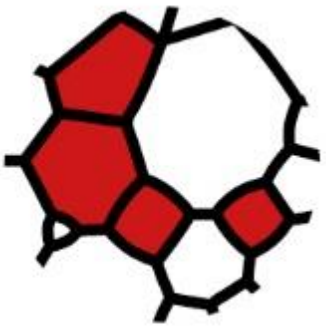

MeSH Consortium

Measurement & Surveillance of HIV Epidemics

Documented Analysis of HIV Care and Treatment Data

Workshop Report

Dar es Salaam, Tanzania – December 2017

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Funding for this work was provided by the Bill and Melinda Gates Foundation

Statement of purpose

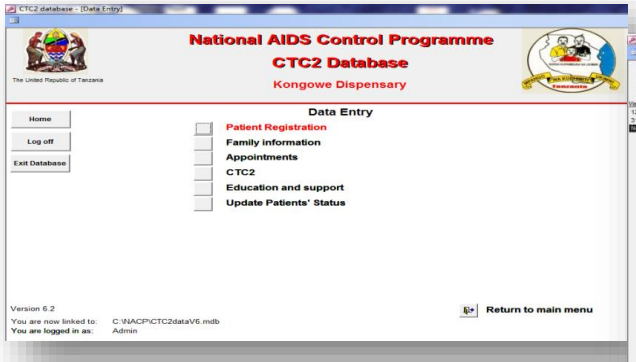
On 11th to 13th December 2017 a workshop was convened in order to update and document the analysis of the HIV CTC3 database. The workshop also aimed to develop and build the process to enable further analyses of the CTC data to inform policy makers and health planners of the HIV service provision in Tanzania. The workshop was organised by the National AIDS Control Programme (NACP) of the Ministry of Health Community Development, Gender, Elderly and Children (MoHCDGEC), with members of the Measurement and Surveillance of HIV Epidemics (MeSH) Consortium at the London School of Hygiene and Tropical Medicine (LSHTM) and the University of California San Francisco leading technical assistance in the analysis of the data and writing of the report.

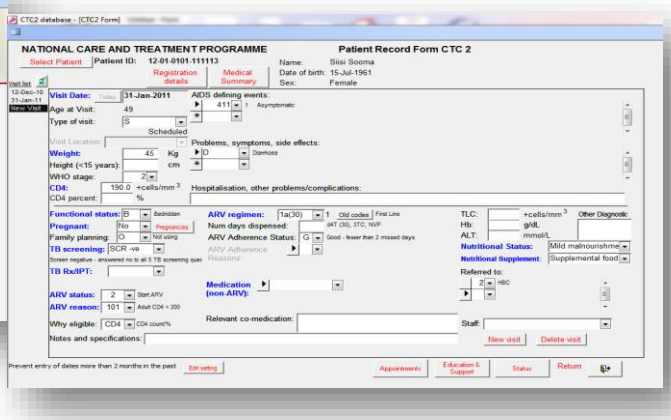
The CTC3 database consists of routinely collected individual level data from HIV positive patients attending care and treatment clinics (CTC) across Tanzania. This workshop builds on the previous CTC3 reports and the Tanzania Health Information Systems (HIS) policy paper outlining the need to widen access to the data and to use the data for regular dissemination of results. Better use of strategic HIV information can strengthen prevention, testing and treatment efforts, in addition to monitoring trends towards the 90-90-90 targets.

The following objectives were defined for the workshop:

- Streamline the analysis of the CTC data, including integration into a proposed CTC dashboard
- Decide on new analyses that can be undertaken using the CTC data
- Improve methods by developing a simple and effective way for extracting the data and performing the analyses
- Translate the results of the analyses into tables and figures for use in the CTC report
- Agree on the process and timing for annual production of the CTC report

Furthermore, streamlining the analysis processes in this way will enable sub-national units (regions and districts) to perform the same analyses on their own data. In this report we present the resultant key points and recommendations determined in the workshop. On completion the report will be circulated to key policy makers with the MoHCDGEC and forms the basis of strategic planning decisions for the HIV care and treatment programme.





