



National Clerkship Curriculum

2nd Edition, 2018

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INTRODUCTION & HISTORY

Family medicine is an essential component of the primary care infrastructure of the US health care delivery system. This primary care specialty provides first contact, ongoing, and preventive care to all patients regardless of age, gender, culture, care setting, or type of problem. Family medicine clinical experiences allow students to understand how context influences the diagnostic process and management decisions. Students learn the fundamentals of an approach to the evaluation and management of frequently occurring, complex, concurrent, and ill-defined problems across a wide variety of acute and chronic presentations.

Every medical student should have a third-year family medicine clerkship in addition to earlier primary care experiences. Experiential learning in primary care and the principles and methods of family medicine provides essential patient care knowledge and skills necessary for generic medical school development, regardless of ultimate career choice. By the third year of training, students should have developed the basic skills and mental maps required to understand the content of a family medicine clerkship and the role of family physicians in delivering this type of care. Family medicine clerkships across the country provide a wide variety of educational experiences, due to the breadth of care provided by family physicians. In a positive sense, this breadth gives clerkship directors the autonomy to address regional variation in prevalence of diseases and supplement areas of need in their medical schools' curricula.

In 2008, current Society of Teachers of Family Medicine president, Scott Fields, MD, MHA, convened a task force to define the objectives and conditions for a core family medicine clerkship curriculum. Through an iterative process of meetings and feedback, the task force developed a list of common and important patient problems frequently encountered in the family medicine office. From this list, the Family Medicine Clerkship Curriculum was created. The original Family Medicine Clerkship Curriculum Task Force (C4 Task Force) included members of the Association of Departments of Family Medicine, the Association of Family Medicine Residency Directors, the American Academy of Family Physicians, the Family Medicine Curriculum Resources project, and fmCASES – a set of virtual patient cases.

After development of the original Family Medicine Clerkship Curriculum, now known as the National Clerkship Curriculum (NCC), it was disseminated to family medicine educators and accessible through the NCC website. This original document can be found in the [National Clerkship Curriculum Archives](#). The NCC Editorial Board was subsequently created and charged to maintain the NCC website so that the content of the curriculum was clearly described and support was provided to clerkship directors to enable them to teach these competencies. The website has grown to include not only the original curriculum goals and objectives, but also descriptions of educational methods and assessment strategies as well as peer-reviewed best practice curricula.

C4 Task Force Members:
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In 2016, the NCC Editorial Board began the process of revising the National Clerkship Curriculum to

ensure it still met the needs of family medicine educators and students and was reflective of current primary care practice. After soliciting feedback from clerkship directors, the ultimate implementers of the content, the editorial board began its work. Overall, it was felt that the NCC document remained relevant and appropriate. The goals of teaching students the value of primary care remained a cornerstone whereupon the skills of historical assessment, physical examination, communication, and critical thinking and decision-making skills should be built. The structure of the document changed slightly in this revision, with the goal of developing a more user-friendly format. The final version of the first revision was launched in 2018. It was determined by the editorial board that a revision process should take place every 7-9 years to ensure the goals of the original task force continue to be carried out and content kept pace with the ever-changing field of medicine.

**National Clerkship Editorial Board Members
2018 Content Revision**

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Since its inception, the National Clerkship Curriculum has served as a guide for clerkship directors and describes a minimum standard training experience that are linked to a national subject examination and supported by national resource materials. The National Clerkship Curriculum is a set of learning objectives and common conditions tied to one of three types of office visits – patients presenting for acute, chronic, or preventive care. It is not a list of all possible patient presentations that family physicians competently manage. Clerkship directors are encouraged to adopt the contents of this curriculum and integrate it within the greater context of their medical school and clerkship structure.

In addition, while complexity is addressed throughout the document, including patients with multiple concerns, various psychosocial issues, and different, sometimes conflicting behaviors that influence their health and health care, it does not fully capture this complexity. Clerkship directors must weave some of this content into the curriculum as appropriate for their individual medical school curricula, students, and times of the year.

The National Clerkship Curriculum document includes the following:

- Clerkship Curriculum Goals
- Student Learning Goals
- Clerkship Objectives
 - Principles of Family Medicine
 - Clinical Experiences
 - Acute Care
 - Chronic Care
 - Health Promotion & Preventive Care
 - The Role of Family Medicine

Within many of these sections are key messages and student learning objectives. Additional topic-specific objectives can be found in the tables.

The acquisition of content knowledge is a key component of the family medicine clerkship, but equally as important, students should build skills toward competent patient care. Teaching these skills involves hands-on training, and assessing these skills requires observation. The Association of American Medical Colleges defines many of these skills in their “Core Entrustable Professional Activities for Entering Residency.” Each of these EPAs can be taught within the content of the National Clerkship Curriculum and the structure of a family medicine clerkship, which illustrates the indispensable nature of this clerkship within the greater sphere of medical education.

