



## WORKFORCE DEVELOPMENT MODEL FOR PROVIDERS IN HIV CARE AETC WORKFORCE DEVELOPMENT COMMITTEE

**Purpose:** The continuum of care model for clinicians (defined as prescribers: nurse practitioners, physicians, physician assistants, and – in some states – pharmacists) is based on a spectrum of care model originally developed by the Northwest AETC, in February 2010. The model includes knowledge, attitudes, and clinical skill competencies needed to function effectively at each level. The continuum nature of the model does not mean to imply that all clinicians should strive to become expert providers; excellent care providers are needed at all levels and the model helps to identify skills needed at each level. The model suggests education/capacity building methods to help prescribers attain competencies at each level and move from one level of care to the next, as needed and/or desired. The model has been developed in several iterations, including an initial expert review by six HIV expert clinicians (3 physicians and 3 NPs), who reviewed the model and provided formative input that was incorporated into the developing model.

### AETC Workforce Development Model for Prescribers in HIV Care

**Note.** Levels are not mutually exclusive (i.e., providers predominantly at one level may also have skills at other levels). This grid can be used to assess where a clinician currently functions in regard to HIV knowledge, attitudes, and skills. This assessment can be used as a base to determine (a) where the individual clinician wants to (or needs to) be to provide care based on best-practices and (b) help clinicians attain the knowledge, attitudes, and skills needed to provide higher levels of care for people living with HIV infection (PLWH).

Level	Knowledge/Attitudes
<p><b>0 - Pre-HIV Care:</b> Provider does not deliver any HIV-related care (including prevention education, testing, or clinical care)</p>	<p><b>Needs to know:</b></p> <ul style="list-style-type: none"> <li>○ HIV transmission and prevention, including how it affects pregnant women</li> <li>○ Basic biology of immune response to HIV infection, viral replication, affect on the body</li> <li>○ HIV epidemiology/public health issues</li> <li>○ Risk behaviors for HIV</li> <li>○ Risk assessment and harm reduction strategies</li> <li>○ Available sources for referrals and consultation</li> <li>○ Signs and symptoms of primary HIV</li> <li>○ Common presentations of HIV in each stage of disease</li> <li>○ Universal precautions to protect care providers in health care settings</li> <li>○ PEP guidelines for occupational exposure</li> <li>○ Core ethical principles of health care in general and of the provider’s profession specifically</li> </ul> <p><b>Needs to believe:</b></p> <ul style="list-style-type: none"> <li>○ It is possible to prevent transmission of HIV</li> <li>○ It is important to provide comprehensive primary care for all patients</li> <li>○ Prevention of STDs and blood-borne diseases is a part of comprehensive primary care</li> <li>○ Early diagnosis of HIV is important for personal and public health reasons</li> <li>○ Effective HIV treatment is available</li> </ul> <p><b>Needs to provide to patients:</b></p> <ul style="list-style-type: none"> <li>○ Education about the prevention of HIV, other STDs, and blood-borne diseases, including maternal-to-child-transmission prevention</li> <li>○ Screening and assessment for HIV, other STDs, and blood-borne diseases</li> <li>○ Routine screening of all prenatal patients for HIV and other STDs and blood-borne diseases</li> <li>○ Diagnose and manage common STDs and blood-borne diseases with referral and consultation as needed</li> </ul>

