الهيئة السعودية للتخصصات الصحية
Saudi Commission for Health Specialties

Lifestyle Medicine Fellowship Program

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بسم الله الرحمن الرحيم

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PREFACE

- The primary goal of this document is to outline the learning objectives for postgraduate trainees in order to enrich their training experience and enable them to become independent and competent future practitioners.
- This curriculum may contain sections that outline some training regulations. However, such regulations need to be sought from the training-related “General Bylaws” and “Executive Policies” that were published by the Saudi Commission for Health Specialties (SCFHS), which can be accessed online through the official SCFHS website. If there are any discrepancies in the regulation statements, the ones stated in the most updated bylaws and executive policies will be the reference to apply.
- As this curriculum is subjected to periodic refinements, please refer to the electronic version available online at at www.scfhs.org.sa for the most updated edition.

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FORWARD

The lifestyle medicine fellowship curriculum development team acknowledges the valuable contributions and feedback provided by the members of the scientific committee in the development of this program. We extend special appreciation and gratitude to all the members who have played a pivotal role in the completion of this booklet, especially the Curriculum Group, the Curriculum Specialists, and the Scientific Council. We would also like to acknowledge that the CanMEDS framework is a copyright of the Royal College of Physicians and Surgeons of Canada, and many of the descriptions' competencies have been acquired from their resources [ACPM/ACLM competencies].

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INTRODUCTION

1. Context of Practice

Burden of lifestyle-related diseases

Cardiovascular diseases (CVDs) are the most common non-communicable diseases and are responsible for approximately 17.3 million deaths (30% of annual mortalities) worldwide. These deaths are expected to rise, especially in developing countries, to 23.3 million by 2030.(1) Saudi Arabia is considered a rapidly developing country and currently faces an increase in the burden of non-communicable diseases. The annual mortality rate due to all non-communicable diseases in Saudi Arabia was 753 deaths per 100,000 in 2018, of which 314 (37%) were due to cardiovascular diseases.(2)

Moreover, more than 30% of cancer deaths can be prevented by modifying or quitting the modifiable risk factors, particularly tobacco use.(3) Among the annual Saudi reports, breast cancer ranked as the most common cancer among women––accounting for 30% of all diagnosed cancers among them. Colorectal cancer had the highest incidence among the male population and was third among the female population. The table below outlines the ten most commonly diagnosed cancers among Saudis as of 2018 (all ages). (4)

Table 1: Most commonly diagnosed cancers among Saudi nationals, 2018

Types of Cancer	No.	No.
Breast	2016	16.7
Colo-rectal	1465	12.2
Thyroid	1020	8.5
NHL (Non Hodgkin lymphoma)	829	6.9
Leukemia	702	5.8
Hodgkin disease	436	3.6
Lung	416	3.6
Corpus Uteri	403	3.3
Liver	376	3.1
Prostate	340	2

Source: Cancer Incidence Report 2015. (https://nhic.gov.sa/eServices/Documents/E%20SCR%20final%206%20NOV.pdf)

It is always better to prevent illnesses. If that is not feasible, it is better to identify and treat an illness as early as possible. Thus, the phrase "An ounce of prevention is worth a pound of cure" is common knowledge. This statement can be applied in a practical way through lifestyle modification services, as they can be implemented in various stages of a disease's development. According to the World Health Organization (Table 2), the prevalence of 40% of cancer and 80% of heart disease, stroke, and type 2 diabetes could be prevented by primarily improving individuals' diet and lifestyles.(2)

Table 2: Prevalence of preventable risk factors in Saudi Arabia

	Male	Female	Total
Diabetes	14.7%	13.8%	14.4%
Overweight	67.5%	69.2%	68.2%
Obesity	29.5%	39.5%	33.7%
Physical inactivity	52.1%	67.7%	58.5%
Smoking	32.5%	3.9 %	37 %
Raised Blood Pressure	21 %	16 %	19 %

Source: Non-communicable diseases country profiles 2018 (https://www.who.int/nmh/countries/2018/sau_en.pdf?ua=1)

Lifestyle medicine (LM):

LM is defined by the American Board of Lifestyle Medicine as "a branch of medicine with an evidence-based therapeutic approach to prevent, treat, and reverse lifestyle-related chronic diseases." (5,6) Comprehensive lifestyle interventions aim to assess the underlying disease risks, thereby decreasing the illness burden and improving clinical outcomes within value-based medicine. Elements of lifestyle interventions include nutrition, physical activity, stress management, sleep health, and social support. (5) Physicians of preventive and primary care medicine are required to play a core role in establishing the practice of LM in their daily duties. (5,6)

Table 3: Comparison between conventional medicine and lifestyle medicine

Conventional Medicine	Lifestyle Medicine
Treats individual risk factors	Treats lifestyle causes with the goal of preventing primary, secondary, and tertiary diseases
Patient is often passive recipient of care (patient is not required to make big changes)	Patient is active partner of care (patient is required to make substantial transitions)
Treatment is often short term	Treatment is always long term
Responsibility falls mostly on the clinicians	Responsibility falls mostly on the patients (emphasis is on motivation and adherence)
Medication is often the "end" treatment. Emphasis is on diagnosis, prescription, and disease management.	Medication may be needed, but as an adjunct to lifestyle change.

Source: Egger G. Lifestyle medicine, 2011

Lifestyle Medicine Settings

LM offers a spectrum of intervention intensity based on the conditions to be treated––ranging from primary prevention to palliative care in a wide array of settings:

- Outpatient in primary care setting/cardiac center/oncology center/diet center.
- Clinical practices and group therapy sessions.
- Inpatient rehabilitation/residential/hospital.
- Telemedicine and virtual clinic.

Importance and national demands

Non-communicable diseases (NCDs) such as cardiovascular diseases, cancer, diabetes, and chronic respiratory diseases, and all their related risk factors are public health problems that pose a tremendous economic challenge in Saudi Arabia. Although there are public health, policies designed for controlling NCDs and their related medical complications and consequences, efforts must be made to translate all policies into culturally acceptable practices.

Tobacco use, physical inactivity, and poor nutritional habits are major risk factors of NCDs. The cost-effectiveness of community-based interventions and related public health policies need to be backed by care at the individual level that targets high-risk groups and those who have such diseases.

The Saudi Vision 2030 prioritized the health and well-being of the nation to improve the quality of life and increase the life expectancy of the population. However, Saudi Arabia is in the initial stage and requires numerous specialized physicians in the field of LM. Thus, a one-year LM fellowship program has been designed to train physicians in a competent level with international standards.

The Lifestyle Medicine Fellowship Program is a new training program that will be launched in 2022 as a one-year training fellowship in LM and will lead to a professional degree. It emphasizes the resolution of prevailing clinical and community health problems. The program structure, which was devised by a scientific committee, is rotation-based. The candidates will rotate across different medical departments that concentrate on LM activities.

2. Goal and responsibility of curriculum implementation

The ultimate goal of this curriculum is to guide trainees to become competent in their specialty. This goal will require a significant amount of effort and coordination from all stakeholders involved in postgraduate training. As an “adult-learner,” trainees have to demonstrate full engagement with proactive role by careful understanding of learning objectives, performing self-directed learning, solving problems, seeking support when needed, and demonstrating an openness and readiness to apply what they have learned by reflecting on their feedback and formative assessments.

