

# Vanderbilt University Internal Medicine Residency Program: Overall Educational Goals and Objectives

## Goal of the Internal Medicine Residency Program

The overarching goal of the Vanderbilt Internal Medicine residency training program is to produce physicians who can competently and independently practice general internal medicine and serve as a consultant to other physicians.

## Objectives of the Internal Medicine Residency Program

Following completion of the Internal Medicine residency training program, residents will be able to:

1. Apply established and evolving knowledge in the biomedical, clinical, epidemiological and social-behavioral sciences to the care of their patients. **(ACGME Competency: Medical Knowledge)**
2. Provide compassionate, appropriate, and effective patient care by
  - a. obtaining and using data about a patient (history, physical examination, laboratory and imaging studies) to create a differential diagnosis, plan for further evaluation, and comprehensively manage patients with a variety of disorders; **(ACGME Competency: Patient Care)**
  - b. developing a therapeutic relationship with patients and their families, identifying and addressing health care needs collaboratively in a patient-centered context. **(ACGME Competency: Interpersonal and Communication Skills)**
3. Improve the patient care that they provide by continuously assessing their performance, incorporating feedback and pursuing learning related to identified improvement opportunities. **(ACGME Competency: Practice-based Learning and Improvement)**
4. Function effectively within the health care system beyond the clinical encounter, utilizing available resources to provide optimal health care for patients with a variety of disorders. **(ACGME Competency: Systems-based Practice)**
5. Conduct their professional life in accordance with the expectations of the profession of medicine and society, manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to patients of diverse backgrounds. **(ACGME Competency: Professionalism)**
6. Pursue a career in medicine and developing as a leader in their chosen field, improving health in areas such as patient care, biomedical research, population medicine, health policy, or international health medicine.

## **Overall Goals for Rotations**

Residents will evaluate and provide longitudinal care to patients in the outpatient continuity clinic setting. Duties will include health maintenance visits, acute care visits, and chronic disease management visits. Residents will assess and manage patients with acute illness on the inpatient hospital services, including the general medicine, medical subspecialty and intensive care rotations. Residents will also function as medical and specialty consultants to other hospital providers. The program will provide the resident with graded responsibility for planning the course of care and communication with the patient and family. Throughout their work, residents will apply medical knowledge, learn about patient problems through practice-based learning and optimize care venues through systems-based learning and problem solving. Residents will develop effective interpersonal and communication skills when interacting with patients, their families, and members of the health care team. In addition, residents will assume professional responsibility for their tasks, placing the care of the patient above other interests. The objectives for each rotation are listed in later sections of this document.

## **Guided Supervision in Patient Care and Clinical Education**

The goal of the internal medicine residency program is to create physicians capable of independent medical practice. As such, upon completion of the program each resident will have demonstrated the ability to care for patients with general medical conditions without the need for oversight and modification of their work by faculty. During the residency program, faculty will encourage assumption of independence as expeditiously as the resident's increasing knowledge, experience and professional maturity permit, in keeping with both safe patient care and sound educational principles.

The responsibility of the attending physician for the patient is never relinquished but the amount of freedom to make decisions and implement them and the amount and timing of faculty supervision will change depending on an individual resident's demonstrated performance as judged by ongoing faculty performance reviews and ACGME Milestones data as the resident progresses through the program.

Attending physicians serve as a resource for residents and are available (by phone, paging device or in person) to residents for guidance or assumption of care as needed. Teaching rounds occur at least once daily on all inpatient services.

A typical care team consists of a supervising attending, one upper level resident (PGY2-3), one or two interns, and often medical student(s). A hierarchy of increasing authority and responsibility as experience is gained is embedded in the team. The upper level resident is expected to supervise and guide the interns and students, and the degree of direct supervision provided should be dictated by the intern's clinical abilities. Similarly, the supervising attending is expected to provide the appropriate amount of direct resident supervision necessary for safe and effective patient care. Judgments on delegation of responsibility are made by the attending; based on his or her direct observation and knowledge of each team member's skills and ability. The degree of supervision may vary with the clinical circumstances and the developmental stage of the resident. Attending rounds provide a format for in-depth discussion of clinical presentation, pathophysiology, and management. All major clinical decisions are discussed and all plans are reviewed with an attending, either in rounds or when appropriate throughout the day.

