# Freeware Database for follow-up of HIV-patients and programs

## In

## Infectious Diseases Department of Sihanouk Hospital Center of HOPE

Presented by : Mr. Len Aynar

# Issue

- **Scaling-up clinical HIV care and treatment services**
- **This requires monitoring of individual patients, cohorts and evaluation programs**
- **This is a complex task**
- **Successfully performed: using an electronic database**

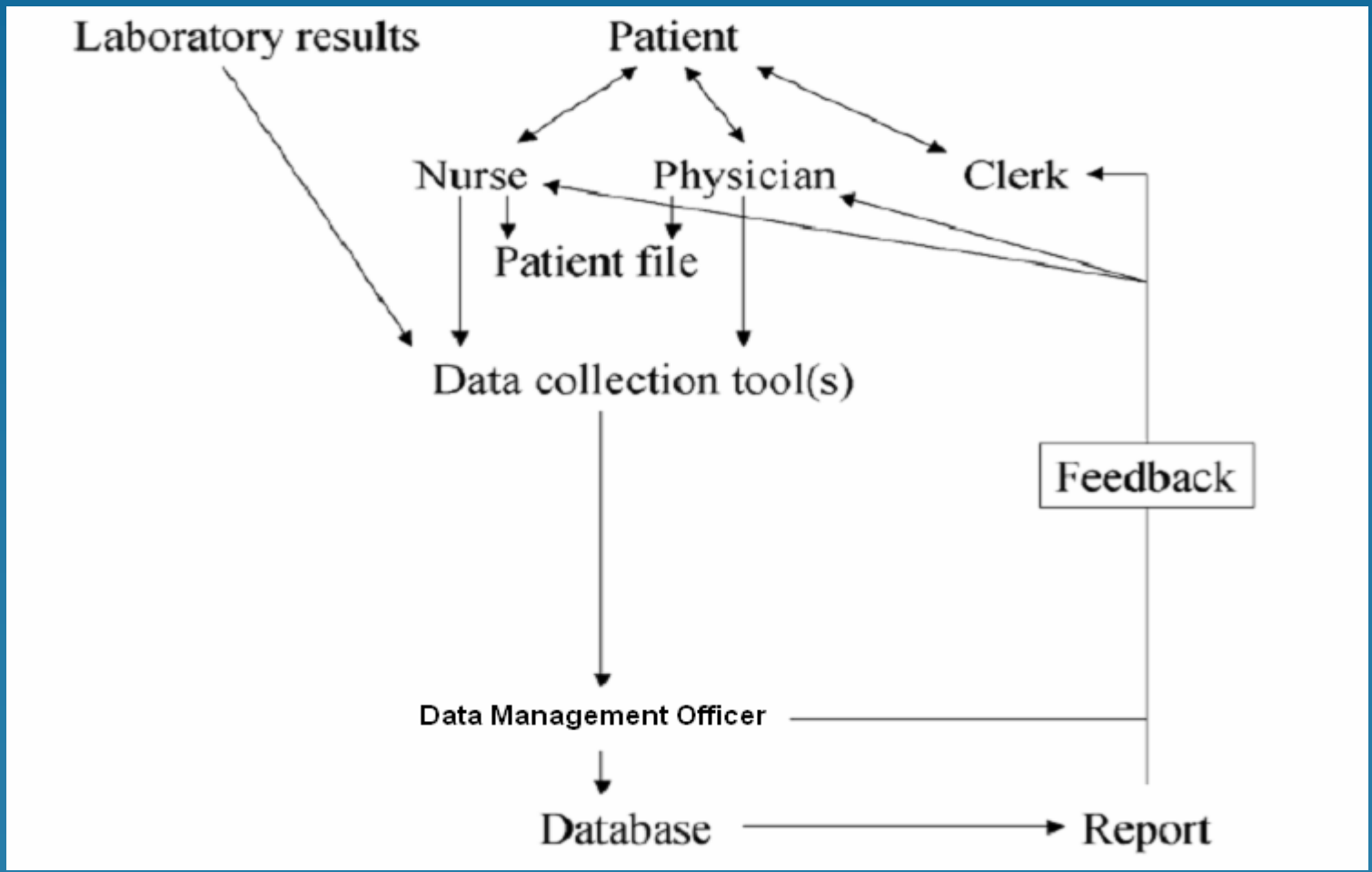
# Patient monitoring

**2 main functions:**

- **Enables effective clinical management of patients**
- **Patient monitoring data are used for program monitoring and management**

