pharmacy if any changes made to the patient's medication regimen during clinic visit. • Address medication- and health-related problems and execute preventive care strategies, including vaccine administration. • Initiate, modify, discontinue, or administer medication therapy as authorized. • Provide education and self-management training to the patient or caregiver. • Schedule appropriate follow-up and monitoring. • Contribute to coordination of care, including the referral or transition of the patient to another healthcare professional.
R1.1.5	(Cognitive - **Creating**) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	• Review all assigned patients managed per pharmacy protocols and order any needed labs or dosing changes based on assessment. • Evaluate medication appropriateness, effectiveness, and safety and patient adherence through available health data, biometric test results, and patient feedback. • Evaluate clinical endpoints that contribute to the patient's overall health. • Evaluate outcomes of care including progress toward or the achievement of goals of therapy. • Complete follow-up for patients according to collaborative practice agreements or statewide protocol.
R1.1.6	(Cognitive - **Analyzing**) Identify and address medication-related needs of individual patients experiencing care transitions regarding physical location, level of care, providers, or access to medications.	• Complete admission medication reconciliation for all assigned patients daily. • Complete discharge medication reconciliation and medication education for all assigned patients daily. • When patients are transferred from critical care to a medical/surgical unit, communicate any necessary information to the pharmacist assigned to the medical/surgical unit. • Identify new patients at the pharmacy and conduct medication reconciliation and resolve any medication issues. • Anticipate (or advise) on any required changes when a member is being discharged (inpatient to outpatient). • Review formulary options for a patient prior to selecting a medication for therapy.

Goal R1.2	**Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.**	
R1.2.1	(Cognitive - Applying) Collaborate and communicate with healthcare team members.	• While on rounds, be prepared to identify medication-related problems and make evidence-based recommendations for solutions to the team. • Participate in daily rounds with assigned team and provide recommendations on assigned patients and answer drug information questions in a timely manner. • Work with physicians and nurses to resolve issues found when reconciling patients' medications prescribed on admission with medications taken as outpatient. • Contact prescribing physician to resolve issues found when verifying medication orders. • Contact prescribing physician to resolve issues when reviewing prior authorization requests. • Work with nurses and other health care providers to resolve missing doses and other medication distribution issues brought to your attention while staffing. • Provide accurate and timely responses to drug information questions from other healthcare team members.
Goal R1.3	**Promote safe and effective access to medication therapy.**	
R1.3.1	(Cognitive - Applying) Facilitate the medication-use process related to formulary management or medication access.	• Review non-formulary drug requests to determine if they meet criteria for approval. • When a nonformulary or "patient's own drug" is prescribed, ensure bar-coding of the medication is completed before dispensing. • Recommend formulary therapeutic alternatives for non-formulary medications, as appropriate. • Help patients experiencing medication access issues navigate through patient assistance programs. • Facilitate outreach to and coordination with the prescriber to resolve prior authorization issues.

Evaluation Strategy:

After resident and preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed

ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Infectious Diseases II

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Hajer Alqahtani	alqahtaniha2@mngha.med.sa	5409	10849
Dr. Khalid Bin Saleh	binsalehkh@Mngha.med.sa	8873	-

General Description:

Infectious Diseases II rotation in as advanced rotation that will specifically immerse the residents in the nuanced management of highly complex infectious diseases unique to these immunocompromised populations, including febrile neutropenia, opportunistic infections (e.g., fungal, viral, parasitic infections), and infections in both solid organ and hematopoietic stem cell transplant recipients, focusing on advanced diagnostic interpretation, individualized antimicrobial pharmacotherapy (including PK/PD optimization for challenging drugs in these patient groups), and sophisticated antimicrobial stewardship strategies tailored to prevent and manage multi-drug resistant organisms prevalent in this vulnerable cohort, thereby honing critical thinking and evidence-based problem-solving to optimize patient outcomes in a specialized, high-acuity setting.

Role(s) of Pharmacist(s):

On daily basis, the pharmacist will conduct prospective audit of all antimicrobials in the assigned areas. Additionally, the stewardship pharmacist will be involved in the formulation of hospital-based guidelines for specific diseases management that are tailored to the hospital population and local antibiogram. The appropriateness of antimicrobial use will be thoroughly evaluated through conducting medication use evaluations (MUEs) and their outcomes on local microbiological resistance, cost and hospital stay among other parameters.

Expectations of Residents:

Under the direct supervision of a preceptor, the pharmacy resident is responsible for guaranteeing the safe and effective use of medications for all assigned critical care patients. This multifaceted role requires the resident to actively manage a range of clinical duties, including performing medication reconciliation, accurately addressing formal consults for both formulary and non-formulary drug requests, and conducting therapeutic drug monitoring to ensure optimal patient outcomes. Beyond these routine tasks, the resident is expected to be a vital source of drug information, providing crucial education to healthcare professionals, patients, and their caregivers. Ultimately, the resident must fully embrace patient care responsibilities, striving to achieve positive drug therapy outcomes, and become an integral, active member of the infectious disease team. Success hinges on a foundation of strong communication and interpersonal skills, combined with the ability to develop efficient strategies for handling all clinical responsibilities within the demanding and fast-paced critical care environment.

Disease states / Suggested reading material:

Common disease states and topics in which the resident will be expected to gain proficiency through literature review, topic discussion, and/or direct patient care experience including, but not limited to:

- Respiratory Tract Infections immunocompromised patients.
- Urinary Tract Infections in immunocompromised patients.
- Sepsis and Septic shock immunocompromised patients.
- CNS infections immunocompromised patients.
- Fungal infections immunocompromised patients.
- HIV/AIDS.
- Non-HIV viral infections immunocompromised patients.
- Anthelmintic agents.
- Concepts on antimicrobial stewardship.

Progression of Residents:

The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Progression of Residents
Day 1	• Meet with the preceptor and discuss the team members, how the team works as a unit, and the collaborative arrangements with physicians and nurses. • Preceptor will review the learning activities and expectations with residents.
Week 1	• Resident shall work up all patients in the designated team and they should identify drug-related problems before rounds. He/she shall present to the preceptor two-three patients following a system-by-system format on a daily basis. • Preceptor to attend and participate in team rounds (modeling clinical pharmacists' role in the health care team).
Week 2	• Resident shall continue working up all patients in the designated team and they should continue identifying drug-related problems before rounds. He/she shall present to the preceptor three-four patients following a system-by-system format on a daily basis. • Resident should give one in-service during this period.
Week 3-4	• Resident to work up assigned patients and present to preceptor prior to team rounds. • Preceptor may attend and participate in team rounds (coaching the resident to take on morse responsibilities as the clinical pharmacist in the team). • Case presentation may be presented during this period and all assignments have to be finalized as well.
Week 5	• Resident to work up assigned patients and present to preceptor prior to team rounds. • Preceptor will always be available for questions and will follow patients independently to monitor resident skill development in all aspects of the learning experience (facilitating the resident as the clinical pharmacist in the team).

Daily	• Resident review assigned patients pre-rounds. • Attending medical rounds • Preceptor office hours available for topic discussions, reviewing progress notes, patient updates, etc from 14:30 – 17:00

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R1.1	**Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process).**	
R1.1.1	(Cognitive - Analyzing) Collect relevant subjective and objective information about the patient.	• Collect pertinent information on each assigned patient from available resources (e.g., medical record, patient's nurse, caregiver, and/or patient) every morning prior to rounds and record data on a secure patient monitoring form. • Review labs, medical record, and interview patients before adjusting the medication. • Review laboratory values, medication administration, and other pertinent data prior to adjusting medications in pharmacy-managed protocols. • Perform a medication history, review medical record, and contact patient's pharmacy or prescribing physician as needed when performing medication reconciliation. • Recommend, order, and/or conduct appropriate testing for patients according to evidence-based medicine and pharmacy policies and procedures.
R1.1.2	(Cognitive - **Evaluating**) Assess clinical information collected and analyze its impact on the patient's overall health goals.	• Identify any issues with medication therapy and discuss issues identified with preceptor at assigned time daily. • Based on information collected while performing medication reconciliation, identify any issues that need to be addressed. • Determine the appropriateness of medication orders (e.g., indication, dose, route, frequency, rate of administration, drug interactions, adherence, cost) prior to (verifying, ordering, prescribing, refilling). • When performing daily profile review, identify any needed changes. • Identify and prioritize unmet health care needs based upon professional judgement and the patient's values, preferences, priorities and goals.
R1.1.3	(Cognitive - Creating) Develop evidence-based, cost effective, and comprehensive patient-centered care plans.	• Start patient on a dosing regimen designed to achieve target levels for all new "per pharmacy protocol" medication orders. • Develop a patient specific plan integrating knowledge of patient specific information, ethical, quality of life, and pharmacoeconomic issues. • Use knowledge of primary literature and guidelines to identify therapeutic goals for patient based on medications and disease states.
R1.1.4	(Cognitive - Applying) Implement care plans.	• After multi-disciplinary rounds, ensure all medication changes discussed have been ordered and verified. • Send new prescriptions to patient's pharmacy if any changes made to the patient's medication regimen during clinic visit. • Address medication- and health-related problems and execute preventive care strategies, including vaccine administration.

		• Initiate, modify, discontinue, or administer medication therapy as authorized. • Provide education and self-management training to the patient or caregiver. • Schedule appropriate follow-up and monitoring. • Contribute to coordination of care, including the referral or transition of the patient to another healthcare professional.
R1.1.5	(Cognitive - **Creating**) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	• Review all assigned patients managed per pharmacy protocols and order any needed labs or dosing changes based on assessment. • Evaluate medication appropriateness, effectiveness, and safety and patient adherence through available health data, biometric test results, and patient feedback. • Evaluate clinical endpoints that contribute to the patient's overall health. • Evaluate outcomes of care including progress toward or the achievement of goals of therapy. • Complete follow-up for patients according to collaborative practice agreements or statewide protocol.
R1.1.6	(Cognitive - **Analyzing**) Identify and address medication-related needs of individual patients experiencing care transitions regarding physical location, level of care, providers, or access to medications.	• Complete admission medication reconciliation for all assigned patients daily. • Complete discharge medication reconciliation and medication education for all assigned patients daily. • When patients are transferred from critical care to a medical/surgical unit, communicate any necessary information to the pharmacist assigned to the medical/surgical unit. • Identify new patients at the pharmacy and conduct medication reconciliation and resolve any medication issues. • Anticipate (or advise) on any required changes when a member is being discharged (inpatient to outpatient). • Review formulary options for a patient prior to selecting a medication for therapy.
Goal R1.2	**Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.**	
R1.2.1	(Cognitive - Applying) Collaborate and communicate with healthcare team members.	• While on rounds, be prepared to identify medication-related problems and make evidence-based recommendations for solutions to the team. • Participate in daily rounds with assigned team and provide recommendations on assigned patients and answer drug information questions in a timely manner. • Work with physicians and nurses to resolve issues found when reconciling patients' medications prescribed on admission with medications taken as outpatient. • Contact prescribing physician to resolve issues found when verifying medication orders. • Contact prescribing physician to resolve issues when reviewing prior authorization requests. • Work with nurses and other health care providers to resolve missing doses and other medication distribution issues brought to your attention while staffing.

R1.2.2	(Cognitive - Applying) Communicate effectively with patients and caregivers.	• Provide medication education to patients, their families, and/or caregivers for all patients on assigned floor who are scheduled to be discharged. • Counsel patients who are receiving new medications. • Perform any needed discharge counseling for patients, their families, and/or caregivers as part of medication reconciliation duties for patients on assigned floors. • Perform medication histories on assigned patients. • Educate patients on medication changes using appropriate patient counseling method.
R1.2.3	(Cognitive - Applying) Document patient care activities in the medical record or where appropriate.	• For pharmacy consults, document an initial consult note and then a follow-up note in the EHR whenever drug level results are reported by the lab or the medication regimen is changed. • Document a patient care note in the medical record every time a patient is seen by you in clinic. • Document pharmacy interventions in ivent per pharmacy's policy. • Document medication management in appropriate format according to platform. • Document information according to collaborative practice agreement or statewide protocol. • Document patient interactions and interventions in eCare plan. • Document prior authorization decisions in the appropriate record system.
Goal R4.1	**Provide effective medication and practice-related education.**	
*R4.1.2	(Cognitive - **Creating**) Create written communication to disseminate knowledge related to specific content, medication therapy, and/or practice area.	• Write a newsletter article for pharmacy department, health-system newsletter, providers. • Prepare a written summary of an assigned journal article and disseminate content to an external audience. • Prepare a written presentation as a standalone educational resource for dissemination. • Write patient education materials (e.g., brochure, handout). • Write educational materials for health care providers (e.g., newsletter, medication or disease management update).
*R4.1.3	(Cognitive - **Creating**) Develop and demonstrate appropriate verbal communication to disseminate knowledge related to specific content, medication therapy, and/or practice area.	• Present an evidence-based in-service on assigned topic for pharmacy staff. • Present an in-service to nurses on an assigned topic. • Present an evidence-based presentation for a multidisciplinary audience. • Present a disease specific patient education program. • Lead a journal club discussion. • Facilitate an educational discussion with APPE and/or IPPE students on assigned topics.
**Indicates Objective results in a resident deliverable*		

Evaluation Strategy:

After resident and preceptor have completed and signed the evaluation forms, the resident

and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Solid Organ Transplant

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Khalifa Althiab	thiabkh@mngha.med.sa	4575	16533
Dr. Sara Al Bilal	albilalsa@mngha.med.sa	6500	56556
Dr. Shouq Al Kahtan	ALKHTANISH@mngha.med.sa	3094	51377

General Description:

The liver transplant program at the King Abdulaziz medical City Central Region, was launched in January 1994.The program continue to date with a survival rate up to 80%. Pharmacy resident is responsible for identifying and resolving medication therapy issues for transplant patients during daily medical rounds. The number of patients assigned to the resident for follow up will be tailored to the resident's experience (i.e., how far in the program they are) with the ultimate goal of covering all patients on the service by the end of the learning experience. The resident will provide and document therapeutic drug monitoring service for patients receiving drugs requiring monitoring including, but not limited to, calcineurin inhibitors. Documentation must be completed on the day service was provided. The resident is responsible for providing and documenting education to patients in collaboration with health educators to newly transplanted patients. Education and documentation must be provided no later than the day of discharge. The resident is responsible for completing non-formulary drug consults, within 24 hours of the request. Once a week, the resident is required to attend the liver transplant pharmacotherapy clinic.

Role(s) of Pharmacist(s):

The clinical pharmacist on the team is responsible for ensuring safe and effective medication use for all patients admitted to the team. Routine responsibilities include reconciling medications for all patients admitted to the team based off of the admission medication history, addressing formal consults for non-formulary medication requests, pharmacy clinical consults for therapeutic drug monitoring (e.g., pharmacokinetics, anticoagulation, parenteral nutrition, etc.), and participating in multidisciplinary rounds. The pharmacist will also provide drug information and education to healthcare professionals as well as patients and caregivers.

Expectations of Residents:

Under the direct supervision of a preceptor, the pharmacy resident is responsible for guaranteeing the safe and effective use of medications for all assigned critical care patients. This multifaceted role requires the resident to actively manage a range of clinical duties, including performing medication reconciliation, accurately addressing formal consults for both formulary and non-formulary drug requests, and conducting therapeutic drug monitoring to ensure optimal patient outcomes. Beyond these routine tasks, the resident is expected to be a vital source of drug information, providing crucial education to healthcare professionals, patients, and their caregivers. Ultimately, the resident must fully embrace patient care responsibilities, striving to achieve positive drug therapy outcomes, and become an integral, active member of the solid organ transplant team. Success hinges on a foundation of strong communication and interpersonal skills, combined with the ability to develop

efficient strategies for handling all clinical responsibilities within the demanding and fast-paced critical care environment.

Disease states / Suggested reading material:

Common disease states in which the resident will be expected to gain proficiency through literature review, topic discussion, and/or direct patient care experience including, but not limited to:

- Liver disease:
  - Hepatitis C, Hepatitis B, Hepatitis A, Autoimmune Hepatitis, Laennec's cirrhosis, Hepatocellular Carcinoma, Primary Sclerosing Cholangitis, Primary Biliary Cirrhosis, Drug Induced Hepatitis, and Wilson's disease.
- Complications of liver disease:
  - Hepatorenal, hepatopulmonary, ascites, encephalopathy, portal hypertension, variceal bleeding, splenomegaly, malnutrition.
- Diabetes Mellitus
- Hypertension
- Hyperlipidemia
- Ischemic heart diseases
- Infectious disease complications post organ transplantation:
  - Bacterial
  - Fungal
  - Parasitic
  - Viral infections
- Non-infectious complications of organ transplantation:
  - Polycythemia
  - Post-transplant lymphoproliferative diseases (PTLD)
  - Nephrotoxicity
  - Neurotoxicity

Progression of Residents:

The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Progression of Residents
Week 1	● Meet with the preceptor and attend transplant rounds and later liver transplant rounds, to be introduced to the team and the workflow. ● The resident is to be provided with recommended core reading material; to be completed within the first week.
Week 2- 3	● Resident to start presenting cases on a daily basis to the preceptor.