Program directors play a vital role in ensuring the successful implementation of this curriculum. Training committee members, particularly program administrators and chief residents, also have a significant impact on the program's implementation. Trainees should be able to share the responsibility of implementing the curriculum. The Saudi Commission for Health Specialties (SCFHS) applies the best models of training governance to achieve the highest quality of training. Academic affairs in training centers and regional supervisory training committees will play a major role in the supervision and implementation of the training. The Specialty Scientific Council will be responsible for ensuring that the content of this curriculum is constantly updated to match the best-known standards in postgraduate education in their specialty.

Abbreviations Used in This Document

Abbreviation	Description
SCFHS	Saudi Commission for Health Specialties
LM	Lifestyle Medicine
IBLM	International Board Lifestyle Medicine
ACLM	American College of Lifestyle Medicine
ACPM	American College of Preventive Medicine
AHDs	Academic half-days
NCDs	Non-communicable diseases
PA	physical activity
PT	Progress test
OSCE	Objective Structured Clinical Examination
Mini-CEX	Mini-Clinical Evaluation Exercise report
MBSR	mindfulness-based stress reduction
DOPS	Direct Observation of Procedural Skills report
CBD	Case-Based Discussion report
CBT	Cognitive behavioral Therapy
CBE	Competency-Based Education
ITER	In-Training Evaluation Report
COT	Consultation Observation Tool

PROGRAM ENTRY REQUIREMENTS

All board certified candidates from preventive medicine, or family medicine are eligible to enroll in the one-year fellowship program if they fulfill all the requirements set by the SCFHS.

Requirements for admission

- Candidates must have completed training in the specialty of preventive medicine/community medicine or family medicine, and must possess the Saudi Specialty Certificate (or an equivalent degree).
- Candidates must have no fewer than 6 months of experience in preventive medicine clinics.
- Candidates must have passed the subspecialty's SCFHS admission examination/ interview, if required by the fellowship program.
- Candidates must be a never smoker or a nonsmoker for the last 2 years.
- Candidates must not have a BMI of more than 30.
- Letter of sponsorship from the primary employer for the whole period of training
- (Full-time training).
- Three letters of recommendation from previous supervisors.
- Curriculum vitae.
- Valid identification (ID).
- Three recent photos.

Competency-Based Education and Learning Outcomes

1. Competency-Based Education

Competency-based education (CBE) is an approach of "adult-learning" that is based on achieving pre-defined, fine-grained, and well-paced learning objectives that are derived from complex professional competencies.

In 2009, the American College of Preventive Medicine (ACPM) convened a meeting for LM-related societies to develop physician competencies in the field. The meeting outcomes were then summarized and published in a journal article in the Journal of the American Medical Association. (5,7) The published competencies were endorsed by the American College of Lifestyle Medicine (ACLM) and the ACPM. In addition to these competencies, seven key LM modalities were addressed. These modalities are nutrition, physical activity, sleep health, coaching behavior change, tobacco cessation, managing risky alcohol use, and emotional well-being. However, the one-year fellowship program was designed in accordance with CanMEDS (8) and Lifestyle Medicine Core Competencies. (7)

Upon completion of the LM fellowship training program, the graduates will acquire the knowledge, skills, and competency to practice LM at the consultant level. They will be able to prevent, reverse, and manage lifestyle-related diseases with a comprehensive understanding of the cultural and socio-economic factors involved.

Table 4: Lifestyle Medicine Core Competencies

Leadership (2 competencies)	Knowledge (2 competencies)
1. Promote healthy lifestyle behaviors 2. Practice healthy lifestyle behaviors	3. Demonstrate how lifestyle can positively affect health outcomes 4. Describe ways in which physicians can effect health behavior change
Assessment skills (3 competencies)	**Management skills (4 competencies)**
1. Assess social, psychological, and biologic predispositions 2. Assess readiness to change 3. Perform lifestyle medicine-focused history, physical, and testing	1. Use nationally recognized practice guidelines 2. Establish effective relationships with patients 3. Collaborate with patients and their families to develop specific action plans, such as lifestyle medicine prescriptions 4. Help patients manage and sustain healthy lifestyle practices, including providing referrals as necessary.
Office and community support (4 competencies)	
1. Have the ability to practice in interdisciplinary and community teams 2. Apply office systems and technologies to support lifestyle medicine 3. Measure processes and outcomes 4. Use appropriate community referral resources to support the implementation of healthy lifestyles.	

Source: Lianov L, Johnson M. Physician competencies for prescribing lifestyle medicine. Jama. 2010 Jul 14;304(2):202-3

2. General Competency Goals and Program Learning Outcomes:

The following are the core competency goals required for multiple rotations. The expert competency goal will largely be rotation-specific; therefore, it will be explained separately in each rotation. By the end of the training, each fellow will demonstrate competency in the roles described below.

Table 5: The learning outcomes based on the CanMEDS framework

CanMEDS Competencies	Lifestyle Medicine Core Competencies
1.Medical expert Perform comprehensive lifestyle assessments, including evaluating risk factors and patients' readiness to change modifiable risk factors	• Assess social, psychological, and biologic predispositions • Assess readiness to change • Perform LM-focused history, physical, and testing
2.Communicator Use a team approach and establish effective relationships with patients/caregivers	• Establish effective relationships with patients • Collaborate with patients and their families to develop specific action plans, such as LM prescriptions • Have the ability to practice in interdisciplinary and community teams
3.Collaborator Make referrals when appropriate.	•Help patients manage and sustain healthy lifestyle practices, including providing referrals as necessary.
4.Leader Taking the lead in promoting healthy lifestyle and healthy behaviors	• Promote healthy lifestyle behaviors • Practice healthy lifestyle behaviors
5.Health advocate Promote healthy behaviors as the foundation for clinical care by personally practice a healthy lifestyle	
6.Scholar Use national guidelines regarding lifestyle prescriptions	• Demonstrate how one's lifestyle can positively affect health outcomes • Describe ways in which physicians can affect health behavior change
7.Professional Use technologies to maximize the continuity of care	• Apply office systems and technologies to support LM • Measure processes and outcomes • Use appropriate community referral resources to support the implementation of healthy lifestyles.

3. Program Durations

The one-year fellowship program is designed to provide trainees with a sound academic foundation in LM principles and the main LM clinical interventions.

4. Program Rotations

The following section defines the rotation-specific competency goals that must be met during rotation. All rotations are mandatory.

