

HIV/AIDS Care and Treatment

A Clinical Course for People Caring for Persons Living with HIV/AIDS



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Cover Photos:

Lead photo: The late Kabanda and Brigitte Syamalevwe. Brigitte Syamalevwe passed away in February 2003 and was buried on her farm in Luanshya Ibenga, Zambia, near her late husband, Kabanda, who died in 2002. Brigitte and Kabanda were married for 30 years. Brigitte worked as a schoolteacher and Kabanda as a senior clinical officer for the public health service in northern Zambia. Together, Brigitte and Kabanda shared their experience of HIV/AIDS with courage and dynamism. Photo by Mary Lyn Field-Nguer/FHI.

First row, left to right:

Children in Chennai, India. Photo by Mary Lyn Field-Nguer/FHI.
Doctor at HIV clinical care center in Peddapuram, India. Video still by Robert Ritzenthaler/FHI.
Counselor Theresa Tetteh talks with a client at St. Martin's Catholic Hospital, Ghana. Photo by Mary Lyn Field-Nguer/FHI.
Lab technologist, Rwanda. Photo by Brian Pederson/FHI.

Second row, left to right:

Queen Mothers of the Start/Ghana program. Photo by Mary Lyn Field-Nguer/FHI.
Child in the Cedico school project in Guatemala. Photo by Jon Warren/World Vision.
HIV-positive couple in Maesai, Thailand. Photo by World Vision.

Back cover, far left:

Post-test club, Western Province, Kenya. Video still by Robert Ritzenthaler/FHI.

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PREFACE

Only about five percent of the 30 million people in poor countries who need treatment for HIV infection are receiving it. As the need for treatment grows, so does the demand. The June 2001 Declaration of Commitment by the United Nations General Assembly states that “Prevention, care, support and treatment for those infected and affected by HIV/AIDS are mutually reinforcing elements of an effective response and must be integrated in a comprehensive approach to combat the epidemic.” Encouraged by global support for expanding access to treatment and by a decrease in the price of antiretroviral drugs, programs are increasingly seeking ways to add a treatment component to their prevention, care, and support services.

A major aspect of preparing to implement these programs is human and infrastructure capacity building. In resource-constrained settings, planning for human capacity development must take place in the challenging context of health care systems that are struggling to cope with HIV as well as deal with continuing high maternal, infant and overall disease mortalities. It is critical that efforts to prepare and support health care workers, nurses, doctors, clinical officers and others who care for people living with HIV/AIDS be tailored to the setting in which they are implemented. Capacity building must also motivate health care staff so that they are able to provide the care and support needed for safe and effective use of lifelong treatment.

This participant manual presents new knowledge and skills for delivering and organizing clinical care and treatment services for people living with HIV/AIDS. It is shaped by FHI’s longstanding work in HIV-related prevention, care and support activities in more than 60 countries. Recently, FHI began supporting public and NGO efforts to deliver strengthened HIV care and support, including antiretroviral treatment (ART), in three countries at the district level.

We hope this manual will help clinical care providers develop the skills to ensure that their health care system provides high-quality HIV disease management, including the safe and effective use of ART.

INTRODUCTION

As FHI has embarked on strengthening HIV care, including the use of ART, it has become clear that one of the important prerequisites to a care and treatment program is staff who are adequately prepared to provide clinical care services at the facility and community level. Clinical services include the prophylaxis and management of HIV-related illnesses, including opportunistic infections, and provision of antiretroviral therapy for those who need it. FHI decided to develop this facilitator's guide because training is an important first step in preparing health care teams to provide care and treatment. However, workshop training alone is not sufficient. Supervision, monitoring and refresher training—as well as a supportive health system and prepared communities—must follow.

Clinical HIV care is a complex area, in part because there are psychological and social issues that compound the physical effects of HIV infection. The implications for service delivery are many, including the need for a cadre of providers. A team of professionals from health care and other fields, as well as community groups—often from various institutions and programs—must work together to provide and share quality care, treatment, and support. Collaboration between clinical care facilities and other services is critical if individuals and families are to receive a continuum of care through timely and functional referral. Training from this perspective can help programs achieve these goals.