This curriculum has been endorsed by STFM, the AAFP, and the other Council of Academic Family Medicine organizations: ADFM, AFMRD, and NAPCRG. This initiative was funded by the STFM donors who support the STFM Foundation.

PURPOSE & GOALS

The overarching purpose of the family medicine clerkship is to provide foundational knowledge and skill acquisition pertinent to the practice of family medicine to all medical students.

The Goals of the Family Medicine Clerkship Curriculum are to:

- Demonstrate the unequivocal value of primary care as an integral part of any health care system.
- Teach an approach to the evaluation and initial management of acute presentations commonly seen in the office setting.
- Teach an approach to the management of chronic illnesses that are commonly seen in the office setting.
- Teach an approach to conducting a wellness visit for a patient of any age or gender.
- Model the principles of family medicine.
- Provide instruction in historical assessment, communication, physical examination, and clinical reasoning skills.

The Student Learning Goals for the Family Medicine Clerkship:

At the end of the family medicine clerkship, each student should be able to:

- Discuss the principles of family medicine care.
- Gather information, formulate differential diagnoses, and propose plans for the initial evaluation and management of patients with common presentations.
- Manage follow-up visits with patients having one or more common chronic diseases.
- Develop evidence-based health promotion/disease prevention plans for patients of any age or gender.
- Demonstrate competency in advanced elicitation of history, communication, physical examination, and critical thinking skills.
- Discuss the critical role of family physicians within any health care system.

CLERKSHIP OBJECTIVES

The Principles of Family Medicine

The family medicine method of delivering health care was developed in the late 1960s at the inception of the specialty. The specialty embraced continuity and comprehensiveness and placed an emphasis on the patient's perspective within the context of family and community. These concepts continue to be the pillars of our specialty and are embodied in the patient-centered medical home (PCMH) and enhanced primary care (EPC) models. Medical students should learn this method of care, study our philosophy of practice, and observe our passion for our work.

Teaching in family medicine clerkships should focus on the five primary principles of family medicine. These are captured in the National Curriculum Resource Project¹ and shown in Table 1.

TABLE 1

<u>THE PRINCIPLES OF FAMILY MEDICINE</u>
Biopsychosocial model
Comprehensive care
Contextual care
Continuity of care
Coordination/complexity of care

The following student learning objectives can be incorporated into teaching of specific disease states of presenting complaints, or they can be taught independently as family medicine principles.

Learning Objectives for the Principles of Family Medicine

Biopsychosocial Model

Patient-centered communication skills:

- Demonstrate an empathic response to patients using active listening skills.
- Demonstrate the ability to set a collaborative agenda with the patient during any patient encounter.
- Demonstrate the ability to elicit, prioritize and attend to the patient's specific concerns.
- Review patient's history, physical examination, and test results using terminology that the patient can understand.
- Clarify information obtained by a patient from popular media, friends and family, or the Internet.
- Validate a patient's feelings by naming emotions and expressing empathy.
- Effectively incorporate psychological issues into patient discussions and care planning.
- Use empathy and active listening skills to improve patient adherence to medications and lifestyle changes.

¹ Stearns, et al. The Family Medicine Curriculum Resource Project Structural Framework. *Fam Med* 2007;39(1):31-7. <http://www.stfm.org/Portals/49/Documents/FMPDF/FamilyMedicineVol39Issue1Stearns31.pdf>

- Explain treatment plans for prevention and management of acute and chronic conditions to the patient.
- Reflect on personal frustrations and the patient's situation to better understand why patients do not adhere to offered recommendations or plans.

Psychosocial awareness:

- Explain why physicians have difficulty in situations such as patients' requests for disability documentation, non-adherence, and chronic narcotic use.
- Describe the influence of psychosocial factors on a patient's ability to provide a history and carry out a treatment plan.

Patient education:

- Describe mechanisms to improve adherence to and understanding of screening recommendations.
- Provide patient education tools that account for literacy and cultural factors (e.g., a handout on how to read nutrition labels).
- Describe the patient education protocols for core chronic illnesses at their assigned clerkship sites.
- Identify resources in a local practice community that support positive health outcomes for diverse patients and families.
- Promote the use of support groups and other community resources to assist patients with mental health needs.
- Identify and distribute current resources for patients with substance abuse problems at their clinic sites (e.g., lists of treatment referral centers, self-help groups, substance abuse counselors, etc.).

