Curriculum for Family Medicine Program

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Family Medicine Program Vision:

To produce family doctors who are caring, competent and have the highest level of knowledge, skills, attitude, commitment and enthusiasm to serve their patients and society.

Family Medicine Program Mission

We are committed to train excellent Family Physicians to provide comprehensive, compassionate, safe, and evidence-based care to our patients, their families and our community in a collaborative, innovative, and continuous learning approach.

1. Introduction

1.1 Definition of family medicine

Family medicine specialists are generalists and provide personal, comprehensive and continuous care to individual patients and their families.

- They care for individuals in the context of their family, their community and their culture, at the same time respecting their autonomy.
- They take account of physical, psychological and social factors in health and illness
- They exercise their professional role by promoting health, preventing disease, and providing cure, care and palliation.
- They manage and coordinate the care of complex patients with multiple morbidities.
- They work collaboratively with other health professionals and social care providers according to the resources available within the community.
- They take responsibility for maintaining their own knowledge and skills in order to provide effective and safe patient care.

1.2 Family Medicine Characteristics

- Usually the first point of medical contact with the health care system, providing unlimited access, dealing with all health problems regardless of the age, sex, or any other characteristic of the person concerned
- Uses health care resources efficiently by coordinating care, working with other professionals in the primary care setting, and by managing the interface with other specialties taking an advocacy role for the patient when needed.
- Develops a "person-centered approach" meaning a focus on the individual, his/her family, and their community
- Establishes a relationship over time, through effective communication between doctor and patient
- Is responsible for the provision of longitudinal continuity of care as determined by the needs of the patient
- Has a specific decision making process determined by the prevalence and incidence of illness in the community
- Manages both acute and chronic health problems of individual patients
- Manages illness which presents in an undifferentiated way at an early stage in its development using time as a diagnostic and treatment tool.

- Consistently demonstrate strategies for addressing areas of uncertainty or knowledge deficits during the course of patient care
- Promotes health and well-being both by appropriate and effective intervention
- Has a specific responsibility for the health of the community and advocates for the health of that community
- Deals with health problems in their physical, psychological, social, and cultural dimensions and uses expertise and advocacy to address health inequalities.

2. Roles

Family Medicine specialists must work within an ethical and legal framework, to the highest professional standards and function in the following dimensions.

2.1 Expert physician

Demonstrate good consulting skills, adopting a patient centred approach, exploring patient views, appropriate examination, arriving at a shared diagnosis, and discuss diagnostic and treatment plans with patients.
Establish ongoing relationships with patients and their families to provide the basis for longitudinal continuity of care
Provide comprehensive care, with the ability to manage patients with a range of acute, chronic and mental health problems.
Demonstrate the ability to provide appropriate health education and preventive interventions

2.2 Facilitator & communicator

Facilitate the doctor-patient relationships during and after medical encounters.
Seek to understand the patient's experience of illness, and its impact the lives of patients and families.
Work with patients to help them participate in their own care
Work with families of patients to involve them in the illness and its treatment
Work with health agencies and policy makers to provide optimal care and education
Work with local communities to address local health problems
Work with local primary health care teams to ensure the best possible use of local resources & facilities
Communicate with other specialists to manage the patient's admission and discharge from the hospital and other services.
Act as patients' advocate as needed.

2.3 Learner

Demonstrate a commitment to self-directed, lifelong learning, to ensure knowledge and skills are up to date with latest research and practice.
Demonstrate a commitment to maintain and improve the quality of care provided in their practice
Submit to critical evaluation of the clinical practice by participating in audits, significant event analysis, etc. to ensure continuous improvement
Commit to develop the discipline by teaching, research, or involvement in local and national bodies.

2.4 Manager & Leader

Manage time effectively
Contribute to the management of the practice and help to maintain it as a positive working environment
Act as a leader in the practice and in the local community.
Adapt the practice organisation to the health needs of the local community.
Demonstrate cost effective management in clinical work and in practice management.
Engaged as a participant in decision making in health care operations.

2.5 Advocate

Advocate on behalf of the patient with a variety of stakeholders including other members of the health care team, consultants, community and government agencies.
Advocate for quality patient care.
Advocate for the health of the community and work to address inequalities

3. Caring for the whole person across the life span patient groups

Holistic care includes attention to specific physical, emotional and social needs for the following groups:

3.1 Infants, Children & Adolescents

Knowledge of childhood growth and development and the effects on health & illness, from birth through adolescence including the effects of chronic illness on the family

3.2 Women

Knowledge of women's health including reproductive issues; prenatal care, delivery and postnatal care; menopause; provided whole person care including preventive care and illness care in the in-patient setting with special focus on continuity in the outpatient setting.

3.3 Men

Knowledge of men's health and provide whole person including preventive care and illness care in the in-patient setting with special focus on continuity in the outpatient setting.

3.4 Elderly

Manage patients with many diagnoses who are taking different medications.
Understand the common problems of old age: immobility, unsteadiness, sensory impairment, loss of independence, isolation
Manage patients with dementia

3.5 Groups with Special Needs

Identify to patients with particular needs and their families such as intellectual, physical, sensory disability, socially disadvantaged, and victims of domestic abuse.

4. Learning methods & experiences

The principles of Family Medicine will be taught by exposing residents to workplace experience and academic didactics using a variety of adult learning methods.

4.1 Clinical experience

The greatest opportunities for learning will always arise in everyday clinical experience. Residents will be encouraged to make the best use of such experience by supervisors, using informal interaction, case discussion and a reflective portfolio.

4.2 Tutorials

Supervisors and residents will meet for weekly tutorials. Tutorials will require preparatory study, and will allow for more personal reflection.

4.3 Peer learning

There will be varied opportunities to engage in peer learning, such as:

- Case-based discussions
- Presentations
- Journal discussions

4.4 Day release program

The weekly day release program or family medicine academic day is designed to ensure that the whole curriculum is covered. It also encourages interaction between residents bringing different personal and professional perspectives to bear on clinical subjects.

4.5 On line tutorial

Once a month during the first two years of the program residents will participate in an online tutorial run by British GPs and FIDFMP tutors. The interactive format will present cases for residents to use critical thinking and discuss in groups along with ANNU faculty. The format attempts to reduce professional isolation and improve training quality with the inclusion of up to date information. After 2020 continuation depends on the identification of a new platform for running the tutorials. Potential Family Medicine topics include:

- The management of uncertainty.
- Use of time
- Patient centred attitudes
- Consulting skills
- Complex case management
- Opportunity to discuss cases and other topics of concern

4.6 Research project

Residents will complete a research project, and there will be very strong encouragement for it take place during the two years when they are working in family medicine.

4.7 Meetings and conferences

Residents will be encouraged to attend local, national and international meetings to present their own work and learn from others. In particular, this will enable them to learn about research in primary care and advances being promoted internationally.

5. Learning resources

5.1 Supervision

Each resident will be assigned to an educational supervisor, and ideally work with the same supervisor throughout their training. Experience from other countries underlines the value of this relationship

5.2 Log Book

Residents will be required to keep a record of their work. Reflection on their own experiences are encouraged, and will be an important tool for communication and feedback from their supervisors. (See appendix)

5.3 Books

A small library of essential texts is available in the Family Medicine Department and the An Najah University Library.

5.4 Electronic resources

Residents will be expected to access a range of resources on line, including:

- Original research papers
- Secondary research (such as the Cochrane Library)
- National and local guidelines
- Evidence bases web sites such as Medscape, Medpagetoday

6. Program

In line with the requirements of the Arab Board of Medical Specialties the program comprises four years' work and study. The first two years will be spent mostly in hospitals accredited by the Palestinian Medical Council (PMC) for training, and the second two years in primary care clinics accredited for training. Throughout all four years of the program one day a week (academic release day) will be spent at An Najah University program on educational curriculum. This will enable residents to use their experience in the hospital to address Family Medicine learning objectives. The four year program may be extended due to circumstances with permission from the residency director, but may not extend beyond two semesters, equalling one year, for a total of five years in the program. The overall program is shown below:

	Clinical Rotation	Duration
1.	Family Medicine	17 months
2.	Internal Medicine	6 months
3.	Pediatrics	4 months
4.	Surgery	2 months
5.	Obstetrics & Gynecology	4 months
6.	Psychiatry	3 months
7.	Emergency Medicine	2 months
8.	Dermatology	1 month
9.	Radiology	1 month
10.	Ophthalmology	1 month
11.	Orthopedics	1 month
12.	ENT (Otolaryngology)	1 month
13.	Community Medicine	1 month
14.	Elective	4 month
Total		48 months

For further details of the educational program see appendix 2

7. Assessment

7.1 Formative assessment

There will be numerous opportunities for supervisors to give feedback to residents in order to help them refine and improve their competence. Eventually residents will be required to keep an electronic portfolio of selected encounters, and the supervisors will make comments designed to challenge and support residents.

7.2 Entry assessment

The Palestine Medical Council's standard entry exam is a requirement. In addition, a formative assessment of resident's knowledge will identify individual areas of weakness to guide learning goals.

7.3 Workplace based assessments

The residents will be required to master a set of skills (see above). Supervisors will assess them and sign in the residents' Log Book when completed.

7.4 Assessments for progression

At the end of each year there will be an assessment to measure the fitness of residents to progress to the next stage of the program. Given the structure of the course, with the first two years being spent predominantly in hospital posts, part 1 of the Board exam will take place at or after the end of year 2.
After completing the four-year program, residents will be awarded the higher specialty degree in Family Medicine and will be eligible to sit for the Palestinian Board exam

7.5 Palestinian Board exams

A- Part I exam:

Part One Palestinian Board Exam is designed to assess basic knowledge in the principle of Family Medicine and clinical judgment relevant to the specialty of Family Medicine.
The number of exam items, exam format, eligibility, and passing score will follow the Palestinian medical council rules and regulations.

Eligibility:

1. Current registration in Palestinian Board Family Medicine Training Program.
2. Current registration at An-Najah National University family medicine academic program
3. Successful completion of at least one year of training in Family Medicine

Examination Format:

1. A Palestinian Board Part I Family Medicine written examination shall consist of 100 single best answers MCQs.
2. Clinical presentation questions include history, clinical findings, and patient approach. Management questions; includes non-therapeutic, therapeutic, patient safety, and complication. Health maintenance questions; includes health promotion, disease prevention, risk factors assessment, and prognosis.