	• Weekly topic discussions with Preceptor. An in-service to nursing or medical staff to be presented on week 3 or 4. • Resident to select a case and topic for final presentation and submit the first draft by the end of week 3.
Week 4- 5	• Resident should be able to work up and evaluate at least all patients in a given service (i.e., renal transplant). • Presentation should be finalized and presented or scheduled for presentation by the end of the rotation.
Daily	• Resident review assigned patients pre-rounds. • Attending medical rounds • Preceptor office hours available for topic discussions, reviewing progress notes, patient updates, etc from 14:30 – 17:00

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R1.1	**Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process).**	
R1.1.1	(Cognitive - Analyzing) Collect relevant subjective and objective information about the patient.	• Collect pertinent information on each assigned patient from available resources (e.g., medical record, patient's nurse, caregiver, and/or patient) every morning prior to rounds and record data on a secure patient monitoring form. • Review labs, medical record, and interview patients before adjusting the medication. • Review laboratory values, medication administration, and other pertinent data prior to adjusting medications in pharmacy-managed protocols. • Perform a medication history, review medical record, and contact patient's pharmacy or prescribing physician as needed when performing medication reconciliation. • Recommend, order, and/or conduct appropriate testing for patients according to evidence-based medicine and pharmacy policies and procedures.
R1.1.2	(Cognitive - **Evaluating**) Assess clinical information collected and analyze its impact on the patient's overall health goals.	• Identify any issues with medication therapy and discuss issues identified with preceptor at assigned time daily. • Based on information collected while performing medication reconciliation, identify any issues that need to be addressed. • Determine the appropriateness of medication orders (e.g., indication, dose, route, frequency, rate of administration, drug interactions, adherence, cost) prior to (verifying, ordering, prescribing, refilling). • When performing daily profile review, identify any needed changes. • Identify and prioritize unmet health care needs based upon professional judgement and the patient's values, preferences, priorities and goals.
R1.1.3	(Cognitive - Creating) Develop evidence-based, cost effective, and	• Start patient on a dosing regimen designed to achieve target levels for all new "per pharmacy protocol" medication orders. • Develop a patient specific plan integrating knowledge of patient specific information, ethical, quality of life, and pharmacoeconomic issues.

	comprehensive patient-centered care plans.	• Use knowledge of primary literature and guidelines to identify therapeutic goals for patient based on medications and disease states.
R1.1.4	(Cognitive - Applying) Implement care plans.	• After multi-disciplinary rounds, ensure all medication changes discussed have been ordered and verified. • Send new prescriptions to patient's pharmacy if any changes made to the patient's medication regimen during clinic visit. • Address medication- and health-related problems and execute preventive care strategies, including vaccine administration. • Initiate, modify, discontinue, or administer medication therapy as authorized. • Provide education and self-management training to the patient or caregiver.
R1.1.5	(Cognitive - **Creating**) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	• Review all assigned patients managed per pharmacy protocols and order any needed labs or dosing changes based on assessment. • Evaluate medication appropriateness, effectiveness, and safety and patient adherence through available health data, biometric test results, and patient feedback. • Evaluate clinical endpoints that contribute to the patient's overall health. • Evaluate outcomes of care including progress toward or the achievement of goals of therapy. • Complete follow-up for patients according to collaborative practice agreements or statewide protocol.
R1.1.6	(Cognitive - **Analyzing**) Identify and address medication-related needs of individual patients experiencing care transitions regarding physical location, level of care, providers, or access to medications.	• Complete admission medication reconciliation for all assigned patients daily. • Complete discharge medication reconciliation and medication education for all assigned patients daily. • When patients are transferred from critical care to a medical/surgical unit, communicate any necessary information to the pharmacist assigned to the medical/surgical unit. • Identify new patients at the pharmacy and conduct medication reconciliation and resolve any medication issues. • Anticipate (or advise) on any required changes when a member is being discharged (inpatient to outpatient). • Review formulary options for a patient prior to selecting a medication for therapy.
Goal R1.2	**Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.**	
R1.2.1	(Cognitive - Applying) Interact effectively with health care teams to manage patients'	• While on rounds, be prepared to identify medication-related problems and make evidence-based recommendations for solutions to the team. • Participate in daily rounds with assigned team and provide recommendations on assigned patients and answer drug information questions in a timely manner.

	medication therapy.	• Work with physicians and nurses to resolve issues found when reconciling patients' medications prescribed on admission with medications taken as outpatient. • Contact prescribing physician to resolve issues found when verifying medication orders. • Contact prescribing physician to resolve issues when reviewing prior authorization requests. • Work with nurses and other health care providers to resolve missing doses and other medication distribution issues brought to your attention while staffing. • Provide accurate and timely responses to drug information questions from other healthcare team members.
R1.2.2	(Cognitive - Applying) Interact effectively with patients, family members, and caregivers.	• Provide medication education to patients, their families, and/or caregivers for all patients on assigned floor who are scheduled to be discharged. • Counsel patients who are receiving new medications. • Perform any needed discharge counseling for patients, their families, and/or caregivers as part of medication reconciliation duties for patients on assigned floors. • Perform medication histories on assigned patients. • Educate patients on medication changes using appropriate patient counseling method.

Evaluation Strategy:

After resident and preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Nephrology

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Numan Al Abdan	abdann@mngha.med.sa	6145	12562
Dr. Yousef A. Alrajhi	rajhiy@mngha.med.sa	5444	12050

General Description:

Adult Nephrology is an elective five-week learning experience for KAMC-CR Pharmacy Residents. There are 27 adult beds on the general nephrology ward. There are 7 nephrologist medical consultants. Each consultant will head the teaching team for one month. The team includes an attending physician (nephrology consultant), 1 fellow, 1-2 medical resident(s), and 1 medical intern. Other disciplines on the team include the clinical pharmacy specialist, pharmacy resident/student, primary nurse, and once a week a clinical dietitian and a dialysis nurse.

Pharmacy residents are responsible for identifying, preventing and resolving medication therapy issues (drug related problems) for patients and will work toward assuming care of all patients on the unit throughout the learning experience. The resident will provide and document therapeutic drug monitoring services for patients on their team receiving drugs requiring monitoring including, but not limited to, aminoglycosides and vancomycin.

Documentation must be completed on the day service was provided. The resident is responsible for providing and documenting education to patients on their team who will be discharged receiving anticoagulation. Education and documentation must be provided no later than the day of discharge. The resident is responsible for completing non-formulary drug consults, within 24 hours of the request.

Role(s) of Pharmacist(s):

The clinical pharmacist on the team is responsible for ensuring safe and effective medication use for all patients admitted to the team. Routine responsibilities include reconciling medications for all patients admitted to the team based off of the admission medication history, addressing formal consults for non-formulary medication requests, pharmacy clinical consults for therapeutic drug monitoring (e.g., pharmacokinetics, anticoagulation, parenteral nutrition, etc.), and participating in multidisciplinary rounds. The pharmacist will also provide drug information and education to healthcare professionals as well as patients and caregivers.

Expectations of Residents:

Under the direct supervision of a preceptor, the pharmacy resident is responsible for guaranteeing the safe and effective use of medications for all assigned critical care patients. This multifaceted role requires the resident to actively manage a range of clinical duties, including performing medication reconciliation, accurately addressing formal consults for both formulary and non-formulary drug requests, and conducting therapeutic drug monitoring to ensure optimal patient outcomes. Beyond these routine tasks, the resident is expected to be a vital source of drug information, providing crucial education to healthcare professionals, patients, and their caregivers. Ultimately, the resident must fully embrace

patient care responsibilities, striving to achieve positive drug therapy outcomes, and become an integral, active member of the nephrology team. Success hinges on a foundation of strong communication and interpersonal skills, combined with the ability to develop efficient strategies for handling all clinical responsibilities within the demanding and fast-paced critical care environment.

Disease states/Suggested reading materials:

Common disease states in which the resident will be expected to gain proficiency through literature review, topic discussion, and/or direct patient care experience including, but not limited to:

- Acute renal failure/chronic kidney disease.
- Nephrotic/nephritic syndrome.
- Glomerular diseases.
- Tubulointerstitial and vascular diseases.
- Pharmacokinetic and pharmacodynamic alterations.
- Post-transplant infections and dialysis infections.

Progression of Residents:

The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Progression of Residents
Day 1	• Preceptor to review adult nephrology learning activities and expectations with resident.
Week 1-2	• Resident to work up assigned patients and present to preceptor prior to team rounds. • Preceptor to attend and participate in team rounds (modeling clinical pharmacists' role in the health care team).
Week 3-4	• Resident to work up assigned patients and present to preceptor prior to team rounds. • Preceptor may attend and participate in team rounds (coaching the resident to take on more responsibilities as the clinical pharmacist in the team).
Week 5	• Resident to work up assigned patients and present to preceptor prior to team rounds. • Preceptor may/to attend and observe the residents' participation in team rounds, and/or may expect a summary report from the resident regarding rounding activities and use of recommendations made by the resident.

	• Preceptor will always be available for questions and will follow patients independently to monitor resident skill development in all aspects of the learning experience (facilitating the resident as the clinical pharmacist in the team).
Daily	• Resident review assigned patients pre-rounds. • Attending medical rounds • Preceptor office hours available for topic discussions, reviewing progress notes, patient updates, etc from 14:30 – 17:00

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R1.1	**Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process).**	
R1.1.1	(Cognitive - Analyzing) Collect relevant subjective and objective information about the patient.	• Collect pertinent information on each assigned patient from available resources (e.g., medical record, patient's nurse, caregiver, and/or patient) every morning prior to rounds and record data on a secure patient monitoring form. • Review labs, medical record, and interview patients before adjusting the medication • Review laboratory values, medication administration, and other pertinent data prior to adjusting medications in pharmacy managed protocols. • Perform a medication history, review medical record, and contact patient's pharmacy or prescribing physician as needed when performing medication reconciliation. • Recommend, order, and/or conduct appropriate testing for patients according to evidence-based medicine and pharmacy policies and procedures.
R1.1.2	(Cognitive - **Evaluating**) Assess clinical information collected and analyze its impact on the patient's overall health goals.	• Identify any issues with medication therapy and discuss issues identified with preceptor at assigned time daily. • Based on information collected while performing medication reconciliation, identify any issues that need to be addressed. • Determine the appropriateness of medication orders (e.g., indication, dose, route, frequency, rate of administration, drug interactions, adherence, cost) prior to (verifying, ordering, prescribing, refilling). • When performing daily profile review, identify any needed changes. • Identify and prioritize unmet health care needs based upon professional judgement and the patient's values, preferences, priorities and goals.
R1.1.3	(Cognitive - Creating) Develop evidence-based, cost effective, and comprehensive patient-centered care plans.	• Start patient on a dosing regimen designed to achieve target levels for all new "per pharmacy protocol" medication orders. • Develop a patient specific plan integrating knowledge of patient specific information, ethical, quality of life, and pharmacoeconomic issues. • Use knowledge of primary literature and guidelines to identify therapeutic goals for patient based on medications and disease states.

R1.1.4	(Cognitive - Applying) Implement care plans.	• After multi-disciplinary rounds, ensure all medication changes discussed have been ordered and verified. • Send new prescriptions to patient's pharmacy if any changes made to the patient's medication regimen during clinic visit. • Address medication- and health-related problems and execute preventive care strategies, including vaccine administration. • Initiate, modify, discontinue, or administer medication therapy as authorized. • Provide education and self-management training to the patient or caregiver.
R1.1.5	(Cognitive - **Creating**) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	• Review all assigned patients managed per pharmacy protocols and order any needed labs or dosing changes based on assessment. • Evaluate medication appropriateness, effectiveness, and safety and patient adherence through available health data, biometric test results, and patient feedback. • Evaluate clinical endpoints that contribute to the patient's overall health. • Evaluate outcomes of care including progress toward or the achievement of goals of therapy. • Complete follow-up for patients according to collaborative practice agreements or statewide protocol.
R1.1.6	(Cognitive - **Analyzing**) Identify and address medication-related needs of individual patients experiencing care transitions regarding physical location, level of care, providers, or access to medications.	• Complete admission medication reconciliation for all assigned patients daily. • Complete discharge medication reconciliation and medication education for all assigned patients daily. • When patients are transferred from critical care to a medical/surgical unit, communicate any necessary information to the pharmacist assigned to the medical/surgical unit. • Identify new patients at the pharmacy and conduct medication reconciliation and resolve any medication issues. • Anticipate (or advise) on any required changes when a member is being discharge (inpatient to outpatient). • Review formulary options for a patient prior to selecting a medication for therapy.
Goal R1.2	**Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.**	
R1.2.1	(Cognitive - Applying) Collaborate and communicate with healthcare team members.	• While on rounds, be prepared to identify medication-related problems and make evidence-based recommendations for solutions to the team. • Participate in daily rounds with assigned team and provide recommendations on assigned patients and answer drug information questions in a timely manner. • Work with physicians and nurses to resolve issues found when reconciling patients' medications prescribed on admission with medications taken as outpatient. • Contact prescribing physician to resolve issues found when verifying medication orders.

		• Contact prescribing physician to resolve issues when reviewing prior authorization requests. • Work with nurses and other health care providers to resolve missing doses and other medication distribution issues brought to your attention while staffing. • Provide accurate and timely responses to drug information questions from other healthcare team members.
R1.2.2	(Cognitive - Applying) Communicate effectively with patients and caregivers.	• Provide medication education to patients, their families, and/or caregivers for all patients on assigned floor who are scheduled to be discharged. • Counsel patients who are receiving new medications. • Perform any needed discharge counseling for patients, their families, and/or caregivers as part of medication reconciliation duties for patients on assigned floors. • Perform medication histories on assigned patients. • Educate patients on medication changes using appropriate patient counseling method.
R1.2.3	(Cognitive - Applying) Document patient care activities in the medical record or where appropriate.	• For pharmacy consults, document an initial consult note and then a follow-up note in the EHR whenever drug level results are reported by the lab or the medication regimen is changed. • Document pharmacy interventions in ivent per pharmacy's policy. • Document medication management in appropriate format according to platform.

Evaluation Strategy:

After resident and preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Oncology / Hematology

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Abdulrhman Al Gamdi	ghamdiai@ngha.med.sa	2155	50028
Dr. Ghada Al Yusef	alyousifgh@ngha.med.sa	2899	52447
Dr. Mohammed Al Waheeby	waheebym@mngha.med.sa	6676	50799
Dr. Deema Al Molaiki	almolaikide@mngha.med.sa	9034	51378
Dr. Manal Aljohani	Aljohanima6@mngha.med.sa	4509	51381

General Description:

Hematology/Oncology is an elective, 5-weeks learning experience in adult medical oncology, adult hematology, and stem cell transplantation, pediatric hematology/oncology and palliative care sections. Rotation will include inpatient and outpatient services.

As outpatient experience, pharmacy resident is required to attend chemo clinic once required, minimum of 2 anticoagulation clinics (ATC) and expected to be involved in patient counseling for symptom management.

Inpatient coverage will be which requires daily rounds with different teams (Ped Hem/Onc grand round every Sunday, adult Hematology and stem cell transplantation grand round every Monday, Palliative care multidisciplinary round every Tuesday and adult Oncology grand round every Thursday). Pharmacy resident is expected to follow all assigned patients (minimum of 6 patients) during this period. In addition, he/she will require performing pharmacokinetic calculations and monitoring of all patients on service.

Other projects/assignments such as non-formulary drug request evaluation, reviewing chemotherapy pre-printed orders, establishing a medication guideline or treatment protocol.

Role(s) of Pharmacist(s):

The clinical pharmacists are responsible for managing or co-managing pharmacotherapy for all patients admitted to the inpatient adult and pediatric oncology, hematology, Bone Marrow Transplant service, ensuring the clinical appropriateness and safety of all medications prescribed for admitted patients, verifying the accuracy and appropriate dispensing of chemotherapy orders, performing medication reconciliation at admission and discharge, and educating patients on their medications every time they are discharged. Additional responsibilities include coordination of discharge medications, clinic follow up, and home health needs upon discharge.