# DESCRIPTION

## Data-collection in SHCH



# DESCRIPTION

## DATA COLLECTION SHEET 1

**Name:** _____ **RTV Code:** ____ **Hospital number:** _____ **Sex:** ☐ M ☐ F **Birth Date:** __ / __ /19__ **Date inclusion HIV Dpt.:** __/__/____ **Place test:** ☐ CHCH ☐ VCT ☐ Other

**Marital Status:** ☐ Single ☐ Married ☐ Divorced ☐ Widow **Occupation:** 1=housewife 2=farmer 3=laborer 4=soldier/police 5=student 6= FSW 7=G.Staff 8=small business 10=migrant 11=taxi/moto./cyclo driver 12=CO/NGO 13=Other _____

☐ **Phnom Penh, House #** _____ **St** _____ **Sangkat** _____ **Khan** _____ ☐ **Province** _____ **Hum** _____ **Commune** _____ **Group** _____ **District** _____

**Tel No.** _____ **Contact person.:** _____ **ART Experience :** ☐ Yes ☐ No **Nat ART number:** _____ **RTV-code or name partner:** _____

**WHO stage on enrollment:** 1 2 3 4 **Healthy Weight:** _____ kg **Length** _____ m **Funding:** ☐ Global Fund 1 ☐ Global Fund 2 ☐ Global Fund 4 ☐ PSI ART ☐ Other:

| FH | | Date | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Place of consultation (CRC, ER) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Pregnancy ( Y or N ) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Result ( H, T, R, A ) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | PCP prophylaxis ( Y , N ) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Fluco prophylaxis ( Y , N ) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Weight ( kg) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Performance (W, A, B) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Blood Pressure | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Hemoglobin (g/dl) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Total lymphocyte count (/mm³) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | CD4 (/mm³) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 | Asymptomatic | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2A | Minor skin/mouth problems | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2B | PPE | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2C | Episode repeated URTI | | | | | | | | | | | | | | | | | | | | | | | | | | |
| >5Y | 2D | H. Zoster | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2E | Weight loss < 10% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3A | Weight loss > or = 10% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3B | Diarrhea > 1 month | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3C | Oral candidiasis | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3D | Fever > 1 month | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3E | Oral hairy leuhoplakia | | | | | | | | | | | | | | | | | | | | | | | | | | |
| >1Y | 3F | PTB sputum negative | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3F | PTB sputum positive | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3G | Chronic vulvovagin. Cand. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3H | Severe bact. Infections | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 4A | Wasting syndrome | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 4B | PCP | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 4C | Cerebral Toxoplasmosis | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 4D | Cryptococcal meningitis | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 4E | HSV persistent or recurrent | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 4F | Cryptosporid. Diarrh. > 1m | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 4G | Isospora diarrhea > 1 m. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 4H | CMV | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 4I | Encephalopathy/Dementia | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 4J | Disseminated mycosis | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 4K | Esophag. Candid. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 4L | Non-typh. Salmonella septicemia | | | | | | | | | | | | | | | | | | | | | | | | | | |

# DESCRIPTION

**Database**

- MS Access2003
- C:\ArtJournal – v2
- User manual

# DESCRIPTION

## In the database

**tblPATIENT : Table**

| Field Name | Data Type | |
|---|---|---|
| ID | Number | |
| Initials | Text | |
| Gender | Text | |
| Birthday | Date/Time | |
| Enrol_d | Date/Time | date enrolment in cohort |
| drop_rs | Text | reason drop-out |
| drop_d | Date/Time | date drop-out |
| drop_en_d | Date/Time | date drop-out decided |
| Consent | Text | Informed consent granted |
| DMO | Text | |

**tblLAB_CD4 : Table**

| Field Name | Data Type | |
|---|---|---|
| CD4_ID | AutoNumber | |
| ID | Number | |
| CD4_d | Date/Time | date test |
| CD4_v | Number | value of CD4 |
| DMO | Text | |

**tblLAB : Table**

| Field Name | Data Type | |
|---|---|---|
| LAB_ID | AutoNumber | |
| ID | Number | |
| LAB | Text | lab test |
| LAB_d | Date/Time | date test |
| LAB_v | Number | value of test result |
| LAB_t | Text | text result |
| DMO | Text | |

**tblCLM : Table**

| Field Name | Data Type | |
|---|---|---|
| CLM_ID | AutoNumber | |
| ID | Number | |
| CLM | Text | clinical measure |
| CLM_d | Date/Time | date clinical measure |
| CLM_v | Number | numerical result |
| CLM_t | Text | text result |
| DMO | Text | |