Level	Knowledge/Attitudes
	<ul style="list-style-type: none"> <li>○ Discuss PEP with occupationally exposed health care providers</li> <li>○ With consultation and/or referral as needed, provide PEP to exposed health care providers</li> </ul>
<p><b>1 - Basic Care: HIV Screening &amp; Diagnosis:</b> HIV-related services limited to prevention counseling, HIV testing, post-test counseling, and referral to care post-diagnosis</p>	<p><b>Above plus</b></p> <p><b>Needs to know:</b></p> <ul style="list-style-type: none"> <li>○ Prevention methods specific to risk: sexual activity, drug use, and perinatal</li> <li>○ CDC recommendations on testing</li> <li>○ State laws governing HIV testing</li> <li>○ Confidentiality issues related to HIV testing</li> <li>○ Testing options, including referrals, use of reference lab, on-site rapid testing</li> <li>○ Reimbursement processes for HIV testing</li> <li>○ How HIV affects immune function</li> <li>○ Prophylaxis for OIs</li> <li>○ Cultural issues (including gender, sexual orientation, high risk communities, race/ethnicity, economic status, and age) that affect prevention, diagnosis, and treatment of HIV infection</li> <li>○ Referral and consultation resources</li> <li>○ How HIV-related stigma and discrimination affect diagnosis and care</li> <li>○ Consultation and referral resources</li> </ul> <p><b>Needs to believe:</b></p> <ul style="list-style-type: none"> <li>○ Clinicians have a responsibility to provide HIV testing</li> <li>○ PLWH deserve comprehensive and compassionate care, including early diagnosis and treatment</li> </ul> <p><b>Needs to have the skills to:</b></p> <ul style="list-style-type: none"> <li>○ Assess patients for HIV-related risk behaviors annually to determine need for testing or re-testing</li> <li>○ Discuss HIV concerns with patients</li> <li>○ Advise patient on need for HIV test</li> <li>○ Offer routine initial HIV screening</li> <li>○ Reinforce information about sexual health and HIV prevention r/t sexual activity and drug use</li> <li>○ Provide culturally appropriate counseling and HIV risk assessment</li> <li>○ Provide a safe and confidential environment for patients to discuss concerns about HIV</li> <li>○ Reinforce prevention education to focus on prevention with positives</li> <li>○ Order/perform HIV test (rapid tests and tests sent to reference labs)</li> <li>○ Interpret HIV diagnostic tests</li> <li>○ Provide test results <ul style="list-style-type: none"> <li>▪ With negative test: reinforce prevention messages, answer questions</li> <li>▪ With positive rapid test: identify the test result as “reactive” and provide information about a confirming test</li> <li>▪ With confirmed positive test: provide positive messages about treatment and potentials for longevity, assess acceptance of information</li> </ul> </li> <li>○ When giving positive results to pregnant women, discuss mother-to-child prevention methods and provide guidance on breastfeeding</li> <li>○ Discuss partner notification and testing with HIV-infected and at-risk patients</li> <li>○ Discuss and provide guidance on concerns related to disclosing HIV status with PLWH</li> <li>○ As patient is ready, teach basic HIV biology, prevention methods, and treatment options</li> <li>○ Arrange appropriate follow up after a positive test result <ul style="list-style-type: none"> <li>▪ Order appropriate lab tests</li> <li>▪ Consult with HIV-expert care providers for next steps</li> <li>▪ Provide linkage and entry into specialty care as needed</li> <li>▪ Arrange for case management</li> </ul> </li> <li>○ Arrange appropriate follow up after a negative test result <ul style="list-style-type: none"> <li>▪ Determine need for referral to services for mental health, substance use, or related issues</li> <li>▪ Provide linkage and entry into specialty care as needed</li> </ul> </li> <li>○ Recognize and diagnose acute HIV infection</li> <li>○ Recognize common oral and cutaneous manifestations of HIV</li> </ul>

Level	Knowledge/Attitudes
	<ul style="list-style-type: none"> <li>○ Recognize clinical manifestations of common OIs</li> <li>○ Determine need for OI prophylaxis based on CD4+ T cell counts and DHHS guidelines</li> <li>○ Provide follow-up care including referrals for treatment and/or prevention programs</li> </ul>
<p><b>2 - Intermediate HIV Clinical Care:</b> HIV-related services including primary care, HIV treatment/care, lab monitoring, with referral to or consultation with experts as needed for advanced care services</p>	<p><b>Above plus</b></p> <p><b>Needs to know:</b></p> <ul style="list-style-type: none"> <li>○ Appropriate components of HIV history and physical assessment</li> <li>○ Common physical findings in various stages of HIV infection</li> <li>○ Common co-morbidities in PLWH including TB, HBV, HCV, and other STDs</li> <li>○ Critical lab tests</li> <li>○ Components of comprehensive primary care for PLWH</li> <li>○ HIV care guidelines, including implementation of initial ART when indicated <ul style="list-style-type: none"> <li>▪ ARV resistance testing at time of diagnosis and prior to initiating ART</li> <li>▪ Appropriate doses for ARVs</li> <li>▪ Significant drug-drug interactions with ARVs, including ARV-ARV and ARV-other drug interactions</li> <li>▪ Common adverse effects and metabolic complications related to ART</li> <li>▪ How to determine treatment success/failure</li> </ul> </li> <li>○ Considerations for special populations including women, children, adolescents, migrants, homeless, uninsured, substance users, racial/ethnic groups, etc.</li> <li>○ Reproductive considerations for HIV-infected women and men</li> <li>○ Evidence-based methods to treat common symptoms and ARV side effects</li> <li>○ Potential for OIs</li> </ul> <p><b>Needs to believe:</b></p> <ul style="list-style-type: none"> <li>○ PLWH can live well with consistent, on-going, and appropriate care</li> <li>○ PLWH can benefit from comprehensive care and services, including case management, retention in care services, prevention with positives education, and medication/treatment adherence programs</li> <li>○ PLWH can have positive reproductive experiences</li> </ul> <p><b>Needs have the skills to:</b></p> <ul style="list-style-type: none"> <li>○ Provide consistent care for about 20 PLWH</li> <li>○ Perform comprehensive Initial evaluation of a newly-diagnosed PLWH</li> <li>○ Perform comprehensive oral assessment and refer for dental care</li> <li>○ Routinely assess PLWH for problems related to substance use and depression; refer as needed for treatment and therapy</li> <li>○ Order HIV-focused labs and other routine tests</li> <li>○ Offer appropriate primary care to PLWH: age-specific tests, immunizations, assessments, care, as well as HIV-specific assessments, including screening for TB, HBV, HCV, and other STDs</li> <li>○ Encourage behavior changes to support health: positive modifications to tobacco use, drug use, nutrition, exercise, stress, etc.</li> <li>○ Report and discuss lab values with patients</li> <li>○ Teach patients about HIV treatment options</li> <li>○ Initiate ART</li> <li>○ Encourage patients to stay in care, adhere to ART, and prevent risks related to acquiring and/or transmitting sexually- and parenterally-acquired infections</li> <li>○ Identify and prevent drug-drug interactions that could result from treatment of other acute and chronic medical conditions</li> <li>○ Recognize and manage adverse effects and metabolic complications of ART, including drug toxicities, changes in glucose metabolism, renal dysfunction, coronary artery disease, and lipid abnormalities</li> <li>○ Assess need for and assist with planning for contraception or conception</li> <li>○ Assess for mental health and substance abuse co-morbidities; offer treatment and/or referral for care</li> <li>○ Provide reproductive counseling to PLWH and discordant couples</li> <li>○ Use consultation and referral for HIV-infected pregnant women as needed</li> </ul>