Comprehensive Care

Information gathering and assessment:

- Apply critical appraisal skills to assess the validity of resources.
- Formulate clinical questions important to patient management.
- Conduct an appropriate and comprehensive literature search to effectively answer clinical questions.
- Apply evidence-based medicine (EBM) to determine a cost-effective use of diagnostic imaging in the evaluation of core, acute presentations.
- Demonstrate ability to discriminate between high and low-quality evidence when searching the medical literature.
- Utilize high-quality Internet sites as resources for use in caring for patients with core conditions.
- Curate a set of high quality mobile apps for quick reference when delivering patient care.

Lifelong learning:

- Demonstrate an appropriate level of meta-cognitive skills to assess and remediate one's own learning needs.
- Describe an individualized, evidence-based process on how to keep current with preventive services recommendations.
- Create an evolving set of learning goals and measures of success for those goals that address areas for improvement.

Contextual Care

Person in context of family:

- Conduct an encounter that includes patients and families in the development of screening and treatment plans.
- Demonstrate caring and respect when interacting with patients and their families even when confronted with atypical or emotionally charged behaviors.
- Demonstrate interpersonal and communication skills that result in effective information exchange between patients of all ages and their families.
- Demonstrate an awareness of a patient’s broader family context when delivering care.

Person in context of community:

- Incorporate knowledge of local community factors that affect the health of patients into daily patient care.
- Demonstrate awareness of local, regional and national health disparities and their impact on patient care.
- Practice interpersonal and communication skills that result in effective information exchange between patients of all ages and professionals from other disciplines and other specialties.

Person in context of their culture:

- Communicate effectively with patients and families from diverse cultural backgrounds.
- Identify areas where a patient’s cultural context can impact his health through comprehension, cultural perspective, access and utilization of health care.
- Describe one’s own cultural influences and biases as they impact one’s ability to effectively deliver patient care.

Continuity of Care

Barriers to access:

- Define social determinants of health and their role in continuity of care.
- Describe the social determinants that can affect a patient’s ability to access and utilize the health care system at multiple levels:
 - Individual patient barriers
 - Community barriers
 - Health care system barriers

TABLE 2

<u>EXAMPLES OF BARRIERS TO ACCESS</u>		
Individual	Community	Health Care System
Disadvantaged minority populations (e.g., refugees, LGBTQ, incarcerated)	Low socioeconomic status of communities	High cost of healthcare
Unemployment	Geographic barriers in rural/remote and urban inner-city communities	High numbers of uninsured and under-insured individuals

<u>EXAMPLES OF BARRIERS TO ACCESS</u>		
Individual	Community	Health Care System
Lack of education	Inadequate number of healthcare providers	Insufficient capacity of mental health services
Lack of traditional family support	Inadequate availability of social services	Inadequate number and distribution of primary care providers
Inadequate access to transportation	Inadequate access to referral based health services outside of the community	Inadequate coordination of chronic disease care and management across health care disciplines
Personal beliefs of health and wellness	Increasing ethnic diversity of the population, not matched by the health care workforce	
Language and cultural barriers		

Coordination/Complexity of Care

Team Approach:

- Describe the benefits of interdisciplinary health care teams in patient care (e.g., pharmacy, nursing, social work, and allied health).
- Demonstrate skills in effective teamwork (e.g., sharing information, solving clinical problems as a team, etc.).

Quality and Safety:

- Define clinical processes established to improve performance of a clinical site.

TABLE 3

<u>EXAMPLES OF LEARNING OBJECTIVES TO ASSESS</u> <u>KNOWLEDGE OF CLINICAL PROCESSES</u>
Describe the use of a quality improvement protocol within a practice and how the protocol might improve health care
Describe methods of monitoring compliance with preventive services guidelines
Describe how one of the core chronic diseases is monitored in the assigned clerkship site
Describe how narcotic use is managed and monitored in the assigned clerkship site

Complexity of Care:

- Identify diagnostic uncertainty and the role of multi-systemic influence on a patient's condition.
- Adapt to changing patient presentation and needs.
- Utilize effective patient care management strategies in patient's presenting with complex conditions.
- Describe the use of health information technology to enhance care coordination.
- Summarize the importance of linking resources with patient and population needs.

Clinical Care

Overview

In addition to the principles of family medicine, several key messages should be imparted to students as they gain experience working with family physicians. Health care provided by family physicians has several unique characteristics that are shown in Table 3. These characteristics are highly interwoven with one another and include the importance of knowing your patient, provisions of care within a community versus tertiary-care setting, and having the opportunity to provide different types of care within the same visit. Although many types of physicians provide first-contact care, the characteristics listed below are not always present. Understanding how to provide acute and chronic disease care within this context is of benefit to all medical students.

