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Recommended Curriculum Guidelines for Family Medicine Residents

HIV Infection/AIDS

This document was endorsed by the American Academy of Family Physicians (AAFP), the Association of Departments of Family Medicine (ADFM), the Association of Family Medicine Residency Directors (AFMRD,) and the Society of Teachers of Family Medicine (STFM), and was developed in cooperation with the Family Medicine Residency of Idaho and Lancaster General Hospital.

Introduction

This Curriculum Guideline defines a recommended training strategy for family medicine residents. Attitudes, knowledge and skills that are critical to family medicine should be attained through longitudinal experience that promotes educational competencies defined by the Accreditation Council for Graduate Medical Education (ACGME) http://www.acgme.org. The curriculum must include structured experience in several specified areas. Most of the resident's knowledge will be gained by caring for ambulatory patients who visit the family medicine center. Structured didactic lectures, conferences, journal clubs and workshops must be included in the curriculum with an emphasis on outcomes-oriented, evidence-based studies that delineate common and chronic diseases affecting patients of all ages. Targeted techniques of health promotion and disease prevention are hallmarks of family medicine. Appropriate referral patterns and provision of cost-effective care should also be part of the curriculum.

Program requirements specific to family medicine residencies may be found on the ACGME Web site. Current AAFP Curriculum Guidelines may be found online at http://www.aafp.org/cg. These guidelines are periodically updated and endorsed by the AAFP and, in many instances, other specialty societies as indicated on each guideline.

Each residency program is responsible for its own curriculum. ***This guideline provides a useful strategy to help residency programs form their curricula for educating family physicians.***

Preamble

Physicians' ultimate concern is the welfare of the patient. The patient's age, background or illness may call for different approaches to care, but appropriate history and physical examination skills, as well as the social and psychologic aspects of care are integral parts of physician training.

The pandemic of human immunodeficiency virus (HIV) infection is of vital concern to family physicians, and the diverse population served by family physicians provides a unique opportunity for patient education and prevention. Family physicians are well suited to counsel patients about prevention of HIV infection and to care for those who are infected, including provision of antiretroviral therapy. The basic tenets of family medicine emphasize a compassionate, whole-person approach to patient care, the application of specific knowledge and skills to a wide variety of disease entities, and a comprehensive and continuous commitment to patients and their families. Drawing on these core tenets, family physicians have an important role to play in the care of HIV-infected individuals, especially now as care of HIV-positive individuals continues to transition toward a chronic disease model. Family physicians should be knowledgeable about the multiple issues related to the care of patients who have HIV disease and the acquired immunodeficiency syndrome (AIDS), and must develop skills to stay abreast of new developments in the treatment of patients who have HIV infection.

These guidelines are intended to assist in the development of an HIV/AIDS curriculum for family medicine residencies. Because the knowledge base and technology related to HIV/AIDS are rapidly changing, family physicians must also be aware of the resources available to maintain updated information and skills.

Competencies

At the completion of residency training, a family medicine resident should:

- Recognize HIV risk factors to actively counsel patients regarding prevention, testing, diagnosis, treatment and management. (Medical knowledge)
- Recognize symptoms of acute retroviral syndrome and appropriately diagnose and treat HIV infection in this setting.
- Synthesize an appropriate diagnosis and management plan for conditions associated with HIV infection/ and AIDS.. (Patient care & Medical knowledge)
- Optimize treatment plans based on knowledge of local HIV care resources that include local, state and federal agencies. (Medical knowledge)
- Communicate effectively with patients to ensure clear understanding of diagnosis and plan of care. (Interpersonal communications)
- Recognize own practice limitations; seek consultation from other health care providers and resources to provide optimal patient care. (Professionalism, systems-based care)
- Understand the legal, ethical and social context of HIV, and its impact on the care of special populations. It is especially important for the resident to understand forms of HIV stigma that exist in the community where they are working.(Professionalism)

Attitudes

The resident should develop attitudes that encompass:

- An awareness of the importance of the physician's own attitudes toward sexuality, intravenous drug abuse, cultural differences, communicable diseases, and death.
- The willingness to obtain appropriate sexual and drug histories from all.
- An understanding of the importance of quality-of-life issues.
- Compassion and objectivity when dealing with patients who have a chronic and potentially life-threatening illness.
- Recognition of one's professional abilities and recognizing when they will need to obtain specialist consultation.
- A willingness to function in the role of coordinator of medical and non-medical services.
- Recognition of the importance of support from family members and others.
- Acceptance of the physician's continuing responsibility to support the patient and family throughout all stages of the illness.
- An awareness of the importance of setting a positive example for other health care providers and the community.
- An awareness of community and cultural attitudes toward the illness and the need for confidentiality as well as HIV disclosure when appropriate.

