

# Tufts Medical Center Infectious Diseases Continuity Clinic

## a) Goals, Objectives, and ACGME Competencies

### Goals

- To teach ID residents the physiological basis of infectious diseases, the differential diagnosis and treatment of these diseases, and the broad array of skills required to carry out effective, timely and courteous consultation in infectious diseases.
- ID Residents will learn to care for patients in the ambulatory setting in a manner which demonstrates professional conduct in all aspects of clinical practice.
- ID residents will learn skills required to diagnose and treat infectious diseases in the ambulatory setting, and learn the skills required to manage patients on an ongoing basis. These skills include the prudent use of outpatient diagnostic resources; the ability to successfully interact with referring physicians, other professionals, patients, and their families; the ability to manage time effectively, and the ability to effectively manage chronic illness, especially (but not exclusively) HIV infection and its complications. The primary emphasis of the outpatient experience is the management of a panel of HIV-infected patients over a 24-month period.

### Objectives

#### *First Year ID Residents:*

- To gain a basic understanding of the major diagnoses, pathophysiology, differential diagnosis, and therapy of general infectious diseases encountered in the ambulatory, primarily urban setting. The emphasis is on the primary care management of persons with HIV including HIV diagnosis, treatment and the management of complications of the disease and its therapy. Additionally, residents are expected to become competent in caring for ambulatory patients with complicated infectious diseases initially requiring hospitalization.
- To use primary classical and recent literature in the ambulatory care of patients with infectious diseases, especially HIV, and to transfer the experiences learned in specific instances to future experiences.
- To learn the art of outpatient consultation, including the discussion of the consultant's opinions with the referring physician.
- To understand the role of home care services and impact of insurance coverage in the care of patients in the community with infectious diseases.

#### *Second Year ID Residents:*

- To possess an advanced understanding of pathophysiology, differential diagnosis, and therapy of HIV infection and its complications.
- To independently fashion and monitor treatment regimens for HIV and to recognize and prevent opportunistic processes.
- To be able to competently and efficiently provide sophisticated infectious disease consultation of the ambulatory patient independently.

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- To regularly read and critically assess the primary infectious disease literature, become familiar with published practice guidelines and apply this knowledge to patient care.
- Demonstrate ability to impart sophisticated and detailed information regarding infectious diseases to peers and those less experienced.
- To utilize novel data and approaches through learning gained through attendance at national HIV-AIDS conferences to improve patient care.
- To independently manage home care, social and financial services necessary to provide optimal care of the ambulatory patient.

#### Rationale/Value

Inpatient hospital admissions for diagnosis and treatment of infections continue to decline, and more infections are treated in the office setting or at home. Global concerns about cost-containment drive the need to initiate diagnostic and treatment modalities in the outpatient setting. Success as an infectious diseases practitioner or consultant requires familiarity with the ambulatory setting, and also requires the ability to interact effectively with referring physicians, skilled nursing facilities, out-of-hospital care providers, and patient's families to assure optimal care. In addition, ID trainees benefit from observing the evolution and potentially resolution of infectious diseases in the outpatient setting.

#### Most Important Educational Content

##### *Disease Mix:*

HIV –infection of all stages, post-surgical wound infections, osteomyelitis, infections of prosthetic devices, endocarditis, fever of unknown origin, complicated/recurrent urinary tract infections, tuberculosis (latent and active), infectious hepatitis (Hepatitis A, B, and C) and infectious complications of immune suppression other than HIV/AIDS are all represented in our ambulatory continuity practice. The clinic also treats sexually transmitted infections and provides pre-exposure prophylaxis for HIV infection as well as other sexually transmitted infections. Consistent with the local and national rise in prominence of opioid use disorder, patient seen in clinic may have infectious complications of injecting drugs. In addition, the proximity of Boston to Cape Cod and the neighboring islands as well as to rural areas of New England provides experience with patients with tick- and other arthropod-borne illnesses, as well as zoonotic diseases.

