Training Toolkit

HIV Care and Antiretroviral Treatment Recording and Reporting System

ANSWERS TO EXERCISES

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World Health Organization
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Answers to Exercises

HIV Care and ART Recording and Reporting System

Exercise 1 – Patient record & Pre-ART & ART registers

Refer to Participant Manual, module 2 & 3

Answers to case-study 1– PATIENT HIV CARE and ANTIRETROVIRAL TREATMENT (ART) RECORD
(To be stored in a locked cabinet at the health centre and arranged serially by registration number)

1. Patient Identification Data (Write complete information)

Registration Number: AB 2356 code clinic (2#)-code patient (4#)

Name of Treatment Unit: AB City:

District: State/province:

Name of patient: A

Age: 28 (date of birth: ☐☐/☐☐/☐☐) Sex: ☒ Male ☐ Female

Patient's phone number:

Address:

City/village: District: State/province:

Distance from residence to clinic in km

Treatment supporter's name (if applicable)

Treatment supporter's address:

Treatment supporter's phone number:

Date confirmed HIV+ test: ☐☐/3/2003 Place:

Entry point (services referring the patient for HIV care): ☐ 1-VCT ☐ 2-TB ☐ 3-Outpatient
☐ 4-Inpatient ☐ 5-Paediatric ☐ 6-PMTCT ☐ 7-STI ☐ 8-Private ☐ 9-NGO ☒ 10-Self referred
☐ 11-IDU outreach ☐ 12- SW outreach ☐ 13-other

☐ patient transferred in on ART from another HIV care/ART clinic from the National program

Name previous clinic: Date transferred in :

2. Personal History (Tick one choice)

Risk factor for HIV:
- ☒ 1 Heterosexual
- ☐ 2 Men sex with men (MSM)
- ☐ 3 Sex work (SW)
- ☐ 4 Injecting drug use (IDU)
- ☐ 5 Blood transfusion
- ☐ 6 Mother to child
- ☐ 7 Unknown

For IDUs Substitution therapy ☐ Y ☐ N
If yes, type:

Literate ☐ Yes ☒ No

Employed ☐ Yes ☒ No

Alcoholism ☐ Habitual ☐ Social ☐ No use

3. Family History (Tick one choice)

Marital status: ☐ Single ☐ Married ☐ Divorce/separate ☒ Widowed ☐ Not applicable

Estimated monthly household income:

Family members: partner/children	Age sex	HIV +/-/unknown	ART Y/N	Regist. No if in care
Son	M 2y	Negative		
Daughter	F 4y	Negative		

4. Antiretroviral treatment history

Was ART received before? ☐ Yes ☒ No

If yes ☐ PMTCT ☐ Earlier ART Place: ☐ Private ☐ Govt

Drugs and duration:

5. Clinical and Laboratory Investigations

	Date (dd/mm /yy)	WHO stage	Weight (kg)	Height (cm)	Performance A/B/C*	Total lymphocyte count	CD4 count (or % in children)
At 1st visit in clinic	4/2/04	4	47		B		59
At ART medical eligibility	4/2/04	4	47	child	B		59
At start of ART	1/3/04	4	46	child	B		
At 6 months ART	8/9/04	4	51	child	A		119
At 12 months ART				child			
At 24 months ART				child			

6. Antiretroviral Treatment

Treatment Started:
- ☒ D4T30+3TC+NVP
- ☐ D4T40+3TC+NVP
- ☐ D4T30+3TC+EFV
- ☐ D4T40+3TC+EFV
- ☐ ZDV+3TC+NVP
- ☐ ZDV+3TC+EFV

SUBSTITUTION within 1st line, SWITCH to 2nd line, STOP, RESTART

Date	Substitution, switch or stop	Reason (code)	Date restart	New regimen
5/5/04	substitution	4	5/6/04	D4T30 3TC EFV

Reasons SUBSTITUTE/SWITCH: 1 toxicity side effects, 2 pregnancy, 3 risk of pregnancy, 4 newly diagnosed TB, 5 new drug available, 6 drug out of stock, 7 other reason (specify)

Reasons for SWITCH only: 8 clinical treatment failure, 9 immunological failure, 10 virologic failure

Reasons STOP: 1 toxicity side effects, 2 pregnancy, 3 treatment failure, 4 poor adherence, 5 illness hospitalisation, 6 drug out of stock, 7 patient lack of finance, 8 patient decision, 9 planned treatment interruption, 10 others

7. Tuberculosis treatment during HIV care

Disease class (tick)
- ☒ Pulmonary TB
  - ☒ Smear-positive
  - ☐ Smear-negative
- ☐ Extrapulmonary site:

TB Regimen (tick)
- ☒ Category I
- ☐ Category II
- ☐ Other specify:

Date start TB Rx: 5/5/04

TB registration
District:
Health Centre:
TB number:

Treatment outcome: ☒ Cure ☐ Rx completed ☐ Rx failure ☐ Died ☐ Default ☐ Transfer out
Date: 8/11/04

8. End of Follow-up

☐ Death Date of death: ☐☐/☐☐/☐☐

☐ Lost to follow-up (>3 months) Date last visit: ☐☐/☐☐/☐☐

☒ Transferred out Date: 8/12/04 New clinic: XE

* Performance scale: A- Normal activity; B- bedridden <50% of the day during last month; C- bedridden > 50% of the day during last month

Answers to case-study 1- 9. Patient HIV care & Antiretroviral Treatment follow-up