Table 6: Rotation-Specific Goals and Objectives

Rotation	Duration	Training settings/sites	Objectives	competency roles**
Introductory course	1 month	Academic Lectures in person/ online	1. Define LM and describe the key role of LM 2. Recognize the importance of LM in reducing disease burden 3. Identify the association of health behaviors to various health outcomes 4. Discuss the evidence that addresses the association of lifestyle with health outcomes 5. Describe the fundamentals of health behavior change 6. Demonstrate how physicians who personally practice a healthy lifestyle are more likely to offer counseling and improve patient outcomes	MEL HA P S
Nutrition	2 months	Outpatient & Inpatient Obesity clinic Diabetes clinic/ centers Diabetes education clinics Clinical nutrition Nutrition education unit	1. Describe the importance of nutrition in preventing and treating lifestyle-related chronic diseases. 2. Describe major dietary guidelines 3. Describe the prevalence, pathogenesis (including the role of genetics, epigenetics, and environmental factors), and prevention of prediabetes, diabetes, and obesity 4. Demonstrate the clinical ability to perform a primary nutrition assessment 5. Prescribe nutrition for basic disease processes and for the most common chronic lifestyle-related diseases 6. Apply guidelines for clinical management of obesity with lifestyle therapy	ME COM COL P
Mental health	1 months	Outpatient & Inpatient Mental health outpatient General psychiatric hospital Mental health PHC clinic Al-Amal hospitals	1. Use the valid screening tools for depression, stress, and anxiety 2. Demonstrate clinical ability of mental assessment, early detection, and lifestyle intervention with respect to depression and anxiety for patients with comorbidities 3. Describe the process of the emotional wellness self-management 4. Apply mindfulness-based stress reduction (MBSR) to help patients overcome stress reactions. 5. Recognize indications for referral to a mental health professional	ME COM COL P

Addiction medicine	**1 month**	**Outpatient & Inpatient** **Al-Amal hospitals** **Behavioral modification unit** **Relapse prevention unit** **Smoking cessation clinics**	**1. Describe the neurobiology, epidemiology, and burden of tobacco, alcohol, and substance use** **2. Identify the evidence-based practices on tobacco cessation interventions** **3. Demonstrate ability to assist patients to set up and execute the plans for tobacco cessation** **4. Recognize the importance of dual pharmacotherapy and behavior therapy for tobacco, alcohol, and substance use cessation** **5. Demonstrate ability to maintain the cessation stage that patient has reached and prevent them from relapsing** **6. Discuss ethical and legal considerations in a substance use setting**	**ME** **COM** **COL** **P** **S**
Sleep Health	**1 month**	Outpatient & Inpatient Sleep center Respiratory department/team	1. Describe the role of sleep and sleep disorders with respect to health and chronic diseases 2. Cite the importance of a healthy lifestyle and LM modifications in improving sleep health. 3. Use and interpret screening and diagnostic tests relevant to sleep health 4. Demonstrate ability to screen, diagnose, and manage sleep-related problems	ME COM COL P
Cardiorespiratory health	2 months	Outpatient & Inpatient Cardiac clinic/ centers/team	1. Diagnose and manage the risk factors of cardiovascular and respiratory diseases 2. Explain the physiology of physical activity (PA) and its relationship to health 3. Describe major PA guidelines (including WHO and Saudi guidelines) and the evidence for the PA components (aerobic, strength, flexibility, and balance) 4. Identify the clinical PA recommendations for elderly patients, patients with health conditions, or pregnant patients. 5. Use and interpret the main PA assessment tools 6. Develop an exercise prescription	ME COM COL P
Community-oriented practice	1 month	Health agencies Health programs administration units in hospitals, health directorate or MOH Health promotion units	1. Identify approaches to obtain information about local community resources 2. Describe theories, models, and approaches to facilitate health behavior change at individual and community levels and identify their roles in different practice settings 3. Describe successful community and primary care models for lifestyle modification (nationally and internationally) 4. Demonstrate the ability to conduct community-based effective advocacy 5. Demonstrate the ability to plan and evaluate health intervention programs 6. Describe strategies for incorporating wellness programs for health providers into health care settings	COM COL L HA

General LM practice	2 months	Outpatient primary health care center/ preventive medicine clinic	1. Conduct patient readiness assessments and provide stage matched responses 2. Use evidence-based approaches to build effective relationships with patients 3. Perform motivational interviewing and cognitive behavioral therapy 4. Provide patients with a proper action plan based on the appropriate stage of change 5. Describe effective strategies to maintain healthy behaviors 6. Assess the lifestyle risk factors by taking a comprehensive patient history and by performing a physical examination 7. Use and interpret screening and diagnostic tests relevant to lifestyle-related diseases 8. Demonstrate how to screen, diagnose, and monitor a lifestyle-related condition 9. Identify criteria for referring and collaborating with other health professionals 10. Use planned group visits to support lifestyle modification 11. Describe effective strategies for maintaining healthy behaviors 12. Cite effective strategies with policies and procedures that help health care system screening, risk assessment, test results, and proactively prompting follow-up	COL ME COM COL P
Annual Leave			4 weeks	

**ME: Medical Expert, COM: Communicator, COL: Collaborator, L: Leader, HA, Health Advocate, P: Professional, S: Scholar

5. Top Core Conditions

The table below contains the main diseases/conditions in Saudi Arabia that are presented in health care settings: outpatient and inpatient. The fellow is expected to deal with these conditions during academic teaching, clinical training, and everyday practice.

Table 7: Core specialty topics and procedures

Core Topics	Common conditions	Common procedures/tools
Introductory course		
Theoretical aspects of all core topics: • Principles of LM and fundamentals of health behavior changes. • Nutrition • Mental health • Addiction • Sleep medicine • Cardiorespiratory health and fitness • Physical activity • Behavioral change • Health and wellness coaching • Personal fitness assessment • Application of evidence-based medicine • Mindfulness • Emotional wellness	NA	NA
Clinical Nutrition		
• Diagnosis and management of lifestyle-related diseases • Nutrition and Health • Nutritional guidelines • Nutrition assessment • Nutrition in treating diseases • Nutrition prescriptions for common chronic diseases (hyperlipidemia, diabetes, hypertension, and cancer) • Successful dietary interventions e.g. Diabetes Prevention Program • Nutritional requirements in various stages of life • Dietary patterns • Dietary fads • Food patterns and food preparation • Macronutrients • Micronutrients and supplements • Phytonutrients and the Anti-Inflammatory Diet • Microbiome and its role in health • Impact of diet and age on the gut microbiota • Corporate interests and nutrition • Epidemiology, bias, and stigmatization of obesity • Complex etiology and pathophysiology of obesity • Health effects of obesity • Lifestyle interventions in preventing and treating obesity • Treatment guidelines for obesity (medical and surgery)	Overweight Obesity Metabolic syndrome Diabetes Hypertension Hyperlipidemia Cancer Nutrition in pregnancy Childhood obesity Geriatrics nutrition Eating disorders	• Anthropometric measurements • Biochemical and clinical assessment of nutritional status • Interpreting lab tests results for common lifestyle-related diseases • Bioelectrical impedance analysis (BIA) • Dual Energy X-ray Absorptiometry (DEXA) • Motivational interviewing • Cognitive Behavioral Therapy