**tblDIS : Table**

| Field Name | Data Type |
|---|---|
| DIS_ID | AutoNumber |
| ID | Number |
| DIS_start | Date/Time |
| DIS | Text |
| DIS_stop | Date/Time |
| DMO | Text |

**tblVIS : Table**

| Field Name | Data Type |
|---|---|
| VIS_ID | AutoNumber |
| ID | Number |
| vis_d | Date/Time |
| Place | Text |
| Result | Text |
| Pregnancy | Text |
| prophylaxisPCP | Text |
| prophylaxisFluco | Text |
| DMO | Text |

**tblART : Table**

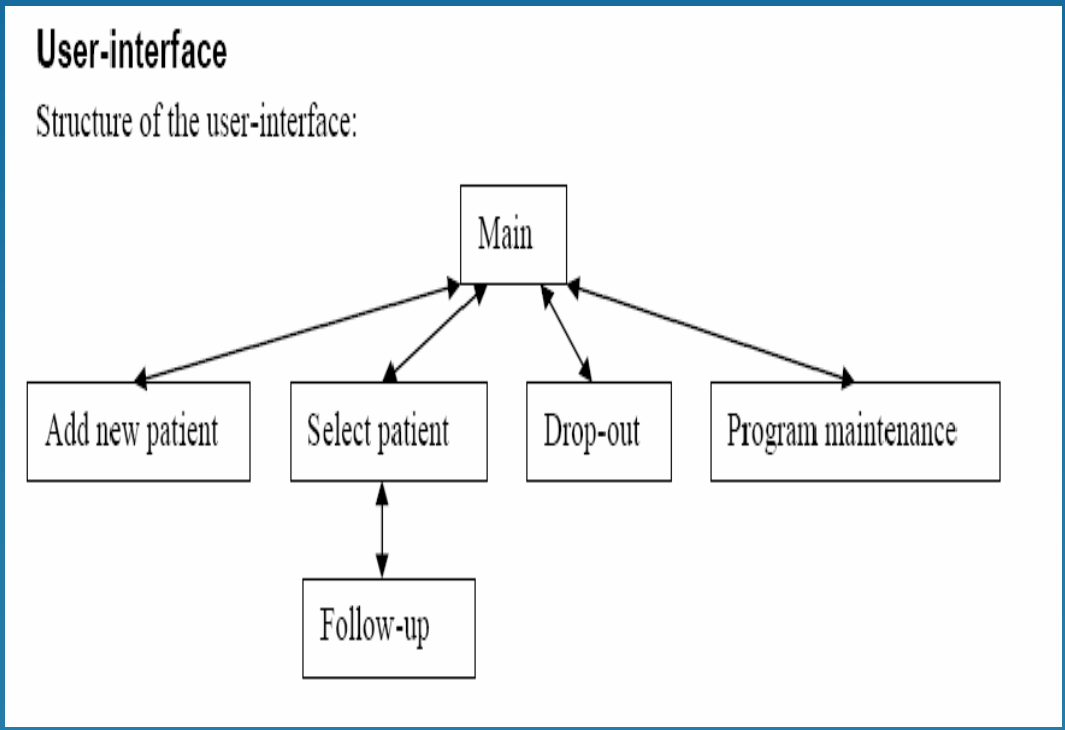
| Field Name | Data Type |
|---|---|
| ART_ID | AutoNumber |
| ID | Number |
| Drug | Text |
| StartDate | Date/Time |
| StopDate | Date/Time |
| MainStop | Text |
| DMO | Text |

**tblAE : Table**

| Field Name | Data Type |
|---|---|
| AE_ID | AutoNumber |
| ID | Number |
| AE | Text |
| AE_start | Date/Time |
| AE_stop | Date/Time |
| DMO | Text |