The infectious disease clinic responds to emerging infections. Past examples include Zika virus, COVID-19, and Mpox.

##### *Patient Characteristics:*

The patient population is representative of an urban and suburban referral practice generally with a wide diversity in terms of ethnicity, gender, racial makeup and socioeconomic circumstance. Patients with HIV/AIDS are equally diverse, ranging from those with high educational achievement and high socioeconomic status, to patients

with significant educational and socioeconomic barriers to optimal care. Patients are followed in a typical office setting. Tufts Medical Center's location in Chinatown also offers exposure to a large and diverse Asian immigrant population. Many of these patients are seen in the outpatient clinic for management of both active and latent TB infection. Women are significantly represented in the case mix. Availability of Tufts Medical Center OB-GYN faculty with interest and experience in managing the pregnant woman living with HIV infection is a significant resource.

#### *Types of Clinical Encounters:*

Most encounters are typical outpatient clinical encounters. They occur as primary care encounters, consultations and follow up care for patients initially seen in the inpatient setting. New patients are scheduled for one hour and return visits are scheduled for 30 minutes. The patient is seen by the ID resident first then presented to the ID physician preceptor, who revisits the patient with the ID resident. There are also frequent visits for administration of injectable medications.

#### **ACGME Competencies**

##### **Patient care**

###### First year ID residents

- Gain a basic understanding of the major diagnoses, pathophysiology, differential diagnosis, and therapy of general infectious diseases encountered in the ambulatory, primarily urban setting.
- Learn the primary care management of persons with HIV including HIV diagnosis, treatment and the management of complications of the disease and its therapy.
- Become competent in caring for ambulatory patients with complicated infectious diseases initially requiring hospitalization

###### *Second year ID residents*

- Develop an advanced understanding of pathophysiology, differential diagnosis, and therapy of HIV infection and its complications.
- Independently fashion and monitor treatment regimens for HIV management.
- Recognize and prevent opportunistic processes in HIV positive patients and patients with other immunosuppressed conditions.
- Provide sophisticated infectious disease consultation of the ambulatory patient independently, competently and efficiently

##### **Medical knowledge**

###### *First year ID residents*

- Acquire basic knowledge of the following procedures, and risks, benefits, sensitivity and

specificity of these procedures:

- o Performance of cervical and anal Pap smears
- o Appropriate three-site sampling for gonorrhea and chlamydia
- o Culturing wounds and abscesses.
  - o Collection of viral testing samples (HSV, VZV, Mpox respiratory viruses)
- Acquire basic knowledge of the following:
  - o Primary and consultative care for persons with HIV
  - o Monitoring of HIV and its complications
  - o Institution and monitoring of antiretroviral therapy
  - o Prevention and treatment of opportunistic infections
  - o Institution and/or completion of therapy for a myriad of serious infectious diseases such as pneumonia, endocarditis, osteomyelitis, and tuberculosis
  - o Pre-transplantation evaluation for the prevention of infectious complications
  - o Care of the sick returning traveler

*Second year ID residents*

- Acquire an advanced understanding and competency of above

**Practice-based learning**

*First year ID residents*

- Use primary classical and recent literature in the ambulatory care of patients with infectious diseases, especially HIV
- Transfer the experiences learned in specific instances to future experiences.

*Second year ID residents*

- Regularly read and critically assess the primary infectious disease literature
- Develop familiarity with published practice guidelines and apply this knowledge to patient care.
- Impart sophisticated and detailed information regarding infectious diseases to peers and patients/caregivers
- Utilize novel data and approaches through learning gained through attendance at national HIV-AIDS conferences to improve patient care.

**Interpersonal and communication skills**

*First year ID residents*

- Learn the art of outpatient consultation, including the discussion of the consultant's opinions with the referring physician.
- Learn how to communicate with a diverse panel of patients, that includes diversity along socio-economics, religion, language, education level, substance use disorders, and sexuality
- Learn optimal communication strategies to help patients maximize medication adherence

### *Second year ID residents*

- Develop advanced competency of above.

