

South Africa

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AHRI.TIER.NET.Patients on Dolutegravir-containing regimen.2023

Study Documentation

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Metadata Production

Metadata Producer(s)	Africa Health Research Institute (AHRI)
Identification	DDI.DTG01-01.Patients.on.DTG.Containing.regimens

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AHRI.TIER.NET.Patients on Dolutegravir-containing regimen.2023

Overview

Identification	AHRI.DTG01-01.Patients.on.DTG.Containing.regimens
Version	v1.0.0

Abstract

TIER.net is an electronic patient management system that is used for monitoring and evaluation of HIV care and treatment programmes in government health facilities throughout South Africa. The system was designed as part of a 3-tier approach to implementing a full electronic medical records (EMR) system. This approach provides a flexible solution that allows facilities to transition towards EMR in stages, as their infrastructure improves, and resources become available. TIER.net forms the second tier, whereby patient's paper clinical records are entered into a non-networked computer at the health facility and transferred periodically to a central database.

The TIER.net database contains information on clinic visit attendance, laboratory results and ART dispensing records for all patients on ART. The system was implemented in uMkhanyakude district in 2013; patient records from all visits before 2013 were back-captured into the system. AHRI has a memorandum of agreement with the Department of Health to receive the TIER.net data for the 17 clinics in the Hlabisa health sub-district and Hlabisa hospital. A dedicated data entry clerk based in each clinic enters information from patients' paper clinical records into the TIER.net system after each patient visit. Laboratory results are manually entered into TIER.net after they have been received by the clinic (i.e. are not imported electronically from the National Health Laboratory Service (NHLS) system). Currently, pre-ART visits are not recorded in TIER.net, although modules to capture HIV testing and pre-ART care may be implemented in the future.

AHRI's new clinical database - ACCDB (Africa Centre Clinical Database)

TIER.net has been integrated with AHRI's previous HIV care clinical database (ARTEMIS), which contains records for HIV positive patients in care at 7 clinics in the sub-district, to create a new combined clinical database, ACCDB. The ACCDB contains clinical records for all HIV positive patients on ART since 2004, when the Hlabisa HIV treatment and Care programme was implemented. Linkage between the two databases is based on personal identifiers, using algorithms developed at AHRI.

The patient records in ARTEMIS were captured prospectively by AHRI clinical staff from 2004 until 2012, whereas records from this period were back-captured into TIER.net. Therefore, the information in ARTEMIS pre-2013 was used to fill in missing data in TIER.net, with the following decision rules:

Patients who had records in TIER.net and not in ARTEMIS: All information retained

Patients who had records in ARTEMIS but not in TIER.net: No pre-ART records retained (TIER.net only contains records after ART initiation, whereas ARTEMIS also captured pre-ART information). Retained in new database if the patient started ART and died, transferred out, or was lost to follow-up before 2013.

Patients on ART with records in ARTEMIS from 2013 onwards, but no record in TIER, were assumed to be a result of a linkage mismatch and were not retained.

Patients who had records in both TIER.net and ARTEMIS: Visit records from TIER.net only (i.e. visits records from ARTEMIS are not combined with those in TIER). Laboratory results from ARTEMIS up to 2013 are combined with results in TIER

The new clinical database has been linked with the AHRI population surveillance database (ACDIS) and the Hlabisa hospital admissions database (HIS). A longitudinal analysis of the HIV care cascade (Haber et al. From HIV infection to therapeutic response: a population-based longitudinal HIV cascade-of-care study in KwaZulu-Natal, South Africa. *Lancet HIV* 2017; 4(5):e223-e230) has been rerun on the new combined TIER.net and ARTEMIS data, and results are consistent with those obtained from the ARTEMIS data alone (although the pre-ART stages must be excluded).

TIER.net data are transferred to AHRI from the central Department of Health on a monthly basis and integrated into ACCDB bi-annually, and the linkages with ACDIS and HIS are updated. (The linkage with the ARTEMIS database is not re-run since this database is no longer active).

In April 2017, there were >47,000 individuals on ART in the TIER database, of whom approximately 12,000 were linked to ACDIS and 6500 were linked to HIS.

Although TIER.Net data has been included up to July 2017, the current dataset should be analysed only up to end 2016, because it has been linked to the Dec 2016 analytical database. The updated ACCDB data for 2017 will be available towards the end of the first quarter of 2018, linked to the end of 2017 analytical database release.