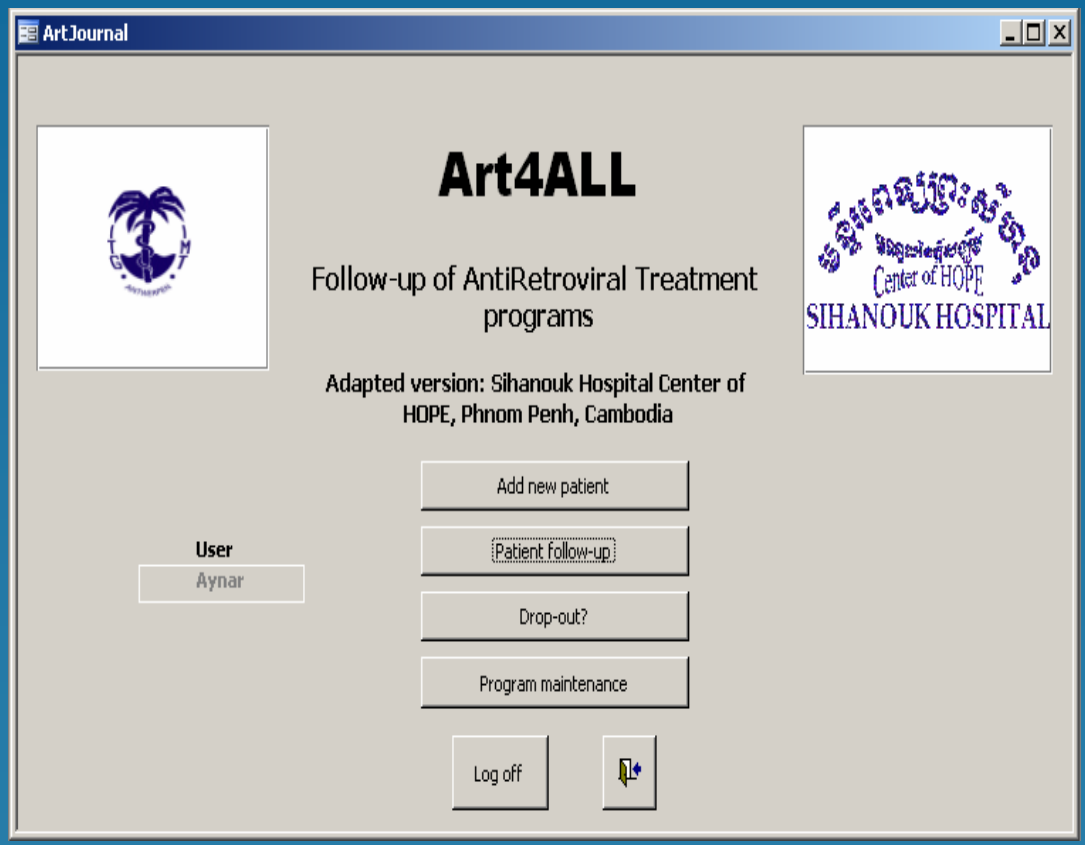
# DESCRIPTION

## The data-entry tool



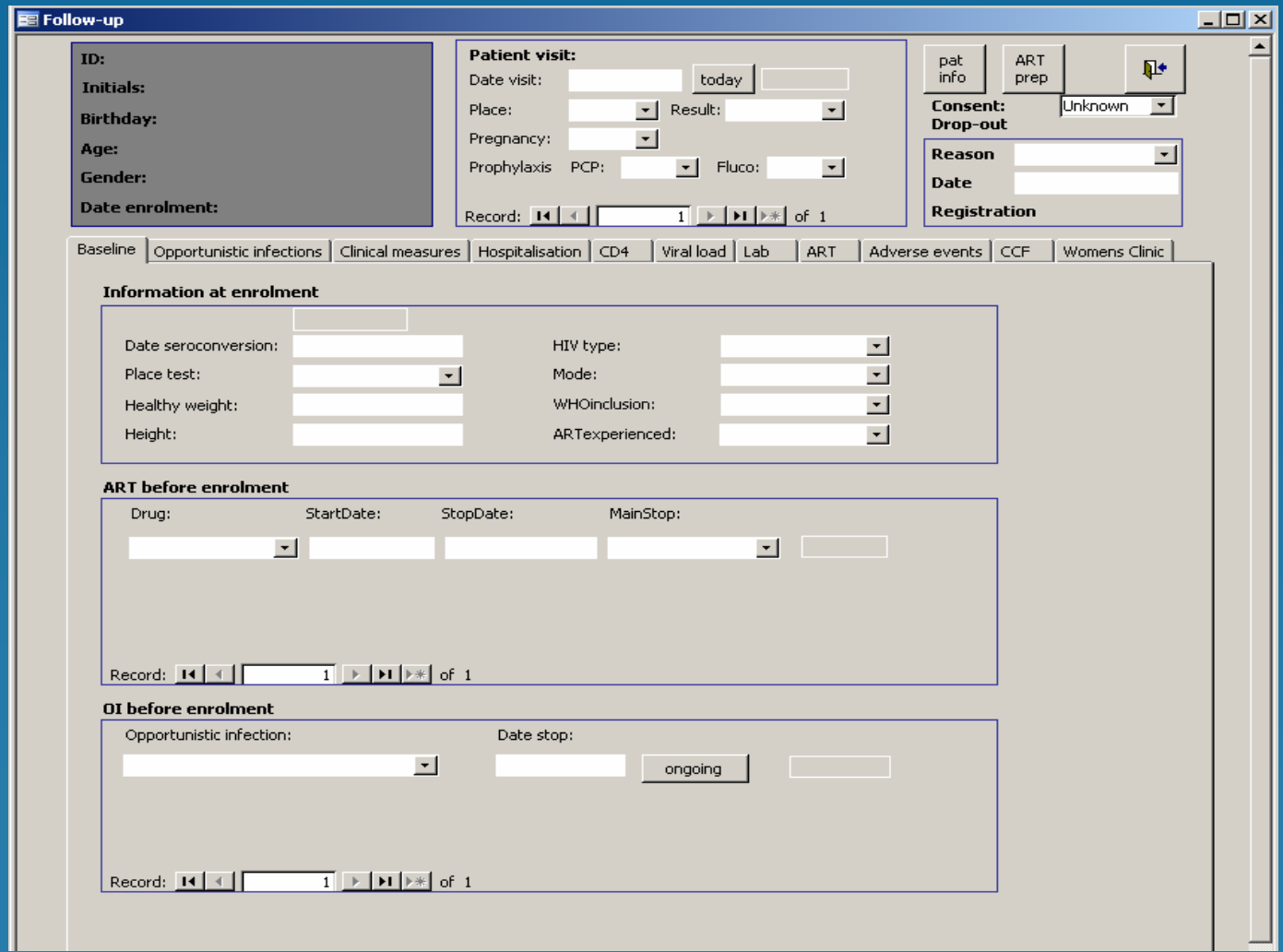
# DESCRIPTION

## The data-entry tool



# DESCRIPTION

## Patient follow-up



# Patient report

## Patient report

| | | | |
|---|---|---|---|
| **ID:** | 37 | **Gender:** | M |
| **Initials:** | DS | **Date HIV diagnosis** | |
| **Birthday:** | 16-feb-75 | **Date enrolment:** | 30-jun-99 |
| **Age:** | 31 | **Reason drop-out:** | |
| | | **Date drop-out:** | |

**WHO stage defining conditions before enrolment**

| Start | Stop | Condition |
|---|---|---|
| Before enrolment | Before enrolment | Extrapulmonary tuberculosis |