Expectations of Residents:

Under the direct supervision of a preceptor, the pharmacy resident is responsible for guaranteeing the safe and effective use of medications for all assigned critical care patients. This multifaceted role requires the resident to actively manage a range of clinical duties, including performing medication reconciliation, accurately addressing formal consults for both formulary and non-formulary drug requests, and conducting therapeutic drug monitoring to ensure optimal patient outcomes. Beyond these routine tasks, the resident is

expected to be a vital source of drug information, providing crucial education to healthcare professionals, patients, and their caregivers. Ultimately, the resident must fully embrace patient care responsibilities, striving to achieve positive drug therapy outcomes, and become an integral, active member of the hematology and oncology team. Success hinges on a foundation of strong communication and interpersonal skills, combined with the ability to develop efficient strategies for handling all clinical responsibilities within the demanding and fast-paced critical care environment.

Disease states/Suggested reading materials:

One specific cancer type from each section can be chosen by the resident according to the interest or other factors such as (most common cancer in Saudi Arabia, male vs female type of cancer etc.)

- Adult Oncology:
  - Breast cancer
  - GI/GU cancer
  - Lung Cancer
  - Thyroid Cancer
- Adult Hematology:
  - ALL
  - AML
  - CML
  - Lymphoma
  - Multiple Myeloma
- Stem Cell Transplantation:
  - Conditioning regimens
  - GVHD
- Pediatric Hematology /Oncology
  - ALL
  - AML
  - Lymphoma
- Other topics that may be covered:
  - Chemotherapy complications
  - Dose adjustment in renal hepatic dysfunction for chemotherapy
  - Symptom management (mainly):
    - Nausea and vomiting
    - Pain
    - GIT toxicity
    - Febrile neutropenia, anemia and Neutropenia
  - Tumor Lysis Syndrome

Progression of Residents:

The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Progression of Residents
Day 1	• Meet with the oncology preceptor and discuss the oncology team members, how the team works as a unit, and the collaborative arrangements with physicians and nurses. • The preceptor will review the learning activities and expectations with residents. • Resident has to choose where to start wither as an inpatients or outpatient service.
Week 1-2	• Resident to work up assigned patients and present to preceptor prior to team rounds. • Preceptor to attend and participate in team rounds (modeling clinical pharmacists' role in the health care team). Same practice will be in outpatient service. • Resident has to present journal club and give one in- service during this period.
Week 3-5	• Resident to work up assigned patients and present to preceptor prior to team rounds. • Preceptor may attend and participate in team rounds (coaching the resident to take on more responsibilities as the clinical pharmacist in the team). • Case presentation should be presented during this period and all assignments have to be finalized too.
Daily	• Resident review assigned patients pre-rounds. • Attending medical rounds • Preceptor office hours available for topic discussions, reviewing progress notes, patient updates, etc from 14:30 – 17:00

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R1.1	**Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process).**	
R1.1.1	(Cognitive - Analyzing) Collect relevant subjective and objective information about the patient.	• Collect pertinent information on each assigned patient from available resources (e.g., medical record, patient's nurse, caregiver, and/or patient) every morning prior to rounds and record data on a secure patient monitoring form. • Review labs, medical record, and interview patients before adjusting the medication. • Review laboratory values, medication administration, and other pertinent data prior to adjusting medications in pharmacy-managed protocols. • Perform a medication history, review medical record, and contact patient's pharmacy or prescribing physician as needed when performing medication reconciliation.

		• Recommend, order, and/or conduct appropriate testing for patients according to evidence-based medicine and pharmacy policies and procedures.
R1.1.2	(Cognitive - **Evaluating**) Assess clinical information collected and analyze its impact on the patient's overall health goals.	• Identify any issues with medication therapy and discuss issues identified with preceptor at assigned time daily. • Based on information collected while performing medication reconciliation, identify any issues that need to be addressed. • Determine the appropriateness of medication orders (e.g., indication, dose, route, frequency, rate of administration, drug interactions, adherence, cost) prior to (verifying, ordering, prescribing, refilling). • When performing daily profile review, identify any needed changes. • Identify and prioritize unmet health care needs based upon professional judgement and the patient's values, preferences, priorities and goals.
R1.1.3	(Cognitive - Creating) Develop evidence-based, cost effective, and comprehensive patient-centered care plans.	• Start patient on a dosing regimen designed to achieve target levels for all new "per pharmacy protocol" medication orders. • Develop a patient specific plan integrating knowledge of patient specific information, ethical, quality of life, and pharmacoeconomic issues. • Use knowledge of primary literature and guidelines to identify therapeutic goals for patient based on medications and disease states.
R1.1.4	(Cognitive - Applying) Implement care plans.	• After multi-disciplinary rounds, ensure all medication changes discussed have been ordered and verified. • Send new prescriptions to patient's pharmacy if any changes made to the patient's medication regimen during clinic visit. • Address medication- and health-related problems and execute preventive care strategies, including vaccine administration. • Initiate, modify, discontinue, or administer medication therapy as authorized. • Provide education and self-management training to the patient or caregiver.
R1.1.5	(Cognitive - **Creating**) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	• Review all assigned patients managed per pharmacy protocols and order any needed labs or dosing changes based on assessment. • Evaluate medication appropriateness, effectiveness, and safety and patient adherence through available health data, biometric test results, and patient feedback. • Evaluate clinical endpoints that contribute to the patient's overall health. • Evaluate outcomes of care including progress toward or the achievement of goals of therapy. • Complete follow-up for patients according to collaborative practice agreements or statewide protocol.
R1.1.6	(Cognitive - **Analyzing**) Identify and address medication-related needs of individual	• Complete admission medication reconciliation for all assigned patients daily. • Complete discharge medication reconciliation and medication education for all assigned patients daily.

	patients experiencing care transitions regarding physical location, level of care, providers, or access to medications.	• When patients are transferred from critical care to a medical/surgical unit, communicate any necessary information to the pharmacist assigned to the medical/surgical unit. • Identify new patients at the pharmacy and conduct medication reconciliation and resolve any medication issues. • Anticipate (or advise) on any required changes when a member is being discharged (inpatient to outpatient). • Review formulary options for a patient prior to selecting a medication for therapy.
Goal R1.2	**Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.**	
R1.2.1	(Cognitive - Applying) Interact effectively with health care teams to manage patients' medication therapy.	• While on rounds, be prepared to identify medication-related problems and make evidence-based recommendations for solutions to the team. • Participate in daily rounds with assigned team and provide recommendations on assigned patients and answer drug information questions in a timely manner. • Work with physicians and nurses to resolve issues found when reconciling patients' medications prescribed on admission with medications taken as outpatient. • Contact prescribing physician to resolve issues found when verifying medication orders. • Contact prescribing physician to resolve issues when reviewing prior authorization requests. • Work with nurses and other health care providers to resolve missing doses and other medication distribution issues brought to your attention while staffing. • Provide accurate and timely responses to drug information questions from other healthcare team members.
R1.2.2	(Cognitive - Applying) Interact effectively with patients, family members, and caregivers.	• Provide medication education to patients, their families, and/or caregivers for all patients on assigned floor who are scheduled to be discharged. • Counsel patients who are receiving new medications. • Perform any needed discharge counseling for patients, their families, and/or caregivers as part of medication reconciliation duties for patients on assigned floors. • Perform medication histories on assigned patients. • Educate patients on medication changes using appropriate patient counseling method.
R1.2.3	(Cognitive - Applying) Document direct patient care activities appropriately in the medical record or where appropriate.	• For pharmacy consults, document an initial consult note and then a follow-up note in the EHR whenever drug level results are reported by the lab or the medication regimen is changed. • Document pharmacy interventions in ivent per pharmacy's policy. • Document medication management in appropriate format according to platform.
Goal R3.2	**Demonstrate leadership skills that foster personal growth and professional engagement.**	
R3.2.2	(Cognitive - Applying) Demonstrate personal and interpersonal	• Leverage relationships with physicians, nurses, co-workers, and students to complete entrusted responsibilities.

	skills to manage entrusted responsibilities.	• Prioritize and organize tasks to complete entrusted responsibilities. • Apply effective workload and time management skills to appropriately meet responsibilities within the confines of a reasonable workday. • Set SMART goals (Specific, Measurable, Achievable, Relevant, Time-bound goals), implement action steps, and take accountability for progress on assigned projects. • Complete daily and longitudinal responsibilities (e.g., patient care, projects, management, and meetings). • Identify issues or barriers and create potential solutions or management strategies. • Execute assigned work ensuring development of quality product(s) within assigned timelines. • Facilitate assigned meeting(s) and prepare meeting minutes.

Evaluation Strategy:

After the resident and preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Pediatrics I

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Meshari Al Meshari	almesharyme@ngha.med.sa	7285	16530
Dr. Hessa Al Muqati	almuqatihe@mngha.med.sa	9138	51384
Dr. Shaima Al Shareef	alshareefsh@mngha.med.sa	6942	53814
Capt. Dr. Abdulrahman Alotaibi	alotaibiab8@MNGHA.MED.SA	4374	53816

General Description:

Pediatrics rotation is a five weeks rotation designed to introduce the candidate to drug dosing and management of the pediatric patient. Two critical care units and one high dependency unit for a total of 45 beds, with two clinical pharmacists for each critical care team. Six wards make up the general pediatric wards with 127 general medicine pediatric beds, 9 subspecialty teams, and 4 teaching teams. In addition to 4 units in cardiac center for pediatric cardiology patients with a maximum capacity of 58 beds and 4 specialized teams; each team comprises of a consultant physician, one to two assistant consultant physicians, one senior resident, two to three junior resident and two interns. In addition, there are two pediatric clinical pharmacists who rounds with one of the teaching teams at a time but provides drug information to members of all the four teams and other health care providers. Furthermore, each of the pediatric wards has their own charge nurse and a clinical dietician. Also, there is a special metabolic team with their own clinical dietician.

While on rotation, the pharmacy resident functions as an active member of the team, participates on work rounds, providing general pediatric drug information, including appropriate pediatric dosing, and pharmacokinetic service.

The resident under the supervision of his/her preceptor will monitor patient therapy and progression and document his recommendations.

Role(s) of Pharmacist(s):

The clinical pharmacist on the team is responsible for ensuring safe and effective medication use for all patients admitted to the team. Routine responsibilities include reconciling medications for all patients admitted to the team based off of the admission medication history, addressing formal consults for non-formulary medication requests, pharmacy clinical consults for therapeutic drug monitoring (e.g., pharmacokinetics, anticoagulation, parenteral nutrition, etc.), and participating in multidisciplinary rounds. The pharmacist will also provide drug information and education to healthcare professionals as well as patients and caregivers.

Expectations of Residents:

Under the direct supervision of a preceptor, the pharmacy resident is responsible for guaranteeing the safe and effective use of medications for all assigned critical care patients. This multifaceted role requires the resident to actively manage a range of clinical duties, including performing medication reconciliation, accurately addressing formal consults for both formulary and non-formulary drug requests, and conducting therapeutic drug monitoring to ensure optimal patient outcomes. Beyond these routine tasks, the resident is

expected to be a vital source of drug information, providing crucial education to healthcare professionals, patients, and their caregivers. Ultimately, the resident must fully embrace patient care responsibilities, striving to achieve positive drug therapy outcomes, and become an integral, active member of the pediatrics team. Success hinges on a foundation of strong communication and interpersonal skills, combined with the ability to develop efficient strategies for handling all clinical responsibilities within the demanding and fast-paced critical care environment.

Disease states / Suggested reading material:

Common disease states in which the resident will be expected to gain proficiency through literature review, topic discussion, and/or direct patient care experience including, but not limited to:

- General pediatrics issues.
- Pharmacodynamics and pharmacokinetics.
- Renal disorders.
- Gastrointestinal disorders.
- Respiratory disorders.
- Infectious diseases.
- Endocrine disorders.

Progression of Residents:

The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Progression of Residents
Day 1	● Preceptor to review Pediatric learning activities and expectations with resident.
Week 1-2	● Resident to work up assigned patients and present to preceptor prior to team rounds. ● Preceptor to attend and participate in team rounds (modeling clinical pharmacists; role in the health care team).
Week 3-5	● Resident to work up assigned patients and present to preceptor prior to team rounds. ● Preceptor may attend and participate in team rounds (coaching the resident to take on more responsibilities as the clinical pharmacist in the team). ● Preceptor will always be available for questions and will follow patients independently to monitor resident skill development in all aspects of the learning experience (facilitating the resident as the clinical pharmacist in the team).

Daily	• Resident review assigned patients pre-rounds. • Attending medical rounds • Preceptor office hours available for topic discussions, reviewing progress notes, patient updates, etc from 14:30 – 17:00

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R1.1	**Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process).**	
R1.1.1	(Cognitive - Analyzing) Collect relevant subjective and objective information about the patient.	• Collect pertinent information on each assigned patient from available resources (e.g., medical record, patient's nurse, caregiver, and/or patient) every morning prior to rounds and record data on a secure patient monitoring form. • Review labs, medical record, and interview patients before adjusting the medication. • Review laboratory values, medication administration, and other pertinent data prior to adjusting medications in pharmacy-managed protocols. • Perform a medication history, review medical record, and contact patient's pharmacy or prescribing physician as needed when performing medication reconciliation. • Recommend, order, and/or conduct appropriate testing for patients according to evidence-based medicine and pharmacy policies and procedures.
R1.1.2	(Cognitive - **Evaluating**) Assess clinical information collected and analyze its impact on the patient's overall health goals.	• Identify any issues with medication therapy and discuss issues identified with preceptor at assigned time daily. • Based on information collected while performing medication reconciliation, identify any issues that need to be addressed. • Determine the appropriateness of medication orders (e.g., indication, dose, route, frequency, rate of administration, drug interactions, adherence, cost) prior to (verifying, ordering, prescribing, refilling). • When performing daily profile review, identify any needed changes. • Identify and prioritize unmet health care needs based upon professional judgement and the patient's values, preferences, priorities and goals.
R1.1.3	(Cognitive - Creating) Develop evidence-based, cost effective, and comprehensive patient-centered care plans.	• Start patient on a dosing regimen designed to achieve target levels for all new "per pharmacy protocol" medication orders. • Develop a patient specific plan integrating knowledge of patient specific information, ethical, quality of life, and pharmacoeconomic issues. • Use knowledge of primary literature and guidelines to identify therapeutic goals for patient based on medications and disease states.
R1.1.4	(Cognitive - Applying) Implement care plans.	• After multi-disciplinary rounds, ensure all medication changes discussed have been ordered and verified. • Send new prescriptions to patient's pharmacy if any changes made to the patient's medication regimen during clinic visit • Address medication- and health-related problems and execute preventive car strategies, including vaccine administration.

		• Initiate, modify, discontinue, or administer medication therapy as authorized. • Provide education and self-management training to the patient or caregiver.
R1.1.5	(Cognitive - **Creating**) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	• Review all assigned patients managed per pharmacy protocols and order any needed labs or dosing changes based on assessment. • Evaluate medication appropriateness, effectiveness, and safety and patient adherence through available health data, biometric test results, and patient feedback. • Evaluate clinical endpoints that contribute to the patient's overall health. • Evaluate outcomes of care including progress toward or the achievement of goals of therapy. • Complete follow-up for patients according to collaborative practice agreements or statewide protocol.
R1.1.6	(Cognitive - **Analyzing**) Identify and address medication-related needs of individual patients experiencing care transitions regarding physical location, level of care, providers, or access to medications.	• Complete admission medication reconciliation for all assigned patients daily. • Complete discharge medication reconciliation and medication education for all assigned patients daily. • When patients are transferred from critical care to a medical/surgical unit, • communicate any necessary information to the pharmacist assigned to the medical/surgical unit. • Identify new patients at the pharmacy and conduct medication reconciliation and resolve any medication issues. • Anticipate (or advise) on any required changes when a member is being discharged (inpatient to outpatient). • Review formulary options for a patient prior to selecting a medication for therapy.
Goal R1.2	**Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.**	
R1.2.1	(Cognitive - Applying) Collaborate and communicate with healthcare team members.	• While on rounds, be prepared to identify medication-related problems and make evidence-based recommendations for solutions to the team. • Participate in daily rounds with assigned team and provide recommendations on assigned patients and answer drug information questions in a timely manner. • Work with physicians and nurses to resolve issues found when reconciling patients' medications prescribed on admission with medications taken as outpatient. • Contact prescribing physician to resolve issues found when verifying medication orders. • Contact prescribing physician to resolve issues when reviewing prior authorization requests.