Residents are expected to develop independent practice in three stages:

**Stage 1 (PGY 1 Interns)**

1. The intern functions as an integral member of the care team.
2. The intern sees patients initially, and:
  - a. performs complete history and physical examinations on all new patients for whom he/she has primary responsibility;
  - b. examines all data related to the management of his/her patients;
  - c. synthesizes all available information to generate differential diagnoses and subsequent diagnostic and therapeutic plans;
  - d. communicates the synthesis of the above information in both an oral and written format to his/her supervising faculty member;
  - e. follows-up on all tests and procedures ordered for patients under his/her care.
3. In continuity clinic, **all patients are presented in detail by the intern to the clinic faculty member.** Following the presentation, the faculty member then interviews and examines the patient with the intern, followed by an extensive discussion of the differential diagnosis and relevant clinical topics. This occurs for at least the first 6 months of the internship. In the latter part of the internship year, the attending sees most but not all of the patients the intern sees in clinic, depending on the specific clinical circumstances.
4. All records in the clinic session are reviewed by the attending faculty member, and a faculty addendum note is written by the attending assigned to supervise the clinic.

**Stage 2 (PGY 2 -3 Residents)**

1. The resident functions as an integral member of the care team.
2. In the inpatient setting, the resident sees patients usually after an intern, but at times concurrently. The resident sees his/her own patients initially independently in the continuity clinic, and:
  - a. performs complete history and physical examinations on all new patients for whom he/she has primary responsibility;
  - b. examines all data related to the management of patients he/she has evaluated;
  - c. Synthesizes all available information to generate differential diagnoses and subsequent diagnostic and therapeutic plans;
  - d. communicates the synthesis of the above information in both an oral and written format to their supervising faculty member;
  - e. Provides direct care of patients including all order writing, test ordering, and documentation;
  - f. follows-up on all tests and procedures ordered for patients under his/her care.
3. In continuity clinic, a resident sees each of his/her patients independently and after a **synthesis of data (history, physical exam, and laboratory/imaging data) for each patient he/she presents to the clinic faculty attending. The faculty member will see patients when either he/she OR the residents feel that it is necessary. Otherwise, an attending note is placed in the chart after extensive discussion of each patient issue.**
4. All records in a clinic session are reviewed, a resident note is written, and a faculty addendum note is written by the attending assigned to supervise the clinic.

**Stage 3 (PGY 2-3 Residents)**

1. The resident functions as an integral member of the care team.
2. The resident sees patients after the intern, or occasionally concurrently, in the inpatient setting. The resident sees his/her patients independently in the continuity clinic setting. He/she sees most

patients independently in the clinic setting, checks out with the attending either before or after the patient has left the clinic, and:

- a. performs complete history and physical examinations on all new patients for whom he/she has primary responsibility;
  - b. examines all data related to the management of patients he/she has evaluated;
  - c. synthesizes all available information to generate differential diagnoses and subsequent diagnostic and therapeutic plans;
  - d. communicates the synthesis of the above information in written format in the medical record;
  - e. provides direct care of patients including all order writing, test ordering, relevant procedures and documentation;
  - f. follows-up on all tests and procedures ordered for patients under his/her care.
3. In continuity clinic, **a senior resident evaluates each of his/her patients independently, immediately after the visit or clinic session, presents the essential information for each new and follow up patients to the clinic faculty attending and a discussion of each patient issues ensues.** The faculty member will see the rare patient where a senior resident has a question or is uncertain of a physical finding, or whenever the judgment of the resident or the attending calls for their additional evaluation in clinic.
4. All records in a clinic session are reviewed by the clinic faculty attending, and a faculty addendum note is written by the attending assigned to supervise the clinic.