Date of visit*	Date next visit	Weight (kg) & height for child	WHO stage	Performance scale*	pregnancy (y/n) or FP method*	opportunistic infections -code*	Drugs prescribed for prophylaxis of OIs	Antiretroviral drugs and dose prescribed	adherence to ART* - >95%, 80-95%, <80%	ART Side effects - code*	lab results when available	Condoms given y/n	Referred to specialist or or hospit.
4/2/04	18/2/04	47	4	B		C - D+wasting	CPT Fluco 7 days				CD4: 59		
18/2/04	1/3/04		4	B			CPT						
1/3/04	16/3/04	46	4	B			CPT	D4T 30 3TC NVP					
16/3/04	1/4/04	45	4	B			CPT	D4T 30 3TC NVP	A	Nau + Abd pain			
'1/4/04	'1/5/05	45	4	B			CPT	D4T 30 3TC NVP	A				
1/5/04	5/5/04	44	4	B			CPT	D4T 30 3TC NVP	B	V			TB clinic
5/5/04	5/6/04		4	B		PTB+	CPT HRZE						
5/6/04	5/7/04	45	4	B			CPT HRZE	D4T 30 3TC EFV					
5/7/04	5/8/04	46	4	B			CPT HR	D4T 30 3TC EFV	A				
5/8/04	5/9/04	48	4	B			CPT HR	D4T 30 3TC EFV	A			Y	
8/9/04	8/10/04	51	4	A			CPT HR	D4T 30 3TC EFV	A		CD4: 119	Y	
8/10/04	8/11/04	52	4	A			CPT HR	D4T 30 3TC EFV	A				
8/11/04	8/12/04	53	4	A			CPT	D4T 30 3TC EFV	A			Y	
8/12/04	TR out XE		4	A			CPT	D4T 30 3TC EFV	A				

***Instructions and codes:**

Date: Write the date of actual visit starting from the 1st visit for HIV care - ALL DATES: DD/MM/YY

Performance scale: A- Normal activity; B- bedridden <50% of the day during last month; C- bedridden > 50% of the day during last month

FP: family planning; 1 condoms, 2 oral contraceptive pills, 3 injectable/ implantable hormones, 4 diaphragm/cervical cap, 5 intrauterine device, 6 vasectomy/tubal ligation/hysterectomy

Opportunistic infections: Enter one or more codes: Tuberculosis (TB); Candidiasis (C); Diarrhea (D); Cryptococcal meningitis (M); Pneumocystis Carinii Pneumonia (PCP); Cytomegalovirus disease (CMV); Penicilliosis (P); Herpes zoster (Z); Genital herpes (H); Toxoplasmosis (T); Other-specify

Adherence: Check adherence by asking the patient if he/she has missed any doses. Also check the bottle/blister packet. Write the estimated level of adherence (e.g. >95% = < 3 doses missed in a period of 30 days; 80-95% = 3 to 12 doses missed in a period of 30 days; < 80% = >12 doses missed in a period of 30 days

Side effects: Enter one or more codes: S=Skin rash; Nau-nausea; V=Vomiting; D=Diarrhoea; N=Neuropathy;J=Jaundice; A=Anemia; F=Fatigue; H=Headache; Fev=Fever; Hyp=Hypersensitivity; Dep=Depression; P=Pancreatitis; L=Lipodystrophy; Drows=Drowsiness; O=Other? Specify

Answers to case-study 2 – PATIENT HIV CARE and ANTIRETROVIRAL TREATMENT (ART) RECORD

1. Patient Identification Data (Write complete information)

Registration Number: AB 1508 code clinic (2#)-code patient (4#)

Name of Treatment Unit: **AB** City:

District: State/province:

Name of patient: **Y**

Age: **25** (date of birth: ☐☐/☐☐/☐☐ Sex: ☐ Male ☒ Female

Patient☐s phone number:

Address:

City/village: District: State/province:

Distance from residence to clinic in km

Treatment supporter☐s name (if applicable)

Treatment supporter☐s address:

Treatment supporter☐s phone number:

Date confirmed HIV+ test: ☐☐/01/03 **Place:** **MCH clinic**

Entry point (services referring the patient for HIV care): ☐ 1-VCT ☐ 2-TB ☐ 3-Outpatient
☐ 4-Inpatient ☐ 5-Paediatric ☒ 6-PMTCT ☐ 7-STI ☐ 8-Private ☐ 9-NGO ☐ 10-Self referred
☐ 11-IDU outreach ☐ 12- SW outreach ☐ 13-other

☐ patient transferred in **on ART** from another HIV care/ART clinic from the National program

Name previous clinic: Date transferred in :

2. Personal History (Tick one choice)

Risk factor for HIV:
- ☒ 1 Heterosexual
- ☐ 2 Men sex with men (MSM)
- ☐ 3 Sex work (SW)
- ☐ 4 Injecting drug use (IDU)
- ☐ 5 Blood transfusion
- ☐ 6 Mother to child
- ☐ 7 Unknown

For IDUs Substitution therapy ☐ Y ☐ N
If yes, type:

Literate ☒ Yes ☐ No

Employed ☒ Yes ☐ No

Alcoholism ☐ Habitual ☐ Social ☐ No use

3. Family History (Tick one choice)

Marital status: ☐ Single ☒ Married ☐ Divorce/separate ☐ Widowed ☐ Not applicable

Estimated monthly household income:

Family members: partner/children	Age sex	HIV +/-/unknown	ART Y/N	Regist. No if in care
husband	**31**	**Positive**	**Y**	**AB0186**
daughter	**6 mo**	**Negative**		**Mc0023**

4. Antiretroviral treatment history

Was ART received before? ☒ Yes ☐ No

If yes ☒ PMTCT ☐ Earlier ART Place: ☐ Private ☒ Govt

Drugs and duration: **Nevirapine single dose, 15/2/2003**

5. Clinical and Laboratory Investigations

	Date (dd/mm/yy)	WHO stage	Weight (kg)	Height (cm)	Performance A/B/C*	Total lymphocyte count	CD4 count (or % in children)
At 1st visit in clinic	**21/8/03**	**1**	**58**		**A**	**1600**	
At ART medical eligibility	**2/5/04**	**3**	**51**	child	**B**	**190**	
At start of ART	**17/6/04**	**4**	**50**	child	**B**		
At 6 months ART	**12/12/04**	**4**	**58**	child	**A**	**245**	
At 12 months ART				child			
At 24 months ART				child			