Knowledge

In the appropriate setting, the resident should demonstrate the ability to apply knowledge of:

A. General considerations

1. Scientific background
    a. HIV virology and pathophysiology
    b. Immunodeficiency manifestations and complications
    c. Epidemiology
        i. Local, regional, national, global prevalence and incidence
        ii. Disproportionate prevalence in minorities, adolescents and women in the U.S. epidemic
        iii. National shift toward heterosexual contact-driven epidemic
    d. Modes of transmission
        i. Unprotected sexual contact
        ii. Intravenous drug use
        iii. Vertical transmission from mother to child (e.g., intrauterine, intrapartum, postpartum, breast-feeding)
        iv. Other exposure to human body fluids (e.g., blood and blood products, needlesticks, etc., including transmission in the health care setting)

2. Definitions
    a. Centers for Disease Control and Prevention (CDC) HIV classification
    b. World Health Organization (WHO) HIV classification
3. Laboratory testing
    a. Type of test
        i. ELISA (enzyme-linked immunosorbent assay) and rapid testing (bloodspot and oral swab)
        ii. Confirmatory tests: Western blot, HIV RNA PCR (for acute infection only)
        iii. CD4 + lymphocyte counts
        iv. Viral load (HIV RNA PCR or bDNA)
        v. Resistance testing
            1). Genotype analysis
            2). Phenotype analysis
            3). Virtual phenotype
            4). Viral tropism assay (R5 vs. X4 virus)
    b. Indications for testing
        i. Risk assessment and recommendations for voluntary testing
            1). Universal prenatal testing recommendations per CDC
            2). Universal testing recommendations for high-risk patients
        ii. Clinical assessment
            1). Acute retroviral syndrome
            2). Asymptomatic chronic HIV infection
            3). Symptomatic chronic HIV infection
            4). Non-life threatening infections and symptoms suggestive of HIV infection
            5). AIDS-defining illnesses
        iii. Public health surveillance
        iv. Mandatory testing regulations
    c. Test results and counseling
        i. CDC recommendations for universal “opt-out” consent policy
        ii. Appropriate pre- and post-test counseling including verbal or written informed consent
        iii. Confidentiality issues
        iv. Public health case reporting
        v. Mandatory reporting regulations
        vi. Partner notification

B. Clinical manifestations

1. Opportunistic infections: candidiasis; pneumocystis jirovecii pneumonia (PCP); cryptococcosis; cryptosporidiosis; histoplasmosis; cytomegalovirus infections (CMV); herpes simplex and herpes zoster; non-tuberculous Mycobaterial infection; Mycobacterium tuberculosis; toxoplasmosis; candidal infections; recurrent bacterial infections; progressive multifocal leukoencephalopathy (PML).

2. HIV-associated malignancies: (e.g., Kaposi's sarcoma and lymphoma)

3. Other HIV syndromes: HIV encephalopathies, HIV-associated dementia, HIV-associated nephropathy, anemia, leukpoenia, pancytopenia, immune thrombocytopenic purpura, thrombotic thrombocytopenic purpura, HIV wasting syndrome, hypogonadism, peripheral neuropathy, acute and chronic inflammatory demyelinating polyneuropathies, lipodystrophy, lipoatrophy, metabolic syndrome.

4. Special presentations in children: failure to thrive, abnormal milestones, lymphoid interstitial pneumonia, PCP, encephalopathies, CMV, recurrent bacterial infections, candidal esophagitis

5. Special presentations in pregnant and nonpregnant women: cervical cancer, cervical and vulvar/vaginal dysplasia, vaginalinfections, breast cancer

6. Hepatitis A, B and C

7. Anal dysplasia and neoplasia

8. Other sexually transmitted infections (STIs)9. Increased risk for cardiovascular disease events, non-HIV associated tumors, and liver disease

C. Treatment and patient-care issues

1. Pharmacologic management
    a. When to initiate antiretroviral therapy
    b. Explaining compliance and providing adherence counseling
    c. Antiretroviral drug categories
    d. First-line regimens, second-line regimens, salvage regimens
    e. Monitoring effectiveness of regimen
    f. Assessing side effects
    g. Switching regimens due to toxicity or side-effects
    h. Antiretroviral drug-drug interactions
    i. Defining treatment failure
    j. Selecting alternative regimens after treatment failure/drug resistance
    k. Assessing adherence longitudinally
    l. Evaluating for pharmaceutical resistance

2. Knowledge of the range and limitations of services available both in ambulatory and inpatient care

3. Characteristics of rehabilitation; long-term and alternative care; housing needs

4. Collaboration with consultants

5. Availability of non-FDA approved treatments and clinical trials

6. Preventative health care maintenance and immunizations
7. Prophylaxis against common opportunistic infections.
8. Discontinuation of prophylactic therapy after immune recover
9. Treatment recommendations during pregnancy; peripartum and post-partum maternal treatment recommendations