B- Part II exam:

After completing all the FM training requirements and pass successfully academic courses, residents can sit for part two Palestinian Board Examination, which comprises two parts: a written examination and a clinical examination. It is held Twice a year.

Written examination:
This MCQ examination assesses residents' theoretical knowledge base and problem-solving capabilities about FM. The number of exam items, exam format, eligibility, and passing score will follow the Palestinian medical council rules and regulations.

Clinical examination:
This examination assesses a broad range of high-level clinical skills, including data collection, patient management, communication, and counseling skills. The examination is held twice a year, in an OSCE format in-patient management problems (PMPs). The exam eligibility, format, and passing score will follow the Palestinian medical council rules and regulations.

Certification:
Candidates passing all components of the final specialty examination are awarded the "Palestinian Board in Family Medicine" certificate**.**

8. Audit curriculum for ongoing improvement

Residents will complete feedback forms at the end of each clinical experience and academic course. Feedback will be reviewed by faculty on a rotating basis every three years so that curricula continues to address the stated learning objectives, objectives are updated, and the quality of the program is high and addresses the needs of the learners.

Appendix 1 - Log Book

The Log Book is a record of your training highlights during residency. This includes case presentations, subjects that need additional learning attention, challenging patients encountered, events which cause reflection, procedures performed, journal club activities, meetings attended, and community and research project(s). Documenting procedures and skills can assist residents with hospital and clinic privileges, demonstrate the competency of the residency, and improve procedural training. Procedure lists are presented in the various subspecialties to guide you.

WHICH PROCEDURES SHOULD YOU RECORD?
After recording the use of an instrument or performance of a procedure, document procedures that you think you might want privileges for later (deliveries, circumcision, LP, paracentesis, joint injections, etc.) This may be tailored to your future career plans. Consider documenting the following procedures:

- Skin: Incision and drainage of abscess, Cryotherapy of warts, Biopsy (punch, shave, or excisional)
- Women's health: Pelvic exam/Pap smear (only have to have supervision and track the first 3 performed), IUCD insertion, Endometrial biopsy, colposcopy
- Musculoskeletal: Joint injection/aspiration, Splinting/casting for fracture or sprain
- Maternity care: Vaginal delivery, Basic OB ultrasound (presentation, AFI, placental location)

MONITORING PROGRESS
The residency faculty will monitor the resident's progress toward meeting the clinical experience and procedure documentation requirements. If a resident is not on track to complete adequate procedures by graduation, he/she will be asked to submit a plan for completion to the Program Director.

PATIENT ENCOUNTERS
Consider logging patients that are challenging, those you discuss with your supervisors and colleagues, and those who teach you something about medicine or about yourself.

RESIDENT'S LEARNING NEEDS
Medicine requires life-long learning skills. During your training you will encounter topics that need more focus and work. A supervisor or colleague may point this out to you, or you may identify this yourself as you reflect on your progress in becoming a family physician. During residency you have the opportunity to identify areas where you lack knowledge, confidence, or experience and can then create a learning plan with the input of your supervisor.

Appendix 2 – Family Medicine Specialty Educational Program

To obtain the higher certificate in Family Medicine Specialty residents must complete: Clinical rotations in the in-patient and outpatient setting (Table 1) and Academic coarse work (Table 2).

Table 1. Clinical Rotations

Year	Clinical Rotations				Duration
1st	**Internal Medicine** 6 months	**Surgery** 2 months	**Psychiatry** 3 months	**Elective** 1 month	12 months
2nd	**Ob and Gyn** 4 months	**Pediatrics** 4 months	**Surgical subspecialty** 3 months	**Elective** 1 month	12 months
3rd	**Medical Subspecialties** 4 months	**Community Medicine** 1 month	**Family Medicine 1** 6 months	**Elective** 1 month	12 months
4th	**Family Medicine 2** 11 months			**Elective** 1 month	12 months

NB. Medical subspecialties consist of: **ER, Dermatology and Radiology**
Surgical subspecialties consist of: **ENT, Ophthalmology and Orthopedics**

Table 2. Required Academic Courses

The resident should complete 48 credit hours in 4 years. With special permission from the director of higher graduate studies and the chair of Family Medicine at ANNU, completion may take longer, but must be completed in 5 years.

1. General courses for acquiring high certificate in Medicine (18 credit hours):

Course Number	Course Name	Credit hour
540161	Clinical research Methods	3
540162	Medical ethics	3
540163	Health Management	3
540165	Applied Epidemiology	3
540193	Research Project	6
Total		18

2. Family Medicine Specialty courses Requirements-all are compulsory (30 credit hours)

Course Number	Course Name	Credit hour
540171	Introduction to family medicine	2
540191	Family medicine I	4
540192	Family medicine II	7
540182	Internal Medicine	3
540181	Pediatrics	3
540184	Psychiatry	2
540173	Obstetrics and Gynecology	2
540172	Emergency and Surgery: General Surgery Emergency Medicine	2
540183	Basic specialties for Family Medicine Ophthalmology Dermatology Radiology Orthopedics ENT	2
540186	Electives	0
540185	Community Medicine	3
Total		**30**

3. Academic course distribution over the 4 years

The academic year consists of two semesters: 1st semester start 1/October and lasts 6 month 2nd semester start 1/April and lasts 6 months

Academic year	First Semester	Credit Hour	Second semester	Credit Hour	Total per year
1st	**Medical ethics** **Introduction to FM** **Epidemiology**	**3** **2** **3**	**Health Management** **Internal Medicine** **Emergency and Surgery**	**3** **3** **2**	**16**
2nd	**Obstetrics and Gynecology** **Pediatrics**	**2** **3**	**Medical and Surgical subspecialties** **Psychiatry**	**2** **2**	**9**
3rd	**Clinical research Methods**	**3**	**Community Medicine** **FM1**	**3** **4**	**10**
4th	**FM2**	**7**	**Research Project**	**6**	**13**
Total					**48**

Note: Changes may be made due to availability of rotations and supervising specialists.

Family Medicine

Introduction to Family Medicine

Academic course: 2 credit hours, Year 1, First Semester

Overview: This course introduces the resident to the family medicine specialty. S/He will learn communication skills and approaches to problem solving and management in the primary care setting.

Learning Objectives:

By the end of the rotation the learner is expected to:

1. Communicate with and interview patients attending the clinic and understand the patient's perspective about his/her health and illness.
2. Demonstrate communication skills and attitudes that are caring and empathetic and open to cultural, ethnic, gender and other diversities.
3. Articulate a person-centered approach to the individual, his/her family and their community.
4. Understand and deal with the physical, psychological and social dimensions of the patient's problem.
5. Demonstrate appropriate clinical skills in respect to diagnosis and management of problems commonly presented in a primary care setting.
6. Articulate the value of health promotion programs, including health education, maternal and child care, and immunizations.
7. Understand the organization of primary health care in relation to other levels of care.
8. Demonstrate a positive attitude towards the specialty, the profession, and other professionals in primary health care and teamwork.

Learning Activities:

1. Seminars with lecture and discussion
2. Case-presentations and discussion
3. Role plays
4. Clinical and non-clinical assignments – follow up of a group of families (family study).
5. Online tutorials

Learning Resources:

1. Mark A. Graber, Jason K. Wilbur. Family Practice. Examination & Board Review
2. Rakel & Rakel. Textbook of Family Medicine
3. WWW. AAFP.org

Formative Assessment:

- Supervisor and peer feedback on case presentation and assignments
- Supervisor and peer feedback on Role plays

Summative Assessment: Written exam

Teachers/supervisors: Family medicine faculty

Program Evaluation: The resident completes end of course feedback form.
Faculty will review evaluations every three years and make changes to improve the course.

Medical Ethics

Academic Course: 3 credit hours Year 1, First Semester

Overview: This course discusses the general knowledge of medical ethics with emphasis on the philosophical and legal basis of this science in Palestine. Residents will apply ethical principles to their medical practice, discuss how to approach to ethical dilemmas in primary care, and gain practical skills in clinical reasoning and decision making through the use of ethical principles and frameworks.

Learning Objectives:

By the end of the rotation the learner is expected to:

1. Understand the social evolution of medical practice.
2. Appreciate the models of patient-health provider relationship.
3. Formulate opinion regarding certain ethical issues faced in medical practice including:
    a. The "informed consent" and competence.
    b. The eligibility criteria for signing the informed consent
    c. "Confidentiality" and the "right to know" issues
    d. Truth telling
4. Recognize the factors influencing ethical decision making: religion, moral beliefs, and cultural practices
5. Identify key ethical issues when dealing with third parties such as:
    a. Pharmaceutical Industry—distribution of samples and accepting gifts
    b. Religious organizations (i.e. access to abortion)
    c. Insurance companies—order unnecessary tests for financial reward
    d. Physician work in both government and public clinic—incentives related to where care provided
    e. Interaction with Colleagues and professionals in other disciplines—how to work with others/respect
        i. How to manage value differences and conflicts that arise in patient care between different specialties or health professionals.
    f. Management and care of patients with disabilities (i.e. hysterectomy or tubal ligation on Down Syndrome female)
    g. Researchers—forced participation in studies due to imbalance of power and patient feels forced to consent
6. Identification and management of Medical errors
7. Define and elaborate ethical responsibilities pertaining to professional and legal standards in family medicine in Palestine
    a. Access and outline professional responsibilities, standards, and policies that have a bearing on ethics in family medicine. Examples of applicable standards and policies include:
        i. Codes of ethics
        ii. Palestinian Medical Association or Palestine Department of Primary Care policies and bylaws
        iii. Licensing requirements
        iv. Local institutional policies

8. Describe how to find regulations and laws relevant to family medicine. Examples include:
    a. Confidentiality and privacy
    b. Consent to health care
    c. Substitute decision making and advance directives
    d. Involuntary admission to mental health facilities
    e. Decision making regarding minors
    f. Human rights and disability rights legislation
    g. Communicable diseases
    h. Abuse and neglect
    i. Family law

Learning activities:
1. Lecture with case-based discussion
2. Case presentations and discussion
3. Role plays
4. Online tutorial

Learning resources:
1. Manson H. The Need for Medical Ethics Education in Family Medicine Training. Fam Med 2008;40(9):658-6. –overview of how to teach
2. The College of Family Physicians of Canada. Ethics in Family Medicine: Faculty Handbook. October 2012. Available at: http://www.cfpc.ca/ProjectAssets/Templates/Resource.aspx?id=5145 possible text
3. Agarwal AK, Murinson BB. New Dimensions in Patient–Physician Interaction: Values, Autonomy, and Medical Information in the Patient Centered Clinical Encounter. Rambam Maimonides Medical Journal; 2012;3 (3):e0017. doi:10.5041/RMMJ.10085 –good for discussion

Formative assessment:
- Feedback from faculty and peers
- Quiz on lecture material

Summative assessment: Written exam

Teachers/ supervisors: Family medicine faculty

Program evaluation: The resident completes an end of course feedback form. Faculty will review evaluations every three years and make changes to improve the course.

