



**Ministry of Defense and Aviation
Medical Services Department
Riyadh Armed Forces Hospital
Department of Pharmaceutical Services**



in cooperation with



Clinical Pharmacy

Residency Program

2006



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1. GENERAL OVERVIEW

In recent years there have been major changes in the provision of hospital pharmaceutical services. Two or three decades ago, hospital pharmaceutical services were almost entirely concerned with the preparation and dispensing of medicines, with little direct patient contact. These technical services are still fundamental to the current service and have become increasingly specialized, but they are now complemented by a wide variety of ward-based, patient-focused activities. These are generally referred to as Clinical Pharmacy Services. Nowadays, modern pharmacy practice involves the use of increasingly sophisticated medicines in the management of disease. Such medicines are very powerful therapeutic tools requiring judicious use in order to provide optimal efficacy with minimal risk.

Clinical Pharmacy Services are increasingly critical to the achievement of this therapeutic balance by virtue of the application of the pharmacist's technical, clinical and biopharmaceutical knowledge.

Clinical pharmacists work in the context of a multidisciplinary care team. The benefits of their contribution include the identification and reduction of clinically important drug related problems, improved patient knowledge of, and concordance with, prescribed therapy, enhanced clinical outcomes, reduced length of hospital stay and improved cost effectiveness. So clinical pharmacy is an essential component of the total patient care and is a contributing factor in reduction of patient-care cost. Although there are a relatively small number of hospital pharmacists, their input into patient care is disproportionately large. Their activities can influence expenditure on medicines and also improve the safety and effectiveness of medicines' usage. In particular, hospital pharmacists can make a significant contribution to the reduction of medication errors.

The Pharmacy Residency Program is defined as an organized, directed, postgraduate training program that centres on developing a mastery of knowledge and an expert level of competency in pharmacy practice.

Since there is a rapidly expanding demand for pharmacists who are equipped to respond to the challenges and opportunities of managed care, this program is intended to serve as one means to achieve that objective. It serves to provide pharmacists with opportunities to conceptualize, integrate, and transform accumulated clinical and administrative experiences and knowledge into improved drug therapy for patients and patient populations.

This program is an organized, directed, postgraduate training program designed to prepare the resident for practice in a managed care environment. Upon completion of the 24 month program, the resident will be proficient at predefined levels of understanding and application for all areas of service within the practice setting. The resident is required to meet general goals that are further segmented into specific learning activities during the program. The philosophy behind the program's structure is to provide the resident experience in time and resource management and to provide a realistic practice model for managed care practitioners.

Riyadh-Al Kharj Hospital (RMH) has established a residency program in Clinical Pharmacy Practice in April 2000. This is the first program among military hospitals at the Ministry in defence and Aviation and is designed to graduate competent pharmacists who are able to reflect the philosophy of the Total Pharmaceutical Care, in which Clinical Pharmacist are the best example.

This program has been established with a full joint agreement between the School of Pharmacy at King Saud University and the General Administration of Medical Services of Armed Forces and the Director of Riyadh Al Kharj Hospital Program, the Academic Studies and Training Department at Riyadh Al Kharj Hospital Program are fully supported this training program to cover the disparate need for clinical pharmacists in Armed Forces Hospitals at 2002 (*Appendix I*)

1.1 PROGRAM DESCRIPTION

This clinical pharmacy residency program is a two (2) year program where Saudi pharmacists possess the appropriate skills, knowledge and expertise in clinical pharmacy. This residency program is a hospital-based clinical experience with emphasis of clinical pharmacy skills.

The resident will rotate for eight (8) weeks in each rotation among different area of clinical pharmacy. In addition to a rotation exam (one exam at the end of each rotation) and preceptor evaluation, candidates are required to pass two(2) written examination: First exam is taken twelve months after joining the program , second is held at the end of the second year of the program in order to successfully complete the program.

The residents will also present a monthly presentation (drug or disease related and case-presentation) in each rotation. Finally, the residents are required to do a hospital-related research project before graduation.

1.2 DURATION OF THE PROGRAM

This program is a two (2) years of hospital-based comprehensive clinical training program

1.3 PERIOD OF THE PROGRAM

January - December

1.4 CERTIFICATION

Upon completion the graduation requirements the resident will be offered a certificate of Speciality in Clinical Pharmacy "**Clinical Pharmacy Practice**" from the Pharmaceutical Services Department at Riyadh Al Kharj Armed Forces Hospital with cooperation of the Collage of Pharmacy at King Saud University. The certificate will be signed by the Director

Pharmaceutical Services, the Director of Riyadh Al Kharj Armed Forces Hospital and the Dean of Collage of Pharmacy at King Saud University.