It is important to bear in mind that diagnosis, management, follow-up and referral resources vary from country to country and, within countries, from one site or level to another (for example, primary/health center; secondary/district hospital; tertiary/referral hospital). Each level will need to adapt recommendations from a course such as this. Facilitators offering the course should be aware of the needs of different levels in a country; they should use every opportunity to discuss all aspects of clinical management in the context of the various settings in which course participants operate day to day. While the course draws much upon experience in Africa, most of the content is relevant and appropriate for settings in all regions. Moreover, content can be adapted easily. (Facilitators working in Thailand or Asia, for example, should add opportunistic infections particular to that locale.)

COURSE DESCRIPTION

For whom is this course designed?

The course is designed for those who treat and care for people living with HIV/AIDS in resource-constrained settings. Those responsible for delivering HIV-related services and who anticipate the addition of treatment and support services may also find it useful.

What does the guide include?

The course focuses primarily on clinical content for those who prescribe drugs and treat patients, with complementary sessions on programmatic issues. Sessions present treatment in the context of comprehensive care and support. The approach covers the provision of care and treatment services across a continuum of care, including HIV clinical management at a facility, as well as clinical and psychosocial community services. The guide has sections on epidemiology, transmission and prevention of HIV, the organization of HIV care services, and nutrition and palliation. However, it focuses mainly on preventing and managing opportunistic infections and HIV-related illnesses and using antiretroviral therapy.

HIV/AIDS Care and Treatment

A Clinical Course for People Caring for Persons Living with HIV/AIDS



Part A: HIV/AIDS Care and Treatment

Module A1: HIV/AIDS Programming and HIV Disease: An Introduction

- Session 1: Program Overview
- Session 2: General Background on HIV/AIDS: Epidemiology
- Session 3: HIV/AIDS Prevention
- Session 4: Comprehensive Care for People Living with HIV/AIDS
- Session 5: Immunology and Natural History of HIV/AIDS
- Session 6: Diagnosis of HIV
- Session 7: Patient Clinical Presentation, Differential Diagnosis and Follow-up

Module A2: Managing Patients with HIV-Related Diseases

- Session 1: Diagnosis of HIV-Related Illnesses: A Brief Overview
- Session 2: Conditions of the Respiratory System
- Session 3: Tuberculosis: HIV-TB Interaction
- Session 4: Conditions of the Neurological System
- Session 5: Conditions of the Gastrointestinal System
- Session 6: Conditions of the Lymph System
- Session 7: Conditions of the Mouth and Throat
- Session 8: Skin Conditions
- Session 9: Fever
- Session 10: Prophylaxis of Opportunistic Infections
- Session 11: Diagnosis and Management of HIV-Related Cancers

Module A3: Special Issues in Managing Women and Children with HIV Disease

- Session 1: HIV and Pregnancy: Prevention of Mother-to-Child Transmission
- Session 2: Management of HIV Disease in Women
- Session 3: Management of HIV Disease in Children

Module A4: Antiretroviral Therapy: A Brief Introduction

- Session 1: Setting up the Antiretroviral Therapy (ART) Component
- Session 2: Brief Introduction to ART
- Session 3: Management of Drug Side Effects
- Session 4: Case Studies: Managing Patients with Multiple Issues

Module A5: Supporting People Living with HIV/AIDS: Palliative Care, Home-Based Care and Nutrition

- Session 1: Palliative Care
- Session 2: Community Home-Based Care
- Session 3: Nutrition

Module B1: Managing Patients on Antiretroviral Therapy

- Session 1: The Goal and Basic Principles of ART
- Session 2: When to Start ART in Adults
- Session 3: Antiretroviral Drug Mechanisms
- Session 4: Drug Interactions and Adverse Drug Reactions: Side Effects and Toxicities
- Session 5: Recommended First-Line Regimens in Adults
- Session 6: Patient Follow-up and Monitoring ART
- Session 7: Drug Adherence and Strategies for Compliance
- Session 8: Why and When to Change Therapy