Family Medicine I

Academic course: 4 credit hours, Year 3, Second semester
Clinical training: Primary health care center, Year 3, six months

Overview: This academic and clinical experience further develops the resident's skills as a family medicine specialist. S/He will learn refine communication skills and approaches to problem solving and management in a primary care setting.

Learning Objectives:
By the end of the academic course and clinical rotations, each resident should be able to:
1. Describe the steps to lifelong and effective evidence-based learning.
2. Describe and demonstrate how to be collaborative team members.
3. Communicate with and interview patients attending the clinics
4. Enhance skills, knowledge and attitudes to become effective and efficient family physicians.
5. Demonstrate the ability to establish good relationships with patients and their families and the community and to meet their needs and expectations as far as possible.
6. Know how to address with the physical, psychological and social dimensions of the patient's problems.
7. Demonstrate appropriate clinical skills in respect to diagnosis and management of problems commonly presented in a primary care setting.
8. Show ability in health promotion programs, including health education, maternal and child care and immunization.
9. Explain the organization of primary health care in relation to other levels of care.
10. Be able to record and analyze details of morbidity encountered in primary health care setting.
11. Provide and organize preventive care for individuals, families and a designated population group.
12. Understand and effectively use therapeutics appropriate for a primary care setting and describe actions, interactions and side effects of the commonly used drugs.
13. Recognize uncertainty in primary care setting and begin to manage patients with illnesses that present with in an undifferentiated way at early stage of its development.
14. Perfect his/her consultation, interviewing, and communication skills in the clinical setting. Review the current appropriate literature on the consultation and produce a model for his /her own personal consultation process.
15. Discuss the theoretical elements of team work in the academic setting and practice them in the primary health care clinic.
16. Identity clinical problem and do literature search to find a new or updated approach or guideline and present to colleagues

Learning Activities:
The resident is assigned to a primary health care center under supervision (remote and in person). The first 2 weeks, the Induction period, are devoted to orientation to the clinical setting including knowledge about the health center's history, organization, personnel, and

methods of teaching and instruction. The academic course occurs weekly in the academic health center.

	Primary Health Care Center	FM Academic Day
Clinical work	x	
Clinical tutoring and supervision	x	
Case presentations and discussions	x	x
One on one challenging case discussion with supervisor	x	
Group discussions		x
Review of Evidence Based Guidelines		x
Role play		x
Self-reflective exercises	x	x
Projects		x

Learning Resources:

1. Mark A. Graber, Jason K. Wilbur. Family Practice. Examination & Board Review
2. Rakel & Rakel. Textbook of Family Medicine
3. On line resources:
   AAFP Clinical Practice guidelines, www.aafp.org
   Search topic in American Family Physician journal
   https://www.aafp.org/journals/afp.html

Formative Assessment:

- Supervisor and peer feedback on case presentation and assignments
- Supervisor feedback during clinical work
- Periodic supervisor assessments
- Faculty and peer feedback on Role plays

Summative Assessment: Written exam and Log Book review

Teachers/Supervisors: Family medicine faculty and clinical supervisor

Program Evaluation: The resident completes end of course feedback form.
Faculty will review evaluations every three years and make changes to improve the course.

Family Medicine 2

Academic course: 7 credit hours, Year 4, First semester;
Clinical training: Primary health care center, Year 4, 12 months

Overview

This academic and clinical experience integrates current biomedical, psychological and social understanding of health in caring for patients using a holistic approach with attention to prevention. The family physician provides initial, continuing comprehensive, and coordinated care for individuals, families and communities. Further development of the principles of family medicine, clinical knowledge and skills will help the resident practice as an effective family physician. S/he will further develop effective communication skills to establish a relationship with the patient and a person-centered approach to care. This style of consultation is unique to Family Medicine.

Learning Objectives:

By the end of the family medicine academic course and clinical rotations, each resident should be able to:

1. Conduct a consultation with a patient in a primary care setting. Establish a patient's reason for consulting, the nature of problem, how it affects life style and family, and identify the management options available.
2. Competently undertake an appropriate physical examination in a primary care setting.
3. Establish good relationships with patients, families, and the community, and meet their needs and expectations as far as possible.
4. Demonstrate the provision of effective comprehensive and continuing care for individuals, families, and the community.
5. Demonstrate clinical competence in respect to the diagnosis and management of acute and chronic problems commonly seen in primary care.
6. Approach the physical, psychological and social problems of patients in a balanced manner.
7. Demonstrate effective use a personal (pocket) pharmacopoeia appropriate for a primary care physician and describe the actions, interactions and side effects of the constituent drugs.
8. Recognize uncertainty in primary care setting and be able to deal with illness which patients present with in an undifferentiated way at early stage of its development.
9. Define primary health care (PHC) and describe its features. Recognize how these features are developed in Palestine and how are they different from other countries.
10. Identify and organize health promotion and preventive care for individuals, families and designated population groups.
11. Be able to record and analyze details of morbidity encountered in PHC
12. Be able to work collaboratively as a team member in the PHC setting.
13. Demonstrate the basic skills of self-directed learning.
14. Describe how health centers are organized and managed.
15. Describe role of PHC clinician in managing chronic diseases.

16. Be able to draw up a management plan for common conditions seen in PHC based on available evidence-based guidelines, sound clinical judgment, pharmacological and theoretical principles.
17. Identify and access valuable resources in the family medicine/PHC literature available in Palestine.

Learning activities: The resident continues to be assigned to a primary health care center under supervision (remote and in person). The academic course occurs weekly in the academic health center during the full-day release.

1. In addition to one-on-one teaching with the supervisor, group activities are encouraged to strengthen teamwork skills. The doctor-patient relationship and clinical communication skills are an important focus. Public health /community medicine principles are integrated into the clinical practice of family medicine to produce competent clinician with a preventive approach.
2. Induction period, the first two weeks of the attachment are essential to the success of the module as a learning experience. Three target areas will be covered: Orientation to the health center, drafting of a learning plan, and establishing the process of learner seeing him/herself as primary care physician with life-long learning needs.
3. Consultation: The basics of consultation, interviewing, and communication skills will be consolidated. The resident should analyze his/her own performance with input from the supervisors.
4. Team skills: The resident evaluates other team members' work and participates in team activities such as weekly case and topic presentations, etc
5. Clinical commitment and clinical decision making: The resident has advanced responsibility for patient care. S/He will conduct clinical sessions under supervision. It will include emergency cases, common acute problems and chronic conditions.

	Primary Health Care Center	**FM Academic Day**
Daily clinical work	x	
Perform procedures	x	
Case presentation and discussion	x	x
One on one challenging case discussion with supervisor	x	
Review of Evidence Based Guidelines		x
Group discussions		x
Clinical + non clinical assignments		x
Critical reading of the literature		x
Role play		x
Self-reflection exercises.	x	x
Projects		x

Learning resources

1. Goroll. Primary Care Medicine. An Office Management of Adult Patient.
2. Rakel & Rajek. Textbook of Family Medicine
3. Taylor. Family Medicine

4. Murtagh J. General Practice
5. Michael Mcad. Tutorials in General Practice.
6. McWinney. Textbook of Family Medicine
7. Fowel G. Preventive Medicine in General Practice. Oxford Series.
8. Sloane. Essentials of Family Medicine
9. Online resources:
   AAFP Clinical Practice guidelines, www.aafp.org,
   Search topic in American Family Physician journal https://www.aafp.org/home.html
   https://www.nhs.uk/using-the-nhs/nhs-services/gps/gp-online-services/

Formative assessment

- Feedback from supervisor, peers and other clinical staff during clinical encounters.
- Periodic Assessments of resident in the clinical setting by the clinical supervisor.
- Feedback from faculty and peers during group projects
- Feedback on assignments

Summative assessment

- Written exam
- Log book review
- Final Project

The supervisor in the primary care setting with the Department of Family and Community Medicine will complete a final assessment of the resident.

Teachers/ supervisors: Family medicine faculty and clinical supervisor

Program evaluation

Resident completes end of course feedback form. Evaluations will be reviewed every three years by faculty to make changes to improve the course.

Internal Medicine

Academic course: 3 credit hours Year 1, Second semester;
Clinical training: Year 1, six months in in-patient and outpatient Internal Medicine settings . This may also include cardiology, endocrinology, pulmonary, gastroenterology.

Overview:
The Internal medicine clinical rotations and the academic course provide the resident with the knowledge and skills necessary to be competent in the diagnosis and management of acute and chronic medical diseases of the adult population and appropriate preventive screenings.