**At the completion of stage 3, a senior resident is competent to evaluate, treat and manage patients with general medical issues independently and without supervision.**

## Typical Rotation Schedule for Internal Medicine Residents

### PGY-1:

- 6.5 months of inpatient wards (general medicine and subspecialties)
- 2.5 months of ambulatory medicine
- 1 month of critical care medicine
- 0.5 months of emergency medicine
- 0.5 months of neurology

### PGY-2:

- 4.5 months of inpatient wards
- 4 months of ambulatory medicine
- 1.5 months of critical care medicine
- 1 month of clinical/research electives

### PGY-3:

- 3 months of inpatient wards
- 4 months of ambulatory medicine
- 1.5 months of critical care medicine
- 2 months of clinical/research electives
- 0.5 months of emergency medicine

### Essential components of the schedule include:

- A minimum of 30 months of direct patient care
- At least one-third of training in the ambulatory setting
- An uninterrupted continuity clinic experience
- At least one month of emergency medicine
- Between 3 and 6 months of critical care medicine
- Training in geriatric medicine

# The Six ACGME Core Competencies

(adapted from Introduction to Competency-based Education Facilitator's Guide;  
ACGME; April 2006; B. Joyce, Ph.D.)  
([http://www.acgme.org/outcome/e-learn/21M1\\_FacManual.pdf](http://www.acgme.org/outcome/e-learn/21M1_FacManual.pdf) )

## 1. Medical Knowledge (MK):

Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care.

### Residents are expected to:

- a. Demonstrate an investigatory and analytic thinking approach to clinical situations.
- b. Know and apply the basic and clinically supportive sciences which are appropriate to their discipline.

## 2. Patient Care (PC):

Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

### Residents are expected to:

- a. Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- b. Gather essential and accurate information about their patients.
- c. Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
- d. Develop and carry out patient management plans.
- e. Counsel and educate patients and their families.
- f. Use information technology to support patient care decisions and patient education.
- g. Perform competently all medical and invasive procedures considered essential for the area of practice.
- h. Provide health care services aimed at preventing health problems or maintaining health.
- i. Work with health care professionals, including those from other disciplines, to provide patient-focused care.

## 3. Practice Based Learning and Improvement (PBLI):

Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices.

### Residents are expected to:

- a. Analyze practice experience and perform practice-based improvement activities using a systematic methodology.
- b. Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
- c. Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems.
- d. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
- e. Use information technology to manage information, access on-line medical information; and support their own education.

- f. Facilitate the learning of students and other health care professionals.

#### **4. Systems Based Practice (SBP):**

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.

##### **Residents are expected to:**

- a. Describe and discuss how types of medical practice and delivery systems differ from one another, including methods of controlling health care costs and allocating resources.
- b. Practice cost effective health care and resource allocation that do not compromise quality of care.
- c. Advocate for quality patient care and assist patients in dealing with system complexities.
- d. Partner with health care managers and health care providers to assess, coordinate.

#### **5. Professionalism (P):**

Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.

##### **Residents are expected to:**

- a. Demonstrate respect, compassion and integrity.
- b. Demonstrate a commitment to ethical principles<sup>3</sup>. Demonstrates sensitivity and responsiveness to patients' culture, age, gender and disabilities.

#### **6 Interpersonal and Communication Skills (ICS):**

Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates.

##### **Residents are expected to:**

- a. Create and sustain a therapeutic and ethically sound relationship with patients.
- b. Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
- c. Work effectively with others as a member or leader of a health care team or other professional group.

#### **What does the ACGME expect?**

Programs should be able to document and demonstrate:

- Learning opportunities in each competency domain.
- Evidence of multiple methods to assess competencies.
- Use of aggregate data to improve the educational program.

**Throughout the rest of this document, where learning objectives are described, the core competency they relate to will be identified with the above abbreviations in parentheses.**

## Curricular Elements for PGY-1

### 1. Resident conferences

#### Ambulatory Morning Report

**Goal:** review and discuss fundamental topics in ambulatory medicine, emphasizing the diagnosis and management of the most common conditions encountered by residents.

**Expectations:** Conferences are held four times per week. Attendance is required during ambulatory rotations. Active participation by all interns is encouraged.

**Learning Objectives:** As a result of participating in Ambulatory Morning Report, interns should be able to: (1) describe the diagnostic approach to common complaints and symptoms encountered in the internal medicine ambulatory setting (MK, PC); (2) discuss the management of common conditions encountered in the clinic (PC, SBP); (3) review the basic pathophysiology of the most common medical conditions encountered in the clinic (MK).

**Supervision and Assessment:** Attendance will be taken at each conference, and clinical problem-solving will be assessed by participating faculty and chief residents.