6. Antiretroviral Treatment

Treatment Started
- ☒ D4T30+3TC+NVP
- ☐ D4T40+3TC+NVP
- ☐ D4T30+3TC+EFV
- ☐ D4T40+3TC+EFV
- ☐ ZDV+3TC+NVP
- ☐ ZDV+3TC+EFV

SUBSTITUTION within 1st line, SWITCH to 2nd line, STOP, RESTART

Date	Substitution, switch or stop	Reason (code)	Date restart	New regimen
22/6/04	**Substitution**	**1**	**22/6/04**	**D4T30 3TC EFV**

Reasons SUBSTITUTE/SWITCH: 1 toxicity side effects, 2 pregnancy, 3 risk of pregnancy, 4 newly diagnosed TB, 5 new drug available, 6 drug out of stock, 7 other reason (specify)

Reasons for SWITCH only: 8 clinical treatment failure, 9 immunological failure, 10 virologic failure

Reasons STOP: 1 toxicity side effects, 2 pregnancy, 3 treatment failure, 4 poor adherence, 5 illness hospitalisation, 6 drug out of stock, 7 patient lack of finance, 8 patient decision, 9 planned treatment interruption, 10 others

7. Tuberculosis treatment during HIV care

Disease class (tick)
- ☐ Pulmonary TB
  - ☐ Smear-positive
  - ☐ Smear-negative
- ☐ Extrapulmonary

site:

TB Regimen (tick)
- ☐ Category I
- ☐ Category II
- ☐ Other specify:

Date start TB Rx: ☐☐/☐☐/☐☐

TB registration
District:
Health Centre:
TB number:

Treatment outcome: ☐ Cure ☐ Rx completed ☐ Rx failure ☐ Died ☐ Default ☐ Transfer out
Date: ☐☐/☐☐/☐☐)

8. End of Follow-up

☐ Death Date of death: ☐☐/☐☐/☐☐

☐ Lost to follow-up (>3 months) Date last visit: ☐☐/☐☐/☐☐

☐ Transferred out Date: ☐☐/☐☐/☐☐ New clinic:

* Performance scale: A- Normal activity; B- bedridden <50% of the day during last month; C- bedridden > 50% of the day during last month

Answers to case-study 2 - 9. Patient HIV care & Antiretroviral Treatment follow-up

Date of visit*	Date next visit	Weight (kg) & height for child	WHO stage	Perfor-mance scale*	pregnancy (y/n) or FP method*	opportunistic infections -code*	Drugs prescribed for prophylaxis of OIs	Antiretroviral drugs and dose prescribed	adherence to ART* - >95%, 80-95%, <80%	ART Side effects - code*	lab results when available	Condoms given y/n	Referred to specialist or or hospit.
21/8/03	21/3/04	58	1	A	2								
21/3/04	21/6/04	55	2	A	2						TLC: 1600		
2/5/04	2/6/04	53	3	B	2	C	CPT fluco				CD4: 190		
2/6/04	17/6/04	51	4	B	2	D + wasting	CPT						
17/6/04	2/7/04	50	4	B	2		CPT	D4T 3TC NVP					
22/6/04	29/6/04		4	B	2			D4T 3TC EFV		S			
29/6/04	29/7/04	50	4	B	2	D		D4T 3TC EFV	A				
29/7/04	29/8/04	52	4	B	2			D4T 3TC EFV	A				
12/9/04	12/10/04	52	4	B	2		CPT	D4T 3TC EFV	C				
12/10/04	12/11/04	54	4	A	2		CPT	D4T 3TC EFV	B				
12/11/04	12/12/04	56	4	A	2		CPT	D4T 3TC EFV	A				
12/12/04	12/01/05	58	4	A	2		CPT	D4T 3TC EFV	A		CD4: 245		

***Instructions and codes:**

Date: Write the date of actual visit starting from the 1st visit for HIV care - ALL DATES: **DD/MM/YY**

Performance scale: A- Normal activity; B- bedridden <50% of the day during last month; C- bedridden > 50% of the day during last month

FP: family planning; 1 condoms, 2 oral contraceptive pills, 3 injectable/ implantable hormones, 4 diaphragm/cervical cap, 5 intrauterine device, 6 vasectomy/tubal ligation/hysterectomy

Opportunistic infections: Enter one or more codes: Tuberculosis (TB); Candidiasis (C); Diarrhea (D); Cryptococcal meningitis (M); Pneumocystis Carinii Pneumonia (PCP); Cytomegalovirus disease (CMV); Penicilliosis (P); Herpes zoster (Z); Genital herpes (H); Toxoplasmosis (T); Other-specify

Adherence: Check adherence by asking the patient if he/she has missed any doses. Also check the bottle/blister packet. Write the estimated level of adherence (e.g. >95% = < 3 doses missed in a period of 30 days; 80-95% = 3 to 12 doses missed in a period of 30 days; < 80% = >12 doses missed in a period of 30 days

Side effects: Enter one or more codes: S=Skin rash; Nau-nausea; V=Vomiting; D=Diarrhoea; N=Neuropathy;J=Jaundice; A=Anemia; F=Fatigue; H=Headache; Fev=Fever; Hyp=Hypersensitivity; Dep=Depression; P=Pancreatitis; L=Lipodystrophy; Drows=Drowsiness; O=Other? Specify

Answers to case-study 1-2: pre-ART register

	DATE 1st visit at the clinic	Registration number	Name/address	Age	Sex M/ F	Confirmed HIV+ test		Entry point - code 1 to 13*	risk factor code 1 to 7**	Literate	Employed	CPT Date of Start	TB treatment Class/Regimen Date of start	DATE medical elligible for ART	Why medical elligible?	DATE ART started	End of follow-up before starting ART		
						Date	Place										Date of death	Date lost to FU (last visit)	Date transfer. out
case 1	4/2/04	AB 2356	Mr A	28	M	March 03		10	2	☐Y ☑N	☐Y ☑N	4/2/04		4/2/04	WHO stage:4 CD4 #/%: 59 TLC#	1/3/04			
										☐Y ☐N	☐Y ☐N				WHO stage CD4 #/% TLC#				
case 2	21/8/03	AB 1508	Mrs Y	25	F	Jan 03	MCH clinic	6	2	☑Y ☐N	☑Y ☐N	2/5/04		2/5/04	WHO stage: 3 CD4 #/%:190 TLC#	17/6/04			