Introductory course		
Stress management, relaxation, and mindfulness Mindfulness-based stress reduction (MBSR) programs Positive psychology Anxiety and depression Cognitive behavior therapy Mind-Body: clinical applications Spirituality and health	Stress Anxiety Depression Post-traumatic stress disorder Obsessive-compulsive disorder Bipolar disorder Schizophrenia	• Mental Status Examination (MSE) • Mini-Mental State Examination (MMSE) • Cognitive Impairment Test • Open interview • Breaking bad news • Counseling sessions • Relaxation/mindfulness • Cognitive behavior therapy
Addiction medicine		
Neurobiology of addiction Screening and assessment of tobacco, alcohol, and substance abuse Behavioral and pharmaceutical treatment of tobacco, alcohol, and substance abuse Regulations and governmental policies Vulnerabilities and risk factors	Alcohol use Cannabis use Opioid use Tobacco use e-cigarettes	• CO monitor • Lung function tests • Readiness scale • Motivational interviewing • Cognitive behavioral therapy • Group therapy
Sleep Health		
Neurobiology of sleep and wakefulness Sleep and its effect on health and well-being Circadian rhythms Sleep hygiene Sleep rhythms across the lifespan Classification of sleep disorders Sleep disorders (diagnosis and management) Insomnia: causes and consequences Jetlag Pharmacological and nonpharmacological treatments for insomnia Cognitive behavioral therapy for insomnia	Chronic partial sleep deprivation Daytime sleepiness Insomnia Obstructive sleep apnea	• Polysomnography • Cognitive behavioral therapy for insomnia

Cardiorespiratory health		
Epidemiology and burden of cardiorespiratory diseaes Risk factors of cardiorespiratory diseases Cardiorespiratory fitness and physiology Cardiorespiratory function assessment Cardiac risk assessment and management Lipid disorders Exercise Physiology Metabolic equivalents and energy expenditure Physiological systems during exercise Aerobic, resistance, flexibility, and balance exercise Adaptations to endurance and strength training Physical activity and health Physical activity guidelines Physical activity across the lifespan High-intensity interval training (HIIT workouts) Medical clearance to start PA for sedentary persons Exercise stress testing and its role in medical clearance Patient fitness assessments Evidence-base for PA guidelines	Hypertension Heart failure Ischemic heart diseases Atherosclerosis Hyperlipidemia COPD	• Cardiac risk assessment • Calculating risk for heart disease • Calculating risk for type 2 diabetes • Calculating total daily energy expenditure (TDEE) • Subjective and objective measures of PA • Pedometers, accelerometers • Exercise stress testing (EST) • Exercise intensity assessment tools (e.g., talk test, heart rate reserve, ...) • Six-minute walk test • Cardiorespiratory fitness tests
Community-oriented practice		
Planning and evaluation of health programs Policy analysis and development Health advocacy Theories and models for behavior change at the community level	NA	• Design an advocacy plan • Design a program plan • Evaluate a program
Integrated LM practice		
Health coaching/patient-centered care Interaction between lifestyle behaviors Cognitive behavioral therapy techniques Motivational interviewing Patient fitness assessments	Tobacco use Physical inactivity Overweight Obesity Cancer Metabolic syndrome Diabetes Hypertension Hyperlipidemia	Relevant procedures as outlines in the above rotations in addition to: • Use of “agenda mapping tool” to help patients prioritize behaviors for change • - Use of decisional balance tool • - Tools to help patients set goals

6. Continuum Of Learning

Life-long continuous professional development (CPD) is fundamental for healthcare providers to meet the demands of their vital profession. However, the fellowship program has four major activities:

1. 1Academic Training
2. Clinical Training
3. Field Rotations
4. Academic half day: During all rotations, there is one full day every week dedicated to academic activities and protected research time.

The following table shows the milestones and level of competence that the fellow should acquire at the end of every training level in order to qualify to work as a consultant.

Table 8: Level of competence at the end of each training level

Specialty General Practice	Basic Level (First 8 months)	Advance Level (Last 4 months)	Fellowship Certified
Sub-specialty Non-practicing	Dependent/supervised practice	Dependent/supervised practice	Independent practice/ provide supervision
Obtain basic health science and foundational level/core discipline knowledge	Obtain fundamental knowledge related to LM's core clinical problems	Apply knowledge to provide appropriate clinical care related to LM's core clinical problems	Acquire advanced and up-to-date knowledge related to LM's core clinical problems
Internship in the practice of discipline	Apply clinical skills such as clinical assessment, screening, and physical examination related to the core presenting problems and procedures of the specialty	Analyze and interpret the findings from clinical skills to develop appropriate lifestyle modification and management plan for the patient	Compare and evaluate challenging, contradictory findings and develop evidence based approaches in LM intervention for preventing and reversing the diseases.

Teaching Methods

The teaching process in the LM fellowship training program is based mainly on the principles of adult learning theory. Trainees will achieve the competencies described in the curriculum through a variety of learning methods, which include lectures, tutorials/seminars, demonstrations/observation, task performance/practice/observation, assignments or projects, research (e.g., audits), journal clubs, conferences or workshops, clinical experiences, ward rounds, committee/multidisciplinary team meetings, coaching, mentoring, interactive multimedia (e.g., audio/video conferencing), problem solving, case studies, and discussion groups. There will be a balance between different modes of learning, ranging from formal teaching programs to experiential learning. Formal training time includes the following three formal teaching activities:

- Program Specific Learning Activities
- Universal topics
- General Learning Opportunities

1. Program Specific learning activities:

Program-specific activities are educational activities that are specifically designed and intended for trainees. The trainees are required to attend these activities, and non-compliance can subject trainees to disciplinary actions. The attendance and participation in these activities are linked to the continuous assessment tools (see the formative assessment section below).

A) Program Academic half-day:

Every week, at least 2-4 hours of formal training time (commonly referred to as academic half day) are allotted for inculcating the efficient use of available resources and optimizing the exchange of expertise. The recommended number of half-days to be conducted is 40 sessions per academic year. Time will also be reserved for other teaching methods, such as journal club and clinical/practical teaching.

Attendance:

In order to learn the concepts of LM and to be integrated into the LM fellowship program, all fellows are expected to attend academic half-days (AHDs) during their fellowship training. The academic half-days (AHDs) are conducted on a weekly basis between 8:00 a.m. and 12:00 p.m.

If special circumstances cause a fellow to be absent from an AHD, the fellow in question must notify the relevant coordinator as far in advance as possible (approval of the absence will be subject to approval by the program director). Failure to do so may result in disciplinary action. In preparation for any exam during the fellowship year, fellows are permitted to skip AHD during the week preceding the exam date. Following their exams, attendance at AHDs is mandatory until fellows have finished the fellowship program.

Structure:

The academic half-day covers the core topics of LM, which are determined and approved by the scientific council and are aligned with specialty-defined competencies and teaching methods.

The AHDs consist of several types of sessions that are scheduled by the program director, such as a short lecture by the tutors. The main part is the lectures presented by the candidates themselves, and these lectures are followingly discussed with the tutors. Moreover, in order to develop the students' skills in core procedures, the core topics can be presented in the form of workshops, team-based learning (TBL), or simulation. The topics are based on program

development, application of programs, communication skills demonstrations, problem solving, medical research, and statistics.

Trainees will coordinate with their supervisor to choose any topics relevant to the rotation; these topics will be presented by the fellow during the academic day. Each trainee should present at least four topics within the specialty. Table 9 shows the general structure of the half-day program, which may be adjusted and changed longitudinally throughout the entire training year.