| Before enrolment | Before enrolment | Oral candidiasis |
| Before enrolment | Before enrolment | Unexplained prolonged fever > 1 month |

**WHO stage at enrolment** 4

**WHO stage defining conditions after enrolment**

| Start | Stop | Condition |
|---|---|---|
| 04-jul-03 | 04-jul-03 | Recurrent upper respiratory tract infections |
| 01-aug-03 | | Weight loss <10% |
| 15-dec-03 | 19-jan-04 | Recurrent upper respiratory tract infections |

**WHO stage currently** 4

**Clinical parameters**

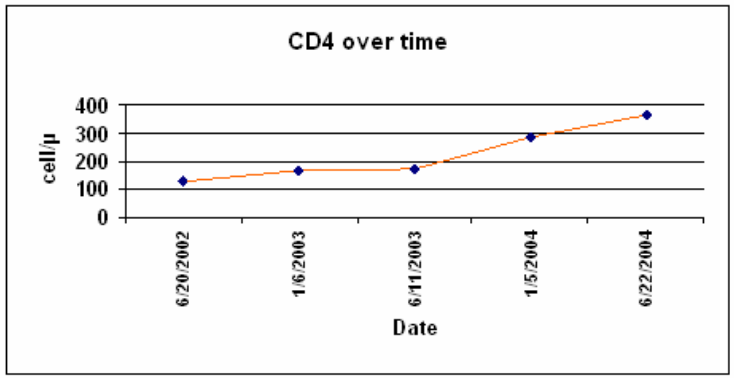
| Date | Weight | Performance |
|---|---|---|
| 06-jun-03 | 50 | |
| 13-jun-03 | 51 | |
| 20-jun-03 | 51 | |
| 04-jul-03 | 51 | |