Answers to case-study 1-2: ART register

	DATE of start of ART	Registration number	Name	Age	Sex M/ F	Patient's address and contact number	Treatment supporter's name and contact number	Received ARV before starting	WHO stage at start of Rx	Performance scale A-normal activity B-bedridden<50% C-Bedridden>50%		Weight (kg) & height (cm) at start for adults, at start, 6, 12,24 mo. for children		CD4 count (% for children)		TB treatment during ART Disease class Regimen Date Rx start	ART regimen started	Treatment substitute within 1st line drugs			Treatment switched 2nd line			End of follow-up on ART			Monthly visits: • 1st row, write patient outcome: on treatment (OT) if patient picked up ART drugs, stopped (ST) if ART was stopped by the doctor, missing (MIS) if the patient missed the appointed visit, lost to follow-up (LFU) if the patient is missing >3 months, restart (RS) if ART was restarted after an interruption, transferred out (TR), dead (D), not appointed (NA) if the patient was not appointed for visit this month • 2nd row: write adherence for the patients on treatment (A=>95%, B=80-95%, C=<80%)									
																		Date subst.	Reason	New Regimen	Date switch	Reason	New Regimen	Date of death	Date lost to FU* last visit	Date transfer Out on ART	we. 2	mo. 1	mo. 2	mo. 3	mo. 4	mo. 5	mo. 6	mo. 7	mo. 8	mo. 9	mo. 10
case 1	1/3/ 2004	AB 2356	Mr A	28	M	....	....	☐Y ☑N	4	At start of Rx B / At 6 months A / At 12 months / At 24 months		At start of Rx 46 / At 6 months 51 / At 12 months / At 24 months		At start of Rx 59 / At 6 months 119 / At 12 months / At 24 months		PTB smear+ Reg.Cat I '5/5/04	D4T30 3TC NVP	5/5/ 04	4	D4T30 3TC EFV						8/12 /04	OT A	OT A	ST	RS	OT A	OT A	OT	OT	OT	TR	
						....	....	☐Y ☐N		At start of Rx / At 6 months / At 12 months / At 24 months		At start of Rx / At 6 months / At 12 months / At 24 months		At start of Rx / At 6 months / At 12 months / At 24 months																						
case 2	17/6/ 2004	AB 1508	Mrs Y	25	F	....	....	☑Y ☐N	4	At start of Rx B / At 6 months A / At 12 months / At 24 months		At start of Rx 50 / At 6 months 58 / At 12 months / At 24 months		At start of Rx 190 / At 6 months 245 / At 12 months / At 24 months			D4T30 3TC NVP	22/6/ 04	1	D4T30 3TC EFV							OT A	OT A	MIS	OT C	OT B	OT A	OT A				

Exercise 2 – Drug Dispensing and Stock registers

Refer to Participant Manual, module 4

Question 2: The updated Drug Stock Register for July 2005 will look like this.

Name of the drug **d4T30 / 3TC / NVP**

	A	B	C	D	E	F	
Date	**Opening stock**	**Stock received**	**Stock dispensed during month**	**Stock expired / discarded**	**Balance stock**	**Stock returned from patients* (death / non adher.)**	**Remarks**
4-July-2005	5800		240	0	5560		
6-July-2005	5560		300	0	5260		
11-July-2005	5260		240	0	5020		
13-July-2005	5020		120	0	4900		
18-July-2005	4900		180	0	4720		
20-July-2005	4720	5000	120	0	9600		
25-July-2005	9600		120	0	9480		
27-July-2005	9480		120	0	9360		
			(1440)				

Monthly summary:

Stock at the start of the month / Opening stock (A):	5800	Stock dispensed during the month (C):	**1440**
Stock received during the month (B):	5000	Stock expired/discarded during the month (D):	0
Stock at the end of month (E) = (A+B) – (C+D):	**9360**		

Name of the drug **d4T40 / 3TC / NVP**

	A	B	C	D	E	F	
Date	**Opening stock**	**Stock received**	**Stock dispensed during month**	**Stock expired / discarded**	**Balance stock**	**Stock returned from patients* (death / non adher.)**	**Remarks**
4-July-2005	2500		60		2440		
6-July-2005	2440		60		2380		
11-July-2005	2380		0		2380		
13-July-2005	2380		60		2320		
18-July-2005	2320		60		2260		
20-July-2005	2260	2000	60		4200		
25-July-2005	4200		60		4140		
27-July-2005	4140		0		4140		
			(360)				

Monthly summary:

Stock at the start of the month / Opening stock (A):	2500	Stock dispensed during the month (C):	**360**
Stock received during the month (B):	2000	Stock expired/discarded during the month (D):	0
Stock at the end of month (E) = (A+B) – (C+D):	**4140**		

Name of the drug d4T30 / 3TC

	A	B	C	D	E	F	
Date	**Opening stock**	**Stock received**	**Stock dispensed during month**	**Stock expired / discarded**	**Balance stock**	**Stock returned from patients* (death / non adher.)**	**Remarks**
4-July-2005	500		30		470		
6-July-2005	470		60		410		
11-July-2005	410		60		350		
13-July-2005	350		60		290		
18-July-2005	290		60		230		
20-July-2005	230		30		200		
25-July-2005	200		60		140		
27-July-2005	140		0		140		
			(360)				

Monthly summary:

Stock at the start of the month / Opening stock (A):	500	Stock dispensed during the month (C):	**360**
Stock received during the month (B):	0	Stock expired/discarded during the month (D):	0
Stock at the end of month (E) = (A+B) - (C+D):	**140**		

