

South Africa

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**AHRI:ASTRA – Strengthening community and
health-system resilience to extreme weather
events among vulnerable populations living with
HIV and/or tuberculosis in Southern Africa**

Study Documentation

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Metadata Production

Metadata Producer(s)	Africa Health Research Institute (AHRI)
Identification	AHRI.ASTRA.ART.Treatment.visit

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AHRI:ASTRA – Strengthening community and health-system resilience to extreme weather events among vulnerable populations living with HIV and/or tuberculosis in Southern Africa

Overview	
Identification	AHRI.ASTRA.ART.Treatment.visit
Version	v1.0.0
Abstract ASTRA is a multi-country research programme investigating how extreme weather events (EWEs) affect communities and health systems, particularly vulnerable populations living with HIV and/or tuberculosis. The study uses interdisciplinary and mixed-methods approaches to understand the impacts of EWEs on health, healthcare access and service delivery, and to identify feasible interventions that can strengthen community and health-system resilience. The study is being conducted across Mozambique, South Africa and Zambia and includes community members, people living with HIV and/or tuberculosis, healthcare workers, policymakers, government officials and other relevant stakeholders. Study Aim: The aim of ASTRA is to use co-designed interdisciplinary approaches to propose, prioritise and evaluate feasible interventions that strengthen community and health-system resilience to extreme weather events among vulnerable populations living with HIV and/or tuberculosis. Specific Objectives: To develop a system dynamics model to assess how extreme weather events affect HIV service delivery and continuity of care for people living with HIV.	
Kind of Data	ART Treatment Clinic Visits
Unit of Analysis	Individuals

Scope & Coverage	
Keywords	Extreme weather events (EWEs), climate change, HIV, tuberculosis, health systems, healthcare access, healthcare service delivery.
Topics	Extreme weather events; climate change; HIV; tuberculosis; health systems; healthcare access; healthcare service delivery; Southern Africa.
Time Period(s)	2007-2025
Countries	South Africa
Geographic Coverage Umkhanyakude district in rural KwaZulu-Natal	
Universe Individuals who receive anti-retroviral treatment in two primary health facilities in Umkhanyakude district, specifically KwaMsane Clinic and Somkhele Clinic).	

Producers & Sponsors	
Primary Investigator(s)	Jabulani Mcineka, Africa Health Research Institute Njabulo Myeza, Africa Health Research Institute Nompumelelo Mkwana, Africa Health Research Institute Prof. Collins Iwuji, Africa Health Research Institute Prof. Salome Charalambous, Group Chief Scientific Officer, The Aurum Institute

Other Producer(s)	Africa Health Research Institute (AHRI)
Funding Agency/ies	National Institute for Health and Care Research (NIHR) , Funder

Sampling

Sampling Procedure

Data Collection

Data Collection Dates	start 2007-03-06 end 2025-08-20
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Data Processing & Appraisal

Data Editing

Queried the data directly from the Tier.Net database, created a mapping file, anonymised the data, and converted the final dataset to a Stata (.dta) file for publication.

Accessibility

Access Conditions

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.

Citation Requirements

Mcineka, J., Myeza, N., Mkwana, N., Iwuji, C., & Charalambous, S. (2026). AHRI:ASTRA – Strengthening community and health-system resilience to extreme weather events among vulnerable populations living with HIV and/or tuberculosis in Southern Africa [Dataset]. Africa Health Research Institute.

DOI: <https://doi.org/10.23664/AHRI.ASTRA.ART.TREATMENT.VISIT>

Files Description

Dataset contains 1 file(s)

AHRI.ASTRA_Dataset_2026.V1.0	
# Cases	454285
# Variable(s)	12

Variables List

Dataset contains 12 variable(s)

File AHRI.ASTRA_Dataset_2026.V1.0							
#	Name	Label	Type	Format	Valid	Invalid	Question
1	FacilityID	Facility Name	discrete	numeric-12.0	454285	0	-
2	SubClini ..	SubClinicType	discrete	numeric-12.0	46244	408041	-
3	TBStatusID	TB Status	discrete	numeric-12.0	377867	76418	-
4	VisitPur ..	Visit Purpose	discrete	numeric-12.0	453741	544	-
5	VisitSta ..	Visit Status	discrete	numeric-12.0	453743	542	-
6	IsRegime ..	Regimen Date Estimated	discrete	numeric-12.0	454285	0	-
7	LateForA ..	Late For Appointment	discrete	numeric-12.0	0	454285	-
8	MedicalE ..	Medical Examiner	discrete	numeric-12.0	380923	73362	-
9	IsCCMDDV ..	CCMDD Visit	discrete	numeric-12.0	454250	35	-
10	RegimenD ..	Regimen Date	discrete	character-11	454285	-	-
11	RegimenD ..	Regimen Duration	discrete	numeric-12.0	454285	0	-
12	NextAppo ..	Next Appointment Date	discrete	character-11	375930	-	-