Learning Objectives:
By the end of the experience, the resident should acquire knowledge, skills, and attitudes and demonstrate competence in:

1. Complete history taking and physical examination of adult patients.
2. Develop a rational plan of care for his patient, including identification and reduction of risk and incorporate shared decision making.
3. Exhibit appropriate attitudes in the care of the individual person and manifest these attitudes in the doctor – patient relationship.
4. Consider the impact of social and economic factors when planning the treatment on the patient.
5. Understand current concepts in medical record documentation.
6. Provision of preventive health including risk reduction and screening.
7. Assessment and early intervention of acute Cardiovascular conditions including cardiac arrest, myocardial infarction, dysrhythmias, endocarditis and pericarditis, in addition to long term follow up of patients with congestive heart failure, hypertension and stable coronary artery disease.
8. Management of common Gastrointestinal disorders including chronic hepatitis, cirrhosis, chronic pancreatitis, colitis, diverticulitis and peptic ulcer disease.
9. Recognition of fluid and electrolyte disturbances including hypo/hypernatremia, hypo/hyperkalemia, hypo/hypercalcemia, and acidosis/alkalosis.
10. Diagnosis and management of common Endocrine conditions including diabetes mellitus, thyroid disorders, adrenal diseases, and lipid disorders.
11. Management of Renal conditions including urinary tract infections, nephrolithiasis, acute and chronic renal failure and obstruction.
12. Assessment, management and long term follow up of patients with Hematological conditions including anemia, coagulopathies, multiple myeloma, polycythemia, and major hemoglobinopathies.
13. Assessment, management and long term follow up of Musculoskeletal and Rheumatologic conditions including back pain, rheumatoid arthritis, collagen vascular diseases and osteoarthritis.
14. Medical treatment of acute and chronic Infectious diseases (bacterial, viral and fungal) that are commonly encountered in the adult population.
15. Assessment and early referral of Neurological conditions including stroke/TIA, seizures, meningitis, coma, movement disorders, dementia, nerve entrapment syndromes and tumors.

16. Management of acute and chronic Pulmonary disorders including asthma, COPD, bronchitis, pneumonia, neoplasms, respiratory failure and evaluation of pulmonary function testing.
17. Diagnosis and management of common clinical problems of the elderly.
18. Assess post hospitalization needs and initiate appropriate services.
19. Understand where to access the latest evidence on the diagnosis, management and treatment of a disease.
20. Understanding hazards of drug treatment, drug interactions and new advances in therapeutics relevant to internal medicine.

Skills: The Family Medicine resident will be able to: Perform a comprehensive history and physical examination of the adult patient.

1. Incorporate the changes in the normal range of laboratory values and other investigations including medical imaging.
2. Interpretation of an EKG
3. Use of sphygmomanometer.
4. Use of office clinical measurements such as peak flow meter, inhalers and nebulizer.
5. Interpretation of pulmonary function tests
6. Ability to read and interpret common radiological investigations.
7. Know how to perform a a joint aspirate and inject
8. Perform cardiopulmonary resuscitation
9. Know how to perform a thoracentesis
10. Know how to perform a paracentesis
11. Ability to use the Ophthalmoscope to examine the fundi.

Content: The training should cover:

1. Headache (Approach)
2. Epilepsy
3. Chest pain (Approach)
4. Cardiac arrhythmia
5. Hypertension (Approach)
6. Diabetes Mellitus (Approach)
7. Asthma & COPD (Approach)
8. Abdominal pain
9. Fatigue (Approach)
10. Dizziness (Approach)
11. Weight Loss (Approach)
12. Obesity
13. Low back pain (Approach)
14. Jaundice
15. Anemia (Approach)
16. Dyslipidemia
17. Dyspepsia (Approach)
18. Thyroid problems (Hyperthyroidism, Hypothyroidism)
19. Arthralgia and polyarthritis
20. Prostatic disease (BPH)
21. Coma (Approach)

22. Stroke
23. Sore throat & Respiratory tract infection
24. Hematuria (Approach)
25. Congestive heart failure
26. Emergencies:
    a. Myocardial Infarction
    b. Diabetic Ketoacidosis
    c. Status Asthmatics
    d. Anaphylaxis
    e. Pulmonary Edema
    f. Hypertensive Crises
    g. Status Epilepticus
    h. Common Drug Poisoning

Learning Activities:

1. The resident is assigned to a Medicine Service where s/he will participate in:
    a. In-patients/Grand rounds
    - Sufficient time for formal teaching is needed at the beginning of the rotation.
    - The resident works under close supervision of senior staff until enough knowledge and competence are acquired to work more independently.
    - On-call duties should be an average of one every three to four nights (6-8 calls per month).

    b. Outpatient clinics
    - Training in the community is imperative with opportunities to work in outpatient clinics. A multidisciplinary approach to caring for a patient as a team is essential. The resident should care for at least one patient that also involves other health professionals, so that the role of nurses, social workers and physiotherapist as partners if evident.
2. FM academic release day held weekly as part of the Family Medicine training should be attended regularly by residents.
3. Continuing medical education (CME) activities.

Learning Resources:

1. Isselbacher, et al. Harrison's Principles of Internal Medicine. McGraw Hill Book Company.
2. Goroll, et al. Primary Care Medicine. An office Management of the Adult Patient.
3. Rakel & Rakel. Textbook of Family Medicine
4. Taylor. Textbook of Family Medicine.
5. Current Textbook of Medical Diagnosis and Treatment.
6. Ham RJ, Sloane PD, eds. Primary Care Geriatrics: A Case-Based Approach. 2nd ed. St. Louis: Mosby Year Book, 1992.
7. Kumar. Medicine

Formative Assessment:

- Feedback from attending internists and senior residents at mid-point of the clinical rotation.

- Discussion of answers to quizzes administered routinely throughout the lectures and seminars on internal medicine topics during course
- Feedback from faculty and colleagues on case presentations during the lecture/seminars.

Summative Assessment:

- Final feedback on resident's clinical performance.
- Written exam
- Log Book review
- Final project or case presentation.

The supervisor(s) on the service along with the Department of Family and Community Medicine will complete a final assessment of the resident.

Teachers/Supervisors: Internist on the in-patient and outpatient rotations and Family medicine faculty for academic course.

Program Evaluation: Resident completes end of course and clinical rotation feedback forms. Faculty will review evaluations every three years and make changes to improve the course.

General Surgery and Emergency Medicine

Academic course: 2 credit hours, Year 1, First semester;
Clinical training: Year 1, two months. Residents will spend 2 months in in-patient and outpatient surgical department settings and emergency medicine.

Overview:
Surgery and emergency clinical rotations and the academic course provide the resident with the knowledge and skills to deliver a broad range of services, and to diagnose and refer patients with surgical problems encountered in the PHC setting.

Learning Objectives General Surgery:
By the end of the experience, the resident should acquire knowledge, skills and demonstrate competence in:

1. Obtain appropriate history and physical examination on patients with surgical conditions.
2. Be familiar with the following techniques:
    a. Implementation of sterile techniques
    b. Wound Healing and Care
    c. Applications of local and regional anesthesia
    d. Familiarize with indications and complications of different surgical techniques
3. Know how to perform the following office surgical procedures:
    a. Suturing of simple wounds: Head, face, fingers
    b. Excisions of superficial skin and subcutaneous lesions: sebaceous, dermoid cyst and lipomas.
    c. Incision and drainage of abscesses
    d. Removal of ingrown toe nails
    e. Circumcision
    f. Emergency care of burns
    g. Removal of a superficial foreign body.
    h. Minor debridement of wounds
4. Diagnose and refer acute surgical conditions:
    a. Acute abdomen:
        i. Perforating peptic ulcer
        ii. Appendicitis
        iii. Cholecystitis
        iv. Volvulus
    b. Intractable hemorrhage
    c. Acute arterial occlusion
    d. Torsion of the testes
    e. Incarcerated hernia
5. Diagnose and manage others conditions that need or may need surgery:
    a. Breast lump
    b. Thyroid nodule
    c. Benign prostatic hypertrophy
    d. Hydrocele or varicocele
    e. Hernias

    f. Undescended testicle
6. Perform pre-operative and post-operative care in the primary care setting including:
    a. Preoperative clearance
    b. Postoperative care, such as : Appropriate use of antibiotics, Appropriate use of analgesics
    c. Wound care
    d. Assess for Post-Operative Complications such as : Fever, Pneumonia, Wound dehiscence and infection, Ileus, Transfusion reaction, Thrombophlebitis, Urinary tract infection
7. Screen for common cancer, such as colon, breast, prostate.

Learning Objectives Emergency Medicine:

By the end of the experience, the resident should be able to:

1. Recognize, assess and manage emergency conditions either personally or by referral
    a. Trauma
    b. Neurologic emergencies
    c. Psychiatric emergencies
    d. Burns
    e. Violent patients
    f. Obstetric and gynecologic emergencies
2. Recognize the social, economic and cultural factors affecting the causation and management of emergencies.
3. Diagnose and manage emergencies commonly met in primary care practice including history taking, physical examination, investigation and management.
4. Triage and offer interim management of other emergency presentations including
    a. Environmental exposures
    b. Envenomation (bites and stings)
    c. Poisonous plants
    d. Inhalations
    e. Hypersensitivity reactions/anaphylaxis
    f. Toxicologic emergencies
5. List and discuss the possible causes of presenting symptoms and signs in emergency situations, prioritize life threatening causes that are dangerous to health or lifestyle, and those where recovery is more likely. Recognize and manage:
    a. Acute respiratory problems, including airway management
    b. Life-threatening arrhythmias
    c. Cardiac arrest
    d. Ischemic heart disease
    e. Resuscitations
    f. Acid/base imbalance
    g. Shock
    h. Infectious disease emergencies, including meningitis
6. Make appropriate assessments in emergency presentations, use existing protocols and guidelines to carry out and order appropriate investigations and make reasonable interpretations of the results including:
    a. Electrocardiograms

b. Roentgenographic identification of emergencies situations, including cervical spine injuries, chest x-ray, acute abdominal series, head computed tomography
c. Monitors

Skills: The Family Medicine resident should successfully BLS and ACLS within 3 years. This is a pre-requisite for setting the final certifying exam. Recertification is completed every 2 years. Other skills include:

1. Airway management techniques
2. Initiation of vascular access
3. Artificial circulation
4. Reduction, immobilization and traction techniques in fractures/dislocations
5. General and specific treatments of poisoning and overdoses

Learning activities:

The resident is assigned to a surgical unit where s/he will participate in:

1. Inpatient/ Operating Room/ Surgery Clinic/ Surgery Department Activities
    - The resident is attached to a unit where s/he works under close supervision by senior staff till he acquires enough knowledge and the ability to work more independently.
    - Participation in surgical departmental activities, such as grand rounds, lectures, tutorials, journals clubs, etc.
    - Performing and assisting in common surgical procedures under the direct supervision of a consultant or senior registrar and taking full responsibility at in-patient and out-patient care.
    - Resident should be given opportunities to perform minor surgical procedures, particularly those done in out-patient under local anesthesia.
2. Work full time in the Emergency Unit for internal medicine and surgery and participate in educational activities.
3. FM academic release day held weekly as part of the Family Medicine training should be attended regularly by residents.
4. Preparing material of relevance to primary health care to discussed with senior staff and presented in a form of tutorial once a week.
5. Online tutorials as described above