Name of the drug d4T40 / 3TC

	A	B	C	D	E	F	
Date	**Opening stock**	**Stock received**	**Stock dispensed during month**	**Stock expired / discarded**	**Balance stock**	**Stock returned from patients* (death / non adher.)**	**Remarks**
4-July-2005	100		0		100		
6-July-2005	100		0		100		
11-July-2005	100		0		100		
13-July-2005	100		0		100		
18-July-2005	100		0		100		
20-July-2005	100		0	100	0		
25-July-2005	0		0		0		
27-July-2005	0		0		0		

Monthly summary:

Stock at the start of the month / Opening stock (A):	100	Stock dispensed during the month (C):	0
Stock received during the month (B):	0	Stock expired/discarded during the month (D):	100
Stock at the end of month (E) = (A+B)- C+D):	**0**		

Name of the drug ZDV / 3TC

	A	B	C	D	E	F	
Date	**Opening stock**	**Stock received**	**Stock dispensed during month**	**Stock expired / discarded**	**Balance stock**	**Stock returned from patients* (death / non adher.)**	**Remarks**
4-July-2005	2000		60		1940		
6-July-2005	1940		60		1880		
11-July-2005	1880		0		1880		
13-July-2005	1880		0		1880		
18-July-2005	1880		0		1880		
20-July-2005	1880		60		1820		
25-July-2005	1820		60		1760		
27-July-2005	1760		30		1730		
			(270)				

Monthly summary:

Stock at the start of the month / Opening stock (A):	2000	Stock dispensed during the month (C):	**270**
Stock received during the month (B):	0	Stock expired/discarded during the month (D):	0
Stock at the end of month (E) = (A+B) - (C+D):	**1730**		

Name of the drug NVP

	A	B	C	D	E	F	
Date	**Opening stock**	**Stock received**	**Stock dispensed during month**	**Stock expired / discarded**	**Balance stock**	**Stock returned from patients* (death / non adher.)**	**Remarks**
4-July-2005	600		75		525		
6-July-2005	525		60		465		
11-July-2005	465		60		405		
13-July-2005	405		0		405		
18-July-2005	405		0		405		
20-July-2005	405		75		330		
25-July-2005	330		60		270		
27-July-2005	270		15		255		
			(345)				

Monthly summary:

Stock at the start of the month/Opening stock (A):	600	Stock dispensed during the month (C):	**345**
Stock received during the month (B):	0	Stock expired/discarded during the month (D):	0
Stock at the end of month (E) = (A+B)-(C+D):	**255**		

Name of the drug EFV

	A	B	C	D	E	F	
Date	**Opening stock**	**Stock received**	**Stock dispensed during month**	**Stock expired / discarded**	**Balance stock**	**Stock returned from patients* (death / non adher.)**	**Remarks**
4-July-2005	500		0		500		
6-July-2005	500		30		470		
11-July-2005	470		0		470		
13-July-2005	470		30		440		
18-July-2005	470		30		410		
20-July-2005	440		0		410		
25-July-2005	440		30		380		
27-July-2005	410		0		380		
			(120)				

Monthly summary:

Stock at the start of the month / Opening stock (A):	500	Stock dispensed during the month (C):	**120**
Stock received during the month (B):	0	Stock expired/discarded during the month (D):	0
Stock at the end of month (E) = (A+B) - (C+D):	**380**		

Question 3: From the completed Drug Dispensing Register and updated Drug Stock Register, sections 11 and 12 in the monthly ART Report can be completed as follows.

11. REGIMENS AT THE END OF THE MONTH	
Regimen	**No. of patients on ART**
d4T30/3TC/NVP	**26***
d4T40/3TC/NVP	**6**
ZDV/3TC+NVP	**5**
ZDV/3TC+EFV	**0**
d4T30/3TC+EFV	**4**
d4T40/3TC+EFV	**0**
Second line	**0**
Other regimens	**0**
Total number of patients	**41**

*26 = 24 (FDC) + 3 (dual combination) - 1 (NEW 1 who came twice)

As per the Drug Dispensing Register, a total of 42 visits to the ART center and the pharmacy took place. However, of the 42 visit, one patient ("NEW 1") came twice, therefore 41 patients came to pick up their drugs.

12. DRUG STOCKS						
Name of the drug	**Stock at the start of the month (A)**	**Stock received during the month (B)**	**Stock dispensed during the month (C)**	**Stock expired during the month (D)**	**Stock at the end of the month (A+B)-(C+D)**	**Amount requested**
d4T30/3TC/NVP	5800	5000	1440	0	9360	0
d4T40/3TC/NVP	2500	2000	360	0	4140	0
d4T30/3TC	500	0	360	0	140	**130**
d4T40/3TC	100	0	0	100	0	**100**
ZDV/3TC	2000	0	270	0	1730	0
NVP	600	0	345	0	255	0
EFV	500	0	120	0	380	**70**

d4T30/3TC/NVP	24*30*2*3 = 4680	existing stock: 9360
d4T40/3TC/NVP:	6*30*2*3 = 1080	existing stock: 4140
d4T30/3TC:	3*15*2*3 = 270	existing stock: 140
d4T40/3TC:	0	existing stock: 0
ZDV/3TC:	5*30*2*3 = 900	existing stock: 1730
NVP (200mg)	~3*15*1*3 = 135	existing stock: 255
EFV (600 mg)	~5*30*1*3 = 450	existing stock: 380

Discuss the issue of d4T40/3TC as there is no anticipated need for the drug and it had already expired during the current month. A basic stock should be kept in case patients require this combination. What would be an appropriate strategy?

- NVP (200mg): Estimate the number of new clients expected per month.
- EFV (600mg): Estimate the number of TB-HIV patients plus the number of patient with NVP intolerance = plan for around 12% of patients (note: cross resistance between all non nucleosides drugs).

Question 4: At least 3 drugs would need to be reordered.

Question 5: The ART Manager can point out the following issues: low number of new patients (only 3 patients during the month), stock expired during the month should have been returned. The ART Manager should also reorder the requested drugs.