Table 9: General structure of the half-day program*

Item	Time(1): 9:00 -10:20	Time (2): 10:40-12:00
Week 1	Epidemiology of life style risk factors and related disease.	Critical appraisal
Week 2	Risk assessment and clinical life style prescriptions	Clinical Case Presentation
Week 3	Evidence based clinical interventions and approaches	Procedure (demonstration/ practice)
Week 4	Community based life style medicine intervention	Guest speaker

- Top Conditions and Procedures in Lifestyle Medicine (see the Introduction and Competency-Based Education and Learning Outcomes)

B) Clinical/practical teaching and practice-based learning

This includes courses and workshops (e.g., simulations, standardized patients, bedside teaching) and practice-based learning, as follows:

Table 10: Different teaching methods with related objectives and assessment tools.

Teaching method	Name	Objectives	Formative Assessment Tool
Course	Principles of Health Behavior Change	• Cite the health behavior theories and models used to explain and assess the individual and community-based health behaviors. • Evoke behavior change as appropriate for the patient and that patient's stage of change for that particular behavior	• Case based discussion • Log book • Direct Observation for Procedural Skills (DOPS)
Workshop	Motivation Interviewing: learning the basics	• Describe the principles of motivational interviewing • Explain the basic skills of motivation interviewing • Utilize reflective listening skills. • Change talk strategies. • List the tips from motivation interviewing. • Participate actively in an action plan.	• Case based discussion • Log book • Direct Observation for Procedural Skills (DOPS)

Workshop	Cognitive and Behavioral treatment strategies	• Describe the difference between cognitive and behavioral strategies. • Discuss the treatment consideration for priority population • Conduct cognitive behavioral therapy (CBT) during the pre-change period and the change period. • Acquire the skills of relapse prevention and maintenance	• Case based discussion • Log book • Direct Observation for Procedural Skills (DOPS)
Clinic or bedside teaching	Daily Round-based Learning	• Present the findings of a focused history and physical examination to the team. • Document historical and physical examination findings according to accepted formats, including a complete written database, problem list, and a focused S.O.A.P. (i.e., subjective, objective, assessment, and plan) note. • Develop a patient management plan in consultation with others. • Present a complete, concise, and informative follow-up for previous patients.	• Direct Observation for Procedural Skills (DOPS) • Mini-CEX: mini-Clinical Evaluation Exercise
Clinic or bedside teaching	Clinic-Based Learning (CBL)	• Elicit a focused history and physical examination under the supervision of the consultant/senior resident. • Briefly present the clinical findings to the attending consultant/senior resident. • Discuss the differential diagnosis and the management plan with the attending consultant/senior resident. • Write the patient's assessment, differential diagnosis, and the management plan. • Develop communication skills by observing the attending consultant/senior resident.	• • Direct Observation for Procedural Skills (DOPS) • • Mini-CEX: mini-Clinical Evaluation Exercise

1.2. Universal Topics

These are high-value interdisciplinary topics that are of utmost importance to trainees. They must be centrally imparted to ensure that every trainee receives high-quality teaching and develops essential core knowledge. These topics are common to all specialties and are recommended to be taught for 1.5 hours per week.

The topics are delivered in a modular fashion. An online formative assessment was conducted at the end of each module. After all of the topics have been completed, there will be a combined summative assessment that is rich in content. This assessment will only contain multiple-choice questions. All trainees must attain at least minimum competency in the summative assessment.

Module 1: Introduction

1. Safe drug prescribing
2. Hospital acquired infections
3. Sepsis; SIRS; DIVC
4. Antibiotic stewardship
5. Blood transfusion

Safe drug prescribing: At the end of the learning unit, you should be able to:

a) Recognize the importance of safe drug prescribing in healthcare.

b) Describe various adverse drug reactions with examples of commonly prescribed drugs that can cause such reactions.

c) Apply principles of drug-drug interactions, drug-disease interactions, and drug-food interactions in common situations.

d) Apply principles of prescribing drugs in special situations such as renal failure and liver failure.

e) Apply principles of prescribing drugs in elderly and pediatric patents, and during pregnancy and lactation.

f) Promote evidence-based and cost-effective prescribing.

g) Discuss the ethical and legal framework governing safe-drug prescribing in Saudi Arabia.

Hospital Acquired Infections (HAI): At the end of the learning unit, you should be able to:

a) Discuss the epidemiology of HAI with special reference to HAI in Saudi Arabia.

b) Recognize HAI as one of the major emerging threats in healthcare.

c) Identify the common sources and set-ups of HAI.

d) Describe the risk factors of common HAIs such as ventilator-associated pneumonia, MRSA, CLABSI, and vancomycin-resistant Enterococcus (VRE).

e) Identify the role of healthcare workers in the prevention of HAI.

f) Determine appropriate pharmacological (e.g., selected antibiotic) and non-pharmacological (e.g., removal of indwelling catheter) measures for the treatment of HAI.

g) Propose a plan to prevent HAI in the workplace.

Sepsis, SIRS, and DIVC: At the end of the learning unit, you should be able to:

a) Explain the pathogenesis of sepsis, SIRS, and DIVC.

b) Identify patient-related and non-patient-related predisposing factors of sepsis, SIRS, and DIVC.

c) Recognize a patient at risk of developing sepsis, SIRS, and DIVC.

d) Describe the complications of sepsis, SIRS, and DIVC.

e) Apply the principles of management of patients with sepsis, SIRS, and DIVC.

f) Describe the prognosis of sepsis, SIRS, and DIVC.

Antibiotic Stewardship: At the end of the learning unit, you should be able to:

a) Recognize antibiotic resistance as one of the most pressing public health threats globally.

b) Describe the mechanism of antibiotic resistance.

c) Determine the appropriate and inappropriate use of antibiotics.

d) Develop a safe and proper antibiotic usage plan, which includes accurate information regarding indications, types of antibiotics, their duration of use, and discontinuation.

e) Appraise the local guidelines regarding the prevention of antibiotic resistance.

f) Describe the prognosis of sepsis, SIRS, and DIVC.

Antibiotic Stewardship: At the end of the learning unit, you should be able to:

a) Recognize antibiotic resistance as one of the most pressing public health threats b) Describe the mechanism of antibiotic resistance.

c) Determine the appropriate and inappropriate use of antibiotics.

d) Develop a safe and proper antibiotic usage plan, which includes accurate information regarding indications, types of antibiotics, their duration of use, and discontinuation.

e) Appraise the local guidelines regarding the prevention of antibiotic resistance.

Blood Transfusion: At the end of the learning unit, you should be able to:

a) Review the different components of blood products available for transfusion.

b) Recognize the indications and contraindications of blood product transfusion.

c) Discuss the benefits, risks, and alternatives to transfusion.

d) Undertake consent for specific blood product transfusion.

e) Perform the steps necessary for a safe transfusion.

f) Develop an understanding of the special precautions and procedures necessary during massive transfusions.

Recognize transfusion-associated reactions and provide immediate management. The following are mandatory modules that need to be completed:

Module 2: Cancer

6. Principles of cancer management
7. Side effects of chemotherapy and radiation therapy
8. Oncologic emergencies
9. Cancer prevention
10. Surveillance and follow-up care for cancer patients

Principles of Cancer Management: At the end of the learning unit, you should be able to:

a) Discuss the basic principles of staging and grading of cancers.

b) Enumerate the basic principles, (e.g., indications, mechanism, types) of:

a. Cancer surgery

b. Chemotherapy

c. Radiotherapy

d. Immunotherapy

e. Hormone therapy

Side Effects of Chemotherapy and Radiation Therapy: At the end of the learning unit, you should be able to:

a) Describe important side effects (e.g., frequent or life-threatening) of common chemotherapy drugs.

b) Explain the principles of monitoring the side-effects experienced by a patient undergoing chemotherapy.

c) Describe pharmacological and non-pharmacological measures available to ameliorate the side effects of commonly prescribed chemotherapy drugs.

d) Describe important (e.g., common and life-threatening) side effects of radiation therapy.

e) Describe pharmacological and non-pharmacological measures available to ameliorate the side effects of radiotherapy.