Module B2: Special Issues: TB, Women, Children and PEP

- Session 1: Management of Tuberculosis and Other HIV-Related Infections and Conditions in Relation to ART
- Session 2: ART in Women: During Pregnancy and for Preventing Mother-to-Child Transmission
- Session 3: ART in Infants and Children
- Session 4: Post-Exposure Prophylaxis (PEP)

ESTIMATED DURATION OF SESSIONS AND TOTAL MODULE AND COURSE TIMES**Part A: HIV/AIDS Care and Treatment****Module A1: HIV/AIDS Programming and HIV Disease: An Introduction**

Session 1	Program Overview	50 minutes
Session 2	General Background on HIV/AIDS: Epidemiology	30 minutes
Session 3	HIV/AIDS Prevention	50 minutes
Session 4	Comprehensive Care for People Living with HIV/AIDS	120 minutes
Session 5	Immunology and Natural History of HIV/AIDS	60 minutes
Session 6	Diagnosis of HIV	150 minutes
Session 7	Patient Clinical Presentation, Differential Diagnosis and Follow-up	110 minutes

Total time: 570 minutes or 9.5 hours

Module A2: Managing Patients with HIV-Related Diseases

Session 1	Diagnosis of HIV-Related Illnesses: A Brief Overview	10 minutes
Session 2	Conditions of the Respiratory System	80-105 minutes
Session 3	Tuberculosis: HIV-TB Interaction	75 minutes
Session 4	Conditions of the Neurological System	120 minutes
Session 5	Conditions of the Gastrointestinal System	120 minutes
Session 6	Conditions of the Lymph System	80 minutes
Session 7	Conditions of the Mouth and Throat	70 minutes
Session 8	Skin Conditions	120 minutes
Session 9	Fever	60 minutes
Session 10	Prophylaxis of Opportunistic Infections	90 minutes
Session 11	Diagnosis and Management of HIV-Related Cancers	45 minutes

Total time: 895 minutes or 15 hours

Module A3: Special Issues in Managing Women and Children with HIV Disease

Session 1	HIV and Pregnancy: The Prevention of Mother-to-Child Transmission	60 minutes
Session 2	Management of HIV Disease in Women	50 minutes
Session 3	Management of HIV Disease in Children	165 minutes
		210 minutes with case studies

Total time: 275 – 320 minutes or 4.6 - 5.3 hours

Module A4: Antiretroviral Therapy: A Brief Introduction

Session 1	Setting up an Antiretroviral Therapy ART Program	90 minutes
Session 2	Brief Introduction to ART	90 minutes
Session 3	Management of Drug Side Effects	45 minutes
Session 4	Case Studies: Managing Patients with Multiple Issues	120 minutes

Total time: 390 minutes or 6.5 hours

Module A5: Supporting People Living with HIV/AIDS: Palliative Care, Home-Based Care and Nutrition

Session 1	Palliative Care	120 minutes
Session 2	Community Home-Based Care	60 minutes
Session 3	Nutrition	180 minutes

Total time: 360 minutes or 5.5 hours

Total time for Part A: 41.8 hours or five 8-hour days, not including breaks and lunch times

Part B: Antiretroviral Therapy

Module B1: Managing Patients on Antiretroviral Therapy

Session 1	The Goal and Basic Principles of ART	30 minutes
Session 2	When to Start ART in Adults	45 minutes
Session 3	Antiretroviral Drug Mechanisms	60 minutes
Session 4	Drug Interactions and Adverse Drug Reactions: Side Effects and Toxicities	120 minutes
Session 5	Recommended First-Line Regimens in Adults	45 minutes
Session 6	Patient Follow-up and Monitoring ART	60 minutes
Session 7	Drug Adherence and Strategies for Compliance	100 minutes
Session 8	Why and When to Change Therapy	90 minutes