Unit of Analysis	Individual
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Scope & Coverage	
Keywords	Individuals
Topics	Tier.Net
<u>Time Period(s)</u>	2002-2023
<u>Countries</u>	South Africa

Producers & Sponsors	
Primary Investigator(s)	Kobus Herbst, Africa Health Research Institute; South African Population Research Infrastructure Network Kathy Baisley, Africa Health Research Institute Dickman Gareta, Africa Health Research Institute
Other Producer(s)	Africa Health Research Institute (AHRI)
Other Acknowledgment(s)	KZN Department Of Health

Data Collection	
Data Collection Dates	start 2002-01-25 end 2023-07-05

Accessibility
<p><u>Access Conditions</u></p> <p>Access to the data requires accurate completion of the online data access application form accessible on the AHRI Data repository (<https://data.ahri.org/>). Data users are required to abide by the data use conditions stipulated on the application for access to the data. Failure to do so may result in their data access privileges being revoked by the Data Custodian. In order to recognise the effort and intellectual contributions of AHRI investigators in producing and curating the data, users of AHRI data must acknowledge the source of the data and abide by the terms and conditions under which the data is accessed and must cite the dataset in publication using the citation provided as part of this documentation. All analytical datasets published on the AHRI Data Repository are assigned digital object identifier (DOIs) and the DOIs can be found on the Data Repository under Study Description tab - Access policy. AHRI data users are required to always cite the dataset using the relevant DOI.</p>
<p><u>Citation Requirements</u></p> <p>Herbst, K., Baisley, K., & Gareta, D. (2023). AHRI.TIER.Net Patients on Dolutegravir-containing regimen:2002-2023 [Data set]. Africa Health Research Institute. DOI:https://doi.org/10.23664/AHRI.DTG01-01.PATIENTS.ON.DTG.CONTAINING.REGIMENS</p>

Files Description

Dataset contains 2 file(s)

AHRI.TIER.Net.ART.2023.v1	
# Cases	91150
# Variable(s)	16

AHRI.TIER.Net.Labs.2023.v1	
# Cases	447023
# Variable(s)	4

Variables List

Dataset contains 20 variable(s)

File AHRI.TIER.Net.ART.2023.v1							
#	Name	Label	Type	Format	Valid	Invalid	Question
1	PatientID	TIER Patient Identifier	discrete	character-36	91150	0	-
2	Sex	Gender	discrete	numeric-12.0	91150	0	-
3	DateOfBi ..	Date of Birth	discrete	character-11	91150	-	-
4	StartedA ..	Date of ART initiaion	discrete	character-11	91147	-	-
5	DrugSwit ..	Date of Dolutegravir switch	discrete	character-11	49344	-	-
6	DrugSwit ..	Drug 1 Switched to	discrete	numeric-12.0	49344	41806	-
7	DrugSwit ..	Drug 2 Switched to	discrete	numeric-12.0	49343	41807	-
8	DrugSwit ..	Drug 3 Switched to	discrete	numeric-12.0	49344	41806	-
9	DrugSwit ..	Drug 1 Switched from	discrete	numeric-12.0	82018	9132	-
10	DrugSwit ..	Drug 2 Switched from	discrete	numeric-12.0	82018	9132	-
11	DrugSwit ..	Drug 3 Switched from	discrete	numeric-12.0	82018	9132	-
12	OutcomeD ..	Date of ART Treatment Outcome	discrete	character-11	48252	-	-
13	Outcome	ART Treatment Outcome	discrete	numeric-12.0	48252	42898	-
14	TBStatus	Latest TB status	discrete	numeric-12.0	89918	1232	-
15	TBStatus ..	Latest TB status date	discrete	character-11	89918	-	-
16	Facility ..	Code for facility name	continuous	numeric-12.0	91122	28	-

File AHRI.TIER.Net.Labs.2023.v1							
#	Name	Label	Type	Format	Valid	Invalid	Question
1	PatientID	Patient ID	discrete	character-36	447023	0	-
2	ResultDate	Result Date	discrete	character-11	447023	-	-
3	CD4	CD4	continuous	numeric-12.0	241975	205048	-
4	VL	Viral Load	continuous	numeric-12.0	353075	93948	-

Variables Description

Dataset contains 20 variable(s)

File : AHRI.TIER.Net.ART.2023.v1

PatientID: TIER Patient Identifier

Information [Type= discrete] [Format=character] [Missing=*]

Statistics [NW/ W] [Valid=91150 /-] [Invalid=0 /-]

Sex: Gender

Information [Type= discrete] [Format=numeric] [Range= 1-9] [Missing=*]

Statistics [NW/ W] [Valid=91150 /-] [Invalid=0 /-]

Value	Label	Cases	Percentage
1	Male	28904	31.7%
2	Female	62246	68.3%
9	Unknown	0	

Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.