Oncologic Emergencies: At the end of the learning unit, you should be able to:

a) Enumerate important oncologic emergencies encountered both in hospital and ambulatory settings.

b) Discuss the pathogenesis of important oncologic emergencies.

c) Recognize the oncologic emergencies.

d) Institute immediate measures when treating a patient with oncologic emergencies.

e) Counsel the patients in anticipatory manner to recognize and prevent oncologic emergencies.

Cancer Prevention: At the end of the learning unit, you should be able to:

a) Conclude that many major cancers are preventable.

b) Identify that abstinence from smoking and lifestyle modifications are major prevention measures.

c) Recognize cancers that are preventable.

d) Discuss major cancer prevention strategies at the individual and national level.

e) Counsel patients and families in a proactive manner regarding cancer prevention, which includes screening.

Surveillance and Follow-Up Care for Cancer Patients: At the end of the learning unit, you should be able to:

a) Describe the principles of surveillance and follow-up care for patients with cancer.

b) Enumerate the surveillance and follow-up care plan for common forms of cancer.

c) Describe the role of primary care physicians, family physicians, and others with respect to the surveillance and follow-up care for cancer patients.

d) Liaise with oncologists to provide surveillance and follow-up care for patients with cancer.

Module 3: Diabetes and Metabolic Disorders

1. Recognition and management of diabetic emergencies
2. Management of diabetic complications
3. Comorbidities of obesity
4. Abnormal ECG

Recognition and Management of Diabetic Emergencies: At the end of the learning unit, you should be able to:

a) Describe pathogenesis of common diabetic emergencies, including their complications.

b) Identify risk factors and groups of patients who are vulnerable to such emergencies.

c) Recognize a patient presenting with diabetic emergencies.

d) Institute immediate management.

e) Refer the patient to the appropriate next level of care.

f) Counsel patients and their families to prevent such emergencies.

Management of Diabetic Complications: At the end of the learning unit, you should be able to:

a) Describe the pathogenesis of important complications of type 2 diabetes mellitus.

b) Screen patients for such complications.

c) Provide preventive measures for such complications.

d) Treat such complications.

e) Counsel patients and families with special emphasis on prevention.

Comorbidities of Obesity: At the end of the learning unit, you should be able to:

a) Screen patients for presence of common and important comorbidities of obesity.

b) Manage obesity-related comorbidities.

c) Provide dietary and lifestyle advice for the prevention and management of obesity.

Abnormal ECG: At the end of the learning unit, you should be able to:

a) Recognize common and important ECG abnormalities.

b) Institute immediate management, if necessary.

Module 6: Frail Elderly

1. Assessment of frail elderly
2. Mini-mental state examination
3. Prescribing drugs to the elderly
4. Care for the elderly

Assessment of Frail Elderly: At the of the learning unit, you should be able to:

a) Enumerate the differences and similarities between the comprehensive assessment of the elderly and the assessment of other patients.

b) Perform comprehensive assessment, in conjunction with other members of the health care team, of a frail elderly with special emphasis on their social factors, functional status, quality of life, diet and nutrition, and medication history.

c) Develop a problem list based on the assessment of the elderly.

Mini-Mental State Examination: At the end of the learning unit, you should be able to:

a) Review the appropriate usages, advantages, and potential pitfalls of Mini-MSE.

b) Identify patients suitable for mini-MSE.

c) Screen patients for cognitive impairment through mini-MSE.

Prescribing Drugs in the Elderly: At the end of the learning unit, you should be able to:

a) Discuss the principles of prescribing for the elderly.

b) Recognize polypharmacy, prescribing cascade, inappropriate dosages, inappropriate drugs, and deliberate drug exclusion as major causes of morbidity in the elderly.

c) Describe physiological and functional declines in the elderly that contribute to increased drug-related adverse events.

d) Discuss drug-drug interactions and drug-disease interactions among the elderly.

e) Attain familiarity with the Beers criteria.

f) Develop a rational prescribing habit for the elderly.

g) Counsel elderly patients and their families regarding the safe usage of medication.

Care of the Elderly: At the end of the learning unit, you should be able to:

a) Describe the factors that need to be considered while planning care for the elderly.

b) Recognize the needs and well-being of care-givers.

c) Identify the local and community resources available in the care of the elderly.

d) Develop, with inputs from other healthcare professionals, individualized care plan for elderly patients.

Module 7: Ethics and Healthcare

1. Occupational hazards of health care workers (HCWs)
2. Evidence-based approach to smoking cessation
3. Patient advocacy
4. Ethical issues: transplantation/organ harvesting; withdrawal of care
5. Ethical issues: treatment refusal; patient autonomy
6. Role of doctors in death and dying

Occupation Hazards of HCWs: At the end of the learning unit, you should be able to:

a) Recognize common sources and risk factors of occupational hazards among HCWs.

b) Describe common occupational hazards in the workplace.

c) Develop familiarity with legal and regulatory frameworks governing occupational hazards among HCWs.

d) Develop a proactive attitude to promote workplace safety.

e) Protect yourself and colleagues against potential occupational hazards in the workplace.

Evidence Based Approach to Smoking Cessation: At the end of the learning unit, you should be able to:

a) Describe the epidemiology of smoking and tobacco usages in Saudi Arabia.

b) Review the effects of smoking on the smoker and their family members.

c) Effectively use pharmacologic and non-pharmacologic measures to treat tobacco usage and dependence.

d) Effectively use pharmacologic and non-pharmacologic measures to treat tobacco use and dependence among special population groups such as pregnant women, adolescents, and patients with psychiatric disorders.

Patient Advocacy: At the end of the learning unit, you should be able to:

a) Define patient advocacy.

b) Recognize patient advocacy as a core value governing medical practice.

c) Describe the role of patient advocates in the care of patients.

d) Develop a positive attitude towards patient advocacy.

e) Be a patient advocate in situations of conflict.

f) Be familiar with local and national patient advocacy groups.

Ethical issues: transplantation/organ harvesting; withdrawal of care: At the end of the learning unit, you should be able to:

a) Apply key ethical and religious principles governing organ transplantation and the withdrawal of care.

b) Attain familiarity with the legal and regulatory guidelines regarding organ transplantation and the withdrawal of care.

c) Counsel patients and their families in the light of applicable ethical and religious principles.

d) Guide patients and families to make informed decisions.

Ethical issues: treatment refusal; patient autonomy: At the end of the learning unit, you should be able to:

a) Predict situations where a patient or family is likely to decline prescribed treatment.

b) Describe the concept of 'rational adult' in the context of patient autonomy and treatment refusal.

c) Analyze key ethical, moral, and regulatory dilemmas related to treatment refusal.

d) Recognize the importance of patient autonomy in the decision-making process.

e) Counsel patients and families who decline medical treatment with the best interests of the patients in mind.