Exercise 3 – Monthly report

Refer to Participant Manual, module 5

1. Name of the Treatment Unit CL
2. Name of the District
3. Name of the State/province
4. Name of the Treatment Unit incharge
5. Report for the period 1 (month) 2005 (year)

A- MEDICAL CARE

6. Enrollment in HIV care (PLWHA seeking care at the treatment center)	adult male	adult female	child.<14 yo	total
6.1 Cumulative no. of patients ever enrolled in HIV care at beginning of this month	37	23	4	64
6.2 New patients enrolled in HIV care during this month	13	8	2	23
6.3 Cumulative no. of patients ever enrolled in HIV care at the end of this month	50	31	6	87
7. Medical eligibility for ART*	**adult male**	**adult female**	**child.<14 yo**	**total**
7.1 No. of patients medically eligible for ART but have not been started on ART at the end of this month	5	3	1	9
8. Enrollment on ART	**adult male**	**adult female**	**child.<14 yo**	**total**
8.1 Cumulative no. of patients ever started on ART at the beginning of this month	13	7	1	21
8.2 New patients started on ART during this month	4	4	0	8
8.3 No. of patients on ART transferred in this month	1	0	0	1
8.4 Cumulative no. of patients ever started on ART at the end of this month	18	11	1	30
9. outcomes on ART	**adult male**	**adult female**	**child.<14 yo**	**total**
9.1 Cumulative no. of death reported at the end of this month				2
9.2 Cumulative no. of patients transferred out under ARV at the end of this month				0
9.3 No. of patients missing/lost to follow-up at the end of this month				2
9.4 No. of patients stopping ART at the end of this month				1
9.5 No. of patients on ART at the end of this month				25
✦ 9.5.1 Among them, no. on original 1st line regimen				23
✦ 9.5.2 No. on substituted 1st line regimen				2
✦ 9.5.3 No. switched on 2nd line regimen				0

* refers to the medical elligibility on clinical and/or laboratory criteriae, whether or not the patient is ready for ART

10. TREATMENT ADHERENCE		Total
10.1. No. of patients assessed for adherence during this month		20
10.2. Of those assessed for adherence, level of adherence in the last month		
10.2.1. < 3 doses missed in a period of 30 days	> 95%	19
10.2.2 =3 to 12 doses missed in a period of 30 days	80-95%	0
10.2.3. >12 doses missed in a period of 30 days	<80%	1

Exercise 4 – Cohort report

Refer to Participant Manual, module 6

Answers to question 1: Outcomes at 6 months

	For cohort starting ART by month/year: at baseline then results at 6 months on ART, 12 months on ART, 24 months on ART	Cohort Dec04	6 mo-Jun05	12 mo-Dec05	24 mo-Dec06
G	**Started on ART in this clinic- original cohort**	10	10		
TI	**Transfers In** Add +	x	0		
TO	**Transfers Out** Subtract -	x	0		
N	**Net current cohort**	10	10		
H	**On Original 1st Line Regimen**		7		
I	**On Alternate 1st Line Regimen (Substituted)**		1		
J	**On 2nd Line Regimen (Switched)**		0		
S	**Stopped**		0		
D	**Died**		1		
F	**Missed/Lost to Follow-up**		1		
A	**Number alive and on ART [N - (S+D+F)]**		8		
	Percent of cohort alive and on ART (A/N*100)		80%		
	CD4 median or proportion ≥200/ among patients controlled for CD4	0/10	4/8		
	Performance scale/ out of "A"				
	A Proportion normal activity	1/10	5/8		
	B Proportion bedridden <50%	6/10	3/8		
	C Proportion bedridden >50%	3/10	0/8		
	Number of persons who **picked up ARVs each month for 6/6, 12/12 or 24/24 months/ out of "A"**		7/8		

Answers to question 2: Outcomes at 6 and 12 months

	For cohort starting ART by month/year: at baseline then results at 6 months on ART, 12 months on ART, 24 months on ART	Cohort Jun04	6 mo-Dec04	12 mo-Jun05	24 mo-Jun06
G	**Started on ART in this clinic- original cohort**	18	18	18	
TI	**Transfers In** Add +	x	0	1	
TO	**Transfers Out** Subtract -	x	0	0	
N	**Net current cohort**	18	18	19	
H	**On Original 1st Line Regimen**		16	14	
I	**On Alternate 1st Line Regimen (Substituted)**		2	1	
J	**On 2nd Line Regimen (Switched)**		0	0	
S	**Stopped**		0	1	
D	**Died**		0	1	
F	**Missed/Lost to Follow-up**		1	2	
A	**Number alive and on ART [N - (S+D+F)]**		18	15	
	Percent of cohort alive and on ART (A/N*100)		100%	79%	
	CD4 median or proportion >200/ among patients controlled for CD4	0/18	8/18	16/16	
	Performance scale/ out of "A"				
	A Proportion normal activity	0/18	6/18	10/15	
	B Proportion bedridden <50%	10/18	11/18	5/15	
	C Proportion bedridden >50%	8/18	1/17	0/15	
	Number of persons who **picked up ARVs each month for 6/6, 12/12 or 24/24 months/ out of "A"**		13/17	9/15	