DateOfBirth: Date of Birth

Information [Type= discrete] [Format=character] [Missing=*]

Statistics [NW/ W] [Valid=91150 /-]

StartedARTDate: Date of ART initaion

Information [Type= discrete] [Format=character] [Missing=*]

Statistics [NW/ W] [Valid=91147 /-]

DrugSwitchDate: Date of Dolutegravir switch

Information [Type= discrete] [Format=character] [Missing=*]

Statistics [NW/ W] [Valid=49344 /-]

DrugSwitchTo1: Drug 1 Switched to

Information [Type= discrete] [Format=numeric] [Range= 0-15] [Missing=*]

Statistics [NW/ W] [Valid=49344 /-] [Invalid=41806 /-]

Value	Label	Cases	Percentage
0	Tenofovir	48401	98.1%
1	Stavudine	3	0.0%
2	Zidovudine	368	0.7%
3	Abacavir	572	1.2%
4	Lamivudine	0	
5	Emtricitabine	0	
6	Didanosine	0	
7	Efavirenz	0	
8	Nevirapine	0	
9	Lopinavir	0	
10	Ritonavir	0	
11	Atazanavir	0	
12	Darunavir	0	
13	Raltegravir	0	
14	Etravirine	0	
15	Dolutegravir	0	
Sysmiss		41806	

Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.

File : AHRI.TIER.Net.ART.2023.v1

DrugSwitchTo2: Drug 2 Switched to

Information [Type= discrete] [Format=numeric] [Range= 0-15] [Missing=*]

Statistics [NW/ W] [Valid=49343 /-] [Invalid=41807 /-]

Value	Label	Cases	Percentage
0	Tenofovir	0	
1	Stavudine	0	
2	Zidovudine	0	
3	Abacavir	0	
4	Lamivudine	48983	99.3%
5	Emtricitabine	359	0.7%
6	Didanosine	1	0.0%
7	Efavirenz	0	
8	Nevirapine	0	
9	Lopinavir	0	
10	Ritonavir	0	
11	Atazanavir	0	
12	Darunavir	0	
13	Raltegravir	0	
14	Etravirine	0	
15	Dolutegravir	0	
Sysmiss		41807	

Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.

DrugSwitchTo3: Drug 3 Switched to

Information [Type= discrete] [Format=numeric] [Range= 0-15] [Missing=*]

Statistics [NW/ W] [Valid=49344 /-] [Invalid=41806 /-]

Value	Label	Cases	Percentage
0	Tenofovir	0	
1	Stavudine	0	
2	Zidovudine	0	
3	Abacavir	0	
4	Lamivudine	0	
5	Emtricitabine	0	
6	Didanosine	0	
7	Efavirenz	0	
8	Nevirapine	0	
9	Lopinavir	0	
10	Ritonavir	0	
11	Atazanavir	0	
12	Darunavir	0	
13	Raltegravir	0	
14	Etravirine	0	
15	Dolutegravir	49344	100.0%
Sysmiss		41806	

Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.

File : AHRI.TIER.Net.ART.2023.v1

DrugSwitchedFrom1: Drug 1 Switched from

Information [Type= discrete] [Format=numeric] [Range= 0-15] [Missing=*]

Statistics [NW/ W] [Valid=82018 /-] [Invalid=9132 /-]

Value	Label	Cases	Percentage
0	Tenofovir	73350	89.4%
1	Stavudine	2864	3.5%
2	Zidovudine	2391	2.9%
3	Abacavir	3413	4.2%
4	Lamivudine	0	
5	Emtricitabine	0	
6	Didanosine	0	
7	Efavirenz	0	
8	Nevirapine	0	
9	Lopinavir	0	
10	Ritonavir	0	
11	Atazanavir	0	
12	Darunavir	0	
13	Raltegravir	0	
14	Etravirine	0	
15	Dolutegravir	0	
Sysmiss		9132	

Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.