		• Work with nurses and other health care providers to resolve missing doses and other medication distribution issues brought to your attention while staffing. • Provide accurate and timely responses to drug information questions from other healthcare team members.
R1.2.2	(Cognitive - Applying) Communicate effectively with patients and caregivers.	• Provide medication education to patients, their families, and/or caregivers for all patients on assigned floor who are scheduled to be discharged. • Counsel patients who are receiving new medications. • Perform any needed discharge counseling for patients, their families, and/or caregivers as part of medication reconciliation duties for patients on assigned floors. • Perform medication histories on assigned patients. • Educate patients on medication changes using appropriate patient counseling method.
R1.2.3	(Cognitive - Applying) Document patient care activities in the medical record or where appropriate.	• For pharmacy consults, document an initial consult note and then a follow-up note in the EHR whenever drug level results are reported by the lab or the medication regimen is changed. • Document pharmacy interventions in ivent per pharmacy's policy. • Document medication management in appropriate format according to platform.
R3.2	**Demonstrate leadership skills that foster personal growth and professional engagement.**	
R3.2.1	(Cognitive - Applying) Apply a process of ongoing self-assessment and personal performance improvement.	• Complete an initial self-assessment in preparation for the development plan. • Complete a self-assessment in preparation for the quarterly development plan. • Identify clinical knowledge gaps and develop an action plan to help address/close knowledge gaps. • Identify administrative and/or project management knowledge and skill gaps and develop an action plan to help address/close the skill gaps. • Complete a summative self-evaluation. • Complete self-assessment related to wellbeing and resilience.
R3.2.2	(Cognitive - Applying) Demonstrate personal and interpersonal skills to manage entrusted responsibilities.	• Leverage relationships with physicians, nurses, co-workers, and students to complete entrusted responsibilities. • Prioritize and organize tasks to complete entrusted responsibilities. • Apply effective workload and time management skills to appropriately meet responsibilities within the confines of a reasonable workday. • Set SMART goals (Specific, Measurable, Achievable, Relevant, Time-bound goals), implement action steps, and take accountability for progress on assigned projects. • Complete daily and longitudinal responsibilities (e.g., patient care, projects, management, and meetings). • Identify issues or barriers and create potential solutions or management strategies. • Execute assigned work ensuring development of quality product(s) within assigned timelines. • Facilitate assigned meeting(s) and prepare meeting minutes.

R3.2.3	(Cognitive - Applying) Demonstrate responsibility and professional behaviors.	• Prioritize patients/activities within the structure of the day. • Complete assigned projects by established deadlines. • Comply with organizational policies, procedures, and required trainings (e.g., HIPAA compliance, etc.). • Integrate the pharmacists' responsibilities within the healthcare continuum through focused medication related planning and outcomes. • Interact cooperatively, collaboratively, and respectfully with others and display emotional intelligence. • Take responsibility for resolving conflicts and/or errors. • Demonstrate responsibility to committees or informal workgroup projects, tasks, or goals (e.g., contribute to committee discussions, identify pertinent background information, identify data for collection, interpret data, implement corrective action) through engagement.

Evaluation Strategy:

After resident and preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Pediatrics II

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Meshari Al Meshari	almesharyme@ngha.med.sa	7285	16530
Dr. Hessa Al Muqati	almuqatihe@mngha.med.sa	9138	51384
Dr. Shaima Al Shareef	alshareefsh@mngha.med.sa	6942	53814
Capt. Dr. Abdulrahman Alotaibi	alotaibiab8@MNGHA.MED.SA	4374	53816

General Description:

Pediatrics rotation is a five weeks rotation designed to introduce the candidate to drug dosing and management of the pediatric patient. Two critical care units and one high dependency unit for a total of 45 beds, with two clinical pharmacists for each critical care team. Six wards make up the general pediatric wards with 127 general medicine pediatric beds, 9 subspecialty teams, and 4 teaching teams. In addition to 4 units in cardiac center for pediatric cardiology patients with a maximum capacity of 58 beds and 4 specialized teams; each team comprises of a consultant physician, one to two assistant consultant physicians, one senior resident, two to three junior resident and two interns. In addition, there are two pediatric clinical pharmacists who rounds with one of the teaching teams at a time but provides drug information to members of all the four teams and other health care providers. Furthermore, each of the pediatric wards has their own charge nurse and a clinical dietician. Also, there is a special metabolic team with their own clinical dietician.

While on rotation, the pharmacy resident functions as an active member of the team, participates on work rounds, providing general pediatric drug information, including appropriate pediatric dosing, and pharmacokinetic service.

The resident under the supervision of his/her preceptor will monitor patient therapy and progression and document his recommendations.

Role(s) of Pharmacist(s):

The clinical pharmacist on the team is responsible for ensuring safe and effective medication use for all patients admitted to the team. Routine responsibilities include reconciling medications for all patients admitted to the team based off of the admission medication history, addressing formal consults for non-formulary medication requests, pharmacy clinical consults for therapeutic drug monitoring (e.g., pharmacokinetics, anticoagulation, parenteral nutrition, etc.), and participating in multidisciplinary rounds. The pharmacist will also provide drug information and education to healthcare professionals as well as patients and caregivers.

Expectations of Residents:

Under the direct supervision of a preceptor, the pharmacy resident is responsible for guaranteeing the safe and effective use of medications for all assigned critical care patients. This multifaceted role requires the resident to actively manage a range of clinical duties, including performing medication reconciliation, accurately addressing formal consults for both formulary and non-formulary drug requests, and conducting therapeutic drug monitoring to ensure optimal patient outcomes. Beyond these routine tasks, the resident is

expected to be a vital source of drug information, providing crucial education to healthcare professionals, patients, and their caregivers. Ultimately, the resident must fully embrace patient care responsibilities, striving to achieve positive drug therapy outcomes, and become an integral, active member of the pediatrics team. Success hinges on a foundation of strong communication and interpersonal skills, combined with the ability to develop efficient strategies for handling all clinical responsibilities within the demanding and fast-paced critical care environment.

Disease states / Suggested reading material:

Common disease states in which the resident will be expected to gain proficiency through literature review, topic discussion, and/or direct patient care experience including, but not limited to:

- Hematology / Oncology pediatric.
- Pediatric critical care.
- Immunology.
- Total Parenteral Nutrition.
- Liver transplant.
- Pediatric Cardiology
- Neonatology.

Progression of Residents:

The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Progression of Residents
Day 1	● Preceptor to review Pediatric learning activities and expectations with resident.
Week 1-2	● Resident to work up assigned patients and present to preceptor prior to team rounds. ● Preceptor to attend and participate in team rounds (modeling clinical pharmacists; role in the health care team).
Week 3-5	● Resident to work up assigned patients and present to preceptor prior to team rounds. ● Preceptor may attend and participate in team rounds (coaching the resident to take on more responsibilities as the clinical pharmacist in the team). ● Preceptor will always be available for questions and will follow patients independently to monitor resident skill development in all aspects of the learning experience (facilitating the resident as the clinical pharmacist in the

	team).
Daily	• Resident review assigned patients pre-rounds. • Attending medical rounds • Preceptor office hours available for topic discussions, reviewing progress notes, patient updates, etc from 14:30 – 17:00

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R1.1	**Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process).**	
R1.1.1	(Cognitive - Analyzing) Collect relevant subjective and objective information about the patient.	• Collect pertinent information on each assigned patient from available resources (e.g., medical record, patient's nurse, caregiver, and/or patient) every morning prior to rounds and record data on a secure patient monitoring form. • Review labs, medical record, and interview patients before adjusting the medication. • Review laboratory values, medication administration, and other pertinent data prior to adjusting medications in pharmacy-managed protocols. • Perform a medication history, review medical record, and contact patient's pharmacy or prescribing physician as needed when performing medication reconciliation. • Recommend, order, and/or conduct appropriate testing for patients according to evidence-based medicine and pharmacy policies and procedures.
R1.1.2	(Cognitive - **Evaluating**) Assess clinical information collected and analyze its impact on the patient's overall health goals.	• Identify any issues with medication therapy and discuss issues identified with preceptor at assigned time daily. • Based on information collected while performing medication reconciliation, identify any issues that need to be addressed. • Determine the appropriateness of medication orders (e.g., indication, dose, route, frequency, rate of administration, drug interactions, adherence, cost) prior to (verifying, ordering, prescribing, refilling). • When performing daily profile review, identify any needed changes. • Identify and prioritize unmet health care needs based upon professional judgement and the patient's values, preferences, priorities and goals.
R1.1.3	(Cognitive - Creating) Develop evidence-based, cost effective, and comprehensive patient-centered care plans.	• Start patient on a dosing regimen designed to achieve target levels for all new "per pharmacy protocol" medication orders. • Develop a patient specific plan integrating knowledge of patient specific information, ethical, quality of life, and pharmacoeconomic issues. • Use knowledge of primary literature and guidelines to identify therapeutic goals for patient based on medications and disease states.
R1.1.4	(Cognitive - Applying) Implement care plans.	• After multi-disciplinary rounds, ensure all medication changes discussed have been ordered and verified. • Send new prescriptions to patient's pharmacy if any changes made to the patient's medication regimen during clinic visit

		• Address medication- and health-related problems and execute preventive car strategies, including vaccine administration. • Initiate, modify, discontinue, or administer medication therapy as authorized. • Provide education and self-management training to the patient or caregiver.
R1.1.5	(Cognitive - **Creating**) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	• Review all assigned patients managed per pharmacy protocols and order any needed labs or dosing changes based on assessment. • Evaluate medication appropriateness, effectiveness, and safety and patient adherence through available health data, biometric test results, and patient feedback. • Evaluate clinical endpoints that contribute to the patient's overall health. • Evaluate outcomes of care including progress toward or the achievement of goals of therapy. • Complete follow-up for patients according to collaborative practice agreements or statewide protocol.
R1.1.6	(Cognitive - **Analyzing**) Identify and address medication-related needs of individual patients experiencing care transitions regarding physical location, level of care, providers, or access to medications.	• Complete admission medication reconciliation for all assigned patients daily. • Complete discharge medication reconciliation and medication education for all assigned patients daily. • When patients are transferred from critical care to a medical/surgical unit, • communicate any necessary information to the pharmacist assigned to the medical/surgical unit. • Identify new patients at the pharmacy and conduct medication reconciliation and resolve any medication issues. • Anticipate (or advise) on any required changes when a member is being discharged (inpatient to outpatient). • Review formulary options for a patient prior to selecting a medication for therapy.
Goal R1.2	**Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.**	
R1.2.1	(Cognitive - Applying) Collaborate and communicate with healthcare team members.	• While on rounds, be prepared to identify medication-related problems and make evidence-based recommendations for solutions to the team. • Participate in daily rounds with assigned team and provide recommendations on assigned patients and answer drug information questions in a timely manner. • Work with physicians and nurses to resolve issues found when reconciling patients' medications prescribed on admission with medications taken as outpatient. • Contact prescribing physician to resolve issues found when verifying medication orders. • Contact prescribing physician to resolve issues when reviewing prior authorization requests. • Work with nurses and other health care providers to resolve missing doses and other medication distribution issues brought to your attention while staffing.

		• Provide accurate and timely responses to drug information questions from other healthcare team members.
R1.2.2	(Cognitive - Applying) Communicate effectively with patients and caregivers.	• Provide medication education to patients, their families, and/or caregivers for all patients on assigned floor who are scheduled to be discharged. • Counsel patients who are receiving new medications. • Perform any needed discharge counseling for patients, their families, and/or caregivers as part of medication reconciliation duties for patients on assigned floors. • Perform medication histories on assigned patients. • Educate patients on medication changes using appropriate patient counseling method.
R1.2.3	(Cognitive - Applying) Document patient care activities in the medical record or where appropriate.	• For pharmacy consults, document an initial consult note and then a follow-up note in the EHR whenever drug level results are reported by the lab or the medication regimen is changed. • Document pharmacy interventions in ivent per pharmacy's policy. • Document medication management in appropriate format according to platform.
R3.2	**Demonstrate leadership skills that foster personal growth and professional engagement.**	
R3.2.1	(Cognitive - Applying) Apply a process of ongoing self-assessment and personal performance improvement.	• Complete an initial self-assessment in preparation for the development plan. • Complete a self-assessment in preparation for the quarterly development plan. • Identify clinical knowledge gaps and develop an action plan to help address/close knowledge gaps. • Identify administrative and/or project management knowledge and skill gaps and develop an action plan to help address/close the skill gaps. • Complete a summative self-evaluation. • Complete self-assessment related to wellbeing and resilience.
R3.2.2	(Cognitive - Applying) Demonstrate personal and interpersonal skills to manage entrusted responsibilities.	• Leverage relationships with physicians, nurses, co-workers, and students to complete entrusted responsibilities. • Prioritize and organize tasks to complete entrusted responsibilities. • Apply effective workload and time management skills to appropriately meet responsibilities within the confines of a reasonable workday. • Set SMART goals (Specific, Measurable, Achievable, Relevant, Time-bound goals), implement action steps, and take accountability for progress on assigned projects. • Complete daily and longitudinal responsibilities (e.g., patient care, projects, management, and meetings). • Identify issues or barriers and create potential solutions or management strategies. • Execute assigned work ensuring development of quality product(s) within assigned timelines. • Facilitate assigned meeting(s) and prepare meeting minutes.
R3.2.3	(Cognitive - Applying) Demonstrate	• Prioritize patients/activities within the structure of the day. • Complete assigned projects by established deadlines.

	responsibility and professional behaviors.	• Comply with organizational policies, procedures, and required trainings (e.g., HIPAA compliance, etc.). • Integrate the pharmacists' responsibilities within the healthcare continuum through focused medication related planning and outcomes. • Interact cooperatively, collaboratively, and respectfully with others and display emotional intelligence. • Take responsibility for resolving conflicts and/or errors. • Demonstrate responsibility to committees or informal workgroup projects, tasks, or goals (e.g., contribute to committee discussions, identify pertinent background information, identify data for collection, interpret data, implement corrective action) through engagement.

Evaluation Strategy:

After resident and preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Rotation Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Parenteral Nutrition

Preceptor(s):

Preceptor Name	Email	Pager Number	Extension
Dr. Abdulrahman Alamri	amriab@mngha.med.sa	1312	12329

General Description:

Parenteral nutrition (PN) rotation is a five-week elective rotation for PGY-1 pharmacy residents. The goal of this rotation is to provide residents with the knowledge and skills necessary to provide optimal PN therapy to hospitalized and home health care adult patients. Residents will learn about the indications, contraindications, and complications of PN therapy. They will also learn how to formulate PN solutions, monitor PN therapy, and educate patients and families about PN therapy. Residents will collaborate with other healthcare professionals to provide comprehensive care to patients receiving PN.

Role(s) of Pharmacist(s):

- **Nutrition assessment**: Nutrition Support Pharmacist (NSP) assess patients' nutritional status to determine their individualized nutrient needs. This includes collecting data on patients' dietary intake, weight, height, body mass index (BMI), and laboratory values.
- **Nutrition therapy planning**: NSPs develop nutrition care plans that are tailored to each patient's individual needs. This may include recommending changes to the patient's diet, providing enteral or parenteral nutrition, or educating the patient and their caregivers about nutrition.
- **Nutrition monitoring**: NSPs monitor patients' response to nutrition therapy to ensure that they are meeting their nutritional needs. This may involve reviewing laboratory values, tracking weight and BMI, and assessing the patient's overall health status.
- **Education**: NSPs educate patients, their caregivers, and other healthcare professionals about nutrition and nutrition support. This includes providing information about the importance of nutrition, how to improve nutritional status, and how to manage nutrition support.

Expectations of Residents:

Under the direct supervision of a preceptor, the pharmacy resident is responsible for guaranteeing the safe and effective use of medications for all assigned critical care patients. This multifaceted role requires the resident to develop and demonstrate a comprehensive understanding of parenteral nutrition therapy. This includes not only a deep knowledge of its indications, contraindications, and potential complications but also the practical skills required for its safe and effective use. The resident must be proficient in formulating TPN solutions, carefully selecting appropriate nutrients, electrolytes, and additives based on individual patient needs, and be capable of making informed adjustments to the regimen as required by changes in the patient's clinical status, lab values, or fluid balance. Beyond the technical aspects, a key expectation is the ability to proactively monitor PN therapy, identifying and addressing potential issues such as metabolic derangements or infectious complications. The resident is also responsible for serving as a patient advocate and educator, clearly and effectively explaining the rationale, administration, and monitoring of PN therapy to patients and their families. Finally, successful performance on this rotation requires the

resident to be an active and collaborative member of the healthcare team, working closely with physicians, dietitians, and nurses to ensure cohesive and optimal care for all patients receiving TPN.

Disease states / Suggested reading material:

Common disease states in which the resident will be expected to gain proficiency through literature review, topic discussion, and/or direct patient care experience including, but not limited to:

- Post-operative fluid management
- Inflammatory Bowel Disease
- Hematopoietic Stem Cell Transplantation
- Bariatric surgery
- Solid Organ Transplantation
- Disease states in Nephrology
- Disease states in Hepatology
- Pancreatitis
- Chylothorax
- Short bowel syndrome
- Disease states in Critical Care
- Infectious diseases
- Management of Micronutrient deficiencies
- Management of PN complications

Progression of Residents:

The assessment of the resident's progress and achievement of rotation goals will be determined by their ability to perform the associated objectives. At the end of the rotation, the preceptor will complete and sign the resident's assessment form, providing valuable feedback on their performance and growth.