Learning resources for Surgery:

1. Rakel & Rakel. Textbook of Family Medicine
2. J.S. Brown. Minor Surgery, A Test and Atlas, last Edition 1993
3. G.R. MacLatchie. Oxford Handbook of Clinical surgery, 1990.
4. John Cook et al. General Surgery at the District Hospital, 1988. WHO.
5. Normal L. Browse. An Introduction to the Symptoms and Signs of Surgical Diseases
6. Minor surgery in General Practice. Information Folder. Royal College of General Practitioners
7. AAFP Clinical Practice guidelines, www.aafp.org
   Search topic in American Family Physician journal
   https://www.aafp.org/journals/afp.html

Learning resources for Emergency Medicine:

1. To M.T., Saunders C.E. (eds) Current Emergency Diagnosis and Treatment. Appleton and Large, Publisher. New York, California, 1990.
2. Norman Lawrence, Joanna Watts. Handbook of emergencies in General Practice. Oxford University Press 1989 (or latest edition).
3. W. Earle, Wilkins. Emergency Medicine. American College of Emergency Physicians.
4. Rosen P, Barkin RM, Braen GR, eds., et al. Emergency medicine: concepts and clinical practice. 3rd ed. St. Louis: Mosby Year Book, 1992.
5. Taylor AS. Emergency medicine educational objectives for the undifferentiated physicians. Emerg Med 1994; 12:255-62.

Formative assessment:

- Feedback from attending surgeon/physician and senior resident at mid-point of the clinical rotations.
- Discussion of answers to quizzes administered routinely throughout the academic lectures and seminars on surgical topics
- Feedback from faculty and colleagues on a case presentations during the lecture/seminars.

Summative assessment:

- Written exam
- Log Book review
- Final project

The supervisor(s) on the unit(s) along with the Department of Family and Community Medicine will complete a final assessment of the resident**.**

Teachers/ supervisors: Surgeon on in the in-patient and outpatient rotations and Family medicine faculty for academic course.

Program evaluation: Resident completes end of course and clinical rotation feedback forms. Faculty will review evaluations every three years and make changes to improve the course.

Obstetrics and Gynecology

Academic course: 2 credit hours, Year 2, First semester;
Clinical training: Year 2, four months in Labor and Delivery, Obstetrics and Gynecology in-patient and outpatient settings, as well as the operating room.

Overview:
The Obstetrics/Gynecology clinical rotations and the academic course provide residents with knowledge and skills relevant to Family Medicine, including the assessment management of common Obstetrical and Gynecological problems, and the initial assessment of problems that may need to be referred.

Learning objectives:
By the end of the experience, the resident should be able to discuss the definition, etiology, pathophysiology, clinical features, diagnosis, investigations, treatment, surgical procedures and prevention (as appropriate) of the following:

1. Articulate the ethical issues within obstetrics and gynecology
2. Describe infertility assessment, knowledge of assisted reproduction.
3. Perform antenatal care for low risk pregnancy.
4. Early recognition and referral of Antepartum complications of pregnancy – antepartum hemorrhage, Abortion, and Ectopic pregnancy.
5. Identify high risk pregnancy; with proper management and referral.
6. Diagnose and referral criteria of Gestational trophoblastic diseases
7. Recognize common medical conditions in pregnancy, including the diagnosis and management of:
    a. UTI,
    b. anemia,
    c. diabetic mellitus
    d. thyroid conditions
8. Diagnose and referral of premature labor, premature rupture of membranes
9. Diagnose and management of Rhesus isoimmunization
10. Manage normal vaginal delivery and master the management of instrumental deliveries (vacuum)
11. Recognize and manage early Intrapartum complications including:
    a. cord prolapse
    b. hand prolapse
    c. fetal distress
    d. prolonged labor
    e. obstructed labor
12. Recognize and manage Post-partum complications including:
    a. retained placenta
    b. postpartum hemorrhage
13. Assess and manage postpartum blues and depression, criteria of postpartum psychosis and referral
14. Manage Postpartum care and follow up at the level of primary care including:
    a. Breast feeding,
15. Manage Family planning including contraception child spacing and sexual advice

16. Manage Menstrual disorders diagnosis and management
17. Diagnose and manage of urogenital Tract Infection
18. Diagnose and manage Pelvic inflammatory disease
19. Diagnose and manage Menopause, Postmenopausal symptoms
20. Diagnose and manage Osteoporosis
21. Diagnosis Benign gynecological tumors, Uterine fibroids
22. Recognize of gynecological malignancies, and perform screening for early diagnosis
23. Screen and manage Cervical Abnormalities

Skills: The Family Medicine resident will be able to:

1. Obtaining vaginal and cervical cytology
2. Know how to perform colposcopy
3. Collect and read microscopic urine and vaginal smears and make a diagnosis
4. Perform limited ultrasound examination and interpretation
5. Manage labor and induction of labor
6. Administer local anesthesia for episiotomy and laceration repair
7. Perform Neonatal resuscitation
8. Assist in cesarean section

Learning activities:

Resident is assigned to an Obstetrics and Gynecology service where s/he will participate in:

1. In patient morning report, daily rounds, patient follow up, admission room, discharge notes
2. Out-patient Clinics (ANC and Gynecology Clinics). Twice weekly
3. Delivery room
4. FM academic release day held weekly as part of the Family Medicine training should be attended regularly by residents.
5. On line tutorials as described above

Learning resources:

1. Obstetrics by Ten Teachers
2. Gynaecology by Ten Teachers
3. Essentials in Obstetrics and Gynaecology

Formative assessment:

- Feedback from attending obstetrician/gynecologist and senior residents at mid-point of the clinical rotation.
- Discussion of answers to quizzes administered routinely throughout the academic lectures and seminars on obstetrics/gynecologic topics.
- Feedback from faculty and colleagues on a case presentations during the lectures and seminars.

Summative assessment:

- Final feedback on resident's clinical performance.
- Final exam
- Log Book review
- Case presentation graded

The supervisor(s) on the service along with the Department of Family and Community Medicine will complete a final assessment of the resident.

Teachers/ supervisors: Obstetrician/gynecologist on the clinical rotation and Family Medicine faculty for academic course

Program evaluation:
Resident completes end of course and clinical rotation feedback forms. Faculty will review evaluations every three years and make changes to improve the course.

Medical and Surgical Subspecialties

Academic course: 2 credit hours, Year 2, Second semester;
Clinical training: Year 2, three months and Year3 for four months Resident will spend clinical time in in-patient and outpatient settings or each of the subspecialties listed below.

Radiology

Year 3, one month

Overview: This experience prepares the resident to order and interpret a variety of images, work more effectively with radiologists, and develop skills in life-long learning relative to radiological topics. Diagnostic radiography is an integral part of the evaluation and management of acute and chronic illnesses for patients seen in primary care.
The family physician is expected to be able to order and interpret radiology orders to develop a working diagnosis and treatment plan.

Learning Objectives:
By the end of the training, the resident should be able to:

1. The ability to appropriately refer patients for imaging
2. Interpretation of X-rays provided at the Family Medicine clinics
3. Interpret the following image
    a. Chest films
        - normal adult
        - normal pediatric
        - pneumonia
        - COPD
        - CHF
        - asthma
        - pleural effusion
        - neoplasm
        - pneumothorax
        - ARDS

    b. Abdominal films
        - normal adult
        - normal pediatric
        - adult small bowel obstruction
        - adult large bowel obstruction
        - pediatric intussusception
        - ileus
        - hyperinflation
        - perforation/free air
        - hiatal hernia
        - aortic aneurysm
4. Interpreting hepatobiliary imaging studies.
5. Reading CT scan and ultrasound studies.

6. Reading MRI studies including MR angiogram studies.

Learning activities:

1. Resident works with a radiologist who will over-read films the resident reads and discuss them.
2. FM academic release day held weekly as part of the Family Medicine training should be attended regularly by residents.

Learning resources:

http://www.radiologyeducation.com/
https://emedicine.medscape.com/radiology

Teachers/ supervisors: Radiologist on the unit and Family Medicine faculty.

Ophthalmology

Year 3, one month

Overview: This experience prepares the resident to be competent in the initial assessment and management of common ophthalmology problems which are encountered in primary health care practice.
S/he will be familiar with the contribution of specialists and subspecialists in ophthalmology, so that s/he makes appropriate and timely referrals.

Learning Objectives:
By the end of the experience, the resident should be able to:

1. Access and manage acute and chronic ophthalmological conditions commonly dealt with in primary health care settings. These should include:
    a. Conjunctivitis (Viral, Bacterial, Allergic)
    b. Conjunctival pterygium
    c. Hordeolum
    d. Cellulitis
    e. Dacryocystitis
    f. Chalazion
    g. Eye lid disorders (Entropion, Extropion, Ptosis)
    h. Corneal abrasion and ulcers
    i. Keratitis
    j. Iritis
    k. Horner's Syndrome
    l. Cataracts
    m. Glaucoma
    n. Retinal diseases associated with visual loss (Control retinol artery occlusion vitreous hemorrhage, Retinal detachment
    o. Retinal diseases associated with hypertension
    p. Retinal diseases associated with diabetes
    q. Cranial nerve palsies
    r. Trauma
    s. Refracting errors (Myopia, hyperopia)
    t. Ocular complications of systemic illness
2. Independently perform ophthalmological procedures which are common in primary care practice and acquire the skills of appropriate usage and handling the essential ophthalmology examination instruments:
    a. Direct battery hand-held ophthalmoscope
    b. Hand-held flash light for ophthalmic exam
    c. Snellen's chart - Tumbling E. for adult
    d. Allen's figures for children
    e. Pin hole disc
    f. Visual field examination
    g. Color blindness test
3. Perform proper funduscopic examination with the use of a direct ophthalmoscope and recognize difference between normal appearance and major abnormalities, e.g.

Papilledema, Cupping nerve head, Diabetic retinopathy, Hypertension and Retinal detachment, etc.