Similar to the Joint Residency Program, this program has been also accredited by the Saudi Council for Health Specialities (SCHS) by which this residency training program is aimed to be professionally (not academically) equivalent to a Master's Degree "M.Sc." by Ministry of Civil Services.

1.5 PROGRAM GOAL

To provide the pharmacy profession with knowledgeable, creative, and resourceful clinically-oriented pharmacists who can provide patients with pharmaceutical care at competent levels.

1.6 PROGRAM OBJECTIVES

It is expected that the resident will, during the course of training, achieve a level of independence, become accountable, and accept responsibility for pursuing optimal clinical outcomes of patients' drug therapy. There is a fine line between the amount of preceptor supervision required during the resident's training and the degree of autonomy needed to achieve this objective. Hence, pharmacy preceptors and the resident must work together closely to ensure that this fundamental element of the training program is met without compromising patient care through inadequate supervision. The program objectives could be summarised as followed:

1. To provide clinical skills that enables the Saudi residents to provide a direct and complete patient care.
2. To develop advanced therapeutic knowledge to recommend, monitor, and document pharmacotherapy plan while participating in medical rounds or clinics.
3. To communicate effectively when making interventions by addressing drug related problems.
4. To interpret, generate, and disseminate knowledge to health care professionals and the patients.

2. ADMISSION CRITERIA

2.1 QUALIFICATIONS AND ADMISSION REQUIREMENTS

- Saudi national
- Less than 30 years of age
- Graduate of an accredited College of Pharmacy with a Bachelor degree or above (advanced degrees are highly encouraged)
- Two official pharmacy school transcript
- Academic achievement must be at least "good" or above
- Letter of intent for joining the program
- A written permission (No objection letter) from the sponsoring hospital of the candidate allowing him/her to participate in the program as a full-time participant for two (2) years
- Three (3) letters of reference
- Proof of good verbal and written communication skills in both English and Arabic languages
- Completed the application form
- Passing of a written examination and an interview

2.2 ADMISSION EXPERIENCE REQUIRED

Prefer to have at least 2-5 years experience as a hospital pharmacist

2.3 PROGRAM ADMISSION CAPACITY

At the present time, the program will be provided at Riyadh Al Kharj Hospital and the School of Pharmacy at King Saud University in collaboration with King Khalid

University Hospital. The total number of residents that will be accepted is two (2) each year.

2.4 ADMISSION EVALUATION PROCESS

In addition to the GPA score and English language proficiency, candidates will be assessed on their potential for developing additional skills and enhancing their professional competence.

2.5 TRAINEE COMMITMENT

The resident should sign the form that he /she express the trainee commitment to the training site, program and learning (*Appendix II*).


2.6 ADMISSION PROCESS

- Riyadh Al Kharj Pharmacy will issue an announcement for the admission in MAY of each year and the deadline of submitting the above admission requirements will be at the end of August of the same year
- The admission committee will review each applicant and set up date for the admission exam and the admission interview
- The admission committee consists of:
 1. The Director of the Pharmaceutical Services Department at Riyadh Al Kharj Military Hospital or his designee
 2. The Assistant Director of the Pharmaceutical Services for Clinical Services at Riyadh Al Kharj Military Hospital
 3. The Director of the Academic Studies and Training Department at Riyadh Al Kharj Military Hospital

4. A representative from the College of Pharmacy at King Saud University
5. A Clinical Pharmacist

2.7 CONTACT INFORMATION

 For application materials, please contact:

Coordinator, RMH Pharmacy Residency Programs
Pharmaceutical Services Department
Riyadh Armed Forces Hospital
P.O. Box 7879 Riyadh 11159
: (01) 4777714 Ext. 5243 Fax: (01) 4777714 Ext . 3432

3. THE TRAINING SITES

3.1 THE TRAINING SETTINGS

The resident will be trained at Riyadh Al Kharj Hospital Pharmacy Department by join the ward rounds with the clinical pharmacists in the different hospital department as well as in King Kalid University Hospital (as per the cooperation agreement with the School of Pharmacy at King Saud University).

3.2 AVAILABLE FACILITIES

3.2.1 The Medical Library:

Residents can use the RMH Library which has all needed facilities including books, journals, periodicals in addition to a free internet access and data bases during working hours.

3.2.2 TDM and Microbiology Laboratory:

Resident will be allowed to use a special computer in the Pharmacy Clinical Services area where he/ she can excess the hospital Laboratory and Blood Bank Department Database to allow him/her of collecting patients' laboratory results needed for therapeutic drug monitoring and patient clinical profile.