The progression of resident responsibilities during this learning experience may vary and will be personalized based on the resident's abilities and the timing of the rotation within the residency year. This approach ensures that the resident can build on their knowledge and skills in a structured and supportive environment.

Period	Progression of Residents
Day 1	• Preceptor will review learning activities and expectations with the resident using this learning experience description.
Week 1	• Learn about the basics of PN therapy, including indications, contraindications, and complications. • Review PN order sets and learn how to formulate PN solutions.
Week 2	• Begin to formulate PN solutions independently. • Monitor PN therapy and make adjustments as needed. • Educate patients and families about PN therapy. • Collaborate with other healthcare professionals on the care of patients receiving PN.

Week 3	• Formulate PN solutions independently and safely. • Monitors PN therapy effectively and make timely adjustments as needed. • Educate patients and families about PN therapy in a clear and concise manner. • Collaborate effectively with other healthcare professionals to provide comprehensive care to patients • receiving PN.
Week 4-5	• Provide leadership and mentorship to other residents on the PN rotation. • Serve as a resource for other healthcare professionals on the care of patients receiving PN. • Participate in research or quality improvement projects related to PN therapy. • Reflect on the learning experiences of the PN rotation and identify areas for continued growth and development. • Develop a plan for how to apply the knowledge and skills gained on the PN rotation to future practice.
Daily	• Resident review assigned patients pre-rounds. • Preceptor office hours available for topic discussions, reviewing progress notes, patient updates, etc from 14:30 – 17:00

Goals Selected and Learning Activities:

Goals	Objectives	Learning Activities
Goal R1.1	**Provide safe and effective patient care services following JCPP (Pharmacists' Patient Care Process).**	
R1.1.1	(Cognitive - Analyzing) Collect relevant subjective and objective information about the patient.	• Collect pertinent information on each assigned patient from available resources (e.g., medical record, patient's nurse, caregiver, and/or patient) every morning prior to rounds and record data on a secure patient monitoring form. • Review labs, medical record, and interview patients before adjusting the medication • Review laboratory values, medication administration, and other pertinent data prior to adjusting medications in pharmacy-managed protocols. • Perform a medication history, review medical record, and contact patient's pharmacy or prescribing physician as needed when performing medication reconciliation. • Recommend, order, and/or conduct appropriate testing for patients according to evidence-based medicine and pharmacy policies and procedures.
R1.1.2	(Cognitive - **Evaluating**) Assess clinical information collected and analyze its impact on the patient's	• Identify any issues with medication therapy and discuss issues identified with preceptor at assigned time daily. • Based on information collected while performing medication reconciliation, identify any issues that need to be addressed. • Determine the appropriateness of medication orders (e.g., indication, dose, route, frequency, rate of administration, drug interactions, adherence, cost) prior to (verifying, ordering, prescribing, refilling). • When performing daily profile review, identify any needed changes.

	overall health goals.	• Identify and prioritize unmet health care needs based upon professional judgement and the patient's values, preferences, priorities and goals.
R1.1.3	(Cognitive - Creating) Develop evidence-based, cost effective, and comprehensive patient-centered care plans.	• Start patient on a dosing regimen designed to achieve target levels for all new "per pharmacy protocol" medication orders. • Develop a patient specific plan integrating knowledge of patient specific information, ethical, quality of life, and pharmacoeconomic issues. • Use knowledge of primary literature and guidelines to identify therapeutic goals for patient based on medications and disease states.
R1.1.4	(Cognitive - Applying) Implement care plans.	• After multi-disciplinary rounds, ensure all medication changes discussed have been ordered and verified. • Send new prescriptions to patient's pharmacy if any changes made to the patient's medication regimen during clinic visit. • Address medication- and health-related problems and execute preventive care strategies, including vaccine administration. • Initiate, modify, discontinue, or administer medication therapy as authorized. • Provide education and self-management training to the patient or caregiver.
R1.1.5	(Cognitive - **Creating**) Follow-up: Monitor therapy, evaluate progress toward or achievement of patient outcomes, and modify care plans.	• Review all assigned patients managed per pharmacy protocols and order any needed labs or dosing changes based on assessment. • Evaluate medication appropriateness, effectiveness, and safety and patient adherence through available health data, biometric test results, and patient feedback. • Evaluate clinical endpoints that contribute to the patient's overall health. • Evaluate outcomes of care including progress toward or the achievement of goals of therapy. • Complete follow-up for patients according to collaborative practice agreements or statewide protocol.
R1.1.6	(Cognitive - **Analyzing**) Identify and address medication-related needs of individual patients experiencing care transitions regarding physical location, level of care, providers, or access to medications.	• Complete admission medication reconciliation for all assigned patients daily. • Complete discharge medication reconciliation and medication education for all assigned patients daily. • When patients are transferred from critical care to a medical/surgical unit, communicate any necessary information to the pharmacist assigned to the medical/surgical unit. • Identify new patients at the pharmacy and conduct medication reconciliation and resolve any medication issues. • Anticipate (or advise) on any required changes when a member is being discharged (inpatient to outpatient). • Review formulary options for a patient prior to selecting a medication for therapy.
Goal R1.2	**Provide patient-centered care through interacting and facilitating effective communication with patients, caregivers, and stakeholders.**	
R1.2.1	(Cognitive - Applying) Interact effectively with	• While on rounds, be prepared to identify medication-related problems and make evidence-based recommendations for solutions to the team.

	health care teams to manage patients' medication therapy.	• Participate in daily rounds with assigned team and provide recommendations on assigned patients and answer drug information questions in a timely manner. • Work with physicians and nurses to resolve issues found when reconciling patients' medications prescribed on admission with medications taken as outpatient. • Contact prescribing physician to resolve issues found when verifying medication orders. • Contact prescribing physician to resolve issues when reviewing prior authorization requests. • Work with nurses and other health care providers to resolve missing doses and other medication distribution issues brought to your attention while staffing. • Provide accurate and timely responses to drug information questions from other healthcare team members.
R1.2.3	(Cognitive - Applying) Document direct patient care activities appropriately in the medical record or where appropriate.	• For pharmacy consults, document an initial consult note and then a follow-up note in the EHR whenever drug level results are reported by the lab or the medication regimen is changed. • Document pharmacy interventions in ivent per pharmacy's policy. • Document medication management in appropriate format according to platform.

Evaluation Strategy:

After resident and preceptor have completed and signed the evaluation forms, the resident and preceptor will compare and discuss the evaluations. This discussion will provide feedback both on their performance of the activity and the accuracy of the self-assessment as well.

Evaluation Form	Evaluator	Evaluated	WHEN
Saudi Commission for Health Specialties (SCFHS) system			
In-Training Evaluation Report	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
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Pharm-Academic			
Summative Evaluation	All Preceptors	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
Summative Evaluation	Resident	Each Resident Taking this Learning Experience	End of learning experience and Quarterly if needed
ASHP Learning Experience Evaluation	Resident	Learning Experience	End of learning experience and Quarterly if needed
ASHP Preceptor Evaluation	Resident	All Preceptors of this Learning Experience	End of learning experience and Quarterly if needed
[The length of time the preceptor spends in each of the phases of learning will depend BOTH on the resident's progression in the current rotation and where the rotation occurs in the residency program].			

Evaluation and Assessment

Evaluation and Assessment Overview

A. Resident Development (Customized Residency) Plan

An individualized resident development plan will be developed by the program director for each resident at the beginning of the program based on a pre-residency questionnaire. The plan will outline projects, meetings, scheduled experiences-, short- and long-term career goals, areas for improvement, and longitudinal learning experiences. The plan will be reviewed and cosigned by the resident during orientation, then reviewed at least quarterly thereafter to assess progress toward attainment of the program's outcomes. Quarterly assessment may outline changes to be implemented into the resident's schedule of learning experiences or projects and identifies any necessary remedial action(s). Residents will review and cosign the customized residency plan quarterly. Customized residency plans and their associated modifications will be shared during the Residency Advisory Committee meetings and with all preceptors.

B. The Customized Residency Training Plan

Consistent with the ASHP residency standards, each resident completing the residency-training program at KAMC-CR shall prepare an individual plan for development. The resident with support from mentor and the residency program director assumes responsibility to develop the plan and document his / her respective goals, interests, strengths and planned rotations and activities.

The residency program director assumes a role to guide the resident and assist in creating the training plan. Within the framework of the ASHP residency standards and the administrative guidelines of the residency program for KAMC-CR, the resident is encouraged to assume ownership of their training experience and development plan.

In order to develop the plan, the resident should answer the following questions as based on the Resident Interest and Self-Evaluation & Resident Customized Plan (Appendix V):

- State your career goals, both short term (5 years) and long term (10-15 years).
- Describe your current practice interests.
- Identify your strengths. Include clinical and personal.
- List areas of weakness that you would like to improve during the residency year.
- Describe activities, projects and experiences that have contributed to your skills in the following areas:
    - Verbal communication skills and public speaking.
    - Time management.
    - Supervisory skills.
- What area of residency training would you like to concentrate on during the program? Please list in order of importance.
- Identify three goals you wish to accomplish during the residency.
- What is your idea of a personal strategy for life - long continuing education?
- What role will professional organizations have in your career?

Each resident should follow a standard format in preparing the training plan.

- The Resident Interest and Self-Evaluation & Resident Customized Plan will serve as a template for a customized training plan.
- The Residency Program Director will customize the training program for the resident based upon an assessment of the resident's knowledge, skills, attitudes, abilities and interests upon entering the program. Any discrepancies in self-assessed knowledge, skills, attitudes, or abilities will be accounted for in the resident's customized plan.
- A quarterly assessment of the resident's performance will be conducted by Resident Program Director to modify resident's plan accordingly. This may result in changes to both the resident's educational goals and objectives and to the schedule for assessment of resident performance.

C. Quarterly Evaluation

In addition to assessing the resident's development plan, the resident and program director will also evaluate the resident's progress toward goal achievement quarterly. This progress assessment will be reviewed together and cosigned by both the resident and program director and included in the residents' development plan.

D. Evaluations of Required and Elective Learning Experiences

- **Formative (on-going, regular) feedback**
  - Preceptors must provide on-going feedback to residents about how they are progressing and how they can improve that is frequent, immediate, specific, and constructive.
  - Formative feedback verbally or documented in PharmAcademic™™.
- **Summative Evaluation**
  - Documents preceptor's evaluation of resident's attainment of goals and objectives.
  - Completed by the preceptor and reviewed with the resident within 7 days of completing the learning experience.
  - Cosigned by the resident.
  - Reviewed and cosigned by the program director.
- **Resident's Summative Self Evaluation**
  - Summative self-evaluation of the goals and objectives assigned to the learning experience.
  - Submitted to preceptor for review, discussion, and cosigned within 1 week of completing the learning experience.
  - Reviewed and cosigned by the program director.
- **Preceptor/ Learning Experience Evaluation**
  - Completed by the resident.
  - Reviewed and cosigned by the preceptor.
  - Reviewed and cosigned by the program director.
  - The program director utilizes such evaluations to provide appropriate guidance for improvement of preceptor performance.

E. Evaluations of Longitudinal Learning Experiences

- **Formative (on-going, regular) feedback**
  - Preceptors must provide on-going feedback to residents about how they are progressing and how they can improve that is frequent, immediate, specific, and constructive.
  - Formative feedback verbally or documented in PharmAcademic™™.
- **Summative Evaluation**
  - Documents preceptor's evaluation of resident's attainment of goals and objectives.
  - Completed at least quarterly throughout the year, within 7 days of the end of the first, second, third and fourth quarter.
  - Completed by the preceptor and reviewed by the resident.
  - Cosigned by the resident.
  - Reviewed and cosigned by the program director.
- **Resident's Summative Self Evaluation**
  - Completed at least quarterly throughout the year (dates corresponding to preceptor's evaluation).
  - Submitted to preceptor for review, discussion and co signature.
  - Reviewed and cosigned by the program director.
- **Preceptor / Learning Experience Evaluation**
  - Completed at least quarterly throughout the year (dates corresponding to preceptor's evaluation).
  - Reviewed and cosigned by the preceptor.
  - Reviewed and cosigned by the program director.
  - The program director utilizes such evaluations to provide appropriate guidance for improvement of preceptor performance.

F. Assessment strategy for the preceptor and learning experience

At the end of each learning experience, preceptor and learning experience evaluations should be completed in PharmAcademic™™ by the resident within 7 days of end of learning experience. Discussion of this form will be part of the summative evaluation debriefing session.

Both evaluations will be as scheduled as follows:

- For rotations and concentration experience: within 7 days of end of learning experience
- For longitudinal experience: within 7 days of end of first, second, third and fourth quarters.
- Preceptor and learning experience evaluations will be forwarded to the preceptor then RPD for co- signature.

G. End of Year Evaluation

- **Resident's Summative Self Evaluation**
  - Evaluation of all required goals and objectives.

- Reviewed and cosigned by program director at the end of the residency year.

- **Summative Evaluation**
  - Evaluation of resident's attainment of all required goals and objectives
  - Completed by the program director.
  - Reviewed and cosigned by the resident.
  - Completed at end of residency year.
- **Preceptor / Learning Experience Evaluation**
  - Completed by the resident at the end of the residency year.
  - Evaluates the residency program and preceptors.
  - Allows for feedback regarding improvements of residency program structure
  - Reviewed and cosigned by the program director.
- **Preceptor Evaluation of Residents' Attainment of Educational Goals and Objectives**
  - The preceptor's assessment of resident performance will directly link to the residency and specific learning experience educational goals and objectives. The preceptor will determine resident success or failure by examining resident's ability to satisfactorily perform the assigned educational goals. As the goals are not directly measurable, the preceptor will base judgments of success on resident achievement of the educational objectives associated with each goal.
  - The preceptor will record his or her evaluations during and at the end of each learning experience (or quarterly for longitudinal experiences). Preceptors will focus on judging goal attainment by evaluating performance on the associated educational objectives and activities tied to these objectives. Preceptors will provide an overall rating for the goal and for rating performance on each of the educational objectives. The interpretation of the ratings follows:
    - Achieved: The resident has fully accomplished the ability to perform the educational goal or the objective. No further instruction or evaluation is required.
    - Satisfactory Progress: This applies to an educational goal or objective whose achievement requires skill development during more than one learning experience. In the current learning experience the resident has progressed at the required rate to attain full ability to perform the goal by the end of the program.
    - Needs Improvement: The resident's level of skill on the goal or objective does not meet the preceptor's standards of either "Achieved" or "Satisfactory Progress," whichever applies.
  - The preceptor will also write specific comments accompanying the educational goals and objectives. The comments will provide details to help the resident to improve his or her future performance. The comments are based on direct observation of the resident's performance of the task itself or on review of the resultant product(s) from completing the task. A complete listing of PGY1 assessment criteria found on the ASHP website, www.ashp.org.
- Residents' Self-Evaluation of Their Attainment of Educational Goals and Objectives
  - A major expectation of a residency program graduate is that he or she will be capable of evaluating the quality of his or her own work. Thus, the resident will be equipped to engage in reflective practice, leading to expertise in the

profession. To learn self-evaluation, residents will be trained to examine each of their job performances and accurately rate them against objective criteria.

- Residents' Evaluation of the Preceptor and Learning Experience
    - Residents will assess preceptor performance and program quality throughout the year. An assessment for each of the resident's current learning experiences must be completed by the resident at the end of the learning experience (or at least quarterly for longitudinal learning experiences). Residents will be encouraged to discuss the evaluation with the preceptor and must provide their evaluations to the residency program director.
- ***PGY1 Residents shall obtain 'achieved' on a minimum of 80% of the program's goals and have no more than 1 goal rated as 'needs improvement' by the end of the second year.***

Process used to monitor resident's progress.

- The RPD and/or preceptors analyze overall resident performance (formative and summative evaluations, projects, presentations, etc.) for areas needing improvement or that have been achieved.
- The RPD and/or preceptors determine the effectiveness of first quarter customized plan.
- The RPD and/or preceptors, with input from the resident, determine second quarter plan and document the follow-up plan for the second quarter and may include alterations in the goals and objectives, activities, learning experiences, structure, and/or assessment strategy.

Residency Program evaluation:

At the end of the residency program, the resident will complete a program evaluation form and submit it to the residency program director and/or Education coordinator. The resident will fill the form based on their personal experiences on all aspects of the program. The form will be discussed with the resident and feedback will be used to improve the quality of the program.

Program Monitoring and Quality Improvement Plan

Program improvement plan

During the last month of the program, the RPD and RAC members will meet to discuss quality improvement plan for the program, this will include discussing verbal suggestions or written feedback from residency program evaluation form (exit interview form) from the resident in addition to preceptors' suggestion.