Role of Doctors in Death and Dying: At the end of the learning unit, you should be able to:

a) Recognize the important role a doctor can play when a patient is dying.

b) Provide emotional and physical care to a dying patient and their family.

c) Provide appropriate pain management for a dying patient.

d) Identify suitable patients and refer them to palliative care services.

1.3. General Learning Opportunities:

Afternoon Journal Clubs, Critical Appraisal, and Evidence-based Medicine Activity:

- This activity will be held in collaboration with experts in Critical Appraisal and Evidence-based Medicine. The articles will be appraised by the candidate and a discussion will followingly take place for teaching purposes.
- The activities were conducted weekly between 1:00 and 4:00 p.m. on the same day as AHDs.
- The fellow or the program director chooses a high-quality article from a recognized medical journal and forwards it to one of the fellows at least two weeks prior to the scheduled meeting.
- The objectives of the journal club are as follows:

• Promoting persistent professional development.

• Learning and practicing critical appraisal skills.

• Remaining abreast of updated literature.

• Assessing information and building a debate on best practice.

• Performing evidence-based practice.

ASSESSMENT AND EVALUATION

Assessment Purpose

- Guide trainees and trainers to achieve defined standards, learning outcomes, and competencies.
- Provide feedback to learners and faculty regarding curriculum development, teaching methods, and the quality of the learning environment.
- Develop professional growth.
- Monitor progress.
- Judgment and certification of competency.
- Evaluate the quality of the training program.

General Principles

- Judgment should be based on the holistic profiling of a trainee rather than individual traits or instruments.
- An assessment should be continuous and linked to the curriculum and content.
- The trainee and faculty must review their portfolio and logbook once every two months and at the end of a rotation.
- The SCFHS policy for continuous assessment and exams at the end of the year, including final examinations, should be followed.
- The assessment is divided into two parts:

1) Formative assessment (i.e., a continuous assessment process during the training period), which includes:

- ePortfolio and Reflection
- Logbook
- Mini-Clinical Evaluation Exercise (Mini-CEX)
- Direct Observation for Procedural Skills (DOPS)
- Case Based Discussion (CBD)

2) Summative Assessment (an assessment at the end of the program), which includes:

- Objective structured clinical examination (OSCE)
- Written exam

1) Formative Assessment

• As adult learners, trainees should constantly seek feedback as they ascend from "novice" to "mastery" levels over the duration of their fellowship. Formative assessment (also referred to as continuous assessment) consists of a range of assessment procedures administered throughout an academic year. It primarily aims to provide trainees with effective feedback. Inputs from overall formative assessment tools (Table 11) will be utilized at the end of the fellowship to compile the final results and ascertain whether a student has passed or failed the assessment in accordance with the executive policy on continuous assessment (available online: www.scfhs.org). The formative assessment will have the following features:

1. Multisource: It will include sources such as a logbook, ePortfolio, reflection, Mini-Clinical Evaluation Exercise (mini-CEX), case-based discussion (CBD), and direct observation of procedural skills (DOPS).
2. Comprehensive: It will cover all learning domains (knowledge, skills, and attitudes).
3. Relevant: It will utilize workplace-based assessments––namely the Mini-CEX and DOPS.
4. Competency- and milestone-oriented: It will assess the competencies that a trainee is expected to have acquired in accordance with their development level using logbooks, ePortfolios, and reflection.

• Trainees should play an active role in seeking feedback during training. On the other hand, trainers are expected to administer timely and formative assessments through an effective ePortfolio system to enhance the communication and analysis of data that are obtained from the formative assessment. Completion of the fellowship depends on the satisfactory performance of the trainee in each rotation during the one-year period. Additionally, the trainee should satisfactorily pass each assessment tool (borderline/clear pass/fail).

• To fulfill the CanMEDS competencies during rotation, the resident's performance will be evaluated jointly by relevant staff members to ensure that the trainees are observed over a range of realistic clinical tasks and settings and by different assessors who will evaluate their competencies and provide feedback, create plans for remediation, and facilitate the improvement of the trainees':

1. Performance during daily work.
2. Performance and participation in academic activities.
3. Performance in 10 to 20 minutes of directly observed trainee–patient interaction by providing timely and specific feedback to the trainee following the assessment of each trainee–patient encounter (Mini-CEX and CBD).
4. Diagnostic and therapeutic skills through timely and specific feedback following each procedure using the direct observation of procedural skills (DOPS) form.

• The CanMEDS-based in-training evaluation report (ITER) must be completed (preferably in electronic format) with the signatures of at least two consultants within two weeks of the end of each rotation. The program director discusses the evaluations with the residents as necessary.

• Academic and clinical assignments should be documented in an electronic tracking system (e-Logbook when applicable) on an annual basis. Evaluations are based on accomplishing the minimum requirements for the procedures and clinical skills, as determined by the program.

1.1 Formative Assessment Tools

Table 11: Specific learning domains of the different Formative Assessment Tools

Learning Domain	Formative Assessment Tools	Frequency / Description
Knowledge	Structured Academic Activates	Twice
	Case-Based Discussion (CBD)	At least 4 times
Skills	OSCE: Objective structured clinical examination	One
	Logbook	
	DOPS: Direct Observation for Procedural Skills	Once per rotation
	Mini-CEX: mini-Clinical Evaluation Exercise	Once per rotation
	Research Activities	Project
	Volunteering Activities	Once
Attitude	ITER: In-Training Evaluation Report	Once per rotation (how people interact and communicate, and how things are organized and prioritized)

1.1.1 ePortfolio and Reflection

An ePortfolio will be prepared and managed by the trainees, and the mentors that they select at the beginning of the fellowship will continuously supervise them. It is the mentor's responsibility to check the ePortfolio every month and provide online feedback to all their trainees. The portfolio should include the following:

- A curriculum vitae
- A professional development plan
- The records of educational training events that one has attended
- The reports of educational supervisors
- Case write-ups
- Reflections
- Others: patient feedback, clinical audits.

1.1.2 Logbook

A logbook is mainly intended to serve as a record of all educational activities. It facilitates assessment and the provision of feedback.

Trainees' logbooks will be signed by all supervisors at their training sites after the completion of each required educational activity. The logbook will be a part of the portfolio and it will be maintained in accordance with Enquiry. The logbook serves the following purposes:

- It continually monitors trainees' performance.
- It documents the cases that have been seen and accomplished by the trainees.
- It maintains a record of diagnosis and interventions that trainees have conducted.
- It helps trainees and supervisors determine learning gaps.
- It provides useful information that the supervisor can utilize to provide feedback to the trainee.

1.1.3 Mini-CEX and DOPS

- Formative miniCEX is designed to inform learning.
- MiniCEXs may be conducted face-to-face or remotely using virtual technology.
- A minimum of five miniCEX reviews must be submitted to 'satisfactory complete' the formative assessment.
- Mini-CEX and DOPS will be used to observe and provide feedback to trainees to improve their skills.
- Designed to support learning by providing a secure record of appraisal discussions, an ongoing personal development plan, workplace assessments, and reflections on clinical and other learning experiences.
- Mini-CEX is a structured assessment of an observed clinical encounter. This "snapshot" is designed to help one provide feedback about the skills that are essential to the provision of good clinical care. The observer will provide immediate feedback, and the evidence will be rated and recorded in the trainee's ePortfolio. On the other hand, DOPS has been designed to assess and provide feedback on procedural skills that are essential to the provision of good mental healthcare. The selected mandatory procedures were chosen because they are considered to be sufficiently important and/or technically demanding to warrant specific assessments.