3.2.3 Drug Information Resources:

In addition to the Medical Library, the Pharmaceutical Services Department provides an organized program of Drug Information and Poisoning Center Services (DIPC). The purpose is to assist health care professionals to pursue the goal of safe, appropriate, and cost-effective drug therapy to better serve their patients. These services are conducted in such a way that managed care pharmacy residents receive instruction in the theory, organization, and practical applications of such services. Hence, A DIPC pharmacist will be assigned to coordinate these services and serve as the preceptor for this area of training and will assist the residents in searching for any required information and answer

questions related to the drugs through the available references and Data-base system in the department library which include textbooks, periodicals in appropriate pharmaceutical and biomedical subject areas and "On-line" services, including an abstract service and computerized drug information reference system.

3.3 ACCESS FACILITIES

3.3.1 Hospital ID Badge:

Upon joining the residency program, residents will be issued RMH Identification badges through the Security Department at the hospital where they get access to all hospital departments, Pharmacy, Drug Information and Poisoning Centre (DIPC) and other facilities including recreation centers, restaurants, etc. at any time during their training period. Upon graduation, residents are requested to return their ID badges to the security departments.

3.3.2 Patient Data Access:

It is essential that the preceptor and residents work cooperatively with other health care providers to determine desired therapeutic outcomes and thoroughly monitor patients' drug therapy. The preceptors and the residents to whom they provide guidance must be held responsible and accountable for pursuing optimal drug therapy outcomes. In order to provide pharmaceutical care, residents must have access to patients' records (or electronic medical record) and opportunity for documentation. Residents will be issued a Hospital Computer Identification Access Code allowing him/he to access patient related data and medications.

3.4 OTHER TRAINING SITES

In accordance with the General Administration of the Medical Services Department (MSD) in the Ministry of Defence and Aviation (MODA) collaboration agreement, the

Clinical Pharmacy Department at King Saud University represented by the King Khalid University Hospital considered as a training site in this training residency program if the training speciality rotation is not available at RMH training site.

4. THE TRAINING PERSONNEL

4.1 THE PROGRAM COORDINATOR

In addition to the qualified preceptor's supervision, the program is running under a direct supervision of the program coordinator who has an excellent experience in pharmacy management as well as the clinical and professional skills required to carry such responsibility to achieve the aimed goal of this program.

4.2 THE PROGRAM COORDINATOR RESPONSIBILITIES

1. Direct supervision of the overall program
2. Announcing of the admission date of the program.
3. Reviewing the trainee's admission forms and requirements.
4. Arranging meeting, interviews and the writing exams.
5. Communicate with the Director of Academic Studies and Training Department and the Saudi Council of Health Specialties (SCHS) member all residency related matters.
6. Make sure that all residents and preceptors evaluation forms, reports, ect are meet in accordance with the program policies.
7. Report all residents related issues to the Residency Advisory Committee (RAC) which is chaired by the Director of the Pharmaceutical Services.

4.3 RESIDENCY ADVISORY COMMITTEE (RAC)

The purpose of the Advisory committee is to advise the Director of Pharmaceutical Services any residency program related matters. The Advisory Committee shall oversee the residency programs at RMH, design, review, implement, monitor, evaluate residents and preceptors, and assign the research projects.

4.4 MEMBERS OF THE COMMITTEE

1. The Director of Pharmaceutical Services in RMH (Chairman)
2. The Assistant Director of Pharmaceutical Services for Clinical Services (Member)
3. RMH Residency Program Coordinator (Member)
4. A representatives from Saudi Council for Health Specialties (SCHS) (Member)
5. A Clinical Pharmacist (Member)

4.5 THE EVALUATION PROCEDURE

1. The Residency Advisory Committee (RAC) will meet every four (8) weeks
2. The RAC will assist the Pharmaceutical Services Department in providing the best possible residency programs in clinical pharmacy. The RAC will accomplish this by:
 - a. Providing experienced advice to the Director of the Pharmaceutical Services.
 - b. Design, review, implement, and monitor the residency programs at RMH and other sites.
 - c. Review on a regular basis the curriculum content and the educational methodology of the program.
 - d. Evaluate the performance of the residents through rotations and discuss preceptors' evaluations.
 - e. Assist residents in selecting rotation based on their performance; identify areas where improvement is needed, and setting realistic and attainable educational goals.
 - f. Approve project proposal, discuss and evaluate projects at the end of the program.

5. THE TRAINING SYSTEM

5.1. THE PRECEPTORS RESPONSIBILITIES

The preceptor's role is to serve as a role model and assist the residents in the development of clinical and professional skills. This could be achieved through their active participation of the residents of the preceptor's ongoing practice. Each rotation in this program is aimed to provide the resident with the opportunity to expand his/ her clinical pharmacy knowledge and experience and to develop their own skills and philosophy to be an active member in the total pharmaceutical care. During each rotation, the preceptor's has responsibilities not limited to the following:

1. Define and explain to the resident the goals and objectives and expectations at the beginning of his/ her rotation.
2. Monitor, evaluate and critique the resident rotation performance on continuous basis.
3. Assist and guide the resident's clinical judgement and philosophy during the rotation.
4. Encourage the resident to participate in daily rounds effectively and to present topic or case presentation to pharmacists and other health care professionals..
5. Spend enough time for daily discussion of any clinical related issue in his speciality.
6. Provide a written exam and written evaluation of the resident to the program coordinator at the end of the rotation.