#### Inpatient Morning Report

**Goal:** review and discuss in-depth recent cases on the inpatient medical services, emphasizing the fundamental pathophysiology of disease.

**Expectations:** Conferences are held three times per week. All interns rotating on the inpatient services are expected to attend, and active participation is encouraged. In the last six months, interns are asked to lead the initial discussion of differential diagnosis when unknowns are presented.

**Learning Objectives:** As a result of participating in Inpatient Morning Report, interns should be able to: (1) list the critical elements of the history and physical examination when evaluating a patient with a common complaint or physical finding (MK, PC); (2) describe the diagnostic approach for suspected conditions commonly encountered on the medical service (MK, PC); (3) discuss fundamental pathophysiologic mechanisms of disease in commonly encountered conditions on the medical service (MK).

**Supervision and Assessment:** Attendance will be taken at each conference, and faculty will assess the interns' medical knowledge.

#### Harrison Cardiology

**Goal:** review and discuss fundamental topics in cardiovascular medicine, emphasizing the diagnosis and management of the most common conditions encountered by interns on the cardiology services.

**Expectations:** Conferences are held three times per week. All interns rotating on the cardiology services are expected to attend, and active participation is encouraged.

**Learning Objectives:** As a result of participating in Cardiology Conference, interns should be able to: (1) describe the diagnostic approach to patients presenting with chest pain (MK, PC); (2) discuss the management of acute decompensated heart failure and acute coronary syndrome (MK, PC); (3) interpret basic findings on an electrocardiogram (MK).

### **Fox and Hedgehog Conference**

**Goal:** discuss recent interesting cases on the medical services, highlighting important pathophysiological underpinnings of disease.

**Expectations:** Conferences are held once per week. All interns are expected to attend unless on vacation or on a day off, duty hours permitting.

**Learning Objectives:** As a result of participating in Fox and Hedgehog Conference, interns should be able to: (1) review common and important molecular mechanisms of disease (MK); and (2) discuss the importance of foundational medical knowledge in understanding the clinical manifestations and treatment of disease (MK).

**Supervision and Assessment:** Attendance will be taken at each conference.

### **Noon Lecture Series**

**Goal:** review and discuss fundamental topics in inpatient medicine, emphasizing the diagnosis and management of the most common conditions encountered by residents.

**Expectations:** Conferences are held three times per week. Attendance is required during inpatient rotations. The conferences will combine didactics and active case discussions. In some cases, pertinent articles will be distributed in advance, and interns are expected to be familiar with the material. Active participation by all interns is encouraged.

**Learning Objectives:** As a result of participating in the Noon Lecture Series, interns should be able to: (1) describe the diagnostic approach to common complaints and symptoms encountered in the inpatient setting (MK, PC); (2) discuss the management of common conditions encountered in the hospital (PC, SBP); (3) review the basic pathophysiology of the most common medical conditions encountered in the hospital (MK).

**Supervision and Assessment:** Attendance will be taken at each conference, and clinical problem-solving will be assessed by participating faculty and chief residents.

### **Chairman's Rounds**

**Goal:** in a case-based format, review the physiology, initial evaluation and management of common diseases.

**Expectations:** Conferences are held once per week. All interns rotating on the inpatient services are expected to attend, and active participation is encouraged.

**Learning Objectives:** As a result of participating in Chairman's Rounds, interns should be able to: (1) identify relevant elements of the history and physical examination associated with commonly encountered diseases (MK, PC); (2) describe the appropriate diagnostic approach (including laboratory and imaging studies) to common medical conditions (MK, PC).

**Supervision and Assessment:** Attendance will be taken at each conference. Faculty and chief residents will assess the interns' medical knowledge.

### **Morbidity, Mortality and Improvement Conference**

**Goal:** in a case-based format, discuss processes within our health care system that may adversely impact patient safety and contribute to medical errors.

**Expectations:** Conferences are held four times per year. All interns are expected to attend unless on vacation or on a day off, duty hours permitting.

**Learning Objectives:** As a result of participating in MM&I Conference, interns should be able to: (1) describe the use of a structured systems audit in the review of medical

errors and adverse patient outcomes (SBP, PBLI); (2) identify systems issues in the intern's practice that may lead to adverse events (SBP, PBLI); discuss adverse events in a constructive, professional manner (P).