TABLE 4

<u>KEY CHARACTERISTICS OF FAMILY PHYSICIANS</u>
Prior knowledge of the patient
Care for a diverse population
Provide care in a community setting
Multipurpose visits
Staged diagnostic approach
Opportunity for follow up care

Importance of Prior Knowledge

Having prior knowledge of a patient presenting to the office influences the diagnosis and provides an advantage in negotiating diagnostic testing and treatment strategies. Diagnostic testing can be conducted in a staged approach. First, the physician considers the most common and any dangerous diagnoses. This approach is more cost-effective than obtaining an extensive work-up initially and is appropriate for the ambulatory setting where common diagnoses are common. In addition, the opportunity for patients to follow up allows the family physician to proceed with diagnosis and treatment in a thoughtful, staged manner taking in to account the patient's age, gender, or the presence of pregnancy or any chronic illnesses.

Care in the Community Setting

The prevalence of disease varies greatly based on the care setting. These differences in prevalence change pretest probability, affecting the predictive value of a test, and altering posttest probability of a specific diagnosis. For example, a patient presenting to the family physician's office with chest pain will have a much lower likelihood of experiencing a myocardial infarction than a patient presenting with a chest pain to the emergency room or subspecialist's office.

The Multipurpose Visit

For family physicians, an acute visit sometimes presents a highly cost-effective opportunity to address chronic medical problems and health promotion. In addition, family physicians frequently care for an

entire family and many issues for the individual patient or family member often surface in the context of a single office visit.

Acute Care

The suggested topics for core acute presentations are listed in Table 5. Common infectious and non-infectious causes are listed in addition to any serious conditions that should be considered. The Topic-Specific Objectives can be used as a guide for determining important attributes related to each specific topic.

Learning Objectives for Acute Presentations

At the end of the clerkship, for each common symptom, students should be able to:

- Differentiate among common etiologies based on the presenting symptom.
- Recognize “don’t miss” conditions that may present with a particular symptom.
- Demonstrate performance of a focused history and physical examination.
- Interpret information for a patient’s history and physical exam to determine most likely diagnosis.
- Discuss the importance of a cost-effective approach to the diagnostic work-up.
- Describe the initial management of common and dangerous diagnoses that present with a particular symptom.
- Document an acute care visit.

TABLE 5

<u>CORE ACUTE PRESENTATIONS²</u>			
Topics (alphabetical)	Common Diagnoses	Serious Diagnoses	Topic-Specific Objectives
Abdominal pain	Gastro-esophageal reflux disease (GERD), gastritis, gastroenteritis, irritable bowel syndrome, dyspepsia, constipation, and depression	Appendicitis, diverticulitis, cholecystitis, inflammatory bowel disease, ectopic pregnancy, and peptic ulcer disease	Recognize the need for emergent versus urgent versus non-urgent management for varying etiologies of abdominal pain.
Abnormal vaginal bleeding	Pregnancy, ectopic pregnancy, cervical polyp, endometrial hyperplasia, medication related	Endometrial cancer, hormone producing tumors	<ul style="list-style-type: none"> • Elicit an accurate menstrual history • Recognize when vaginal bleeding is abnormal
Chest Pain	Gastrointestinal (e.g., GERD), musculoskeletal (e.g., costochondritis), cardiac (e.g., angina and myocardial infarction),	Myocardial infarction, aortic dissection, pulmonary embolism, pneumothorax	<ul style="list-style-type: none"> • Describe how age and comorbidities affect the relative frequency of common etiologies. • Apply clinical decision

² Based on frequency of diagnostic groups in the National Ambulatory Medical Care Survey (NAMCS) 2014. https://www.cdc.gov/nchs/ahcd/datasets_documentation_related.htm

CORE ACUTE PRESENTATIONS²

Topics (alphabetical)	Common Diagnoses	Serious Diagnoses	Topic-Specific Objectives
	and pulmonary (e.g., pulmonary embolism, pneumothorax)		<p>rules that use pretest probability to guide evaluation.</p> <ul style="list-style-type: none"> Recognize the indications for emergent versus urgent versus non-urgent management for varying etiologies of chest pain Recognize cardiac ischemia and injury on electrocardiogram (ECG)
Common skin lesions	Actinic keratosis, seborrheic keratosis, keratoacanthoma, melanoma, squamous cell carcinoma, basal cell carcinoma, warts, and inclusion cysts	Melanoma	<ul style="list-style-type: none"> Describe a skin lesion using appropriate medical terminology
Common skin rashes	Atopic dermatitis, contact dermatitis, scabies, seborrheic dermatitis, and urticarial		<ul style="list-style-type: none"> Describe the characteristics of the rash. Prepare a skin scraping and identify fungal elements
Cough	<p><u>Infections:</u> pneumonia, bronchitis, or other upper respiratory syndromes, and sinusitis</p> <p><u>Non-infectious causes:</u> asthma, GERD, and allergic rhinitis</p>	Lung cancer, pneumonia, and tuberculosis	<ul style="list-style-type: none"> Understand how pretest probability and the likelihood of test results altering treatment can be used to guide diagnostic testing Recognize pneumonia on a chest X-ray Conduct an appropriate pulmonary examination including auscultation, appropriate