Total time: 550 minutes or 19 hours

Module B2: Special Issues: TB, Women, Children and Post-Exposure Prophylaxis

Session 1	Management of Tuberculosis and Other HIV-Related Infections and Conditions Related to ART	40-60 minutes
Session 2	ART in Women: During Pregnancy and for Preventing Mother-to-Child Transmission	60-90 minutes
Session 3	ART in Infants and Children	75 minutes
Session 4	Post Exposure Prophylaxis (PEP)	90 minutes

Total time: 270-330 minutes or 4.5-5.5 hours

Total time for Part B: 24.5 hours or three 8-hour days, not including breaks or lunch

Total time for Course, Parts A and B, all modules: 57 hours or 8 days

Based on 7 hours of sessions per day, not including time for lunch and at least one 15-minute break each morning and afternoon

ABBREVIATIONS

Antiretroviral Drug Abbreviations

ARV	Antiretroviral
NNRTI	Nonnucleoside reverse transcriptase inhibitor
DLV	Delavirdine
EFZ	Efavirenz
NVP	Nevirapine
NRTI	Nucleoside reverse transcriptase inhibitor
TDF	Tenofovir
NsRTI	Nucleoside reverse transcriptase inhibitor
3TC	Lamivudine
ABC	Abacavir
AZT	Zidovudine
d4T	Stavudine
ddC	Zalcitabine
ddI	Didanosine
ZDV	Zidovudine
PI	Protease inhibitor
APV	Amprenavir
IDV	Indinavir
LPV	Lopinavir
LPV/r	Lopinavir/ritonavir
NFV	Nelfinavir
RTV	Ritonavir
SQV	Saquinavir
SQV/r	Saquinavir/ritonavir

TB Treatment Regimens

EMB	Ethambutol
INH	Isoniazid
PZA	Pyrazinamide
RIF	Rifampin
SMX	Sulfamethoxazole
TMP	Trimethoprim
TMP-SMX	Trimethoprim-sulfamethoxazole or Cotrimoxazole
EHRZ	Ethambutol (E), Isoniazid (H), Rifampicin (R), Pyrazinamide (Z)
HE	Isoniazid (H) and Ethambutol (E)
HR	Isoniazid (H), Rifampicin (R)
HRE	Isoniazid (H), Rifampicin (R), Ethambutol (E)
HRZ	Isoniazid (H), Rifampicin (R), Pyrazinamide (Z)
HRZE	Isoniazid (H), Rifampicin (R), Pyrazinamide (Z), Ethambutol (E)
SHRZ	Streptomycin (S), Isoniazid (H), Rifampicin (R), Pyrazinamide (Z)
SHRZE	Streptomycin (S), Isoniazid (H), Rifampicin (R), Pyrazinamide (Z), Ethambutol (E)

Drug Administration Abbreviations

/ml	Microliter
bid	Twice a day
cm	Centimeter
d/c	Discontinue
G, gr or gm	Gram
gr/dl	Grams per deciliter
H	Hour
IM	Intramuscular
IV	Intravenous
kg	Kilogram
mg	Milligram
mg/L	Milligrams/liter
mm³	Cubic millimeter
mmHg	Millimeters of mercury
mmol/mL	Millimole per milliliter
nocte	At nighttime
OD	Once daily
PO	By mouth
PRN	As needed
q	Every
qd	Every day
qid	Four times a day
tid	Three times a day

General Abbreviations

ml	Microliter
3TC	Lamivudine
ABC	Abacavir
ACTG	AIDS clinical trial group
ADC	AIDS dementia complex
ADR	Adverse drug reaction
AFB	Acid-fast bacteria - Ziehl-Neelsen stain
AIDS	Acquired immune deficiency syndrome
ALT	Alanine aminotransferase
ANC	Antenatal care
APV	Amprenavir
ARC	AIDS-related complex
ART	Antiretroviral therapy
ARV	Antiretroviral
AST	Aspartate aminotransferase
AUC	Area under the (plasma time) curve
AZT	Zidovudine
B1	Thiamine
B12	Cobalamine
B2	Riboflavin
B6	Niacin pyrodoxine