5.2 PROGRAM STRUCTRE AND TRAINING SCHEDULE

The program is comprised of core rotations and elective rotation. Each resident will spend eight weeks in each rotation. Based on the Advisory Committee recommendation and according to the preceptors' availability; each resident have to finish at least nine (9) different rotations of the listed specialties before graduation.

Table 1: Program Structure and Training Schedule

	ROTATION	ROTATION TYPE	DURATION
1	Pharmacy Orientation		1 week
2	Basic Clinical Skills (Lab. Results Interpretation, Microbiology Lab and TDM)	Core	7 weeks
3	Drug Information Centre	Core	8 weeks
4	Ambulatory Care (Anticoagulant Clinic, Lipid Clinic)	Core	8 weeks
5	Internal Medicine (Hepatology)	Elective	8 weeks
6	Internal Medicine (Infectious Diseases)	Elective	8 weeks
7	Internal Medicine (General Medicine)	Core	8 weeks
8	Internal Medicine (Endocrinology)	Core	8 weeks
9	Internal Medicine (Gastroenterology)	Core	8 weeks
10	Internal Medicine (Cardiology)	Core	8 weeks
11	Internal Medicine (Nephrology)	Elective	8 weeks
12	Total Parenteral Nutrition	Core	8 weeks
13	Adult Intensive Care Unit	Core	8 weeks
14	Paediatrics Intensive Care Unit	Elective	8 weeks
15	Psychiatry	Elective	8 weeks

5.3 THE EVALUATION PROCESS

5.3.1 Residents Evaluation

1. The resident will be evaluated continuously throughout and at the end of each rotation using Resident Evaluation Form (*Appendix III*) and handle it to the Program Coordinator where it will be discussed individually with him/her.
2. The resident has to successfully pass written exam at the end of each rotation.
3. The resident has to provide two presentations during each rotation (*Appendix IV*).
4. The resident has to provide a monthly progress report at each rotation.
5. If the resident fails in the evaluation/ exam, he/she will be allowed one attempts to repeat the rotation. If unable to successfully complete the rotation, the resident will then be dismissed from the program.
6. The resident has to pass two exams (written and oral) at the end of each year. The pass mark for the exam is 70%. If the resident fails in the exam, he/she will be allowed to repeat it once. If unable to successfully complete it, resident will repeat the same year.

5.3.2 Preceptors Evaluation

Preceptors are evaluated continuously to assess the quality of the program (*Appendix V*). The resident will fill the Preceptor Evaluation Form at the end of each rotation and handle it to the Program Coordinator. The program coordinator is required to collect the evaluation from the resident. Results of the evaluation will be discussed individually with the preceptor.

5.4 THE RESEARCH PROJECT

The resident will be required to complete a major project of publishable quality. The process will teach the resident the research study methods, research design, data collection and analysis, and manuscript preparation. The project will be mutually agreed upon by the Residency Advisory Committee and the resident. The project may focus on clinical, administrative, or management issues.

The project should fulfill the following criteria:

1. The topic of the project should be practice related and should help in developing the institution and add to the knowledge background of the resident.

2. The project should be conducted under the supervision of a preceptor who is practicing in the same field.
3. Within the second year of the program, each resident has to submit a proposal to the Residency Advisory Committee for discussion and approval prior to starting the project.
4. The project should be completed within six (6) months from the Residency Advisory Committee approval date.
5. The project should be presented in a regional meeting and/or published in a peer-reviewed, medical or pharmaceutical, reputable publication.

5.5 VACATION AND HOLIDAYS

- As per Riyadh Armed Forces Hospital policy, each resident is entitled for a Thirty (30) days annual vacation and Ten (10) days Eid holiday each year.
- The resident must plan ahead for his/her vacation, and has to be approved by Residency Advisory Committee.
- If resident is sick, then he/ she should get a Sick Certificate from the Staff Health Department in the hospital and submitted it to the Program Coordinator.
- As per the General Administration of the Medical services Department, any resident leave the training site for more the fourteen (14) days without permission will be immediately dismissed from the program.
- Maternity leave is four (4) weeks; additional days shall be compensated during or at the end of the training period.
- RMH-based resident has to sign a consent form of working at RMH for two (2) years " the duration of the Residency Program" before resignation.