**Laboratory results**

| Date | VL | Log VL | CD4 | TLC | Hemoglobine | Creatinin | SGPT |
|---|---|---|---|---|---|---|---|
| 20-jun-02 | | | 127 | | | | |
| 06-jan-03 | | | 168 | | | | |
| 11-jun-03 | | | 176 | | | | |
| 29-jul-03 | | | | | 12 | | 193 |
| 05-aug-03 | | | | | | | 115 |
| 13-aug-03 | | | | | 12,2 | | |
| 28-okt-03 | | | | | 12,2 | | 41 |
| 05-jan-04 | | | 286 | | | | 33 |
| 09-apr-04 | | | | | 11,1 | | 30 |
| 22-jun-04 | | | 369 | 2560 | | | |
| 04-okt-04 | | | | | 11,4 | | |
| 05-nov-04 | | | | | 11,5 | | 31 |

**Last serology results**

| Test | Date | Result |
|---|---|---|
| VDRL | 22-jun-04 | neg |



# Program report

## Report HIV Treatment program

Generated by ArtJournal database

**I. Overview patient population on : 31/08/2006**

**A. Total number of patients in active follow-up*:** 1538

* Active follow-up means a patient had at least 1 visit in the last 6 months and is not known to be dead, transferred or lost-to-follow-up.

**B. Patient characteristics:**

Gender:

| Gender | Number | % |
|---|---|---|
| F | 835 | 54.3 |
| M | 703 | 45.7 |
| Total | 1538 | |

Age:

Average age: 36 years (Range: 0 -80)

**C. Immunological data:**

Number of patients with a CD4 count determined over the past 6 months: 1035.
(=67.3% of the active patient population)

Number of patients with a TLC determined over the past 6 months: 1187.
(=77.2% of the active patient population)

Last CD4 count in the active patient population:

Overall:

| CD4 level | Number | % |
|---|---|---|
| <200 | 411 | 26.7 |
| >=200 | 624 | 40.6 |
| Not done | 503 | 32.7 |

Not on ART:

| CD4 level | Number | % |
|---|---|---|
| <200 | 53 | 10.3 |
| >=200 | 198 | 38.4 |
| Not done | 264 | 51.3 |

On ART:

| CD4 level | Number | % |
|---|---|---|
| <200 | 358 | 35.0 |
| >=200 | 426 | 41.6 |
| Not done | 239 | 23.4 |

| Regimen | Number | %* |
|---|---|---|
| lamivudine + nevirapine + stavudine | 511 | 50.0 |
| efavirenz + lamivudine + stavudine | 182 | 17.8 |
| lamivudine + nevirapine + zidovudine | 176 | 17.2 |
| efavirenz + lamivudine + zidovudine | 93 | 9.1 |
| abacavir + lamivudine + nevirapine | 15 | 1.5 |
| abacavir + efavirenz + lamivudine | 8 | 0.8 |
| lamivudine + lopinavir + stavudine | 7 | 0.7 |
| abacavir + didanosine + lopinavir | 5 | 0.5 |
| lamivudine + lopinavir + tenofovir | 4 | 0.4 |
| lamivudine + lopinavir + zidovudine | 3 | 0.3 |
| lamivudine + nevirapine + tenofovir | 3 | 0.3 |
| abacavir + didanosine + lopinavir + ritonavir | 2 | 0.2 |
| abacavir + indinavir + lamivudine + ritonavir | 2 | 0.2 |
| abacavir + lamivudine + lopinavir | 2 | 0.2 |
| didanosine + indinavir + ritonavir + stavudine | 2 | 0.2 |
| lamivudine + lopinavir + ritonavir + zidovudine | 2 | 0.2 |
| efavirenz + indinavir + ritonavir | 1 | 0.1 |
| abacavir + lamivudine + nevirapine + zidovudine | 1 | 0.1 |

| Stage defining condition | Number | %* |
|---|---|---|
| Weight loss >=10% | 33 | 48.5 |
| Weight loss <10% | 26 | 38.2 |
| Oral candidiasis | 16 | 23.5 |
| Other Disease | 14 | 20.6 |
| Diarrhoea>1 month | 10 | 14.7 |
| Fever> 1 month | 9 | 13.2 |
| Severe bact. Infections | 9 | 13.2 |
| Minor skin/mouth problems | 7 | 10.3 |
| PPE | 6 | 8.8 |
| Abdominal LN TB | 5 | 7.4 |
| STI | 4 | 5.9 |
| PCP | 2 | 2.9 |
| H. Zoster (in past 5 years) | 2 | 2.9 |
| Esophag candid. | 2 | 2.9 |
| TB pleura-effusion | 1 | 1.5 |
| PTB sputum negative | 1 | 1.5 |
| Oral hairy leukoplakia | 1 | 1.5 |
| PTB sputum positive | 1 | 1.5 |
| Repeated URTI | 1 | 1.5 |
| Cryptococcal meningits | 1 | 1.5 |
| Chronic vulvovagin. Cand. | 1 | 1.5 |
| HSV persistent or recurrent | 1 | 1.5 |