4. Describe the social, economic, and cultural factors affecting ophthalmology problems.
5. Recognize serious condition and perform appropriate and timely referral.
6. Give appropriate advice on promotive, preventive and rehabilitative aspects of eye diseases.

Learning activities:

1. The resident works with the Department of Ophthalmology and participates in the services and educational activities of the department.
2. FM academic release day held weekly as part of the Family Medicine training should be attended regularly by residents.

Learning resources:

1. Rakel & Rakel Text Book of Family Medicine
2. Calbert I Philips. Basic Clinical Ophthalmology.
3. Gardiner. ABC of Ophthalmology.

Teachers/ supervisors: Ophthalmologist on the unit and Family Medicine faculty

Dermatology

Year 2, one month

Overview: The experience prepares the resident to be competent in the initial assessment and management of common dermatologic problems which are common primary health care practice.

Learning Objectives:
By the end of the experience, the resident should be able to:

1. 1. Diagnose, assess and manage acute and chronic Dermatological conditions commonly dealt with in primary health care settings with timely and appropriate referrals for conditions that need special procedures equipment's or expertise. These should include:
    a. Acne Vulgaris
    b. Acne rosacea
    c. Dermatitis
    d. Eczema
    e. Psoriasis
    f. Skin infections (Viral, Fungal, Bacterial & Parasitic)
    g. Skin tumors including benign lesions such as malignant melanoma,
    h. Squamous cell carcinoma, basal cell carcinoma.
    i. Pruritus either generalized or localized
    j. Skin manifestations of systemic illnesses & skin markers of malignancy
    k. Nail and / or hair disorders including alopecia
    l. Skin pigmentation
    m. Lichen planus
    n. Sexually Transmitted Diseases
    o. Drug reactions
    p. Life threatening skin conditions
    q. Precancerous skin lesions
    r. Vesiculo-bullous eruption

2. Know how to perform dermatological procedures including:
    a. Diagnostic:
        - Biopsy
        - Scraping
        - Skin testing techniques

    b. Therapeutic:
        - Acid Cauterization
        - Electrodesiccation and curettage
        - Cryosurgery
        - Punch biopsy
        - Excision of skin lesions
        - Intra-lesional injection of steroid
        - Incision and drainage

- Treatment of ingrowing nails

3. Give appropriate advice on promotive, preventive and rehabilitative aspects of skin
4. Recognize serious conditions and perform appropriate and timely referrals.

Learning Activities:

1. Resident works with the dermatology department participating fully in the service and educational activities.
2. FM academic release day held weekly as part of the Family Medicine training should be attended regularly by residents.

Learning Resources:

1. Rakel & Rakel Text Book of Family Medicine
2. Graham – Brown. Lecture notes in Dermatology.
3. Online resources AAFP

Orthopedics

Clinical training: year 3, one month

Overview: This experience prepares the resident for the diagnosis and treat common musculoskeletal problems for children and adults.

Learning Objectives:

By the end of the training, the resident should be able to:

1. Perform a focused examination of the shoulder, knee, and ankle.
2. Utilize a plain film radiograph to diagnose:
   a. Fractures, appropriately describe them,
   b. Dislocations and appropriately describe them
   c. Osteoarthritis
3. Diagnose, manage, and appropriately refer:
   a. Fractures
   b. Sprains and Strains
   c. Bursitis
   d. Tendonitis
   e. Entrapment and impingement syndromes
   f. Arthritis
   g. Septic joint
4. Apply a short arm and/or a volar wrist splint, a posterior ankle splint and/or short leg cast
5. Develop an approach and know how to perform arthrocentesis and/or injection of shoulder and knee.
6. List the diagnostic criteria for rheumatoid arthritis
7. Describe typical findings, diagnostics and therapeutic plan for gout and pseudogout
8. Describe a diagnostic approach to gait abnormalities in toddlers
9. Describe the Salter-Harris classification of fractures in children
10. Describe guidelines in the management of concussions
11. Describe the diagnosis and management of common conditions such as: hip dysplasia, club foot, tibial torsion, scoliosis, Osgood-Schlatter disease, slipped capital femoral epiphysis and evaluate hip pain in children and adolescents

Learning Activities:

1. The resident works with the Department of Orthopedics and participates in the services and educational activities of the department.
2. FM academic release day held weekly as part of the Family Medicine training should be attended regularly by residents.

Learning Resources:

1. A. Graham Apley. System of Orthopedics and Fractures
2. AAFP Clinical Practice guidelines, www.aafp.org
3. Search topic in American Family Physician journal https://www.aafp.org/journals/afp.html

Teachers/ supervisors: Orthopedic subspecialist and Family Medicine faculty

ENT **(Otolaryngology)**

Duration

Year 3, one month

Overview

This rotation exposes the resident to the evaluation and management of common ENT conditions that present in the ambulatory setting. Based in an ENT office practice with case based, one on one teaching, the resident gains experience in outpatient management, admission, evaluation, treatment and interaction with subspecialty physicians of pediatric and adult patients. Where appropriate to accomplish educational goals, the resident may accompany the ENT preceptor into the hospital setting to assist or observe surgical procedures. This rotation represents one component of a residents training in ENT since substantial training with ENT conditions also occurs in the primary care health center.

Learning outcomes:

By the end of the Otolaryngology (ENT) rotation, residents are expected to:

1. Understand the normal anatomy and physiology as it relates to the diagnosis and management of ENT patients and perform appropriate physical examinations of the ear, naso-pharynx, oropharynx and sinuses.
2. Develop an understanding and rational plan of care including evaluation, diagnostic testing, initiation and alteration of medications, and specialty consultation of the following ENT diseases and disorders:
    a. Otitis media and externa
    b. Cerumen impaction (ceruminosis)
    c. Tinnitus
    d. Hearing loss
    e. Vertigo
    f. Facial Palsy
    g. Rhinitis
    h. Sinusitis
    i. Epistaxis: Cautery and Packing (Anterior & Posterior)
    j. Pharyngitis
    k. Paratonsillar abscess
    l. Indications for tonsillectomy/Adenoidectomy
    m. Hoarseness
    n. Temporal-mandibular joint (TMJ) dysfunction
    o. Dysphagia
    p. Salivary gland enlargement
    q. Croup
    r. Epiglottitis
    s. Masses/neoplasia (Oropharynx, Nasopharynx, Neck)
    t. Indications for tracheostomy
    u. Obstructive Sleep apnea
    v. TM perforation

3. Develop skills that allow for up to date care of the pediatric and adult patients under the care of otolaryngology while integrating evidence based medicine and local standards of care.
4. Under direct supervision perform the following procedures generally performed on ENT patients.
    a. Tympanoscopy
    b. Facial/sinus imaging (xray/CT) evaluation
    c. Nasopharyngoscopy

Learning activities:

1. The resident works with and ENT subspecialist in the outpatient setting and participates in hospital based activities, including surgery. This may include: Conferences/Didactics, Daily Rounds, Research Discussions,
2. Morning reports, Case-based learning.
3. FM academic release day held weekly as part of the Family Medicine training should be attended regularly by residents.

Learning resources

1. Staffel, J. Gregory. Primary Care Otolaryngology. (http://famona.sezampro.rs/medifiles/otohns/core/orlhtm.pdf)
2. The Washington Manual of Medical Therapeutics, 2nd edition
3. Online ENT resources: www.epocrates.com, www.emedicine.com, http://www.stfm.org/

Teachers/ supervisors: ENT subspecialist and Family Medicine faculty

For all Medical and Surgical Subspecialties

Formative assessment:

- Feedback from the attending subspecialist at the mid-point of the rotation.
- Discussion of answers to quizzes administered routinely throughout the Lectures/seminars on subspecialty topics
- Feedback from FM faculty and colleagues on case presentations during the lecture/seminars.

Summative assessment:

- Written exam
- Final project.
- Log Book review

The supervisor(s) on the unit(s) along with the Department of Family and Community Medicine will complete a final assessment of the resident.

Program evaluation:

The resident completes end of course and clinical feedback form on each subspecialty. Faculty will review evaluations every three years and make changes to improve the course.

Pediatrics

Academic course: 3 credit hours, Year 2 First semester
Clinical training: Year 2, four months in Pediatric in-patient and outpatient settings.

Overview:
The pediatric clinical rotations and the academic course provide the knowledge, skills and attitudes for the resident to be competent in the initial assessment and management of the normal growth and development for infants, children and adolescents. In addition, the resident will be competent to address pediatric problems with emphasis on those most common in primary care, and an approach to the sick infant, child and adolescent.

Learning Objectives:
By the end of the experience, each resident should be able to:

1. Describe normal growth and development and how to monitor it
    a. Demonstrate the use of standard growth charts to track weight, height, head circumference, body mass index
    b. List recommended immunizations from birth to adolescence
    c. Health education and promotion, accident prevention for different age groups
    d. Assess the sexual maturity of male and female adolescents.
2. Understand normal child family interaction
3. Articulate how age effects the doctor patient relationship
4. Take a proper age appropriate history
5. Perform an age appropriate focused examination of the affected part(s) or system when appropriate
6. Recognize an acutely ill child who requires immediate medical attention.-
7. Generate a problem list, Formulate a differential diagnosis, Select and interpret results of diagnostic tests, Outline a treatment plan based on the history and physical findings
8. Calculate drug doses based on body weight for an infant or young child
9. List features of the history and physical exam that should trigger concern for possible child maltreatment.
10. Identify suspected child abuse and appropriate referral
11. Outline the differential diagnosis and initial evaluation of a child with failure to thrive.
12. Describe the presentation, evaluation and initial management of common problems that may occur in the newborn period:
    a. Jaundice
    b. Respiratory distress
    c. Feeding problems
    d. Infant at risk for sepsis
13. Recognize, describe the differential diagnosis and understand methods to manage common pediatric conditions including:
    a. Heart murmurs – innocent and pathologic
    b. Cough, wheeze
    c. Respiratory distress

   d. Fever
   e. Sore throat/otalgia
   f. Abdominal pain
   g. Vomiting and Diarrhea
   h. Dysuria
   i. Rash
   j. Altered level of consciousness/seizure
14. Identify factors that determine whether each problem should be managed in the in-patient or outpatient setting.
15. Describe the ABCD assessment of an acutely ill child.
16. Outline the initial steps in the assessment and stabilization of the child with critical and acute pediatric illness including:
   a. Respiratory failure
   b. Shock status epilepticus
   c. Head injury
   d. Diabetic ketoacidosis
17. Describe the clinical feature, complications and common management strategies of childhood chronic illnesses including:
   a. Asthma
   b. Cerebral palsy
   c. Cystic fibrosis
   d. Diabetes Mellitus
   e. Inflammatory Bowel Disease
   f. Juvenile idiopathic arthritis
   g. Seizure disorder
18. Discuss how chronic illness can influence a child's growth, development, educational achievement, and psychosocial functioning
19. Discuss the impact of chronic illness on family dynamics, economics, and psychosocial functioning

Learning activities:

1. Resident is assigned to a Pediatric service where s/he is expected to have full responsibilities for the admitted patient and outpatient care under the direct supervision of the senior registrar or the consultant of that unit.
   c. Active involvement in the on-call rotation.
   d. Adequate participation and attendance in the departmental activities, e.g. handover round, case presentation, journal clubs, etc.
   e. Preparation of material to be discussed in a tutorial with a senior staff at least once every two weeks.
   f. Performing and assisting in the common technical procedures e.g. (LP, intubation, use of nebulizer).

b. FM academic release day held weekly as part of the Family Medicine training should be attended regularly by residents.