### **Professionalism**

#### *First year ID residents*

- Produce clinic notes that are complete, timely, address the infectious diseases questions fully
- Respond promptly to urgent messages regarding patient care
- Sign out pager when unavailable

#### *Second year ID residents*

- Develop advanced competency of above

### **Systems-based practice**

#### *First year ID residents*

- Gain basic understanding the role of home care services and impact of insurance coverage in the care of patients in the community with infectious diseases.
- Gain basic understanding of the role of basic needs (food, shelter, transportation), and how the lack of these needs being met often results in HIV medication non-adherence
- Understand how to access mental health services for patients
- Learn to utilize social supports, social work consultation, nutrition consultation, psychiatric consultation to optimize care of HIV+ patients
- Gain understanding of transitioning complex care from the hospital to non-acute settings through structured programs such as OPAT
- Understand outpatient billing and coding, and other finances of healthcare

#### *Second year ID residents*

- Gain an advanced understanding and competency of above
- Independently manage home care, social and financial services necessary to provide optimal care of the ambulatory patient

## **b) DEFINED METHODS OF TEACHING**

### Principal Teaching Method

The case method (apprenticeship) is the major technique used in the ambulatory continuity clinic. Patients are assigned a subspecialty resident who provides them with ongoing care in association with a faculty member. Resident's skills in history taking, physical examination, common office procedures, and treatment planning and execution are reviewed during and after each encounter. Continuity of care and the need to become fully familiar with the patient's family, environment, and support structures are stressed.

Frequently, the ID resident functions as an HIV-infected individual's primary care physician, under the direction of a board certified ID faculty member.

#### Principal Ancillary Educational Materials

Resources include the extensive print and electronic resources, including didactic slide shows, described in the Tufts Medical Center inpatient rotations. Textbooks of Infectious Diseases, as well as Dermatologic and Infectious Diseases

Tufts Medical Center and Tufts University Hirsh Library provide access to numerous digital resources.

### **c) Methods of Evaluation**

#### Methods to Evaluate Residents

Direct observation by supervising staff physicians comprises a major means of evaluating residents. ID residents are evaluated regarding the six ACGME core competencies of patient care, medical knowledge, practice-based learning, interpersonal and communication skills, professionalism and systems-based practice. At least twice-yearly written performance evaluations by all staff members, including nursing and management staff who have contact with the resident, are reviewed at faculty meetings. These are in addition to the monthly performance evaluations from inpatient rotations, and focus on ambulatory skill development. Assessments of ID residents in clinic also include multisource evaluations by patients, nurses, peers, faculty and clerical staff, which also encompass the six ACGME core competencies

#### Methods to Evaluate Program Performance

The ambulatory continuity experience is evaluated as part of the entire program in the annual confidential program evaluation by ID residents, as described elsewhere.

### **d) Strengths of Program**

The Infectious Diseases Clinic offers a high volume of patients with a wide variety of infections. Extensive experience is gained by the end of the second year. ID residents are supervised by attendings with extensive experience in the management of ambulatory infectious diseases problems. Ancillary services (Pathology, Radiology, Microbiology) are readily accessible and are of a high clinical and academic standard.

The ID clinic resource worker provides substantial resources to HIV positive patients to support and maintain medication adherence. They are easily available by email, pager or phone for ID residents to refer patients with any social issues including but not limited to housing, food insecurity, domestic violence, insurance issues, employment issues, and medication affordability.

Two clinical pharmacists are available to aid with medication adherence, medication reconciliation, prior authorizations, and other aspects of pharmacotherapy. For certain

chronic conditions including diabetes, hypertension, hepatitis C among others, they can also co-manage patients.

A robust Outpatient Parenteral Antibiotic Therapy program is in place to facilitate early access for follow up appointments and facilitate transitions of care. A dedicated nurse practitioner also assists with follow up appointments.

**e) Limitations of Program**

Clinic space, both exam rooms and workspace, limits the number of providers and patients who can be seen in any given session. However, the addition of telehealth as an option has mitigated this.