Preceptor Development Plan

The RPD and RAC members are responsible to put preceptor development plans including an assessment of needs, a schedule of activities to address identified needs, a review of effectiveness of development plan, and creating a preceptor in training plan for the program so that new preceptors are given adequate training and time to become a qualified residency program preceptor.

Certification for Program Completion

Upon successful completion of the program, 3 certificates shall be awarded to the resident

- A Diploma in General Clinical Pharmacy provided by SCFHS.
- An ASHP accredited PGY1 Pharmacy Residency Certificate.
- A Pharmacy Residency Teaching Certificate

Awards

A. Resident of the Year Award

Each year one resident is selected to receive the *Resident of the Year Award*. This award is designed to recognize and acknowledge one of our residents for his or her outstanding performance. The resident selected ideally should be an example of a "role model" for other residents to follow. Criteria for the award may include, but are not limited to, qualities such as leadership and commitment to the profession, not only in teaching but also in service and research. The resident should also be someone who has contributed to the overall residency program and is respected among his or her colleagues. The *Resident of the Year candidate is nominated and selected by the Residency Advisory Committee.* The resident selected will be recognized at the Annual Resident Day Ceremony held by MNGHA Medical Education Department each academic year.

B. Preceptor of the Year Award

The intent of this award is to recognize and promote residency preceptor's participation, support and interest in our residency programs. All resident preceptors are eligible for the award. Residency program directors (RPDs) will not be considered for this award as they are already recognized for their dedication and commitment to residency training programs by virtue of being appointed RPDs. The preceptor of the year recipient will be selected by the current residency class through a nomination process. Nominations will be submitted confidentially to the Postgraduate Medical Education Department. The selected preceptor should have demonstrated commitment to the residency program in general as well as to individual residents. Criteria may include the following: be devoted to pharmacy education for all residents, students, peers, and colleagues, devote time to assist residents when needed, be interested in developing the expertise of the resident, be devoted to research for the betterment of pharmacy, possess leadership qualities, be compassionate, be involved with extracurricular pharmacy activities, be responsible, be an expert of their area of specialty, be respected by their colleagues, demonstrate exemplary teaching abilities, be a role model for the residents.

EXIT INTERVIEW

PHARMACY RESIDENCY

Congratulations for completing the two-year residency program. In this survey, we would like to ask you to provide thorough feedback on your experience during the Pharmacy Residency Program. Such a survey will be used to improve the quality of the program in the future. All the information in this survey will be kept confidential**.**

1. How do you assess the program organization with regard to meetings and rotations schedule?

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**

2. How do you rate the attention that you received by your director/preceptors during this program?

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**

3. Which experience have you liked the most in this program? Why?

4. Which component of program you disliked the most? Why?

5. What did you wish to get out of this program but you didn't? Why?

6. If you have to change one aspect in this program, what will that aspect be? Why?

1. Do you have any final comment on the program and your experience?

Appendix I: Resident's Orientation to the Program *for the New Year 1 Residents*

First Week				
Medical Education Department				
First Day			**Date:**	
	Time	**Orientation Program**		
1	08:00-09:00	Registration	Yes ☐	No ☐
2	09:00-09:15	Welcome Address by Dr. Fahad Al Juraibah	Yes ☐	No ☐
3	09:15-09:30	Residents' rights, roles, responsibilities by Dr. Fahad Al Juraibah	Yes ☐	No ☐
4	09:30-10:00	Professionalism and Medical Ethics by Dr. Alawi Al Saeedi	Yes ☐	No ☐
5	10:00-10:45	Residents' evaluation, CanMeds and promoting patient safety what is expected? by Dr. Mohammed Al Salamah	Yes ☐	No ☐
6	10:45-12:00	Evidence based point of care clinical resource for better patient care • Uptodate session by Dr. Raneem Milyani • Lexidrug Drug reference by Dr. Laila Abu Esba • Digital library by Dr. Abdullah Al Shaya	Yes ☐	No ☐
7	12:00-12:45	Prayer & lunch break	Yes ☐	No ☐
Second Day			**Date:**	
	Time	**Orientation Program**		
1	09:00-09:30	Medical errors: An Overlooked Contributor of mortality & morbidity by Prof. Ali Al Khathami	Yes ☐	No ☐
2	09:30-10:00	Patient safety measurements in MNGHA by Mr. Abdullah Yaqub	Yes ☐	No ☐
3	10:00-10:30	Diagnostic Errors: Lessons for Tomorrow's Physicians by Dr. Mufareh Al Katheri	Yes ☐	No ☐
4	10:30-11:15	Medication safety and prescription errors by Dr. Meshal Al Shakra	Yes ☐	No ☐
5	11:15-12:00	Procedural & Surgical errors & Harm by Dr. Abdul Aleem Al Atassi	Yes ☐	No ☐
6	12:00-12:45	Prayer & lunch break	Yes ☐	No ☐
7	13:00-13:45	Consultant based care & supervision: know your limitation by Representative from Medical Services	Yes ☐	No ☐
8	13:45-14:15	Patient safety: Real Stories from the Frontlines by Dr. Meshal Al Hazmi & Mr. Abdullah Yaqub & Ms, Hadeel Al Deraihem	Yes ☐	No ☐
Third Day			**Date:**	
	Time	**Orientation Program**		
1	08:00-10:00	Electronic Health Record (BestCARE) by Mr. Fawaz Al Rabeeah	Yes ☐	No ☐

2	10:00-12:00	Clinical documentation integrity (Bestcare, clinical documentation standards & mortality) by Dr. Hana Al Faleh, Dr. Hassan Al Dorzi , Ms. Enass Al Metery	Yes ☐	No ☐
3	12:00-13:00	Prayer & lunch break	Yes ☐	No ☐
4	13:00-13:30	Safety Management Department by Mr. Osama Alandijani	Yes ☐	No ☐
5	13:30-14:15	Fire Department by Mr. Ayed AL Ajmi	Yes ☐	No ☐
6	14:15-15:15	The etiquette of communication with patients by Dr. Sameerah Al Somali	Yes ☐	No ☐
Fourth Day			**Date:**	
	Time	**Orientation Program**		
1	09:00-10:00	Infection Prevention and Control Program: Preventing Hospital Acquired Infections (HAIs)	Yes ☐	No ☐
2		Right Care Right Now by Ms. Kholod Al Ameer	Yes ☐	No ☐
3	10:00-11:00	Occupational Health and exposure management of Blood-Borne pathogens by Dr. Fayssal Farahat	Yes ☐	No ☐
4		Overview on Antimicrobial Stewardship Program by Dr. Mohammed Abalkheel	Yes ☐	No ☐
5	11:00-12:00	Responding to deteriorating patient by Prof. Yaseen Arabi	Yes ☐	No ☐
6	13:00-13:30	MNGAH Patient Experience program Goals by Dr. Abeer Al Subait	Yes ☐	No ☐
7	13:30-14:30	Compassionate & Patient centered care by Ms. Afaf Al Mansouf and Dr. Amani Al Muallam	Yes ☐	No ☐
8	14:30-15:00	Heartbreaking Journeys: real stories of Patient Struggles by Dr. Abeer Al Subait and Ms. Afaf Al Mansouf	Yes ☐	No ☐
Fifth Day				
	Time	**Exam day**		
1	08:00-16:00	Basic medication safety (BMS)	Yes ☐	No ☐
		Fire and Life Safety In-Service Training	Yes ☐	No ☐
		Annual Infection Control Education	Yes ☐	No ☐
		Quality and Patient Safety Standard Certification	Yes ☐	No ☐
		Right Care Right Now	Yes ☐	No ☐

Second Week			
Pharmaceutical Care Services General Orientation			
First Day		**Date:**	
1	Mission & Vision of the Department	Yes ☐	No ☐
2	Organization Chart/Chain of Command	Yes ☐	No ☐
3	Policy & Procedure	Yes ☐	No ☐
4	Ethics and professions Attitudes	Yes ☐	No ☐
5	Employee Relations Manual	Yes ☐	No ☐
6	Formulary System	Yes ☐	No ☐
7	Dress Code	Yes ☐	No ☐

8	Working Hours/Electronic Attendance System/Breaks	Yes ☐	No ☐
9	Emergency Coding System	Yes ☐	No ☐
10	Fire and Safety	Yes ☐	No ☐
11	Medication Safety Issues	Yes ☐	No ☐
12	Continuing Education Program	Yes ☐	No ☐
13	Schedules	Yes ☐	No ☐
14	Phone System	Yes ☐	No ☐
15	Paging System	Yes ☐	No ☐
16	Payment Time	Yes ☐	No ☐
17	Vacations: Annual/Eid Holidays/National Day and Foundation Day	Yes ☐	No ☐
18	Sick Reports/Elective Surgery	Yes ☐	No ☐
19	Safety Reporting System (SRS) Electronic Incidents Reporting System	Yes ☐	No ☐
20	Tour in Pharmaceutical Care Services/Introduction to Staff	Yes ☐	No ☐
21	Email	Yes ☐	No ☐
22	Memos and Board	Yes ☐	No ☐
23	Meetings	Yes ☐	No ☐
24	Quality Improvement Orientation	Yes ☐	No ☐
Second Day		**Date:**	
1	Hospital ID badges, pagers, emails and BESTCare users	Yes ☐	No ☐
2	Saudi Commission for Health Specialties (SCFHS) Mumaris Plus training	Yes ☐	No ☐
3	PharmAcademic™ training	Yes ☐	No ☐
4	BESTCare System training	Yes ☐	No ☐
Third Day		**Date:**	
1	BESTCare System training		
2	Design of the residency program	Yes ☐	No ☐
3	Review of the Residency Manual	Yes ☐	No ☐
4	Program competencies, goals, and objectives	Yes ☐	No ☐
5	Program requirements	Yes ☐	No ☐
6	Description of required and elective learning experiences	Yes ☐	No ☐
7	Evaluation strategy	Yes ☐	No ☐
8	Complete the resident's initial Self-Evaluation evaluation	Yes ☐	No ☐
9	Residency-related policies and regulations. **Copy of the residency manual, polices, and regulations shared by email*	Yes ☐	No ☐
10	Specific residents' responsibilities	Yes ☐	No ☐
Fourth Day		**Date:**	
1	Rotation Schedules	Yes ☐	No ☐
2	Staffing Schedules	Yes ☐	No ☐
3	Leaves Schedules	Yes ☐	No ☐
4	Presentation Topics & Schedules	Yes ☐	No ☐
5	How to fill in the development plan	Yes ☐	No ☐
6	Mentorship	Yes ☐	No ☐
Fifth Day		**Date:**	

1	Meet the Residency Advisory Committee (RAC)		
2	Introduced as the new batch of PGY1 during the Grand Rounds		
3	Office hours of the Program Director her/his designee		

I acknowledge that I have received an orientation on all checked items, and I have a thorough understanding of all conveyed information. Furthermore, I have reviewed and understand the expectations, requirements, policies and regulations included the shared manuals and documents.

Resident's Name: ……..
Resident's Signature: ……..

Appendix II: Resident's Staffing/Weekends Coverage

Preparation for Year 1 Residents

Second Year Residency Weekend Staffing Preparation Lectures (3 days)				
		Date:		
1	Received the Weekend Staffing Schedule		Yes ☐	No ☐
2	**Weekend Overview by the Program Director** 2.1 Discuss the Weekend Coverage 2.2 Discuss the Weekend Share per Resident 2.3 Overview of the Weekend DPP 2.4 Answer Questions of the Residents		Yes ☐	No ☐
3	Overview of discharge pharmacy during the weekends by Dr. Fatimah Alhassan		Yes ☐	No ☐
4	First Shadowing with a senior pharmacist		Yes ☐	No ☐
5	Second Shadowing with a senior pharmacist		Yes ☐	No ☐

I acknowledge that I have received an orientation on all checked items, and I have a thorough understanding of all conveyed information. Furthermore, I have reviewed and understand the expectations, requirements, policies and regulations included the shared manuals and documents.

Resident's Name: ……..
Resident's Signature: ……..

Appendix III: Resident's Staffing/Weekends Coverage

Preparation for Year 2 Residents

Second Year Residency Weekend Staffing Preparation Lectures (3 days)				
		Date:		
1	Received the Weekend Staffing Schedule		Yes ☐	No ☐
2	**Weekend Overview by the Program Director** 2.1 Discuss the Weekend Coverage 2.2 Discuss the Weekend Share per Resident 2.3 Overview of the Weekend DPP 2.4 Answer Questions of the Residents		Yes ☐	No ☐
3	Weekend Clinical Coverage Orientation by Dr. Rahaf Alqhatani		Yes ☐	No ☐
4	Comprehensive Overview of Anticoagulation by Dr. Dalal Alabdulkareem		Yes ☐	No ☐
5	Approach and Management of Parenteral Nutrition in Hospitalized Patients Dr. Abdurrahman Alamri		Yes ☐	No ☐
6	First Shadowing with a Team Leader		Yes ☐	No ☐
7	Second Shadowing with a Team Leader		Yes ☐	No ☐
8	Wrote at least one note for TDM (warfarin or vancomycin or aminoglycosides) during clinical rotation		Yes ☐	No ☐
9	Wrote at least one note for TPN during clinical rotation		Yes ☐	No ☐

I acknowledge that I have received an orientation on all checked items, and I have a thorough understanding of all conveyed information. Furthermore, I have reviewed and understand the expectations, requirements, policies and regulations included the shared manuals and documents.

Resident's Name: ……..
Resident's Signature: ……..

Appendix IV: PGY-1 Requirement for Successful Completion of Year 1 of Residency at King Abdulaziz Medical Center Central Region

Resident name:

Year:

Requirements	Date of Completion	Yes/No/NA	Comments
Read and understand residency manual, including all related policies and procedures by the first week of the program			
Attended the Orientation week held by Medical Education			
Attended the Orientation held by the Pharmacy Department			
Attended the Orientation week held by the Residency Program			
Successfully complete 9 rotations			
Complete all assigned evaluations in PharmAcademic™			
Complete all assigned evaluations in One45™			
Research project. The resident should have:			
Research idea			
Written proposal			
Submit to KAIMRC			
Obtain IRB approval			
Development plan submitted and finalized:			
Development plan for the **first quarter**			
Development plan for the **second quarter**			
Development plan for the **third quarter**			
Development plan for the **fourth quarter**			
One Grand Round Presentation (i.e. Topic Review)			
One Clinical Hour Presentation (i.e. Journal Club)			
Portfolio up-to-date, monthly, soft and hard copy			
One Medication Use Evaluation			
Six CBD: as per SCFHS formative assessment tool			
Six Mini-CEX: as per SCFHS formative assessment tool			
One Pharmacy Improvement Project as per the SCFHS formative assessment tool			
One developed/reviewed guideline and protocols			
One Volunteering/community service as per the SCFHS formative assessment tool			
Staffing Shifts (Minimum 12 and Maximum 24 per year) as per SCFHS formative assessment tool			
One Eid Coverage			
Complete **20** Universal topics (available on the SCFHC website)			
Pass the Promotion Exam			

I understand that to be awarded a program certificate of completion, I must complete all the above requirements by the end of the second year

Resident Signature: **Date:**

RPD Signature: **Date:**

Appendix V: PGY-1 Requirement for Successful Completion of Year 2 of Residency at King Abdulaziz Medical Center, Central Region

Resident name:
Year:

Requirements	Date of Completion	Yes/No/NA	Comments
Successfully complete 9 rotations			
Obtain "*achieved for residency*" on a minimum of 80% of the total program objectives and a minimum of 60% of patient care competency. Also, have no more than one objective rated as "*needs improvement*" in the last rotation of the second year			
Complete all assigned evaluations in PharmAcademic™			
Complete all assigned evaluations in One45™			
Complete a research project. Successful completion will be indicated by:			
A written manuscript that meets guidelines for submission to a journal			
Manuscript submitted to the Program Director by August of the second year			
Present research project at a local or international conference			
Development plan submitted and finalized:			
Development plan for the **first quarter**			
Development plan for the **second quarter**			
Development plan for the **third quarter**			
Development plan for the **fourth quarter**			
One Grand Round Presentation (i.e. Topic Review)			
One Clinical Hour Presentation (i.e. Journal Club)			
Portfolio up-to-date monthly, soft and hard copy			
One Medication Use Evaluation			
Four ADR Reports: as per the SCFHS formative assessment tool			
Sixty-three CBD: as per SCFHS formative assessment tool			
Six Mini-CEX: as per SCFHS formative assessment tool			
One Pharmacy Improvement Project: as per the SCFHS formative assessment tool			
One developed/reviewed guideline and protocols			
One Volunteering/community service as per the SCFHS formative assessment tool			
Staffing Shifts (Minimum 16 and Maximum 32 per year) as per the SCFHS formative assessment tool			
One Eid Coverage			
Complete **20** Universal topics (available on the SCFHC website)			
Complete the Structural Oral Exam (SOE)			