CORE ACUTE PRESENTATIONS²

Topics (alphabetical)	Common Diagnoses	Serious Diagnoses	Topic-Specific Objectives
			identification of basic lung sounds (wheezing and rales) and percussion
Dementia (acute symptoms)	Infection (UTI, respiratory, etc.), electrolyte disturbance, urinary retention, pain, substance use/abuse, medication effect, depression	Acute cerebrovascular accident	<ul style="list-style-type: none"> • Describe the difference between acute delirium and dementia • Perform a screening test for cognitive decline (e.g. the clock drawing test or the Mini-Mental Status Examination) • Select appropriate initial diagnostic tests for a patient presenting with memory loss, focusing on tests that identify treatable causes
Depression (initial presentation)	Depression in elderly patients, depression associated with serious medical illness (e.g. MI, cancer, CHF, DM etc.), drug use, thyroid dysfunction, major depressive disorder	Intimate partner violence, child abuse/neglect, hypothyroidism, drug use, bipolar disease, suicide risk assessment	<ul style="list-style-type: none"> • Appreciate the many presentations of depression in primary care (e.g. fatigue, pain, vague symptoms, sleep disturbance, and overt depression) • Use a validated screening tool for depression • Assess suicide risk • Recognize when diagnostic testing is indicated to exclude medical conditions that may mimic depression • Recognize the role of substance use/abuse in depression and the value of identifying

CORE ACUTE PRESENTATIONS²

Topics (alphabetical)	Common Diagnoses	Serious Diagnoses	Topic-Specific Objectives
			and addressing substance use in depressed patients <ul style="list-style-type: none"> Recognize the potential effect of depression on self-care and ability to manage complex comorbidities
Dizziness	Benign positional vertigo (BPV), labyrinthitis, medications, arrhythmia, psychiatric, autonomic dysfunction, and orthostatic dizziness	Cerebral vascular disease (CVA), brain tumor, Ménière's Disease, and cardiogenic causes (e.g. arrhythmia)	<ul style="list-style-type: none"> Distinguish between vertigo, disequilibrium, pre-syncope, and lightheadedness Identify cardiogenic causes of dizziness on EKG
Dysuria	Urethritis, bacterial cystitis, pyelonephritis, prostatitis, STI, and vulvovaginal candidiasis		<ul style="list-style-type: none"> Interpret a urinalysis Discuss when to consider ordering further testing
Fever	Viral upper respiratory syndromes, viral GI syndromes, streptococcal pharyngitis, influenza, and otitis media, medications	Meningitis, sepsis, fever without localizing signs, fever in special populations (immunosuppressed, infants age < 3 mo., returned traveler, unimmunized or under-immunized patient)	<ul style="list-style-type: none"> Describe a focused, cost-effective approach to evaluation and diagnostic testing Propose prompt follow-up to detect treatable causes of infection that appear after the initial visit
Headache	Tension, migraine and sinus headaches	Meningitis, subarachnoid hemorrhage, and temporal arteritis	<ul style="list-style-type: none"> Determine when imaging is appropriate
Joint Pain and Injury	Ankle sprains and fractures, knee ligament and meniscal injuries, shoulder dislocations and rotator cuff injuries, hip pain,	Septic arthritis, acute compartment syndrome, acute vascular compromise associated with a fracture or a dislocation	<ul style="list-style-type: none"> Describe the difference between acute and overuse injuries Elicit an accurate mechanism of injury Perform an

CORE ACUTE PRESENTATIONS²

Topics (alphabetical)	Common Diagnoses	Serious Diagnoses	Topic-Specific Objectives
	Carpal Tunnel Syndrome, osteoarthritis, and overuse syndromes (e.g., Achilles' tendinitis, patella-femoral pain syndrome, subacromial bursitis/rotator cuff tendinosis)		<p>appropriate musculoskeletal examination</p> <ul style="list-style-type: none"> • Apply the Ottawa decision rules to determine when it is appropriate to order ankle radiographs • Apply the Ottawa decision rules to determine when it is appropriate to order knee radiographs • Detect a fracture on standard radiographs and accurately describe displacement, orientation, and location (e.g., nondisplaced spiral fracture of the distal fibula) • Perform a large joint aspiration or injection
Leg Swelling	Venus stasis and medication-related edema, low albumin states	Deep venous thrombosis (DVT), obstructive sleep apnea, CHF	<ul style="list-style-type: none"> • Recognize the need for urgent versus non-urgent management for varying etiologies of leg swelling, including when a Doppler ultrasound test for DVT is indicated
Low back pain	Muscle strain, altered mechanics including obesity, and nerve root compression	Aneurysm rupture, acute fracture infection, spinal cord compromise, and metastatic disease	<ul style="list-style-type: none"> • Describe indications for plain radiographs in patients with back pain • Conduct an appropriate musculoskeletal examination that includes inspection, palpitation, range of