# Donor Report

## Sihanouk Hospital Center of HOPE

GF1 activity report

*Reporting on cohort and opportunistic infections is only correct for GF1, GF2, GF4, not for Hospital+ITM*

*Some drop-out patients are only identified six months after their last contacts, so only reports made more than six months after the end of the reporting period are complete and final.*

**Reporting period**

Reporting period: from **01/08/2006**
till **31/08/2006**

**Cohort**

| Total patients GF1 | New patients GF1 |
|---|---|
| 419 | 37 |

| Reason of dropout | Number of patients |
|---|---|
| Deceased | 1 |

| | |
|---|---|
| **Number of patients ever on ART in this period** | 331 |
| Number of patients started | 87 |
| Number of patients stopped | 1 |
| **Number of patients on ART at the end of this period** | **330** |

| Regimen | Number of patients |
|---|---|
| efavirenz/lamivudine/abacavir | 3 |
| efavirenz/stavudine/lamivudine | 46 |
| efavirenz/zidovudine/lamivudine | 37 |
| indinavir/ritonavir/lamivudine/abacavir | 1 |
| indinavir/ritonavir/stavudine/didanosine | 2 |
| indinavir/ritonavir/zidovudine/lamivudine | 1 |
| indinavir/stavudine/lamivudine | 1 |
| lopinavir/ritonavir/didanosine/abacavir | 4 |
| lopinavir/ritonavir/lamivudine/abacavir | 1 |
| lopinavir/ritonavir/lamivudine/tenofovir | 2 |
| lopinavir/ritonavir/stavudine/didanosine | 1 |
| lopinavir/ritonavir/stavudine/lamivudine | 2 |
| lopinavir/ritonavir/zidovudine/lamivudine | 3 |
| nevirapine/lamivudine/abacavir | 3 |
| nevirapine/lamivudine/tenofovir | 2 |
| nevirapine/stavudine/lamivudine | 143 |
| nevirapine/zidovudine/lamivudine | 78 |

| Patients on 1st line | Patients on 1st line alternative | Patients on 2nd line |
|---|---|---|
| 143 | 161 | 26 |

*All treatment regimens reported are those at the end of the reporting period, in those on ART at that time*

# CCF Report

## Sihanouk Hospital Center of HOPE

Chronic care facility activity report

*Funded through Global Fund Round 1 from 1-9-2003 till 31-8-2005*

**Reporting period**

Reporting period: from **01/08/2006**
till **31/08/2006**

**Activity**

Number of new admissions: **15**

Total number of stays: **37**

Total number of patients ever in the CCF during this period: **36**

Total number of ends of CCF stays during this period: **12**

Total patient-days of CCF stay during this period: **780**

Average days for a CCF stay during this period: **21.081**

**Reasons for admission**

| Reason | Number | Percent |
|---|---|---|
| Convalescence | 14 | 93 |
| Missing | 1 | 7 |

**Outcome of CCF stay**

| Outcome | Number | Percent |
|---|---|---|
| Death | 3 | 25 |
| Discharge | 7 | 58 |
| Ran away | 1 | 8 |
| Referral to hospital | 1 | 8 |

| Nadir CD4 | Number | Percent |
|---|---|---|
| 000-049 | 3 | 20 |
| 050-199 | 6 | 40 |
| 200-499 | 1 | 7 |

| ART | Number | Percent |
|---|---|---|
| Not on ART | 7 | 47 |
| On ART | 6 | 40 |
| ART experience | 2 | 13 |

## Duration of stay

| | |
|---|---|
| **Total days of stay** | 452 |
| **Average days of stay** | 37.6666666666667 |
| **Minimum days of stay** | 2 |
| **Maximum days of stay** | 134 |

# NCHADS Report

ព្រះរាជាណាចក្រកម្ពុជា
Kingdom of Cambodia
ជាតិ សាសនា ព្រះមហាក្សត្រ
Nation Religion King