Learning resources:

1. Vangham/Makay/Behrman. Nelsons Textbook of Pediatrics.
2. David Hull. Essential Pediatrics. Churchill Livingstone (Latest edition).

3. Blueprints Pediatrics last Edition PDF For Free. This Website we Provide Free Medical Books for all Students
4. Essentials Family Medicine – last edition pdf.
5. AAFP Clinical Practice guidelines, www.aafp.org
   Search topic in American Family Physician journal
   https://www.aafp.org/journals/afp.html

Formative assessment:

- Feedback from attending pediatrician and senior resident at mid-point of the clinical rotation.
- Discussion of answers to quizzes administered routinely throughout the Lectures/seminars on pediatric topics
- Feedback from faculty and colleagues on case presentations during the lecture/seminars.

Summative assessment:

- Written exam
- Log Book review
- Final project

The supervisor(s) on the service along with the Department of Family and Community Medicine will complete a final assessment of the resident.

Teachers/ supervisors: Pediatrician on the unit and Family medicine faculty for academic course.

Program evaluation: Resident completes end of course and clinical rotation feedback forms. Faculty will review evaluations every three years and make changes to improve the course.

Psychiatry

Academic course: 2 credits, Year 2, second semester; Clinical training: Year 1, 3 months.

Overview:
Psychiatric clinical rotations and the academic course provide residents with the knowledge, skills and attitude to deliver a broad range of services and make clinical decisions related to common psychiatric problems encountered in the PHC setting and make appropriate referrals when necessary.

Learning objectives:
By the end of the rotation the learner should:

1. Obtain a psychiatric history that includes:
    a. Nature and chronology of the problem
    b. Patient's current life situation and functioning: Marital status, family structure, education level, occupation, recreational activities and substance use.
    c. Events that characterize patient's development: Household interactions, losses, relationship in school, job, childhood development, adolescent adjustment, coping pattern.
    d. Identify social, economic, cultural factors affecting the etiology, course and management of psychiatric and behavioral problems.
    e. Sexual History
2. Conduct a mental status examination assessing and noting the following:
    a. Appearance
    b. Activity and Behavior
    c. Affect and Mood
    d. Speech
    e. Content of thought
    f. Sensorium and Perception
    g. Judgment
    h. Insight
3. Perform a family interview, family assessment and identify family crises.
    a. Engage family as a resource that supports patient's coping with medical or psychiatric illness
    b. Conduct family psychoeducation about medical or psychiatric illness
    c. Identify and address family violence including child, partner and elder abuse as well as neglect and its effects on the victim, perpetrator and observers.
4. Distinguish normal syndromes of distress (demoralization, grief, spiritual crisis, loss of dignity, loneliness) from psychiatric illness (depression or anxiety disorder)
    a. Utilize clinical criteria and standardized assessment instruments (PHQ-9, Beck Depression Scale) to help distinguish situational distress from depression
    b. Utilize anxiety screening instruments and clinical criteria to distinguish situational fear or uncertainty from anxiety disorder
5. Conduct a diagnostic assessment of a patient with medically-unexplained physical symptoms:

    a. Screen for primary depression or anxiety disorder with secondary somatic stress symptoms
    b. Screen for relational binds in which patient feels trapped and silenced, such that the physical symptom represents a bodily idiom of distress
6. Assess and manage risk of suicide or risk of violence
7. Recognize, assess, manage and follow-up chronic psychiatric conditions commonly dealt with in PHC settings including psychiatric emergencies.
    a. Trauma- and Stressor Related Disorders
    b. Anxiety Disorders
    c. Somatic Symptom Disorders:
        i. llness anxiety disorder (formerly Hypochondriasis)
        ii. Somatization Disorder (Briquet's Syndrome, Hysteria)
        iii. Psychogenic Pain Disorder
        iv. Conversion Disorder
        v. Factitious Disorders and Malingering
    d. Mood Disorders:
        i. Depressive Disorders
        ii. Bipolar (I & II) and related Disorders
    e. Identify and treat Neurocognitive diseases with psychiatric presentation including dementia.
        i. List a screening tool for assessing cognitive function such as the mini mental status and the MOCA (Montreal Cognitive Assessment)
    f. Schizophrenia spectrum and other Psychotic Disorders:
        i. Schizophrenic Disorders
        ii. Paranoid Disorders
        iii. Schizophreniform Disorders
        iv. Brief Reactive Psychotic Disorders
    g. Substance Abuse and Addictive Disorders:
        i. Alcohol
        ii. Drugs
        iii. Tobacco
    h. Sexual Dysfunction:
        i. Male sexual dysfunction
        ii. Female sexual dysfunction
        iii. Gender dysphoria
    i. Recognize disorders of personality:
        i. Cluster A: Paranoid, Schizoid, Schizotypal
        ii. Cluster B: Antisocial, Borderline, Histrionic, Narcissistic
        iii. Cluster C: Avoidant, Dependent, Obsessive Compulsive
    j. Sleep-Wake disorders including narcolepsy
    k. Feeding and Eating disorders (anorexia bulimia)
    l. Adverse effects upon physical and mental health from high levels of chronic stress in daily life
8. Recognize, assess, manage and follow-up child and adolescent psychiatric conditions commonly dealt with in PHC settings.
    a. Anxiety
    b. Depression

c. Attention deficit/hyperactivity disorder
d. Autism spectrum disorders
e. Learning difficulties and related school problems
f. Posttraumatic stress disorder
g. Enuresis and encopresis

9. Recognize and manage patients with psychiatric complaints, and properly and timely referral those as needed.
    a. Articulate the role of other professionals involved in the care of patients with mental disorders, e.g. psychologist, social worker and agencies involved in such care and be able to utilize their expertise.
10. Be familiar with treatment modalities for psychiatric disorders and perform effective counseling and behavioral modification appropriate to a primary care setting for children, adolescents, and adults.
    a. Supportive Psychotherapy
    b. Psychopharmacology:
        i. Antidepressants
        ii. Anxiolytics
        iii. Antipsychotics
        iv. Stimulant and nonstimulants for ADHD
        v. Mood stabilizers
    c. Counseling Techniques:
        i. Marital
        ii. Sexual
        iii. Family
        iv. Cognitive behavioral
        v. Motivational interviewing
11. Address medical ethics including patient autonomy, confidentiality and issues concerning quality of life.
12. Describe how a resilience-based approach differs from a psychopathology-based approach when assessing and treating mental health problems;
    a. Conduct an interview that elicits individual and family strengths for coping
    b. Demonstrate use of "hope modules" during brief medical visits in order to build resilience and strengthen coping
    c. Demonstrate how to engage traditional strengths of Palestinian culture, such as the Palestinian family and religious faith, to strengthen resilience against adversities.
13. Use available screening tools for identifying and monitoring the diagnoses described above such as PHQ-9 (depressions), General Anxiety Disorder-7 Montreal Cognitive Assessment, etc.

Learning activities:

1. Resident is assigned to a unit where he/she should work under close supervision until his/her supervisor is satisfied that he/she has the knowledge and ability to work more independently.
    a. A sufficient time for formal teaching is needed by the learners, particularly induction arrangements at the beginning of the rotation.

   b. Participation in departmental activities, e.g. grand rounds, lectures, tutorials, journal clubs, etc.
   c. A greater community element of the training is needed. Opportunities to work in outpatient clinics and a multi-disciplinary approach to caring for patients should be emphasized.
2. FM academic release day held weekly as part of the Family Medicine training should be attended regularly by residents.

Learning resources:

1. AC Markus, C Murry Parkes, P Tomson, M Johnston. Psychological Problems in General Practice. Oxford. Oxford University Press. 1989.
2. Rees. A New Short Textbook in Psychiatry. Hodder and Stoughton.
3. Gelder M. Oxford Textbook of Psychiatry. Oxford University Press.
4. Royal College of General Practitioners. Primary Care for People with Mental Handicaps.
5. Online resources
   American Psychiatric Association: www.psych.org
   https://www.psychiatry.org/psychiatrists/practice/clinical-practice-guidelines
   American Psychological Association: www.apa.org
   Mental Health Touches (Everyone): www.athealth.com
   Aafp.org/afp: Search for DSM5 to see updates and commentary related to family medicine
   a. Somatic Symptom disorders: https://www.aafp.org/afp/2016/0101/p49.html
   b. Generalize Anxiety and Panic: https://www.aafp.org/afp/2015/0501/p617.pdf
   c. Personality disorders https://www.ohsu.edu/xd/health/for-healthcare-professionals/telemedicine-network/for-healthcare-providers/ohsu-echo/upload/Project-Echo-020515.ppt

NOTE: DSMIV was used until the DSM5 updated diagnoses in 2013. A resource for this is: APA_DSM_Changes_from_DSM-IV-TR_-to_DSM-5 (3).pdf

Formative assessment:

- Feedback from attending psychiatrist and senior resident at mid-point of the rotation.
- Discussion of answers to quizzes administered routinely throughout the Lectures/seminars on psychiatry topics
- Feedback from faculty and colleagues on a case presentations during the lecture/seminars.