CORE ACUTE PRESENTATIONS²

Topics (alphabetical)	Common Diagnoses	Serious Diagnoses	Topic-Specific Objectives
			motion, and focused neurologic assessment
Male Genitourinary symptoms	Inguinal hernia, cystitis/prostatitis, benign prostatic hypertrophy, erectile dysfunction, hydrocele, varicocele	Testicular torsion, prostate or testicular cancer	<ul style="list-style-type: none"> • Select appropriate laboratory tests for a male patient with urinary complaints
Pregnancy (initial presentation)			<ul style="list-style-type: none"> • Recognize that many family physicians incorporate prenatal care and deliveries into their practices and studies support this practice • Recognize common presentations of pregnancy, including positive home pregnancy test, missed/late period, and abnormal vaginal bleeding • Appreciate the wide range of responses that women and their families exhibit upon discovering a pregnancy

CORE ACUTE PRESENTATIONS²

Topics (alphabetical)	Common Diagnoses	Serious Diagnoses	Topic-Specific Objectives
Shortness of breath/wheezing	Asthma, chronic obstructive pulmonary disease (COPD), obesity, angina, and congestive heart failure (CHF), bronchiolitis	Exacerbations of asthma or COPD, pulmonary embolus, pulmonary edema, pneumothorax, and acute coronary syndrome	<ul style="list-style-type: none"> • Assess a patient with dyspnea for signs of clinical instability • Describe the role of laboratory testing and imaging in diagnosis of CHF and pulmonary embolism • Locate and apply evidence-based guidelines for pharmacologic management of asthma • Teach patients appropriate technique and use of maintenance medications and rescue inhalers • Develop and asthma action plan for patients • Recognize typical radiographic findings of COPD, CHF, and pneumothorax • Interpret pulmonary function testing to distinguish between asthma, COPD, and restrictive lung disease
Upper Respiratory Symptoms	<p><u>Infections:</u> viral upper respiratory infection, bacterial sinusitis, streptococcal pharyngitis, otitis media, mononucleosis</p> <p><u>Non-infectious causes:</u> allergic rhinitis</p>		<ul style="list-style-type: none"> • Recognize that most acute upper respiratory symptoms are caused by viruses and are not treated with antibiotics • Determine a patient's pretest probability for streptococcal pharyngitis and make

<u>CORE ACUTE PRESENTATIONS²</u>			
Topics (alphabetical)	Common Diagnoses	Serious Diagnoses	Topic-Specific Objectives
			appropriate treatment decision (e.g., empiric treatment, test, or neither treat nor test)
Vaginal Discharge	Bacterial vaginosis, candida vulvovaginitis, sexually transmitted infections		<ul style="list-style-type: none"> Discuss the interpretation of wet prep and potassium hydroxide (KOH) specimens

Chronic Care

The percentage of patients who have chronic disease is large and increasing with the aging of the population. Care for patients with chronic diseases requires substantial health care resources. Family physicians provide a large portion of this care, often coordinating this care among many types of subspecialists. Every student benefits from learning about chronic disease management. Important characteristics of chronic disease management provided by family physicians are shown in Table 6.

TABLE 6

<u>KEY FEATURES OF CHRONIC DISEASE MANAGEMENT BY FAMILY PHYSICIANS</u>
Chronic disease management knowledge and skill
Attention to comorbidities
Continuity context
Relationship with the patient
Patient empowerment and self-management support

An introduction to a Chronic Care Model, such as the one developed by Wagner³, is appropriate for a third-year medical student. Wagner's model has six fundamental areas: self-management, decision support, delivery system design, clinical information system, organization of health care, and community. In this section most objectives center around self-management and decision support.

A similar approach can be applied to most chronic diseases. General components of this approach, appropriate for a third-year medical student, include diagnosis, surveillance, treatment, and shared goal-setting. Chronic disease management involves empowering patients to engage in their own care and

³ E. H Wagner, "Chronic Disease Management: What Will It Take to Improve Care for Chronic Illness?" *Effective Clinical Practice* 1 no 1. (1998): 2-4. Accessed December 20, 2017. <http://ecp.acponline.org/augsep98/cdm.pdf>

working as the leader or member of a team of professionals with complementary skills such as nurses, physical therapists, nutritionists, and counselors.