Submission PGY-1 Requirement for Successful Completion of Year 1 of Residency at King Abdulaziz Medical Center, Central Region			
Complete the Exit Interview			
Pass the Final Written Exam			
Pass the Final Clinical Exam			

I understand that to be awarded with program certificate of completion, I must complete all the above requirements by the end of the second year

Resident Signature: **Date:**

RPD Signature: **Date:**

Appendix VI: Guidance for PGY1 Residency Program Deliverables

<table>
<tr><th>COMPETENCY AREA</th><th>OBJECTIVE</th><th>PGY1 Pharmacy</th></tr>
<tr><td rowspan="2">Competency Area R1: Patient Care</td><td>Objective R1.4.2</td><td>Deliverable:
Drug class review, monograph, treatment guideline, treatment protocol, utilization management criteria, and/or order set.</td></tr>
<tr><td colspan="2">Guidance:
Completion requirements must include one of the above; programs may set their completion requirements higher.</td></tr>
<tr><td rowspan="3">Competency Area R2: Practice Advancement</td><td>Objective R2.1.2</td><td>Deliverable:
Develop a project plan as defined in the Objective and Criteria.</td></tr>
<tr><td>Objective R2.1.6</td><td>Deliverable:
Project report(s) for at least two projects:
Major project
Second project</td></tr>
<tr><td colspan="2">Guidance:
Each resident is required to complete a major project; defined as a longitudinal project with significant breadth intended to advance pharmacy practice. All Objectives (2.1.1-2.1.6) must be assigned to be taught and evaluated for the major project. Project reports for the major project include both:
Platform style or poster presentation to an external audience (e.g., regional residency conference or comparable professional meeting).
Written report (e.g., manuscript and/or formal written report suitable for invested parties).
The second project report summarizes work on another project which can be major or minor in scope. Examples of minor projects include MUE, clinical program development/ enhancement/ analysis, pipeline forecast, cost or budget analysis, quality assurance (e.g., HEDIS, STARS). The following objectives must be assigned to the learning experience where the second project is taught and evaluated:
Objective R2.1.2: (Creating) Develop a project plan.
Objective R2.1.6: (Creating) Develop and present a final report.</td></tr>
<tr><td>Competency Area R4:</td><td>Teaching and Education</td><td>Deliverable:</td></tr>
</table>

	Objectives R4.1.1, R4.1.2, and R4.1.3	Completion requirements must include one verbal and one written example; programs may set their completion requirements higher.

	Guidance:
	• Verbal presentation (e.g., audiovisual / slides, presentation handout).
	• Written example may include of any of the following:
	  ○ Patient education (e.g., brochure, handout)
	  ○ Education to health care provider (e.g., newsletter, medication or disease management update)
	  ○ Education to pharmacists (e.g., guideline update)	

Appendix VII: ASHP Learning Experience Evaluation

	Consistently True	Partially True	False
I understood the objectives for this learning experience prior to beginning.			
The learning opportunities afforded me during this learning experience matched the objectives specified for this experience.			
Resources I needed were available to me.			
I feel that the preceptor's assessment of my performance on the objectives was fair.			
I was encouraged to further develop my ability to self-assess during this learning experience.			
This learning experience provided me opportunities to provide patient-centered care in a responsible way to my patients.			
The preceptor(s) oriented me to the learning experience, including reviewing and providing written copies of the learning experience educational goals and objectives, associated learning activities, and evaluation strategies.			

What were the strengths of this learning experience?

What were the weaknesses of this learning experience?

What suggestions can you make to improve this learning experience?

Overall Comments:

Appendix VIII: ASHP Preceptor Evaluation

	Never	Sometimes	Frequently	Always
The preceptor was a pharmacy practice role model.				
The preceptor gave me feedback on a regular basis.				
The preceptor's feedback helped me improve my performance.				
The preceptor was available when I needed them.				
When possible, the preceptor arranged the necessary learning opportunities to meet my objectives.				
The preceptor displayed enthusiasm for teaching.				
The preceptor gave clear explanations.				
The preceptor asked questions that caused me to do my own thinking.				
The preceptor answered my questions clearly.				
The preceptor modeled for me, coached my performance, or facilitated my independent work as appropriate.				
The preceptor displayed interest in me as a resident.				

Overall Comments:

Appendix IX: Summative Evaluation of the resident PGY1 Pharmacy (2014)

R1.1 - In collaboration with the health care team, provide safe and effective patient care to a diverse range of patients, including those with multiple co-morbidities, high-risk medication regimens, and multiple medications following a consistent patient care process

***R1.1.1 - Interact effectively with health care teams to manage patients' medication therapy**

	Needs Improvement (NI)
	Satisfactory Progress (SP)
	Achieved (ACH)
	Not Applicable (NA)

Comments:

***R1.1.3 - Collect information on which to base safe and effective medication therapy**

	Needs Improvement (NI)
	Satisfactory Progress (SP)
	Achieved (ACH)
	Not Applicable (NA)

Comments:

***R1.1.4 - Analyze and assess information on which to base safe and effective medication therapy**

	Needs Improvement (NI)
	Satisfactory Progress (SP)
	Achieved (ACH)
	Not Applicable (NA)

Comments:

***R1.1.5 - Design or redesign safe and effective patient-centered therapeutic regimens and monitoring plans (care plans)**

	Needs Improvement (NI)
	Satisfactory Progress (SP)
	Achieved (ACH)
	Not Applicable (NA)

Comments:

***R1.1.6 - Ensure implementation of therapeutic regimens and monitoring plans (care plans) by taking appropriate follow-up actions**

	Needs Improvement (NI)
	Satisfactory Progress (SP)
	Achieved (ACH)
	Not Applicable (NA)

Comments:

***R1.1.7 - Document direct patient care activities appropriately in the medical record or where appropriate**

	Needs Improvement (NI)
	Satisfactory Progress (SP)
	Achieved (ACH)
	Not Applicable (NA)

Comments:

***R1.1.8 - Demonstrate responsibility to patients**

	Needs Improvement (NI)
	Satisfactory Progress (SP)
	Achieved (ACH)
	Not Applicable (NA)

Comments:

R1.2 - Ensure continuity of care during patient transitions between care settings

***R1.2.1 - Manage transitions of care effectively**

	Needs Improvement (NI)
	Satisfactory Progress (SP)
	Achieved (ACH)
	Not Applicable (NA)

Comments:

R3.1 - Demonstrate leadership skills

***R3.1.1 - Demonstrate personal, interpersonal, and teamwork skills critical for effective leadership**

	Needs Improvement (NI)
	Satisfactory Progress (SP)
	Achieved (ACH)
	Not Applicable (NA)

Comments:

***R3.1.2 - Apply a process of on-going self-evaluation and personal performance improvement**

	Needs Improvement (NI)
	Satisfactory Progress (SP)
	Achieved (ACH)
	Not Applicable (NA)

Comments:

R4.1 - Provide effective medication and practice-related education to patients, caregivers, health care professionals, students, and the public (individuals and groups)

***R4.1.1 - Design effective educational activities**

	Needs Improvement (NI)

	Satisfactory Progress (SP)
	Achieved (ACH)
	Not Applicable (NA)

Comments:

***R4.1.2 - Use effective presentation and teaching skills to deliver education**

	Needs Improvement (NI)
	Satisfactory Progress (SP)
	Achieved (ACH)
	Not Applicable (NA)

Comments:

Overall Comments

Overall Comments for this Evaluation

Appendix X: Presentation Evaluation

Name:

Badge Number:

Position:

- ☐ Clinical Pharmacist
- ☐ NGHA Pharmacy Resident
- ☐ Pharmacist
- ☐ KSAU-HS Pharmacy Intern
- ☐ Outside Rotator

On a scale of 1 to 5, please evaluate the presenter today (5 is the highest)					
	1	2	3	4	5
The presentation topic was current and relevant to the pharmacy practice					
Presentation contains accurate information					
Topic's objectives were addressed throughout the presentation					
The presentation was organized and presented in a logical manner					
The slides were visually appealing, easy to read and contained no spelling errors					
The subject and degree of details were appropriate for the time allotted					
The knowledge gained at this topic will be applicable to my daily practice					
Overall, I gained new information and knowledge on the subject presented					
The speaker maintained appropriate voice and eye contact throughout the presentation					
The speaker was clearly knowledgeable about the subject presented					
The speaker adequately answered questions					

Comments:

Appendix XI: Medication Use Evaluation (MUE) Form

Pharmacy and Therapeutics (P&T) Committee

Medication Use Evaluation (MUE) Preparation Step-by-Step

Drug name: pembrolizumab/	generic/brand name®
AHFS Therapeutic class:	
Manufacturer:	
Date of review/approval by P&T:	dd/mm/yyyy
P&T conditions/criteria for use	
P&T service restrictions (inpatient/outpatient/specific services/etc.)	
Date MUE to be presented at P&T:	dd/mm/yyyy
MUE prepared by:	first and last name, PharmD, etc.
Preparer Email:	
Preparer phone number:	

1. **Background**

- Brief background on disease/clinical issues
- Brief overview of agents used to treat
- Describe any guideline that includes use of agent / place in therapy per guidelines
- Drug under review (generic and brand name)
- Date of Saudi FDA approval and approved indication(s)
- Usual dosing
- Does drug have black box warning?
- Is drug a RMM drug?
- Specific insurance concerns (if none, state this):

2. Product information

- How supplied:
- Usual dose per day/week/treatment cycle (use whichever is most relevant):
- Considerations for ordering. For example, is a special contract needed?

3. Methods

- Review period (start and end dates)
- How patients were identified:
- Data elements captured during chart review (check all that apply):
    - Diagnosis
    - Service
    - Location of administration (inpatient vs infusion center vs office)
    - Dose / Administration issues
    - Relevant side effects (especially side effects related to Black Box warning, serious side effects. No need to include non-serious side effects unless important to the clinical service)
    - parameters suggested by service/pharmacist on service
    - issues with administration? (e.g. infusion time)
    - Safety issues?
    - Order set concerns/issues (is order set being followed or are changes being made during prescribing?)
    - Other outcomes (please specify)
- Describe any other sources used for clinical data review:

4. Results

- Total number of patients
- Total number of doses
- Dosing – describe as flat or weight-based dosing as appropriate for the product
    - Min, max, mean, SD, median of doses/dosage per patient (if relevant)
- Present results in table format with % of patients or doses that met criteria
- Results reviewed with member of relevant clinical service

	Criteria	**Results (n and % that met criteria)**
Criteria	Criterion 1 Diagnosis	n (___%)
	Criterion 2 Ordering service	

	Criterion 3 Location of administration	
	Etc – list each criterion individually	

Circumstances where criteria were not met

- Exceptions/Outliers
- Comments on exceptions/outliers
- How discrepancies/exceptions are defined/evaluated (be as explicit as possible)

Data collection limitations
Describe any limitations faced and any solutions proposed or put into place.

5. Cost

Please round all costs to nearest dollar amount. You can use the table below (or something similar) to report findings. Please assure the following information is included:

- Cost per unit (tablet, vial, etc) (based on purchasing cost)
  - outpatient (340B)
  - inpatient (GPO/WAC)
- Cost per usual dose and/or usual treatment course (relevant timeframe)
  - outpatient (340B)
  - inpatient (GPO/WAC)
- Observed cost per year based on utilization
  - outpatient
  - inpatient
- Any additional cost due to adverse events, additional medications/ treatment/ device needed
  - pre-medications, testing needing prior to treatment (EKG, etc)
  - unanticipated hospitalization, ED visit, etc?
  - extended time in infusion center?
  - meds/intervention needed to manage adverse reaction?
- Did cost change during the review period?

Medication	Dose/Frequency/duration	Cost/vial (or other unit)	Daily Cost per patient	Cost per patient per course of therapy
Medication	Dose/Frequency/duration	Cost/vial (or other unit)	Daily Cost per patient	Cost per patient per course of therapy
Comparator Med Brand Name (generic)	__ grams Q__ x ___ days	GPO: 340B: WAC:	GPO: 340B: WAC:	GPO: 340B: WAC:

Forecasted vs. Actual Utilization and cost

- Please round to nearest dollar. You may consider the table below, or something like it to summarize the following:
    - Forecasted vs actual utilization
    - Forecasted vs actual cost and reimbursement
    - Use, Cost of alternative treatments
    - If a shift in product use was anticipated, how much shift has been observed?

- Potential Alternatives (if none, state there are none)
  - Any new alternative(s)/ therapeutic interchange(s) that became approved/ available
  - Is the alternative available on formulary? Are providers using the alternative(s)?
  - Could the alternative(s) be used instead?
  - What is the cost of the alternative(s)?

	Estimated cost per patient per course of therapy	Estimated annual cost (n=___)	Actual cost per course of therapy	Actual annual cost (n=___)
Medication	**GPO:** **340B:** **WAC:**	**GPO:** **340B:** **WAC:**	**GPO:** **340B:** **WAC:**	**GPO:** **340B:** **WAC:**
Comparator Medication	**GPO:** **340B:** **WAC:**	**GPO:** **340B:** **WAC:**	**GPO:** **340B:** **WAC:**	**GPO:** **340B:** **WAC:**

6. Summary

In a few sentences, summarize main points: drug, disease, purpose of MUE, and key findings.

7. Recommendation(s)

- Recommended status on formulary
    - Maintain on formulary, restriction changes, etc
- Recommended changes to prescribing/dispensing workflow
- Plans for re-assessment or follow-up MUE, if appropriate
    - Outcome plan to carry out in follow up

References

Please list all references using AMA

Appendix XII: Drug Use Evaluation (DUE) Form

Drug Name: generic (Brand®)

Manufacturer:

Therapeutic Class:

Similar Agents:

REMS: Yes, No [if yes, indicate medication guide, certification program etc.]

Boxed Warning: Yes/No, If yes, include boxed warning

Date FDA Approved:

Executive Summary:

Recommendations:

Table 1: Products in Class

Generic	Brand	Manufacturer	FDA Approval

INDICATIONS:

Table 2: FDA Labeled Indications:

Drug	Indication(s)			

BACKGROUND:

Include brief disease state background and any information on any other treatment options (if they exist).

CLINICAL PHARMACOLOGY:

PHARMACOKINETICS:

Table 3,

Parameters	Generic Drug Name				

Dose (mg/day)					
Bioavailability					
Absorption					
Time to peak concentration					
Plasma binding					
Volume of distribution					
Effect of food					
Active metabolite (s)					
Protein binding					
Half-life					
Excretion					
CYP Substrate					

CLINICAL STUDIES:

[In this section, include a small paragraph outlining the total number of trials you identified, indicate the types of studies and focus on the highest quality. This will help the reader understand the total volume of articles available on the drug, which was the highest quality and why you chose the ones you did. Rank in order of (1) comparative efficacy (2) randomized controlled trials (3) placebo-controlled trials; include the most key pivotal trials and include quality of life data if available for high cost, low-to medium impact drugs]

COMPARATIVE EFFICACY TRIALS (if available)

Citation		
Design	**Methods**	**Results**
R, DB, PC? [Published] **Duration of Study:** **Study Size:** **Purpose:**	**Inclusion Criteria:** **Exclusion Criteria:** **Primary Endpoint:** **Secondary Endpoints:** **Definitions:** **Treatment Groups:** **1.** **2.** **3.**	**Primary Endpoints:** **Secondary Endpoints:** **Adverse Effects:** **Limitations:** **Conclusion:**

Pivotal Randomized Controlled Trials (if available)

Citation		
Design	**Methods**	**Results**
R, DB, PC? [Published] **Duration of Study:** **Study Size:** **Purpose:**	**Inclusion Criteria:** **Exclusion Criteria:** **Primary Endpoint:** **Secondary Endpoints:** **Definitions:** **Treatment Groups:** **1.** **2.** **3**	**Primary Endpoints:** **Secondary Endpoints:** **Adverse Effects:** **Limitations:** **Conclusion:**

Placebo Controlled Trials (if available)

Citation		
Design	**Methods**	**Results**
[Published] **Duration of Study:** **Study Size:** **Purpose:**	**Inclusion Criteria:** **Exclusion Criteria:** **Primary Endpoint:** **Secondary Endpoints:** **Definitions:** **Treatment Groups:** **1.** **2.** **3.**	**Primary Endpoints:** **Secondary Endpoints:** **Adverse Effects:** **Limitations:** **Conclusion:**

LEGEND: RCT=Randomized controlled trial, DB=double-blind

GUIDELINES (IF ANY):

CONTRAINDICATIONS/WARNINGS: *Table is not required; each drug may have unique features that may not require a table*

BOXED WARNING(S):

REMS:

ISMP ALERTS:

	Contraindications			**Warnings**		
	Known Hypersensitivity	**In Women**	**In Children**	**Pregnancy**	**Hepatic**	**Renal**

PRECAUTIONS:

ADVERSE EFFECTS: *Table is not always required; each drug may have unique features that may not require a table*

Table:

Drug Brand Name (bold)	Drug					
	n(%)					

DRUG INTERACTIONS: Note: some drugs require a table; other drugs may not have many drug interactions, and therefore text may be more appropriate.