BA	Bacillary angiomatosis
BCC	Behavior change communication
BCG	Bacille Calmette-Guérin
bid	Twice a day
BMI	Body mass index
BMS	Bristol Myers Squibb
BRAT	Diet of bananas, rice, applesauce, toast, and tea
BUN	Blood urea nitrogen
C&S	Culture & sensitivity
C&T	Counseling and testing
CBC	Complete blood count
CBO	Community-based organization
CDC	Centers for Disease Control and Prevention
CHBC	Community home-based care
CIN	Cervical intraepithelial neoplasia
cm	Centimeter
CMV	Cytomegalovirus
CNS	Central nervous system
CPK	Creatinine phosphokinase
CSF	Cerebrospinal fluid
CSF-CRAG	Cerebrospinal fluid-cryptococcal antigen test
CT	Computerized tomography
CXR	Chest x-ray
d/c	Discontinue
d4T	Stavudine
ddC	Zalcitabine
ddI	Didanosine
DFID	Department for International Development
DLV	Delavirdine
DMO	District medical officer
DNA	Deoxyribonucleic acid
DOT	Directly observed treatment
DOTS	Directly observed treatment strategy
DPT	Diphtheria, pertussis, and tetanus
DRESS	Drug rash, eosinophilia, and systemic symptoms
DS	Double strength
DTR	Deep tendon reflex
EBV	Epstein-Barr virus
EFZ	Efavirenz
EHRZ	ethambutol (E), isoniazid (H), rifampicin (R), pyrazinamide (Z)
EIA	Enzyme immunoassay
ELISA	Enzyme-linked immunosorbent assay
EMB	Ethambutol
ENT	Ear, nose and throat

EPI	Expanded Program for Immunization	IMCI	Integrated Management of Childhood Illnesses
ESN	Nutrition Programmes Service of the FAO Food and Nutrition Division	IMPACT	Implementing AIDS Prevention and Care Project
ESR	Erythrocyte sedimentation rate	INH	Isoniazid
ETEC	Enterotoxogenic E.coli	ITP	Idiopathic thrombocytopenia
ETOH	Alcohol	IU	International units
FBC	Full blood count	IV	Intravenous
FDA	Food and Drug Administration	JCV	JC virus
FHI	Family Health International	kg	Kilogram
FTT	Failure to thrive	KOH	Potassium hydroxide
FUO	Fever of unknown origin	KS	Kaposi's sarcoma
G, gr or gm	Gram	LDH	Lactate dehydrogenase
GI	Gastrointestinal	LDL	Low-density lipoprotein
gr/dl	Grains per deciliter	LFT	Liver function tests
GYN	Gynecological	LGV	Lymphogranuloma venereum
H	Hour	LIP	Lymphoid interstitial pneumonia
HAART	Highly active antiretroviral therapy	LPV	Lopinavir
HAD	HIV-associated dementia	LPV/r	Lopinavir/ritonavir
HAV	Hepatitis A virus	MAC	Mycobacterium avium complex or M. avium complex
HbC	Hemoglobin C	MEMS	Medication Event Monitoring Systems
HBC	Home-based care	mg	Milligram
HbcAb or AHBC	Hepatitis B core antibody	mg/L	Milligrams/liter
HBcAG	Hepatitis B core antigen	mm3	Cubic millimeter
HBs	Hepatitis B surface	mmHg	Millimeters of mercury
HBsAG	Hepatitis B surface antigen	mmol/mL	Millimole per milliliter
HBV	Hepatitis B virus	MRI	Magnetic resonance imaging
HCO3	Bicarbonate	MSF	Médecins Sans Frontières
HCV	Hepatitis C virus	MTCT	Mother-to-child transmission
HCW	Health care worker	NAM	Nucleoside analogue mutation
HDV	Hepatitis D virus	NCHS	National Center for Health Statistics
HE	isoniazid (H) and ethambutol (E)	NFV	Nelfinavir
HEV	Hepatitis E virus	NGO	Nongovernmental organization
Hgb	Hemoglobin	NHD	WHO Department of Nutrition for Health and Development
HHV	Human herpes virus	NHL	NonHodgkin's lymphoma
HIV	Human immunodeficiency virus	NNRTI	Nonnucleoside reverse transcriptase inhibitor
HPV	Human papilloma virus	nocte	At nighttime
HR	Isoniazid (H), Rifampicin (R)	NRTI	Nucleoside reverse transcriptase inhibitor
HRE	Isoniazid (H), Rifampicin (R), Ethambutol (E)	NSAID	Nonsteroidal anti-inflammatory drug
HRZ	Isoniazid (H), Rifampicin (R), Pyrazinamide (Z)	NsRTI	Nucleoside reverse transcriptase inhibitor
HRZE	Isoniazid (H), Rifampicin (R), Pyrazinamide (Z), Ethambutol (E)	NVP	Nevirapine
HSR	Hypersensitivity reaction	O&P	Ova and parasites
HSV	Herpes simplex virus	OI	Opportunistic infection
IDU	Intravenous drug use	ORS	Oral rehydration solution
IDV	Indinavir	OVC	Orphans and vulnerable children
IgG	Immunoglobulin G		
IgM	Immunoglobulin M		
IM	Intramuscular		