Many patients have more than one chronic disease. In caring for those patients, continuity increases efficiency and improves patient outcomes. Similar to diagnosis in acute care, continuity allows the family physician to address multiple issues in stages. Students should understand, however, that a follow-up visit with a patient is different than the initial visit with a patient and is also different from an acute problem visit. Students should also learn that a therapeutic physician-patient relationship facilitates negotiation and improves physician and patient satisfaction and outcomes. Relationships with patients are rewarding.

The suggested topics for core chronic conditions are listed in Table 7. The Topic-Specific Objectives can be used as a guide for determining important attributes related to each specific chronic condition/topic.

Learning Objectives for Chronic Conditions

At the end of the clerkship, for each core chronic disease, students should be able to:

- Find and apply diagnostic criteria.
- Find and apply surveillance strategies.
- Elicit a focused history that includes information about adherence, self-management, and barriers to care.
- Perform a focused physical examination that includes identification of complications.
- Assess improvement or progression of the chronic disease.
- Describe major treatment modalities.
- Propose an evidence-based management plan that includes pharmacologic and non-pharmacologic treatments and appropriate surveillance and tertiary prevention.
- Communicate appropriately with other health professionals that are involved in the patient’s care (e.g. physical therapists, nutritionists, counselors).
- Document a chronic care visit.
- Communicate respectfully with patients who do not fully adhere to their treatment plan.
- Educate a patient about an aspect of his/her disease respectfully, using language that the patient understands. When appropriate, ask the patient to explain any new understanding gained during the discussion.

TABLE 7

<u>CORE CHRONIC CONDITIONS</u>	
Topics (alphabetical)	Topic-Specific Objectives
Multiple chronic illnesses (e.g. depression, hypertension, hypothyroidism, type 2 diabetes, mellitus)	<ul style="list-style-type: none"> • Assess status of multiple diseases in a single visit • List important criteria to consider when prioritizing next steps for management of patients with multiple uncontrolled chronic diseases • Document an encounter with a patient who has multiple chronic diseases using a SOAP note and/or chronic disease flow sheet or template
Anxiety	<ul style="list-style-type: none"> • Describe how an anxiety disorder can compromise the ability for self-care, function in society, and coping effectively with other health problems

CORE CHRONIC CONDITIONS

Topics (alphabetical)	Topic-Specific Objectives
Arthritis	<ul style="list-style-type: none"> • Guide a patient in setting goals for realistic control of pain and maximized function
Asthma/chronic obstructive pulmonary disease (COPD)	<ul style="list-style-type: none"> • Discuss the difference between asthma and COPD, including pathophysiology, clinical findings, and treatments • Elicit environmental factors contributing to the disease process • Recognize an obstructive pattern on pulmonary function tests • Recognize hyperinflation on a chest radiograph. • Discuss smoking cessation
Chronic artery disease	<ul style="list-style-type: none"> • Identify risk factors for coronary artery disease • Use an evidence-based tool to calculate a patient's coronary artery disease risk • Counsel patients on strategies to reduce their cardiovascular risks
Chronic back pain	<ul style="list-style-type: none"> • Obtain a medication use history • Anticipate the risk of narcotic-related adverse outcomes • Guide a patient in setting goals for pain control and function
Depression (previously diagnosed)	<ul style="list-style-type: none"> • Assess suicide risk • Describe the impact of depression on a patient's ability for self-care, function in society, and management of other health problems
Heart failure (HF)	<ul style="list-style-type: none"> • List underlying causes of HF • Recognize the signs/symptoms of HF • Recognize signs of HF on a chest radiograph
Hyperlipidemia	<ul style="list-style-type: none"> • Determine a patient's cholesterol goals based on current guidelines and the individual's risk factors • Interpret lipid laboratory measurements
Hypertension	<ul style="list-style-type: none"> • Take an accurate manual blood pressure • Recognize the signs/symptoms of end-organ disease
Obesity	<ul style="list-style-type: none"> • Obtain a dietary history • Collaborate with a patient to set a specific and appropriate weight loss goal

<u>CORE CHRONIC CONDITIONS</u>	
Topics (alphabetical)	Topic-Specific Objectives
Osteoporosis/osteopenia	<ul style="list-style-type: none"> • Recommend prevention measures
Substance use, dependence, and abuse	<ul style="list-style-type: none"> • Obtain an accurate substance use history in a manner that enhances the student-patient relationship • Differentiate among substance use, misuse, abuse, and dependence • Discuss the typical presentations for withdrawal from tobacco, alcohol, prescription pain medications, and common street drugs • Assess a person's stage of change in substance use/abuse cessation • Communicate respectfully with all patients about their substance abuse
Type 2 diabetes mellitus	<ul style="list-style-type: none"> • Perform a diabetic foot examination • Document an encounter using a diabetes mellitus flow sheet or template • Recognize the signs/symptoms associated with hypoglycemia or hyperglycemia