NACP system

Summary of discussions and analyses

The CTC3 database currently contains data from 1,453 CTC facilities, which is approximately 30% of the facilities providing ART in Tanzania (in 2017 ART was devolved to many smaller facilities). This represents data on more than two million patients, which includes more than 80% of the 850,000 HIV cases currently receiving ART in Tanzania. The CTC3 database receives data quarterly from CTC facilities. For the workshop the MoHCDGEC staff extracted the data from CTC3 database collected up to the end of September 2017 and placed it on the NACP server for analysis. Access to DHIS2, a national health information and management system, which contains aggregate data for all CTC facilities, was provided for comparison. Analysis was performed on data for individuals in care from 2014-2017, see agenda in Appendix 1. The workshop was attended by 25 participants, and a partial list of attendees is shown in Appendix 2. The process was streamlined by using the 2016 report as a template and assigning sections to workshop groups of participants. At the end of each day the groups would provide a summary of progress and plans for the remaining work. Analyses were performed using Stata, by updating versions of the analytical do-files from previous development of the CTC report in August 2016 and newly developed analysis routines.

The report includes chapters giving a national aggregate overview of HIV, national and international HIV indicators, and separate summaries of data on children and adults in care and the levels of HIV-related opportunistic infections. Additional analysis was performed on the HIV care cascade indicators to develop a new chapter in which the extent to which the levels of retention of patients on treatment had changed over time. In this chapter a longitudinal cohort framework was used in which individual treatment journeys could be followed. Such an approach provides additional insight on programme performance not possible to achieve with cross-sectional analyses. The list of chapters along with the tables and figures developed from the workshop for the CTC report are in Appendix 3.

Progress made against the objectives of the workshop

At the end of the workshop, the updated Stata do-files were compiled and saved in a DropBox folder for NACP and partners for future development of the CTC report. The analysis sections of the report are in the process of being compiled and will be provided to NACP for finalization to ensure interpretation of the results can be integrated with the new policies on access to ART and retention of PLHIV on ART. The CTC report is planned to be released in early 2018.

Recommendations

To enhance the utility of the CTC report, it is recommended that in the future it is structured as a country specific profile of the HIV epidemic in Tanzania. This would entail shortening the methodology in the

report, which should be used to develop standard operating procedures for methods and analysis, this would also assist in standardizing the analysis and report development process to be performed annually. To adapt these analyses for sub-national units (regions and districts) to perform the same analyses on their own data, it is likely that the Stata analysis files will need to be restructured to an open-source software such as R, with NACP providing capacity building support as necessary to the sub-national units.

Thank you to all who contributed to the CTC workshop

Workshop participants

Appendix 1: Planned Workshop Agenda

Title: Documented Analysis of CTC Data

Monday 11th December to Wednesday 13th December

The Ministry of Health Community Development, Gender, Elderly and Children (MoHCDGEC) is working in collaboration with London School of Hygiene and Tropical Medicine (LSHTM) and other partners. There is a need to document the analysis of the CTC database and build on the current analyses to further inform policy makers and health planners of the HIV service provision in Tanzania. To that end a workshop is planned for 11th to 13th December 2017.

This workshop builds on the HIS policy paper outlining the need to widen access to the data, and to use the data for regular dissemination of results. As such this workshop will focus on one useful dataset, the CTC-3 macro database, which contains individual level data from HIV positive patients attending care and treatment services in health facilities across Tanzania.

We will start the workshop with plenary session, going over the objectives, and how they fit with other initiatives. We will then break into groups to tackle the different objectives. After discussions, the division into groups will probably use three groups. The first would be on the extraction of the data from the database and preparation for the analysis. The second would be around the analysis of the data, using the do-files we have from the previous CTC analyses. The third would be focussed on the writing of the report, using the results from the analyses. In each group the issues and discussions will be different.

Monday 11th December

09:30 Welcome by Dr Somi

10:00 Overview of the workshop by Jim Todd

10:30 Questions and answers. General discussion on the way forward. Consensus on the groups, activities and membership of the group.

11:00 Tea break

11:30 Break into groups

14:00 Plenary session for updates (30 mins) before continuing in groups

16:30 Plenary session for updates (30 mins) before ending for the day

Tuesday 12th December

08:30 Plenary session (30 mins) to catch up on progress. Evaluation of group progress and reassessment of personnel and resources to groups.

- Report from extraction of data group
- Report from the analysis group
- Report from the writing group

09:00 Group work

14:00 Plenary session (30 mins) before continuing as groups

16:30 Plenary session for updates (30 mins) before ending for the day

Wednesday 13th December

08:30 Plenary session to catch up on progress. Redefine the objectives and achievable outputs for the day. List the expected barriers and timelines for completion of the tasks.