**របាយការណ៍ស្តីពីការព្យាបាលដោយ ART**
**(Facility ART Report)**

| | | | | | |
|---|---|---|---|---|---|
| ឈ្មោះអគ្គីពេទ្យ បង្អែក/ គ្លីនិក (Facility) | Sihanouk Hospital Center of HOPE | លេខកូដ (Facility code) | 1 | 2 | 0 | 5 |
| ឈ្មោះស្រុកប្រតិបត្តិ (Operational district) | | ខេត្ត/ ក្រុង (Province) | Phnom Penh | | | |
| ឆ្នាំ (Year) | 2006 | ត្រីមាសទី (Quarter) | 2 | From 01/04/2006 To 30/06/2006 | | |

| ប្រភេទ (Category) | | អាយុ Age | ភេទ (Sex) | | សរុប Total |
|---|---|---|---|---|---|
| | | | ប្រុស Male | ស្ត្រី Female | |
| ចំនួនអ្នកជំងឺ ដែលសកម្មខ្លួនបានព្យាបាលដោយ ART នៅចុងត្រីមាសមុន [Number of active patients on ART at the end of preceding quarter] | | > 14 | 402 | 407 | 809 |
| | | 0 - 14 | 0 | 1 | 1 |
| ចំនួនអ្នកជំងឺចាប់ផ្តើមថ្មីព្យាបាលដោយ ART នៅក្នុងអគ្គីពេទ្យបង្អែក/គ្លីនិក នៅក្នុងត្រីមាស [Number of new patients started in ART care at this facility during quarter this quater] | | > 14 | 72 | 69 | 141 |
| | | 0 - 14 | 0 | 0 | 0 |
| | | សរុប Total | 72 | 69 | 141 |
| ចំនួនអ្នកជំងឺដែលបានបញ្ជូនមូលក្នុងរយៈពេលមួយត្រីមាស (Number of patients transferred in during quarter) | | > 14 | 0 | 0 | 0 |
| | | 0 - 14 | 0 | 0 | 0 |
| | | សរុប Total | 0 | 0 | 0 |
| ចំនួនអ្នកជំងឺដែលលះបង់ការព្យាបាលដោយ ART ក្នុងរយៈពេលមួយត្រីមាស [Number of patients who left ART care during quarter] | បញ្ជូនចេញ (Transfer out) | > 14 | 0 | 1 | 1 |
| | | 0 - 14 | 0 | 0 | 0 |
| | លះបង់ការព្យាបាល (Lost) | > 14 | 4 | 3 | 7 |
| | | 0 - 14 | 0 | 0 | 0 |
| | ស្លាប់ (Died) | > 14 | 5 | 4 | 9 |
| | | 0 - 14 | 0 | 0 | 0 |

| រូបមន្ត ព្យាបាលសំរាប់មនុស្សពេញវ័យ Treatment regimen for Adult | ចំនួនអ្នកជំងឺ Number of patients |
|---|---|
| d4T(30)+3TC+NVP | 380 |
| d4T(40)+3TC+NVP | 100 |
| AZT+3TC+NVP | 130 |
| d4T(30)+3TC+EFV | 142 |
| d4T(40)+3TC+EFV | 32 |
| AZT+3TC+EFV | 80 |
| ABC+3TC+NVP | 13 |
| ABC+ddI(250)+Lop/Rit | 6 |
| ABC+3TC+EFV | 5 |
| AZT+3TC+Lop/Rit | 3 |
| d4T(30)+3TC+Lop/Rit | 3 |
| TDF+3TC+NVP | 2 |
| d4T(30)+ddI(250)+Ind(400)/Rit | 2 |
| ABC+3TC+Lop/Rit | 2 |
| AZT+3TC+Ind/Rit | 2 |
| d4T(30)+3TC+Ind(800) | 1 |
| ABC+3TC+Ind(400)/Rit | 1 |
| d4T(30)+ddI(250)+Lop/Rit | 1 |
| d4T(40)+3TC+Lop/Rit | 1 |
| EFV+Ind(800)/Rit | 1 |
| Lop/Rit+ABC+ddI(400) | 1 |
| TDF+3TC+Lop/Rit | 1 |
| សរុប Total | 909 |

| រូបមន្ត ព្យាបាល សំរាប់ កុមារ Treatment regimen for *Children* | ចំនួនអ្នកជំងឺ Number of patients |
|---|---|
| AZT+3TC+NVP | 1 |

# Monitoring

- **Data Monitoring**

# Lessons learned

- An appropriate database greatly facilitates follow-up of individual patients and gives a better overview of program performance and outcomes
- The database facilitates the reporting required by different donors

# Recommendation

- http://telemedicine.itg.be/telemedicine/site/Default.asp
- Computer requirements: Window XP and MS Access 2003

# Thanks