PCP	Pneumocystis carinii pneumonia	TMP	Trimethoprim
PCR	Polymerase chain reaction	TMP-SMX	Trimethoprim-sulfamethoxazole or cotrimoxazole
PEP	Post-exposure prophylaxis	TSH	Thyroid stimulating hormone
PGL	Persistent generalized lymphadenopathy	UGI	Upper gastrointestinal
PI	Protease inhibitor	UNAIDS	Joint United Nations Program on AIDS
PID	Pelvic inflammatory disease	UNICEF	United Nation's Children's Fund
PLHA	People living with HIV/AIDS	URTI	Upper respiratory tract infection
PML	Progressive multifocal leukoencephalopathy	USAID	United States Agency for International Development
PMN	Polymorphonuclear	UTI	Urinary tract infection
PMTCT	Prevention of mother-to-child transmission	UV	Ultraviolet
PO	By mouth	VCT	Voluntary counseling and testing
PO2 and pO2	Partial pressure of oxygen	VDRL	Venereal disease research laboratory
PP	PowerPoint	VZIG	Varicella-zoster immune globulin
PPD	Purified protein derivative of tuberculin	VZV	Varicella-zoster virus
PRN	As needed	WB	Western blot
PT	Preventive therapy	WBC	White blood count
PTB	Pulmonary TB	WHO	World Health Organization
PZA	Pyrazinamide	ZDV	Zidovudine
q	Every	ZN	Ziehl-Neelsen stain
qd	Every day		
qid	Four times a day		
RBC	Red blood cells		
RFTs	Renal function tests		
RIBA	Recombinant immunoblot assay		
RIF	Rifampin		
RNA	Ribonucleic acid		
RPR	Rapid plasma reagin		
RTV	Ritonavir		
SGOT	Serum glutamic oxaloacetic transaminase		
SGPT	Serum glutamic pyruvic transaminase		
SHRZ	Streptomycin (S), Isoniazid (H), Rifampicin (R), Pyrazinamide (Z)		
SHRZE	Streptomycin (S), Isoniazid (H), Rifampicin (R), Pyrazinamide (Z), Ethambutol (E)		
SIT	Structured intermittent therapy		
SMX	Sulfamethoxazole		
SQV	Saquinavir		
SQV/r	Saquinavir/ritonavir		
STAT	Immediately		
STD	Sexually transmitted disease		
STI	Sexually transmitted infection		
STI	Structured treatment interruption		
Stool R/E	Stool routine examination		
TB	Tuberculosis		
TDF	Tenofovir		
TDM	Therapeutic drug monitoring		
tid	Three times a day		
TLC	Total lymphocyte count		