D. Psychosocial and ethical issues

1. Physician responsibility and patient abandonment
2. Death and dying
3. Advanced directives, "Do not resuscitate" (DNR) orders
4. Individual rights versus society rights
5. Confidentiality and record keeping
6. Concurrent polysubstance abuse, psychiatric comorbidities
7. Sexual practices and orientation; gender identification
8. Patient competence determination, conservatorship and durable power of attorney
9. Family resources and contributions
10. Impact on family

E. Legal issues

1. Confidentiality of medical records
2. Disclosure of HIV status to 3rd parties
3. Occupational Safety and Health Administration (OSHA), U.S. Department of Health and Human Services (DHHS) requirements
4. Federal requirements
5. Local laws regarding HIV disclosure
6. Testing by employers and health insurers

F. Financial considerations

1. Eligibility criteria for Medicare, Medicaid and Social Security

2. Available funding for health care and medications
    a. Ryan White title funding including AIDS drug assistance programs (ADAP)

G. Special considerations for health care providers

1. Occupational risks and occupational post-exposure prophylaxis for exposure to HIV
2. Specific psychosocial and ethical issues
3. Impairment and work-related disability
4. Post-exposure prophylactic protocols
5. Post-exposure prophylactic treatment recommendations

Skills

In the appropriate setting, the resident should demonstrate the ability to independently perform or appropriately refer:

1. Evaluate
    a. Take patient's sexual and substance use history and perform risk factor assessment
    b. Perform a comprehensive physical examination
    c. Select appropriate diagnostic procedures
    d. Interpret the results of HIV testing
    e. Set appropriate priorities with patient, family and friends
    f. Investigate common symptoms (fever, cough, diarrhea)
    g. Recognize life-threatening conditions (e.g., severe hypoxia, cytomegalovirus retinitis, drug overdose)
    h. Know which baseline laboratory or screening tests are (e.g., latent TB infection, HAV, HBV and HCV titers, toxoplasmosis, syphilis, Pap smears, chest x-rays, appropriate laboratory analyses for acid-fast bacterial infections, common bacterial infections, viral and fungal infections, lipid profiles, metabolic analyses, blood count analyses, endocrine analyses, routine primary care prevention measures, etc.)
2. Prevent
    a. Provide health education and preventive counseling
    b. Counsel HIV-positive individuals and contacts regarding risk of virus transmission
    c. Consult with community groups and lead group discussions about risks of HIV transmission
    d. Perform prenatal testing for all women

e. HIV prevention counseling in high-risk groups
f. Be informed about and comply with institutional protocols for the protection of employees

3. Manage
   a. Formulate a problem list and prioritize a management plan
   b. Provide antiretroviral therapy
   c. Utilize and coordinate appropriate consultants and resources
   d. Coordinate ambulatory, inpatient and long-term care
   e. Counsel patients and significant others appropriately about testing and test results, therapeutic modalities and prognosis
   f. Provide competent palliative/end-of-life care
   g. Manage occupational and non-occupational HIV exposure per guidelines
4. Community involvement
   a. Interact with and assume leadership in medical, social and political communities
   b. Provide education about HIV infection and AIDS in medical, social and political settings (including middle schools, high schools, colleges and churches)
5. Use online and Internet resources to obtain current HIV/AIDS treatment guidelines

Implementation

Within the capabilities of the residency program, the implementation of these curriculum guidelines is best achieved with the use of outside resources, when necessary. Residents should have basic knowledge and skills to care appropriately for their own patients and to serve as a community resource for information about HIV-related issues. Any training efforts must also strive to maintain an up-to-date curriculum that includes recent medical advances.

Precise details of implementation may vary among residency programs, depending on interest levels and the frequency of contact with HIV-positive patients.

Resources

National AIDS Information Clearinghouse
Sponsored by the Centers for Disease Control and Prevention, this Clearinghouse is a comprehensive information source for those involved in AIDS education. Information is available on more than 6,000 programs, projects and organizations providing AIDS-related services.
800-458-5231
Monday-Friday, 9 a.m. - 6 p.m. EDT

National HIV Telephone Consultation Service (Warmline)
Sponsored by the U.S. Health Resources and Services Administration (HRSA) and the AAFP, this service provides clinicians with information and case consultation for HIV/AIDS management
800-933-3413
Monday-Friday, 10:30 a.m. - 8 p.m. EDT

Web Sites

AIDSinfo (a service of the U.S. Department of Health and Human Services [DHHS]): http://www.aidsinfo.nih.gov/

American Academy of Family Physicians: http://www.aafp.org

American Academy of HIV Medicine: http://aahivm.org

American Medical Association: http://www.ama-assn.org

Centers for Disease Control and Prevention: http://www.cdc.gov

HIV Medical Association: http://hivma.org

National Prevention Information Network, HIV/AIDS Introduction: http://www.cdcnpin.org/scripts/hiv/

University of California, San Francisco, National HIV/AIDS Clinician's Consultation Center: http://www.ucsf.edu/hivcntr

http://www.thebody.com

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