1.1.4 CBD (Case-Based Discussion)

- The aim of CBD is to guide a trainee's learning by providing structured feedback and improving clinical decision-making, knowledge, and patient management.
- Throughout their one-year fellowship, trainees will be required to work with patients while being observed by their supervisors. At least 15 minutes should be dedicated to sharing feedback. The CBD assesses trainees' clinical reasoning and formulation of a management plan.
- Trainers are encouraged to perform at least four CBDs.

1.1.5 Research Activity

Evidence-based medicine and research methodology activities should be incorporated into the program's academic schedule. Fellows are required to submit a full research project at the end of the fellowship program.

Research Supervisors

o Supervisors should have sufficient experience in research and publications. They should preferably also have published papers in peer-reviewed journals.

o Supervisors should be consultants in any medical specialty.

o The supervisor is responsible for:

- Reviewing and approving the research proposal and timeline created by the fellow.
- Regularly supervising the fellow in accordance with the timeline.
- Documenting all supervision sessions in the Research Progress Form.
- Reporting all supervision sessions to the research committee.
- Reviewing and approving the final copy of the proposal and manuscript.
- Signing the research submission letter and stating that the research was conducted under supervision and guidance.
- Participating in the evaluation of proposals and research papers submitted to the research committee (if required).
- Attending the annual research day.

The role of the fellow

• The fellow is responsible for preparing and conducting research within the timeline specified by the program. They also need to follow up with their supervisors and departmental research units. They should report any difficulties encountered in the program to either the director or their deputy.

• They select a research topic under the guidance of a supervisor and with consideration of the FINER points (F- Feasible, I- Interesting, N- Novel, E- Ethical and R- Relevant)

• They prepare, finalize, and submit the proposal to a supervisor for approval.

• They conduct research and write the manuscript.

1.1.6 Volunteering Activities

Objective:

Volunteering activities are required during community-oriented rotations to promote health and well-being in the community.

Process:

o Work through recognized volunteering institutions or activities (see examples below).

o Acquire the pre-approval of the clinical supervisor and the program director

o Provide documents of evidence (e.g., letters, certificates) as a prerequisite for issuing a training completion certificate.

Examples of volunteering activities:

o Health education campaigns for the public.

o Health promotion campaigns.

o Health prevention campaigns.

o Other institutions related to health care.

2) Summative Assessment:

General Principles

Summative assessment is the component of an assessment that aims to make informed decisions about a trainee's competency. Unlike the formative assessment, the summative assessment does not aim to provide constructive feedback. For further details on this type of assessment, please refer to the pertinent general bylaws and executive policy (available online: www.scfhs.org). In order to be eligible to take the final examination, a trainee should have been granted the "Certificate of Training Completion."

Certificate of Training Completion

In order to be eligible to take the final specialty examinations, each trainee is required to obtain the "certification of training-completion." In accordance with the training by-laws and executive policy (please visit www.scfhs.org for more details), trainees will be granted the "Certificate of Training Completion" once they fulfill the following criteria:

1. Successful completion of all training rotations.
2. Completion of training requirements as outlined by the scientific council/committee for a specialty (e.g., logbook, research, others).
3. Clearance from the Saudi Commission of Health Specialties (SCFHS) with regard to compliance with payment of tuition fees and completion of other requirements.

The "Certificate of Training Completion" will be issued and approved by the local supervisory committee or its equivalent as per the policies of the SCFHS.

Clinical Examination

The final specialty examination is the component of the summative assessment that grants trainees certification in their chosen specialty. It consists of the following two components:

1) Final written examination: In order to be eligible for this examination, trainees are required to have the “Certificate of Training Completion”

2) Final clinical/practical examination: Trainees will be required to pass the final written examination to be eligible for the final clinical/practical examination.

The blueprints presented in Table 12 summarize the objectives of the examinations. It can be used to help trainees prepare for examinations. As this is subject to changes, please refer to the updated version of the blueprint
(available online at www.scfhs.org.sa).

Table 12: Blueprint of the Final Specialty Examination:

Categories	Sections	Proportion
Behavioral Medicine (10%)	Principles and Concepts of Behavioral Medicine	4%
	Treatment adherence and compliance	2%
	Doctor-patient relationship	2%
	Health psychology	2%
Nutrition (25 %)	Obesity	5%
	Nutritional guidelines	2%
	Nutrition in treating diseases	3%
	Nutrition prescriptions for common chronic diseases (hyperlipidemia, diabetes, hypertension, and cancer)	15%
Mental health (20%)	Cognitive behavior therapy	10%
	Relaxation, mindfulness, and positive psychology	3%
	Anxiety and depression	5%
	Stress management	2%
Addiction medicine (10%)	Assessment and treatment of tobacco, alcohol, and substance abuse	10%
Sleep medicine (10%)	Sleep and its effect on health and well-being Sleep disorders (diagnosis and management)	10%

Cardiorespiratory (20%)	Lipid disorders	5%
	Cardiorespiratory function assessment	5%
	Cardiac risk assessment and management	5%
	Cardiorespiratory fitness and physiology	2%
	Physical activity guidelines	3%
Community-oriented practice (5%)	Planning and evaluation of health programs Policy analysis and development Health advocacy	5%

Program and Courses Evaluation

The SCFHS will apply variable measures to evaluate the implementation of this curriculum. The training outcomes of this program will undergo the quality assurance framework endorsed by the Central Training Committee of the SCFHS. Trainees' assessment (both formative and summative) results will be analyzed and mapped to curriculum content. The other indicators that will be incorporated are as follows:

- Report of the annual trainees' satisfaction survey.
- Reports from trainees' evaluation of faculty members.
- Reports from trainees' evaluation of rotations.
- Reports from the annual survey of program directors.
- Data available from program accreditations.
- Reports from direct field communications with trainees and trainers.

Goal-based Evaluation: The intended achievement of milestones will be evaluated at the end of each stage to assess the progress of the curriculum delivery. Any deficiency will be addressed in the following stage utilizing the time devoted to trainee-selected topics and professional sessions.

In addition to subject-matter opinion and best practices from benchmarked international programs, the SCFHS will apply a robust method to ensure that this curriculum will utilize all the available data during the revision of this curriculum in the future.

Policies and Procedures

This curriculum outlines the means, materials, learning objectives that the trainees and trainers will interact with to achieve the identified educational outcomes. The SCFHS has a complete set of "General Bylaws" and "Executive Policies" (published on the official SCFHS website) that regulate all processes related to training. The regulations that need to be applied include general bylaws of training, assessment, and accreditation, as well as the executive policies on admission, registration, continuous assessment and promotion, examination, trainees' representation and support, duty hours, and leaves. Trainees, trainers, and supervisors need to apply this curriculum in compliance with the most updated bylaws and policies, which can be accessed online (via the official SCFHS website).

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