Level	Knowledge/Attitudes
<p><b>3 - Advanced HIV Clinical Care:</b> HIV-related services including a full range of clinical care services with referral or consultation with HIV-expert clinicians as needed for complicated cases; provides consultation for and accepts referrals from other clinicians</p>	<p><b>Above plus</b></p> <p><b>Needs to know:</b></p> <ul style="list-style-type: none"> <li>○ Appropriate components of assessment for co-morbid conditions</li> <li>○ How to diagnose and treat OIs</li> <li>○ DHHS guidelines for prevention and treatment of OIs</li> <li>○ ART resistance testing in treatment-experienced, complicated, and complex patients</li> <li>○ ART failure and alternate ARV combinations</li> <li>○ Treatment for multiple ARV resistance</li> <li>○ Treatment for complicated/complex cases of HIV infection</li> <li>○ Treatment of PLWH with significant co-morbidities r/t HIV, ART, and aging with HIV including renal insufficiency, chronic hepatitis, bone loss, diabetes, coronary artery disease, lipid abnormalities, and changes in glucose metabolism.</li> </ul> <p><b>Needs to believe:</b></p> <ul style="list-style-type: none"> <li>○ There are appropriate treatment options for PLWH with advanced or complicated disease</li> <li>○ Advanced clinicians have a responsibility to share knowledge and skills with other HIV-care providers</li> </ul> <p><b>Needs to have the skills to:</b></p> <ul style="list-style-type: none"> <li>○ Provide consistent care for about 50 PLWH</li> <li>○ Prevent, diagnose, and provide treatment for OIs</li> <li>○ Order and interpret resistance lab tests</li> <li>○ Modify ARV prescriptions based on resistance testing to reach goal of undetectable viral load</li> <li>○ Manage complex resistance in HIV-infected patients</li> <li>○ Recognize and manage complex or atypical manifestations of OIs</li> <li>○ Assess clinical parameters to determine risk for co-morbid conditions</li> <li>○ Initiate care to prevent and treat co-morbid conditions, including those caused by ART and long-term HIV infection</li> <li>○ Teach other clinicians about HIV infection</li> <li>○ Provide clinical consultation to other HIV care providers</li> <li>○ Independently maintain in-depth, state-of-the-art HIV knowledge base</li> </ul>
<p><b>4 - Expert HIV Clinical Care &amp; Educator:</b> Expert leadership to improve comprehensive care for PLWH in multiple areas</p>	<p><b>Above plus</b></p> <p><b>Needs to know:</b></p> <ul style="list-style-type: none"> <li>○ Expert education methods</li> <li>○ Venues for advocacy</li> <li>○ How to develop research and other scholarly collaborations</li> </ul> <p><b>Needs to believe:</b></p> <ul style="list-style-type: none"> <li>○ Expert clinicians can contribute to care for PLWH through consultation, collaboration, education, research, publishing, and advocacy</li> </ul> <p><b>Needs to have the skills to:</b></p> <ul style="list-style-type: none"> <li>○ Contribute to research</li> <li>○ Provide expert education for health care providers on specific HIV-related problems</li> <li>○ Refer to other HIV experts as needed</li> <li>○ Influence HIV care through clinical, educational, scholarly, mentoring, and advocacy contributions at local, regional, and national levels</li> </ul>
<p><i>Note.</i> ART = antiretroviral therapy; ARV = antiretroviral; HBV = hepatitis B virus; HCV = hepatitis C virus; HIV = human immunodeficiency virus; OI = opportunistic infection; PEP = post exposure prophylaxis; PLWH = person(s) living with HIV infection; STD = sexually transmitted disease; TB = tuberculosis</p>	