Summative assessment:

- Written exam
- Log Book review
- Final project

The supervisor in the Department of psychiatry in collaboration with the Department of Family and Community Medicine will assess the resident.

The supervisor(s) on the service along with the Department of Family and Community Medicine will complete a final assessment of the resident.

Teachers/ supervisors: Psychiatrist on the unit and Family medicine faculty for academic course.

Program evaluation: Resident completes end of course and clinical rotation feedback forms. Faculty will review evaluations every three years and make changes to improve the course.

Epidemiology

Academic Course: 3 Credits, Year 1, First Semester

Overview
The academic course will introduce students to Epidemiology, the basic science of disease prevention and an important tool in both public health and clinical medicine. The learner will understand how to use principles of epidemiology in prevention strategies, measuring public health policies and describing the diseases in communities (descriptive epidemiology) and epidemiological study design, bias, confounding, and measures of risk used in the study of disease etiology and related risk factors (analytic epidemiology).
Special attention is paid to the most relevant issues such as outbreak investigation, screening, and surveillance.

Learning Objectives:
By the end of this course the students should be able to:

1. Define health; describe the different concepts and perspectives of health, and to describe determinants of health
2. Describe key features of the historical development of epidemiology and public health, including the most important achievement of public health
3. Understand the difference between clinical medicine and public health
4. Define epidemiology, core elements, objectives, epidemiology and prevention, epidemiology and clinical practice.
5. Describe the basic principles of epidemiology, including rates, risk factors, disease determinants and causation
6. Outline the concepts of prevention, detection, and control of communicable and non-communicable diseases
7. Understand the basic study designs and their applications
8. Understand the basics of surveillance and screening.
9. Know the basic steps of Public health surveillance and the management of an outbreak.
10. Ethics applied to epidemiology and public health

Learning resources:

1. Leon Gordis.Epidemiology.5th Edition.
2. Other online resources to be provided

Formative assessment: Midterm exam and feedback on presentations and assignments.

Summative assessment: Written exam

Teachers/ supervisors: Family medicine faculty for academic course.

Program evaluation: Resident completes end of course feedback form. Faculty will review evaluations every three years and make changes to improve the course.

Health management

Academic Course: 3 Credits, Year 1, Second Semester,

Overview

This academic course provides an overview of how health institutions are organized; health services are planned and driven. Issues regarding the role of the management staff, physicians, nurses and other clinical and support staff in these organizations, and the management systems designed for their efficient and effective operation will be discussed. Management styles, leadership, planning and financing of healthcare facilities, quality of care improvement, measurement of performance and evidence based practice will be reviewed. Health care management problems will be analyzed from multiple perspectives.

Learning Objectives:

By the end of this course the students should be able to have an understanding about:

1. List different managerial concepts in health care.
2. Describe ways for planning for health care services
3. Identify ways to evaluate the health care healthcare environment
4. Describe leadership principals and communication styles
5. Describe quality assurance tools and use them
6. Describe and use Evidence based practice

Learning resources:

1. Introduction to health care management. 2nd ed. Jones & Bartlett Learning
2. Gopee, Neil. Leadership & management in healthcare. .2nd edition
3. McConnell, Charles R. Management principles for health professionals. 5th edition
4. Other online resources to be provided.

Formative assessment: Midterm exam, feedback on presentations and assignments.

Summative assessment: Final Exam

Teachers/ supervisors: Family medicine faculty for academic course.

Program evaluation: Resident completes end of course feedback form. Faculty will review evaluations every three years and make changes to improve the course.

Community Medicine

Academic course: 3 credits Third year, Second semester

Overview:
This academic course broadens the resident's understanding of the role of community medicine in disease prevention and promoting health at community level. The resident appreciates his/her role as a physician recognizing and identifying health problems of the community, applying preventive and control measures at the individual and community levels. The resident will work as a member of the health team within the health care delivery system in Palestine and perform data collection, analysis and interpretation of health related data to be used in assessment of health statuses bearing in mind the community culture and traditions.

Learning Objectives:
1. Identify health problems of the community
2. Prioritize health problems
3. Identify groups which require special attention (elderly, adolescents, gender the poor and other marginalized groups)
4. Work as part of a health care team to set objectives, prepare action plan, implement programs and monitor, supervise and evaluate them
5. Use effectively the tools of epidemiology for understanding disease causation and determinants of diseases
    a. Understand the principles of general epidemiology
    b. Understand the epidemiology of communicable diseases
    c. Understand epidemiology of non-communicable diseases
6. Conduct epidemiological investigation of communicable, non-communicable and other diseases of public health importance and suggest appropriate solution

Learning Activities:
1. Lectures (1.5 credit hours): explain the theoretical knowledge for each topic.
2. Group discussions to encourage active learning and assignments
3. Practical sessions (1.5 CH)

Learning Resources:
1. Department lecture course notes: Community Medicine.
2. World Health Organization (http://www.who.int/)
3. Centers for Disease Control and Prevention (https://www.cdc.gov/)

Formative Assessment:
- Midterm exam
- Feedback on case studies and assignments

Summative Assessment:
- Projects and assignments
- Final exam

Teachers/ supervisors: Family medicine faculty for academic course.

Program Evaluation: The resident will complete an end of course feedback form. Faculty will review evaluations every three years and make changes to improve the course.

Clinical Research Methods

Academic course: 3 credits Year 3, First semester,

Overview: This academic course aims to provide training in the essential skills of preparing for conducting and communicating research in medical science. Clinical research is a branch of medical science that determines the safety and effectiveness of medications, devices, diagnostic products, and treatments intended for human use. These may be used for prevention, treatment, diagnosis or for relief of symptoms in a disease. This course presents the steps of research process including specification of a research problem, review of literature, clarifying research designs, population and sampling, measurement/qualitative evaluation, data collection and data analysis. Ethical issues will be considered related to the development and application of research. The emphasis is on the practical ways of conducting clinical and health research and conducting basic research projects. Residents will practice writing a study proposal.

Learning Objectives:

1. Describe the steps of the research process
2. Formulate potential research questions, objectives and hypotheses.
3. Select the appropriate study design and measurement/qualitative tools and design a data collection plan
4. Specify a sampling rationale and design
5. Discuss the ethical issues related to conducting a research study
6. Identify the appropriate statistical test/qualitative framework needed to analyze the results
7. Explain styles of referencing and practice referencing and in-text citation using the Endnote program

Learning Activities:

1. Lectures: explain the theoretical knowledge for each topic
2. Group discussions to encourage active learning and increase the residents' enjoyment of the topic
3. Practical computer-based sessions to provide an opportunity for the development of key skills in processing & analyzing research data
4. Assignments to develop skills & knowledge

Learning resources:

1. Stephen B. Designing clinical research, 3rd ED. (The main reference)
2. Leon Gordis. Epidemiology, 4th edition, Elsevier 2009
3. Introduction to Qualitative Research Methods: (https://www.ucalgary.ca/paed/files/paed/chaput-qualitativeresearchmeth-2017.pdf)
4. Strengths and Limitations of Qualitative and Quantitative Research Methods (https://www.researchgate.net/publication/319852576_Strengths_and_Limitations_of_Qualitative_and_Quantitative_Research_Methods)

Formative assessment: Resident learning will be monitored to get ongoing feedback. This can be through short questions and answers, case studies, assignments and the feedback on the proposal writing step by step

Summative assessment:

- Proposal & + IRB application
- Final Exam

Teachers/ supervisors: Family medicine faculty for academic course.

Program evaluation: The resident will complete an end of course feedback form. Faculty will review evaluations every three years and make changes to improve the course.

Research Project

Academic course: 6 credits**,** Year 4, Second semester,

Overview: In this academic course, residents are trained in identifying a research question, planning, carrying out and making a scientific presentation on a self-chosen subject in the field of family medicine and primary health care. This prepares them for doing future research the critiquing the research of others.

One of three projects can be chosen:

Project Type	**Primary Research Project (Quantitative)**	**Secondary Research Project**	**Qualitative Research Project**
Learning Objectives	1. Conduct research project on a topic of interest in family medicine and primary care.	1. Conduct a systematic review of the literature on a topic of interest in family medicine and primary care. (Quantitative or Qualitative)	1. Conduct a qualitative research project (interview or focus group) on a question of interest in family medicine and primary care.
		2. Explain the findings in the context of the existing literature	
		3. Document results by writing a research report appropriate to the type of project	
		4. Communicate the project objectives, process and results in written and verbal form	
Learning activities	1. Identify supervisors, at least one in FM and CH department.	1. Identify supervisors, at least one in FM and CH department.	1. Identify supervisors, at least one in FM and CH department.
		2. Work with your primary supervisor to choose a question that fits in with one of the research programs of the graduate school. Qualitative research questions may coordinate with PH faculty who do qualitative research.	
		3. Create study plan and time line with supervisor	
		4.Review the appropriate background literature for the research question	
		5. Obtain human subjects review if needed.	
		6. Present the introductory chapter (Research question and theoretical background to the other residents).	
		7. At the end of the data collection, entry and analysis, the resident will write a research report.	
		8. Participate in seminars, journal clubs or similar activities in the respective scientific environment.	

Teaching is centered on individual supervision, which is complemented by lectures and workshops. In the first few weeks of the course, there is an introductory lecture and a starting seminar intended to supply residents with a solid base and appropriate tools for the research work. Residents will be supervised in groups or individually in the different stages of designing their project. Residents will also consult with their supervisor during the course.

Learning resources:

1. Department course notes on research methods.
2. Pubmed database

Formative assessment:

- Observations of resident understanding and performance will be assessed trough face to face discussion, questions and answers and homework assignments
- Verbal and written feedback given verbally by the primary supervisor as required as residents go through the project

Summative assessment:

- Timeliness in meeting the deadlines of the project.
- Verbal defense of one's own research project
- The quality of the written report itself. The research project report and the presentation will be graded by the resident's supervisor(s) and two other department staff members, based on the attached criteria. For written report evaluations details see: PDF

Teachers/ supervisors:
Supervisors will included faculty from Family Medicine and Community Health.

Program evaluation: The resident will complete an end of course feedback form. Faculty will review evaluations every three years and make changes to improve the course.