Health Promotion & Preventive Care

Health promotion is an essential component of every person's health care. Family physicians provide health promotion to all patients regardless of life stage or gender. Family physicians provide health promotion in many settings – during office visits for health promotion, during office visits for another purpose, and outside of office visits such as in other health care settings like extended care facilities and hospitals, and partnerships with community agencies or public health officials. Important characteristics of preventive care provided by family physicians are shown in Table 8.

TABLE 8

<u>KEY FEATURES OF PREVENTIVE CARE BY FAMILY PHYSICIANS</u>
Evidence-based
Individualized
Opportunistic
Prioritized

There is an evidence base behind health promotion recommendations, but different organizations have

different recommendations. The United States Preventive Services Task Force recommendations are the most appropriate for students to learn in the family medicine clerkship.

Each patient will have a unique combination of primary, secondary, and possible tertiary prevention recommendations based on his/her risk factors and current diseases. In addition, patient preferences, time constraints, and variability in insurance coverage limit the ability to provide all recommended clinical prevention services for every patient. Creating an individualized health promotion plan requires a preventive medicine knowledge base and skills in negotiation and patient education. Family physicians are skilled in prioritization and must partner with patients to determine which preventive services are appropriate, important, and affordable.

It should be stressed that clinical prevention can be included in every office visit. Learning to “juggle,” i.e. prioritize or co-manage, acute, chronic, and prevention agendas, is an advanced skill.

Learning Objectives for Health Promotion and Preventive Care

At the end of the clerkship, students should be able to:

- Define wellness as a concept that is more than “not being sick.”
- Define primary, secondary, and tertiary prevention.
- Identify risks of specific illnesses and behaviors that affect screening and treatment strategies.
- Develop a health promotion plan for a patient of any age or either gender that addresses the core health promotion conditions listed in Table 9.
- Identify and perform recommended age-appropriate screenings.
- Describe the core components of pediatric preventive care – health history, physical examination, immunizations, screening/diagnostic tests, and anticipatory guidance.
- Identify pediatric developmental stages and detect deviations from anticipated growth and developmental levels.
- Elicit a gynecological and obstetric history for appropriate screening and treatment.
- Conduct a physical examination on a child and recognize normal and abnormal physical findings in various age groups.
- Apply the stages of change model and use motivational interviewing to encourage lifestyle changes to support wellness (weight loss, tobacco cessation, safe sexual practices, physical activity, nutrition, diet).
- Provide counseling related to health promotion and disease prevention.
- Provide pediatric patients and their families with anticipatory guidelines based on developmental stage and health risks.
- Discuss an evidence-based, stepwise approach to counseling for behavior change, including tobacco cessation.
- For each core health promotion condition in Table 9, discuss who should be screened and methods of screening.
- Find and apply the current guidelines for immunizations, including protocols to “catch-up” a patient with incomplete prior immunizations.
- Communicate effectively with children, teens, and families.
- Document a health maintenance visit.

TABLE 9

CORE HEALTH PROMOTION TOPICS	
Children & Adolescents	Adults
Abuse/neglect	Breast cancer
Diet/exercise	Cervical cancer
Family/social support	Colon cancer
Growth and development	Coronary artery disease
Hearing	Depression
Lead exposure	Fall risk in elderly patients
Nutritional deficiency	Intimate partner and family violence
Potential for injury	Obesity
Sexual activity	Osteoporosis
Substance use	Prostate cancer
Tuberculosis	Sexually transmitted infections
Vision	Substance use/abuse
	Type 2 diabetes mellitus

The Role of Family Medicine

Family physicians provide the bulk of primary care in the United States. Primary care is undervalued in our health care system and underrepresented in many teaching settings. All students benefit from understanding the value that family physicians bring to a health care system. Health systems based on primary care, compared to those not based on primary care, have better medical outcomes, lower medical costs, improved access, and decreased health disparities.

Discussions about the value of primary care and the provision of primary care by family physicians can be incorporated into acute symptom, chronic illness, or prevention encounters. They can also be discussed separately. Many of these concepts are appropriately introduced in the preclinical curriculum and reinforced during clinical training.

Learning Objectives for the Role of Family Medicine

- Outline the role of the family physician and the specialty of family medicine in the structure and function of the United States health care system.
- Compare medical outcomes between countries with and without a primary care base.
- Compare the per-capita health care expenditures of the United States with other countries.
- Define the relationship of access to care and health disparities.