DrugSwitchedFrom2: Drug 2 Switched from

Information [Type= discrete] [Format=numeric] [Range= 0-15] [Missing=*]

Statistics [NW/ W] [Valid=82018 /-] [Invalid=9132 /-]

Value	Label	Cases	Percentage
0	Tenofovir	0	
1	Stavudine	0	
2	Zidovudine	0	
3	Abacavir	0	
4	Lamivudine	14606	17.8%
5	Emtricitabine	67396	82.2%
6	Didanosine	16	0.0%
7	Efavirenz	0	
8	Nevirapine	0	
9	Lopinavir	0	
10	Ritonavir	0	
11	Atazanavir	0	
12	Darunavir	0	
13	Raltegravir	0	
14	Etravirine	0	
15	Dolutegravir	0	
Sysmiss		9132	

Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.

File : AHRI.TIER.Net.ART.2023.v1

DrugSwitchedFrom3: Drug 3 Switched from

Information [Type= discrete] [Format=numeric] [Range= 0-15] [Missing=*]

Statistics [NW/ W] [Valid=82018 /-] [Invalid=9132 /-]

Value	Label	Cases	Percentage
0	Tenofovir	0	
1	Stavudine	0	
2	Zidovudine	0	
3	Abacavir	0	
4	Lamivudine	0	
5	Emtricitabine	0	
6	Didanosine	0	
7	Efavirenz	76581	93.4%
8	Nevirapine	1527	1.9%
9	Lopinavir	3854	4.7%
10	Ritonavir	20	0.0%
11	Atazanavir	19	0.0%
12	Darunavir	6	0.0%
13	Raltegravir	6	0.0%
14	Etravirine	5	0.0%
15	Dolutegravir	0	
Sysmiss		9132	

Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.

OutcomeDate: Date of ART Treatment Outcome

Information [Type= discrete] [Format=character] [Missing=*]

Statistics [NW/ W] [Valid=48252 /-]

Outcome: ART Treatment Outcome

Information [Type= discrete] [Format=numeric] [Range= 0-2] [Missing=*]

Statistics [NW/ W] [Valid=48252 /-] [Invalid=42898 /-]

Value	Label	Cases	Percentage
0	RIP	3490	7.2%
1	TFO	19972	41.4%
2	LTF	24790	51.4%
Sysmiss		42898	

Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.

TBStatus: Latest TB status

Information [Type= discrete] [Format=numeric] [Range= 0-6] [Missing=*]

Statistics [NW/ W] [Valid=89918 /-] [Invalid=1232 /-]

Value	Label	Cases	Percentage
0	Asymptomatic	83496	92.9%
1	Symptomatic	514	0.6%
2		3	0.0%
3	On TB treatment at this facility	1575	1.8%
4	On TB treatment at another facility	58	0.1%

File : AHRI.TIER.Net.ART.2023.v1

TBStatus: Latest TB status

Value	Label	Cases	Percentage
5		31	0.0%
6	Screening Status Unknown	4241	4.7%
Sysmiss		1232	

Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.

TBStatusDate: Latest TB status date

Information	[Type= discrete] [Format=character] [Missing=*]
Statistics [NW/ W]	[Valid=89918 /-]

FacilityNameCode: Code for facility name

Information	[Type= continuous] [Format=numeric] [Range= 138242-983342] [Missing=*]
Statistics [NW/ W]	[Valid=91122 /-] [Invalid=28 /-] [Mean=652988.671 /-] [StdDev=230463.256 /-]

File : AHRI.TIER.Net.Labs.2023.v1**# PatientID: Patient ID****Information** [Type= discrete] [Format=character] [Missing=*]**Statistics [NW/ W]** [Valid=447023 /-] [Invalid=0 /-]**# ResultDate: Result Date****Information** [Type= discrete] [Format=character] [Missing=*]**Statistics [NW/ W]** [Valid=447023 /-]**# CD4: CD4****Information** [Type= continuous] [Format=numeric] [Range= 0-54000] [Missing=*]**Statistics [NW/ W]** [Valid=241975 /-] [Invalid=205048 /-] [Mean=492.495 /-] [StdDev=324.6 /-]**# VL: Viral Load****Information** [Type= continuous] [Format=numeric] [Range= 0-12100000] [Missing=*]**Statistics [NW/ W]** [Valid=353075 /-] [Invalid=93948 /-] [Mean=14440.346 /-] [StdDev=156407.056 /-]