Exercise 5 – Cohort interpretation

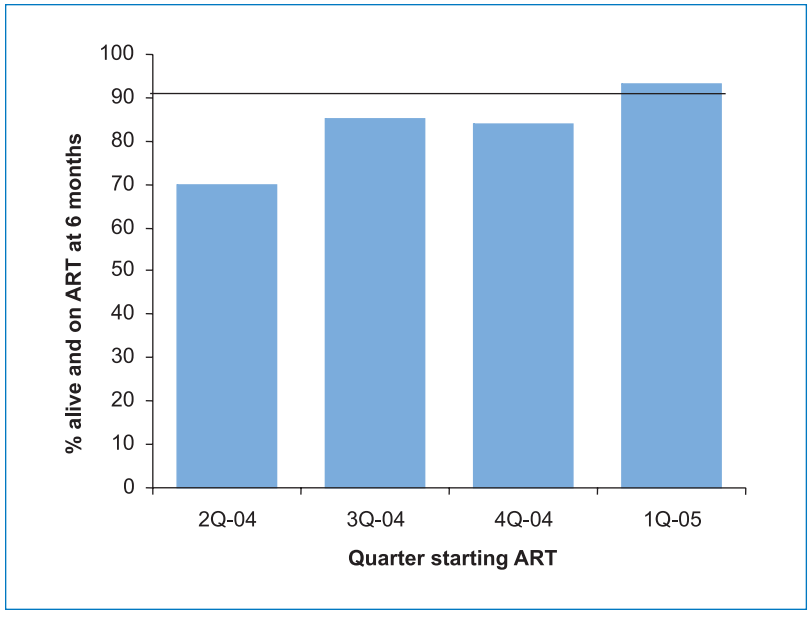
Refer to Participant Manual, module 6

Answers to question 1: Cohort report from clinic CLA in District A

Table: Evolution of the proportion of patients on ART at 6 months according to the quarter they started. Clinic CLA, District A. Period from April 2004 to March 2005.

Quarterly cohort	2Q-04	3Q-04	4Q-04	1Q-05	TOTAL
Number started on ART in this clinic	120	280	146	222	768
Number transferred In	0	0	0	0	0
Number transferred Out	0	0	0	4	4
Total Number in Cohort started on ART	120	280	146	218	764
Number alive and on treatment at 6 month	84	237	123	202	646
Number on 1st line regimen	84	237	123	202	646
Number on alternate 1st line regiment	0	0	0	0	0
Number on 2nd line regimen (switched)	0	0	0	0	0
Died	30	31	6	7	74
Stopped on medical advice	0	0	0	0	0
Lost to Follow-up	6	12	17	9	44
Percent of cohort alive and on ART at 6 months	**70%**	**85%**	**84%**	**93%**	**85%**

Figure: Evolution of the proportion of patients on ART at 6 months according to the quarter they started. Clinic CLA, District A. Period from April 2004 to March 2005.



Interpretation:

- The proportion of patients alive and on treatment at 6 months consistently increased across the 4 quarters of the first year of the programme.
- The low rate of patients alive and on treatment at 6 months for those started in the first quarter was mostly related to a high fatality rate. Among patients started during the first 3 months of the programme, 25% had died within the first 6 months of treatment. The fatality rate at 6 months was reduced to 11% in the following quarter and to <5% during the 2 recent quarters.
- The rate of lost to follow up remained <5% except during the 3r \d quarter of the programme when 12% of patients who started ART during this quarter were lost to follow up before 6 months treatment.
- No 1st line substitution occurred and all patients alive and on treatment at 6 months are continuing the initial regimen prescribed (major side effects requiring change in treatment are known to be more frequent during the first months of treatment).

Query list for additional information:

- Reduction in fatality rate: was it related to an improvement in programme effectiveness or to the inclusion of patients in less advanced stages of disease? Before concluding to a better programme effectiveness, it might be necessary to analyse baseline clinical and immunological characteristics of the patients starting. Were the patients included in the 2 first quarters of the programme in more advanced stage than those included after? Information regarding this - analysis of the proportion of patients included in stage 4, the functional status of the patients starting ART during each quarter or the median CD4-count at baseline - is not available in the report.
- Defaulter rate: how can the high defaulter rate in the 3rd quarter of the programme be explained? This might require qualitative programme information or to go back to patients characteristics.
- 1st line substitution: how to explain the absence of any 1st line substitution during the 6 first months of treatment? Recognition of side-effects is questionable because of the absence of 1st-line substitution within the first 6 months of ART, when side-effects are more frequent. If side-effects go unnoticed it may be fatal for the patient and affect the mortality rate (e.g. anemia and AZT).

Answers to question 2: Cohort report from clinic ZY in District A

Table: Outcomes at 6 months and 12 months for patients starting ART in clinic ZY, District B, from April 04 to April 05

	Baseline	%	6 months	%	12 months	%	denominator
Number started on ART in this clinic	1125		1125		438		
Number transferred In	0		0		0		
Number transferred Out	0		0		0		
Total Number in Cohort started on ART (A)	1125		1125		438		
Number alive and on treatment (B)			949	84.4	356	81.3	A
Number on 1st line regimen			888	93.6	313	87.9	B
Number on alternate 1st line regimen			61	6.4	43	12.1	B
Number on 2nd line regimen (switched)			0	0.0	0	0.0	B
Died			86	7.6	35	8.0	A
Stopped on medical advice			65	5.8	38	8.7	A
Lost to Follow-up			25	2.2	9	2.1	A
Median CD4	96		330		369		
Functional status among cohort							
Working	715	63.4	860	90.7	325	91.3	B
Ambulatory	260	23.1	61	6.4	18	5.1	B
Bedridden	152	13.5	27	2.8	13	3.7	B

Figure: Outcomes at 6 months and 12 months for patients starting ART in clinic ZY from April 04 to April 05