09:00 Continue with groups

14:00 Plenary session to wrap up the work, and to set tasks for afterwards

- Progress and remaining work for extraction of data
- Progress and remaining work for the analysis
- Progress and remaining work for the writing of the report

Appendix 2: Attendees

Name	Agency & Position	Role
Richelle Harklerode	MeSH/UCSF, Technical Advisor	Training Team/Technical Advisor
Bonita Kilama	EGPAF,	Writing Coordinator
Sajida Kimambo	UNICEF,	Writing – paediatric results
George Laizer	NACP, Information Technology	Data Preparation
Maneno Luponya	Jhpiego, Data Manager	Data Analyst
Samuel Masasi	NACP,	Data preparation
Gaspar Mbita	JIhpiego,	Data Analyst
Innocent Mboya	UCSF-Dar-es-Salaam, Surveillance Officer	Data Analyst
Paul Mee	MeSH/LSHTM, Researcher	Training Team/Data Analyst
Sri Perera	CDC,	Technical Advisor
Joan Rugemilila	MoHCDGEC,	Writing up results
Wende Safari	NIMR Mwanza, Biostatistician	Data Analyst
Veryeh Sambu	NACP, Data Manager	Technical Advisor
Geoffrey Somi	NACP, Head of Monitoring and Evaluation	Technical Advisor
Jim Todd	MeSH/LSHTM/NIMR Mwanza,	Training Team/Data Analyst
Jennifer Ward	CDC,	Data Analyst

Appendix 3. List of CTC Report Chapters, Tables and Figures

1. Introduction

2. Methods

3. National Aggregate Overview of HIV

Table 3.1 Total population, estimated HIV prevalence, and number infected with HIV by age and region
Figure 3.1 Data completeness across data sources 2007 – 2017
Table 3.2 Total clients receiving HIV Treatment, September 2017
Table 3.3 Summary of regional number currently on ART
Table 3.4 HIV positive adults and children and the number and proportion on ART in 2016, by region
Table 3.5 Number of persons infected with HIV, approved care and treatment clinics, and numbers of clinics per 1000 persons infected with HIV by region in 2017
Table 3.6 Viral load tests and viral suppression

4. National and International HIV Indicators

Table 4.1 Indicators for Care and Treatment in Tanzania

5. HIV Care Cascade

Figure 5.1 Longitudinal care cascade, 2014 to 2017
Table 5.1 Care indicators by demographic characteristics, 2014 to 2017

6. HIV among Adults in Care

Table 6.1 Demographic characteristics of adults at CTC enrolment
Table 6.2 Clinical characteristics of adults at CTC Enrolment
Figure 6.1 Age structure at Enrolment, by sex
Figure 6.2 Mean first CD4 count from 2014 to 2017
Table 6.3 Rates of ART initiation by characteristics of adult patients enrolled in HIV/AIDS services from 2014 to 2017
Table 6.4 Characteristics of adults at ART start from 2014 to 2017
Table 6.5 Characteristics of adults who are LTFU up in the first twelve months of ART initiation
Table 6.6 Number of adults no longer on treatment by year of ART initiation
Figure 6.3 Survival in HIV positive adults, by ART status
Figure 6.4 Hazard in HIV positive adults, by ART status
Table 6.7 Mortality rates by enrolment characteristics of adult patients enrolled between 2014 and 2017

7. HIV among Children in Care

Table 7.1 Demographic characteristics of children at CTC enrolment 2014 to 2017
Table 7.2 Baseline clinical characteristics at CTC enrolment
Figure 7.1 Sex of children by age at enrolment
Figure 7.2 WHO stage of children by age at enrolment

Table 7.3 Rates of ART initiation by characteristics of children enrolled in HIV/AIDS services from 2014 to 2017
Table 7.4 Characteristics of children at ART initiation
Table 7.5 Characteristics of patients who are LTFU up in the first twelve months of ART initiation
Figure 7.3 Survival from birth, in HIV positive children, by ART status
Figure 7.4 Hazard from birth, in HIV positive children, by ART status
Table 7.6 Mortality rates by enrolment characteristics of children enrolled between 2014 and 2017

8. HIV Related Opportunistic Infections

Table 8.1 Number of Individuals and clinic encounters by year
Figure 8.1 Prevalence of common Opportunistic Infections among patients enrolled in HIV care, treatment and support program, 2014 to 2017
Table 8.2 Characteristics of prevalence of opportunistic infections in patients enrolled in care, 2017
Figure 8.2 Prevalence of Opportunistic Infections among children and adults enrolled in HIV care, treatment and support program, 2014 to 2017
Figure 8.3 Prevalence of Common Opportunistic Infections among females and males enrolled in HIV care, 2014 to 2017
Figure 8.4 Prevalence of Opportunistic Infections in ART and non-ART patients enrolled in care, 2014-2017
Table 8.3 Risk factors for Incidence of Pulmonary Tuberculosis

9. Discussion

10. Next Steps for Future Reports

11. Conclusions