**Supervision and Assessment:** Attendance will be taken at each conference.

### **Interns' Journal Club**

**Goal:** provide an overview of epidemiology and biostatistics relevant to internal medicine, using published articles as a guide for discussion.

**Expectations:** Conferences are held once per month. All interns are expected to attend unless on vacation or on a day off, duty hours permitting.

**Learning Objectives:** As a result of participating in Interns' Journal Club, interns should be able to: (1) identify the type of study design used in published clinical investigations (MK); (2) identify the appropriate study design when planning a clinical investigation (MK); (3) define positive and negative predictive values (MK).

**Supervision and Assessment:** Attendance will be taken at each conference. All interns will take a written pre-test and post-test.

### **Ethics and Professionalism Series**

**Goal:** review and discuss key ethical and interpersonal elements of the practice of medicine.

**Expectations:** Conferences are held once per month. All interns are expected to attend unless on vacation or on a day off, duty hours permitting. Active participation is encouraged.

**Learning Objectives:** As a result of participating in Ethics and Professionalism Conference, interns should be able to: (1) discuss the approach to end-of-life issues in patient care (PC, P); (2) describe how cultural differences impact communication and patient care in the clinical setting (ICS, P).

**Supervision and Assessment:** Attendance will be taken at each conference. Faculty and chief residents will assess the interns' participation.

## **2. Internal Medicine Continuity Clinic**

**Goal:** Expose interns in the continuity clinic to a wide array of patients presenting for health maintenance, acute care problem based visits, and chronic disease management such as diabetes, hypertension and high cholesterol, and to provide an opportunity for interns to begin to develop a sound approach for managing these patients during these visits.

**Expectations:** Interns will be expected to see a minimum of **XXX** patients over a one year period. Continuity clinics will occur a minimum of once per four weeks during inpatient rotations. A pre-clinic case based outpatient curriculum will occur at the first 20 minutes of each clinic session.

### **Learning objectives:**

At the end of the intern year, the PGY-1 resident should be able to:

- Conduct a complete health maintenance visit (PC, MK, ICS, P).
- Describe and discuss all resources for routine screening, health maintenance and vaccines for all adult patients (PC, MK, ICS, P).
- Create initial plans for patients with routine acute presenting problems and routine chronic disease management (PC, MK, ICS, P).

- Know their limits in diagnosing complex cases and knowing when to ask for help (PC, MK, ICS, P).
- Summarize and use when appropriate information presented in the case based pre-clinic curriculum (PC, MK, ICS, P).

**Supervision and assessment:**

- A board-certified faculty member will precept each clinic. This preceptor will see all patients with the intern for the first 6 months of the year. After that initial time period, depending on the comfort level of both the intern and the attending, they are permitted to check patients out to the attending verbally without direct confirmation by the attending seeing each patient.
- Assessments will be in the form of at least semi-annual evaluations performed by the attending. Direct feedback is given by the attending is given in real time with every patient. In addition, clinic nursing staff will evaluate the intern twice per year.

### **3. Simulated Patient Experiences**

Goal:

## Curricular Elements for PGY-2

1. Resident conferences
  - a. Ambulatory Morning Report
  - b. Inpatient Morning Report
  - c. Harrison Cardiology
  - d. Intensive Care Didactics
  - e. Fox and Hedgehog
  - f. Medical Grand Rounds
  - g. Chairman's Rounds
  - h. Morbidity, Mortality and Improvement Conference
  - i. Journal Club
  - j. Noon Lecture Series
  - k. Ethics/Professionalism Series
  - l. Intern Report
2. Quality Improvement Activities
3. Continuity Clinic
4. Simulated Patient Experiences

## Curricular Elements for PGY-3

1. Resident conferences
  - a. Ambulatory Morning Report
  - b. Inpatient Morning Report
  - c. Harrison Cardiology
  - d. Intensive Care Didactics
  - e. Fox and Hedgehog
  - f. Medical Grand Rounds
  - g. Chairman's Rounds
  - h. Morbidity, Mortality and Improvement Conference
  - i. Journal Club
  - j. Noon Lecture Series
  - k. Ethics/Professionalism Series
  - l. Intern Report
2. Quality Improvement Activities
3. Continuity Clinic
4. Simulated Patient Experiences