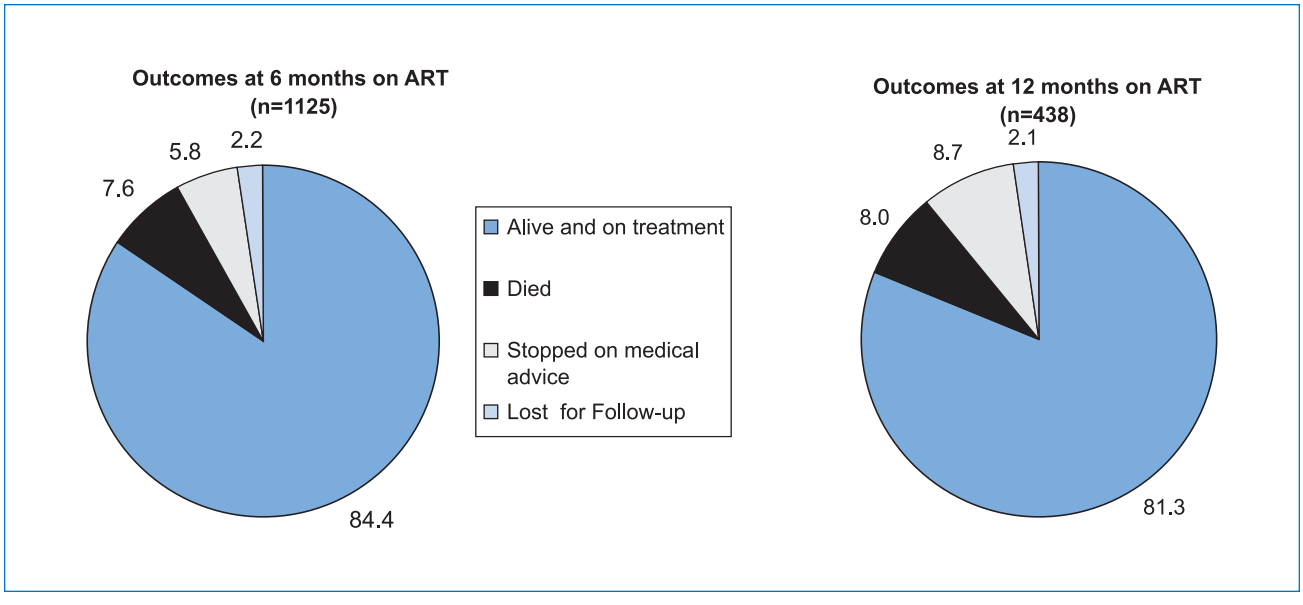
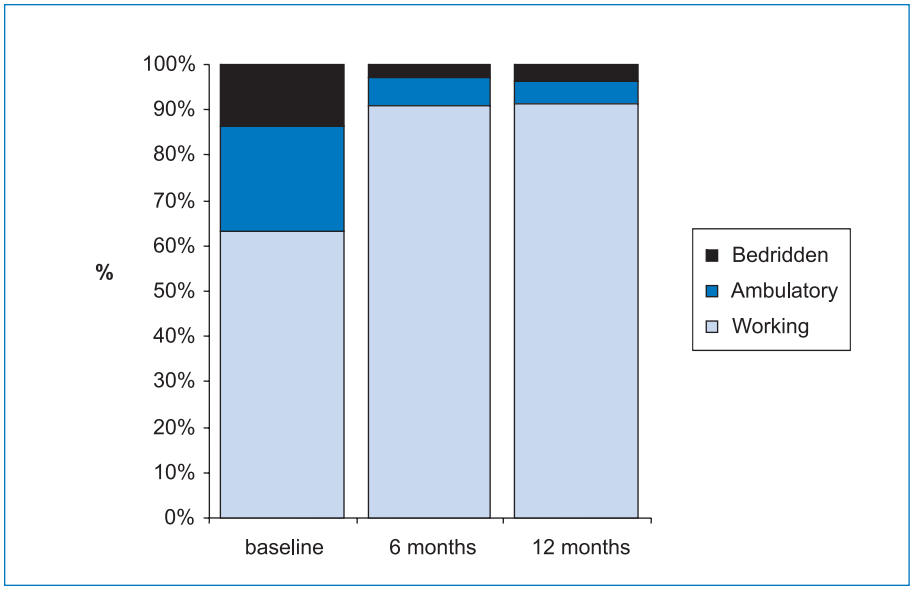


Figure: Evolution of the functional status at baseline, 6 and 12 months on ART for patients starting ART in clinic ZY from April 04 to April 05



Interpretation:

- More than 80% of patients are still on treatment at 12 months. This result should be interpreted in view of the baseline characteristics of the patients as the mortality will be greatly related to advanced stage of disease at baseline. The only information in this report is that 13.5% patients were bedridden at baseline.
- Most of deaths occurred during the first 6 months (7.6%) and the fatality rate was reduced from 6 to 12 months, attesting the effectiveness of the programme. Most of deaths are expected to occur within the first months of treatment, while fatality rate will be dramatically reduced thereafter. However, it is not the same group of patients analysed at 6 months and 12 months. For a direct comparison of the fatality rate at 6 and 12 months, only those who started 12 months ago should be included in the analysis and their outcomes at 6 and 12 months compared. Among the 438 patients started on ART 12 months ago, you can verify that 33 deaths were recorded before 6 months and 2 deaths from 6 to 12 months.
- The rate of lost to follow is extremely low (2%) and patients were lost to follow-up during the first 6 months; this rate was maintained from 6 to 12 months.
- In total, nearly 9% of patients stopped ART on medical advice within 12 months, and this rate increased by one-third from 6 to 12 months.
- At 12 months, more than 85% of patients on ART are still continuing the initial regimen, which can be considered as a reasonable objective for an ART programme. However none of the patients were switched to 2nd line regimen despite treatment failure being expected at 12 months.
- The restoration of the functional status showed that the most benefit occurred within the first six months of ART.

In conclusion, these data showed an early mortality remaining associated with ART, probably due to patients being at advance stage of the disease at start of ART. For patients who survived, the physical recovery occurred rapidly during the first 6 months of treatment. More over these data suggested that once patients have achieved the first months of treatment, they might adhere more to the continuation of treatment as suggested by the rate of lost to follow-up rate which decreased after 6 months on ART.

Query list for additional information:

The main questions should be related to the high rate of stop on medical advice, together with the absence of switching to 2nd-line regimen.

- What are the reasons for stopping on medical advice?
- Is it related to poor adherence?
- Is it related to defaulters? If so, this will increase the rate of lost to follow-up.
- Is it related to treatment failure in the absence of availability of 2nd-line drugs? if so, 2nd-line regimen will need to be available to saving lives and increase programme effectiveness.

World Health Organization
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