

# South Africa - Performance of computer-aided chest radiography for detection of TB in a community-based multimorbidity cohort in rural KwaZulu-Natal

**Sweetness H Dube**

Report generated on: June 8, 2022

Visit our data catalog at: <https://data.ahri.org/index.php>

## Overview

### Identification

#### ID NUMBER

AHRI.Vukuzazi.ChestXrayPaperData

### Version

#### VERSION DESCRIPTION

V1.0.0

## Overview

#### ABSTRACT

The datasets provided here will be used for devising a machine learning tool to improve upon CAD4TB's triaging of chest x-rays.

#### KIND OF DATA

Survey Data

#### UNITS OF ANALYSIS

Each chest x-ray image or images are for a Vukuzazi study participant who had chest x-ray done.

The clinical data, each record is for a single participant who participated in Vukuzazi and had chest x-ray done. Some individuals had more than one chest x-ray images and therefore have more than one record.

#### TOPICS

Topic	Vocabulary	URI
Chest x-ray; machine learning; tuberculosis; population health screening	Africa Health Research Institute	www.ahri.org

#### KEYWORDS

Tuberculosis

## Coverage

#### GEOGRAPHIC COVERAGE

uMkhanyakude district in northern KwaZulu-Natal

#### UNIVERSE

Individuals aged 15 years and above who are resident members of households in the AHRI DSS area.

## Producers and Sponsors

#### PRIMARY INVESTIGATOR(S)

Name	Affiliation
Professor Deenan, Pillay	UCL; AHRI
Dr Olivier, Koole	LSHTM; AHRI

Dr. Emily, Wong	AHRI
-----------------	------

#### OTHER PRODUCER(S)

Name	Affiliation	Role
Africa Health Research Institute		

#### FUNDING

Name	Abbreviation	Role
Wellcome Trust	WT	Core funding

#### OTHER ACKNOWLEDGEMENTS

Name	Affiliation	Role
Dr. Kobus, Herbst	AHRI	Chief Information Officer
Dickman, Gareta	AHRI	Head of Research Data Management
Jaco, Dreyer	AHRI	Data management, data cleaning
Tshwaragang, Modise	AHRI	Data management, data cleaning
Siyabonga, Nxumalo	AHRI	Data management, data cleaning
Sweetness, Dube	AHRI	Data documentalist

## Metadata Production

#### METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
Africa Health Research Institute	AHRI		

#### DDI DOCUMENT ID

DDI.AHRI.Vukuzazi.ChestXrayPaperData

## Sampling

### Sampling Procedure

---

N/A. All individuals aged 15 years and older who are resident members of households in the DSS area are eligible to participate Vukuzazi study.

## Questionnaires

No content available

## Data Collection

### Data Collection Dates

---

<b>Start</b>	<b>End</b>	<b>Cycle</b>
2018-05-01	2019-05-31	N/A

## Data Processing

### Data Editing

---

NA

## Data Appraisal

No content available



## File Description

## Variable List

## public\_release

Content

Cases 9912

Variable(s) 12

Structure Type:  
Keys: ()

Version

Producer

Missing Data

## Variables

ID	NAME	LABEL	TYPE	FORMAT	QUESTION
V327	IndividualId	IndividualId	contin	numeric	
V328	Sex	Sex	discrete	character	
V329	age_group	age_group	discrete	character	
V330	any_symp	any_symp	discrete	numeric	
V331	binary_HIV	binary_HIV	discrete	character	
V332	GeneXpert	GeneXpert	discrete	character	
V333	LiquidCulture	LiquidCulture	discrete	character	
V334	RadiologistLungField	RadiologistLungField	discrete	character	
V335	CxrRadiologistConclusion	CxrRadiologistConclusion	discrete	character	
V336	v5_CXRScore	v5_CXRScore	contin	numeric	
V337	v6_CXRScore	v6_CXRScore	contin	numeric	
V338	v7_CXRScore	v7_CXRScore	contin	numeric	



## IndividualId (IndividualId)

File: public\_release

### Overview

Type: Continuous	Valid cases: 9912
Format: numeric	Invalid: 0
Decimals: 0	Minimum: 5
Range: 5-21428	Maximum: 21428
	Mean: 10272.1
	Standard deviation: 6200.2

## Sex (Sex)

File: public\_release

### Overview

Type: Discrete	Valid cases: 9912
Format: character	Invalid: 0
Width: 6	

## age\_group (age\_group)

File: public\_release

### Overview

Type: Discrete	Valid cases: 9912
Format: character	Invalid: 0
Width: 5	

## any\_symp (any\_symp)

File: public\_release

### Overview

Type: Discrete	Valid cases: 9912
Format: numeric	Invalid: 0
Decimals: 0	
Range: 0-1	

## binary\_HIV (binary\_HIV)

File: public\_release

### Overview

Type: Discrete	Valid cases: 9912
Format: character	Invalid: 0
Width: 12	

## GeneXpert (GeneXpert)

File: public\_release

### Overview

Type: Discrete  
Format: character  
Width: 2

Valid cases: 9912  
Invalid: 0

## LiquidCulture (LiquidCulture)

File: public\_release

### Overview

Type: Discrete  
Format: character  
Width: 54

Valid cases: 9912  
Invalid: 0

## RadiologistLungField (RadiologistLungField)

File: public\_release

### Overview

Type: Discrete  
Format: character  
Width: 20

Valid cases: 9912  
Invalid: 0

## CxrRadiologistConclusion (CxrRadiologistConclusion)

File: public\_release

### Overview

Type: Discrete  
Format: character  
Width: 62

Valid cases: 9912  
Invalid: 0

## v5\_CXRScore (v5\_CXRScore)

File: public\_release

### Overview

Type: Continuous  
Format: numeric  
Decimals: 0  
Range: 10-100

Valid cases: 9912  
Invalid: 0  
Minimum: 10  
Maximum: 100  
Mean: 33.7  
Standard deviation: 16.1

## v6\_CXRScore (v6\_CXRScore)

File: public\_release

### Overview

Type: Continuous  
Format: numeric  
Decimals: 0  
Range: 0-99

Valid cases: 9912  
Invalid: 0  
Minimum: 0  
Maximum: 99  
Mean: 33.4  
Standard deviation: 18.9

## v7\_CXRScore (v7\_CXRScore)

File: public\_release

### Overview

Type: Continuous  
Format: numeric  
Decimals: 2  
Range: -2-98.95

Valid cases: 9912  
Invalid: 0  
Minimum: -2  
Maximum: 99  
Mean: 18  
Standard deviation: 17.8

# Documentation

## Technical documents

### DDI:AHRI.Vukuzazi.ChestXrayPaperData

---

Title DDI:AHRI.Vukuzazi.ChestXrayPaperData  
Author(s) Sweetness H Dube  
Date 01/09/2020  
Country South Africa  
Language English  
Filename AHRI.Vukuzazi.ChestXrayPaperData.pdf

---