Drug Brand Name (bold)	Drug					

PRODUCT AVAILABILITY:

DOSING:

Trade Name	Strength (s)	Usual Starting Dose	Maximum dosage	Special Instructions

COST:

Trade Name	AWP (Redbook Cost)	Cost/month supply

CONCLUSION(S):

RECOMMENDATION:

- **Add**

- **Add with restrictions (include details regarding restrictions)**
- **Do not add**
- **Do not add and ban**
- **REFERENCES**

P&T Form # 2
P & T Log #: _____
Date Received: ___/___/___

Appendix XIII: Drug Evaluation Form

National Guard Heath Affairs

CORPORATE PHARMACY AND THERAPEUTICS COMMITTEE

DRUG EVALUATION FORM

PLEASE TYPE IN THE GENERIC NAME OF THE DRUG TO BE EVALUATED

See Instructions for preparing a drug evaluation in section XI

<table>
<tr><td colspan="3">I. Physician Perspective</td></tr>
<tr><td colspan="2">Date of Request</td><td></td></tr>
<tr><td colspan="2">Requesting Physician, Title, & Department</td><td></td></tr>
<tr><td colspan="2">Requestor’s Rationale</td><td></td></tr>
<tr><td colspan="2">Indication (s) Requested</td><td></td></tr>
<tr><td colspan="2">Dosage Form (s) Requested</td><td></td></tr>
<tr><td colspan="3">II. Drug Information:</td></tr>
<tr><td>1.</td><td>Generic Name</td><td></td></tr>
<tr><td>2.</td><td>Brand Name (s)</td><td></td></tr>
<tr><td>3.</td><td>Is there a biosimilar to this medication?</td><td>Yes ☐ No ☐</td></tr>
<tr><td>4.</td><td>Manufacturing Company</td><td></td></tr>
<tr><td>5.</td><td>Therapeutic Class & Mechanism of Action:</td><td></td></tr>
<tr><td>6.</td><td>Similar Agents (list all applicable)</td><td>
<table>
<tr><th>Formulary Agents (Similar mechanism of action)</th><th>Formulary Agents (used for the same indication)</th><th>Non-Formulary Agents</th></tr>
<tr><td></td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>7.</td><td>Dosage Form Available</td><td></td></tr>
<tr><td>8.</td><td>Route of Administration</td><td></td></tr>
<tr><td>9.</td><td>Approval Status</td><td></td></tr>
</table>

			Indications	
			Labeled Indication (s)	Unlabeled Indication (s)
	Regulatory Agency	☑ FDA		
		☐EMA		
		☑ Health Canada		
		☑ SFDA		

10.	Number of patients that are receiving the drug as a non-formulary	
12.	Dosing Information	
13.	Storage/Handling	
14.	Pharmacokinetic Considerations :	

Absorption:	
Distribution:	
Half-Life/Time to Peak:	
Metabolism:	
Excretion:	
Others:	

15.	Monitoring Parameters:
16.	Use in Special Population:

Pregnancy:	
Lactation:	
Pediatrics:	
Elderly:	
Renal Impairment:	

	Hepatic Impairment:	
III.	Safety Information	
1.	Adverse Drug Reactions: Serious ADR Post marketing (Serious):	
2.	Drug- Drug/Food Interactions: Drug-Drug: Drug-Food:	
3.	Warnings & Precautions:	
4.	Contraindications:	
5.	Does the drug have a Saudi-FDA Risk Minimization Measure? Yes ☐ No ☐ (Check SFDA website under this link: https://www.sfda.gov.sa/en/drug/about/sector_departments/national_pharmacovigilance_center/pages/activitesrisks.aspx	
IV. Disease overview (Morbidity/Mortality/Population):		
V: Current standard of care at NGHA:		
VI: Additional Information:		

Considerations	Inclusion	Comments/ Recommendations
Nursing education needed	☐ Yes ☑ No	
Physicians education needed	☐Yes ☑ No	
Pharmacists education needed	☐Yes ☑ No	
Special equipment or testing needed must be obtained prior to the procurement of the drug	☐ Yes ☒No	If yes: ☐ Available ☐Not available
Create policies/Update current policies	☐Yes ☑ No	If yes: ☐ Update policy _____

Standing order sets needed	☐Yes ☑ No	Controlled Prescription
Specific restrictions for use	☑ Yes ☐ No	If yes: _____ ☐ By indication _____ ☐ By location_____ ☐ Others _____
Special Computer alerts needed	☐Yes ☑ No	

VII.	

For Randomized Controlled Trials

Ref. no./ Design	Methods (PIC)/Duration	End Points (O)	Results	ARR/NNT/NNH & Precision *(CI)*
	Patient/Problem (P): Intervention (I): Comparison (C): Number (N): Duration: Inclusion Criteria: Exclusion criteria:	Primary Efficacy: Secondary Efficacy: Safety:	Efficacy: Safety:	ARR: NNT (end point): NNH (end point): CI: ☐wide ☐ Narrow Comments:

Result Figures/tables:

Validity Assessment:
Similar baseline characteristics? ☐Yes ☐ No
Key differences:
Aside from the experimental intervention, were the groups treated equally? ☐Yes ☐ No Comments:
Type of analysis –
☐on treatment ☐ intention to treat
Blinding: ☐Yes ☐ No
☐measures objective
Possible bias ☐Yes ☐ No
Comments:

Summary of Limitations:

Applicability:
The patients covered by the trial are similar enough to the patients to whom you will apply this ☐Yes ☐ No

Comments:

Evaluator's Conclusion:

For Meta-analysis

Ref. no./ Design	Method	End Points (O)	Results	RR, OR, NNT/NNH Precision *(CI)*
	Number/type of studies included: Inclusion: Exclusion:	Primary Efficacy: Secondary Efficacy: Safety:	Heterogeneity (I^2): Efficacy: Safety:	

Result Figures/tables:

Validity Assessment

Was the research question focused and clearly described? ☐Yes ☐No

Was the literature research systematic/comprehensive and reproducible? ☐Yes ☐ No

Was the study selection process systematic? ☐Yes ☐ No
Are the inclusion and exclusion criteria clearly defined? ☐Yes ☐ No
Was a quality assessment of the studies included performed? ☐Yes ☐ No
Comments:
Were the pooled studies homogenous? ☐Yes ☐ No
Was publication bias assessed? ☐Yes ☐ No

Summary of Limitations:

Applicability:
The patients covered by the trial are similar enough to the patients to whom you will apply this ☐Yes ☐ No
Comments:

Evaluator's Conclusion:

Cohort Studies

Ref. no./ Design	Method	End Points (O)	Results	ARR & RR & Precision *(CI)*
		Primary Efficacy: Secondary Efficacy: Safety:	Efficacy: Safety:	

Result Figures/tables:

Validity Assessment

Was the research question focused and clearly described? ☐Yes ☐No

Was the cohort recruited in an acceptable way? ☐Yes ☐No

Was the exposure accurately measured to minimize bias? ☐Yes ☐No

Was the outcome accurately measured to minimize bias? ☐Yes ☐No

Have the authors identified all important confounding factors? ☐Yes ☐No

Have they taken account of the confounding factors in the design and/or analysis? ☐Yes ☐No

Was the follow up of subjects complete/long enough? ☐Yes ☐No

Summary of Limitations:

Applicability:

The patients covered by the trial are similar enough to the patients to whom you will apply this ☐Yes ☐ No

Comments:

Evaluator's Conclusion:

Case Control Studies				
Ref. no./ Design	**Method**	**End Points (O)**	**Results**	**OR & Precision *(CI)***

Result Figures/tables:

Validity Assessment

Were the groups comparable other than the presence of disease in cases or the absence of disease in controls? ☐Yes ☐ No

Were cases and controls matched appropriately? ☐Yes ☐ No

Were the same criteria used for identification of cases and controls? ☐Yes ☐ No

Was exposure measured in a standard, valid and reliable way? ☐Yes ☐ No

Was exposure measured in the same way for cases and controls? ☐Yes ☐ No

Were confounding factors identified? ☐Yes ☐ No

Were strategies to deal with confounding factors stated? ☐Yes ☐ No

Were outcomes assessed in a standard, valid and reliable way for cases and controls? ☐Yes ☐ No

Was the exposure period of interest long enough to be meaningful? ☐Yes ☐ No

Was appropriate statistical analysis used? ☐Yes ☐ No

Evaluator's Conclusion:

VIII. Guidelines statement on the drug:		
Body issuing the guideline	Year published	Statement

IX. Reference (s):

X. Justification for/against addition:

Reasons FOR addition	Reasons AGAINST addition

XI. Instructions for preparing a drug evaluation:

General overview of the drug and disease: start by reading and formulating a general overview of the disease intended to be treated by the drug requested and it's standard of care if not well familiar with it previously.

Perform a Comprehensive Search: At least the followings databases: Pubmed, Embase, & Cochrane. Make sure to use appropriate keywords.

Identify your comparator drug: identify which drug is currently used at NGHA to treat the same indication, if any, and search for studies comparing both

Screening for end-points: List the studies found in a table with their endpoints

Study selection:

For studies with similar end-points and similar results, select the study with better quality; if similar, select the most up-to-date one (i.e. no need to repeat studies that have similar findings)

Include studies that address both safety and efficacy

Fill in the evaluation: fill in the study information in the tables based on the type of study selected, assess the quality of the study by completing the checklists provided

Quality assessment for RCTs:

Validity :

1-Randomization (type and how efficient it was in creating balanced baseline characteristics)

2-Allocation: concealed or not

3-Blinding (who was blinded, address adherence, contamination and co-interventions)

4-ITT analysis vs. PP analysis

Results :

Report NNT/NNH when applicable for SIGNIFICANT outcomes of interest, precision , magnitude of effect

What is the magnitude of the effect / effect size?

For binary outcomes

Large effect (RR >2 or <0.5 (with no plausible confounders)

Very large effect (RR>5 or <0.2 based on direct evidence with no major threats to validity)

For continuous outcome, (using standardized mean difference SMD)

Small effect : <0.4

Moderate effect : 0.4 -0.7

Large effect ≥ 0.7

Generalizability (applicability)

1-Address the following (IPPs, intervention, population, potential benefits vs. harm and costs) compared to our population and setting

2-clinical significance vs. statistical significance

3-Surrogate vs. clinical outcomes

<u>Quality assessment for MA:</u>

Validity assessment:

Did the author tested for Homogeneity? (what is the P-value? Visual? Or I^2 (Inconsistency), Cochran Q Test?

Results:

Report NNT/NNH when applicable for SIGNIFICANT outcomes of interest, precision

What is the magnitude of the effect / effect size?

For binary outcomes

Large effect (RR >2 or <0.5 (based on consistent evidence from at least 2 studies with no plausible confounders)

Very large effect (RR>5 or <0.2 based on direct evidence with no major threats to validity)

For continuous outcome (using standardized mean difference SMD)

Small effect : <0.4

Moderate effect : 0.4 -0.7

Large effect ≥ 0.7

Generalizability (applicability)

1-Address the following (IPPs, intervention, population, potential benefits vs. harm and costs) compared to our population and setting ,

2-clinical significance vs. statistical significance

3-Surrogate vs. clinical outcomes

Limitations: address any other concerns and potential for bias

(Did the authors assessed for publication bias using Fennel plots / Egger's test ?)

Quality assessment for Network-MA:

Validity Assessment:

Did the overview address a focused and sensible clinical question?

Consider “PICOT”? Why to conduct MTC?

What were the criteria used to select articles? Was it appropriate and exhaustive?

Was the methodology appropriate

Was the validity of the included studies appraised “ Quality Assessment”?

How? Any Major bias in the primary studies?

Adjusting by control group?

Adequate statistical analysis in Indirect comparison or Multiple treatment comparison (MTC)? ☐Yes ☐ No

Results:

What was the amount of evidence in the network?

Were the results similar from study to study?

Were the results consistent in direct (if available) and indirect comparisons?

Test for incoherence?

What were the overall treatment effects and their uncertainty, and how did the treatments rank??

Were the results robust to sensitivity assumptions and potential biases?

Limitations: address any other concerns and potential for bias

Quality assessment for Cohort studies:

Validity Assessment

Was the research question focused and clearly described?

Was the cohort recruited in an acceptable way?

Was the exposure accurately measured to minimize bias?

Was the outcome accurately measured to minimize bias?

Have the authors identified all important confounding factors?

Have they taken account of the confounding factors in the design and/or analysis?

Was the follow up of subjects complete/long enough?

Results:

Precision , magnitude of effect (OR /HR)

What is the magnitude of the effect / effect size?

For binary outcomes

Large effect (RR >2 or <0.5 (based on consistent evidence from at least 2 studies with no plausible confounders)

Very large effect (RR>5 or <0.2 based on direct evidence with no major threats to validity)

For continuous outcome (using standardized mean difference SMD)

Small effect : <0.4

Moderate effect : 0.4 -0.7

Large effect ≥ 0.7

Quality assessment for case-control studies:

Validity assessment :

Were the groups comparable other than the presence of disease in cases or the absence of disease in controls?

Were cases and controls matched appropriately?

Were the same criteria used for identification of cases and controls?

Was exposure measured in a standard, valid and reliable way?

Was exposure measured in the same way for cases and controls?

Were confounding factors identified?

Were strategies to deal with confounding factors stated?

Were outcomes assessed in a standard, valid and reliable way for cases and controls?

Was the exposure period of interest long enough to be meaningful?

Was appropriate statistical analysis used?

Results:

Precision , magnitude of effect (OR /HR)

What is the magnitude of the effect / effect size?

For binary outcomes

Large effect (RR >2 or <0.5 (with no plausible confounders)

Very large effect (RR>5 or <0.2 based on direct evidence with no major threats to validity)

For continuous outcome (using standardized mean difference SMD)

Small effect : <0.4

Moderate effect : 0.4 -0.7

Large effect ≥ 0.7

Applicability:

The patients covered by the trial are similar enough to the patients to whom you will apply this ☐Yes ☐ No

Comments:

1-Address the following (IPPs, intervention, population, potential benefits vs. harm and costs) compared to our population and setting ,

2-clinical significance vs. statistical significance

3-Surrogate vs. clinical outcomes

Formulate your own conclusion and opinion for each study.

Delete any unused tables

Finally summarize the main reasons FOR or AGAINST adding the drug in section X

National Guard Heath Affairs

PHARMACY AND THERAPEUTICS COMMITTEE

P & T Log #: _____

CONFLICT OF INTEREST DECLARATION FORM

Drug Evaluator: _____

1. "I_____ certify that any potential conflict of interest between me and the manufacturer of the requested drug is disclosed herein":

- ☐ Ownership of manufacture stock
- ☐ Received travel support from manufacturer
- ☐ Consultant/advisor to manufacture
- ☐ Received support for research/educational from manufacturer
- ☐ Honoraria from manufacture
- ☐ Received equipment for office/practice from manufacture
- ☐ No conflict of interest
- ☐ Other: _____

Signature: _____

2. "I_____ certify that any potential conflict of interest between me and the manufacturer of the requested drug is disclosed herein":

- ☐ Ownership of manufacture stock
- ☐ Received travel support from manufacturer
- ☐ Consultant/advisor to manufacture
- ☐ Received support for research/educational from manufacturer
- ☐ Honoraria from manufacture
- ☐ Received equipment for office/practice from manufacture
- ☐ No conflict of interest
- ☐ Other: _____

Signature: _____

3. "I_____ certify that any potential conflict of interest between me and the manufacturer of the requested drug is disclosed herein":

- ☐ Ownership of manufacture stock
- ☐ Received travel support from manufacturer
- ☐ Consultant/advisor to manufacture
- ☐ Honoraria from manufacture
- ☐ Received equipment for office/practice from manufacture
- ☐ No conflict of interest

☐ Received support for research/educational from manufacturer ☐ Other: _____

Signature: _____

4. "I_____ certify that any potential conflict of interest between me and the manufacturer of the requested drug is disclosed herein":

☐ Ownership of manufacture stock ☐ Honoraria from manufacture

☐ Received travel support from manufacturer ☐ Received equipment for office/practice from manufacture

☐ Consultant/advisor to manufacture ☐ No conflict of interest

☐ Received support for research/educational from manufacturer ☐ Other: _____

Signature: _____

Noted by: CDES Chairman: _____ CP &T Chairman: _____