Variables Description

Dataset contains 12 variable(s)

File : AHRI.ASTRA_Dataset_2026.V1.0

FacilityID: Facility Name

Information [Type= discrete] [Format=numeric] [Range= 1-2] [Missing=*]

Statistics [NW/ W] [Valid=454285 /-] [Invalid=0 /-]

Value	Label	Cases	Percentage
1	kz KwaMsane Clinic	303557	66.8%
2	kz Somkhele Clinic	150728	33.2%

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.

SubClinicTypeID: SubClinicType

Information [Type= discrete] [Format=numeric] [Range= 1-2] [Missing=*]

Statistics [NW/ W] [Valid=46244 /-] [Invalid=408041 /-]

Value	Label	Cases	Percentage
1	ART	41801	90.4%
2	BOTH	4443	9.6%
Sysmiss		408041	

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.

TBStatusID: TB Status

Information [Type= discrete] [Format=numeric] [Range= 1-5] [Missing=*]

Statistics [NW/ W] [Valid=377867 /-] [Invalid=76418 /-]

Value	Label	Cases	Percentage
1	Asymptomatic	367022	97.1%
2	On TB treatment at another facility	27	0.0%
3	On TB treatment at this facility	4826	1.3%
4	Screening Status Unknown	4767	1.3%
5	Symptomatic	1225	0.3%
Sysmiss		76418	

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.

VisitPurposeID: Visit Purpose

Information [Type= discrete] [Format=numeric] [Range= 1-3] [Missing=*]

Statistics [NW/ W] [Valid=453741 /-] [Invalid=544 /-]

Value	Label	Cases	Percentage
1	DIDNOTATTEND	72797	16.0%
2	REGIMENONE	372611	82.1%
3	REGIMENTWO	8333	1.8%
Sysmiss		544	

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.

VisitStatusID: Visit Status

Information [Type= discrete] [Format=numeric] [Range= 1-2] [Missing=*]

Statistics [NW/ W] [Valid=453743 /-] [Invalid=542 /-]

Value	Label	Cases	Percentage
1	Attended	380946	84.0%
2	Missed	72797	16.0%
Sysmiss		542	

File : AHRI.ASTRA_Dataset_2026.V1.0

VisitStatusID: Visit Status

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.

IsRegimenDateEstimatedID: Regimen Date Estimated

Information [Type= discrete] [Format=numeric] [Range= 1-2] [Missing=*]

Statistics [NW/ W] [Valid=454285 /-] [Invalid=0 /-]

Value	Label	Cases	Percentage
1	TRUE	0	
2	FALSE	454285	100.0%

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.

LateForAppointmentID: Late For Appointment

Information [Type= discrete] [Format=numeric] [Range= 1-2] [Missing=*]

Statistics [NW/ W] [Valid=0 /-] [Invalid=454285 /-]

Value	Label	Cases	Percentage
1	TRUE	0	
2	FALSE	0	
Sysmiss		454285	

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.

MedicalExaminerID: Medical Examiner

Information [Type= discrete] [Format=numeric] [Range= 1-4] [Missing=*]

Statistics [NW/ W] [Valid=380923 /-] [Invalid=73362 /-]

Value	Label	Cases	Percentage
1	Club Facilitator	313	0.1%
2	Doctor	3686	1.0%
3	Nurse	376702	98.9%
4	Unknown	222	0.1%
Sysmiss		73362	

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.

IsCCMDDVisitID: CCMDD Visit

Information [Type= discrete] [Format=numeric] [Range= 1-2] [Missing=*]

Statistics [NW/ W] [Valid=454250 /-] [Invalid=35 /-]

Value	Label	Cases	Percentage
1	TRUE	15450	3.4%
2	FALSE	438800	96.6%
Sysmiss		35	

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.

RegimenDate: Regimen Date

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

Statistics [NW/ W] [Valid=454285 /-]

RegimenDuration: Regimen Duration

Information [Type= discrete] [Format=numeric] [Range= 0-12] [Missing=*]

Statistics [NW/ W] [Valid=454285 /-] [Invalid=0 /-]

File : AHRI.ASTRA_Dataset_2026.V1.0**# NextAppointmentDate: Next Appointment Date**

Information	[Type= discrete] [Format=character] [Missing=*]
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Statistics [NW/ W]	[Valid=375930 /-]
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