

South Africa - Dikgale Health and Demographic Surveillance Site INDEPTH Core Datase 2012 Release 2015

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Visit our data catalog at: <http://indepth-ishare.org/index.php>

Overview

Identification

ID NUMBER

INDEPTH.ZA021.CMD2012.v1

Version

VERSION DESCRIPTION

v1: Edited Core Microdata 2012, for public distribution

Extracted on 9 June 2015.

PRODUCTION DATE

2015-06-09

Overview

ABSTRACT

Changes in socio-economic status and lifestyle behaviors among the adult population in South Africa not only in urban areas but also in rural South Africa, have led to increased prevalence of chronic diseases and associated risk factors, together with an epidemic of some infectious diseases. Researchers at the University of the North (now University of Limpopo Turfloop campus) established The Dikgale centre for Health and Demographic surveillance system in 1996 funded by a core grant from NUFU, Norway.

The broad aim of the Dikgale HDSS is to provide information to improve health of the people in Limpopo province and to assist the local government in making effective health care policy. As few data are available on the prevalence of diseases in rural and peri-urban areas of Limpopo province, the initial objective of the HDSS was to establish a field site where the incidence and prevalence of diseases could be assessed. It was therefore necessary to collect longitudinal demographic data (e.g. mortality, fertility, migration) on the population. To this end, three primary subjects are observed longitudinally in Dikgale HDSS: physical structures (e.g. homesteads, clinics and schools), households and individuals. The information about these subjects, and all related information, was at first stored in Access and later in a single MSSQL Server database, in a truly longitudinal way-i.e. not as a series of cross-sections.

The surveillance area is located in the Capricorn district, Limpopo province approximately 40 km from Polokwane, the capital city of Limpopo province and 15-50 km from the University of Limpopo (Turfloop campus). The site covers an area of approximately 200 square kilometers. The initially the total population was 8000 but the field site was expanded in 2010 and now includes approximately 36,000 people who are members of approximately 7000 households. The households are present in 15 villages of varying sizes. The population is predominantly Northern Sotho speaking. All households have electricity. Some households have piped water either inside the house or in their yards, but most fetch water from taps situated at strategic points in the villages. Most households have a pit latrine in their yards. A large proportion of adults are migrant workers, while others work as farm laborers on neighboring farms, or as domestic workers in nearby towns. Many are pensioners. The unemployment rate in the area is high.

To fulfil the eligibility criteria for the Dikgale HDSS cohort, individuals must be a member of a household within the surveillance area but not necessarily resident within it. Crucially, this means that Dikgale HDSS collects information on resident and non-resident members of households and makes a distinction between membership (self-defined on the basis of links to other household members) and residency (residing at a physical structure within the surveillance area at a particular point in time). Individuals can be members of more than one household at any point in time (e.g. polygamous married men whose wives maintain separate households). To be consistent with similar datasets from other INDEPTH Member centres, this data set contains data from resident members only.

During data collection, households are visited by fieldworkers and information supplied by a single key informant. All births, deaths and migrations of household members are recorded. If household members have moved internally within the surveillance area, such moves are reconciled and the internal migrant retains the original identifier associated with him/her.

KIND OF DATA

Event history data

UNITS OF ANALYSIS

Individual

Scope

NOTES

This study represents only a portion of the total data associated with the complete Dikgale demographic surveillance as described in the study abstract. It specifically only includes the events defining the resident exposure of individuals under surveillance as well as the delivery events of resident women. Each type of event contains minimal attributes describing the event:

Attributes common to each event: Event Type, Event Date, Observation date

Migration: Origin & Destination

Death: Cause

Delivery: Live born and Still born counts, Parity

TOPICS

Topic	Vocabulary	URI
Demography [N01.224]	MeSH	http://www.ncbi.nlm.nih.gov/mesh

KEYWORDS

Pregnancy monitoring, Fertility, Mortality, Migration

Coverage

GEOGRAPHIC COVERAGE

Demographic surveillance area situated in Capricorn District 40 km north- east of Polokwane the capital city of Limpopo province. And 20 -30 km from the University of Limpopo. The area is approximately 310 square kilometers.

UNIVERSE

Resident household members of households within the demographic surveillance area. Immigrants are defined by intention to become resident, but actual residence episodes of less than 180 days are censored. Outmigrants are defined by intention to become resident elsewhere, but actual periods of non-residence less than 180 days are censored. Children born to resident women are considered resident by default, irrespective of actual place of birth. The dataset contains the events of all individuals ever resident during the study period (only covering the original field site of 8000 people.(1 January,1995 to 31 Dec 2012)

Producers and Sponsors

PRIMARY INVESTIGATOR(S)

Name	Affiliation
Marianne Alberts	Dikgale HDSS , University of Limpopo (ZA021)
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FUNDING

Name	Abbreviation	Role
Vlaamse Interuniversitaire Raad	VLIR	Current funder
Norwegian Universities Committee for Development Research	NUFU	Prior Funder

OTHER ACKNOWLEDGEMENTS

Name	Affiliation	Role
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Name	Affiliation	Role
Timotheus Darikwa	Dikgale HDSS,University of Limpopo (ZA021)	Data Manager
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Metadata Production

METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
Dikgale Health and Demographic Surveillance Site	ZA021	University of Limpopo	Documentation of the study
	ZA021	University of Limpopo	Documentation of the study
iSHARE2 Technical Team	iS2TT	INDEPTH Network	Technical Support
INDEPTH Network	int.INDEPTH	INDEPTH Network	Agency

DATE OF METADATA PRODUCTION

2015-07-27

DDI DOCUMENT VERSION

Version 1 (June 2015)

Version 2 (Jult 2015)

DDI DOCUMENT ID

DDI.INDEPTH.ZA021.CMD2012.V2

Sampling

Sampling Procedure

This dataset is not based on a sample but contains information from the complete demographic surveillance area.

Deviations from Sample Design

Not Applicable.

Response Rate

On an average, it is 99% over the years in all rounds

Weighting

Not applicable.

Questionnaires

Overview

Overview

List of questionnaires

Bounded structure registration (BSR) or update (BSU) form

- used to register characteristics of the BS
- Updates characteristics of the BS
- Information as at previous round is preprinted

Household registration (HHR) or update (HHU) form

- used to register characteristics of the HH
- Used to update information about the composition of the household
- Information pre-printed of composition and all registered households as at previous.

Household Membership Registration (HMR) or update (HMU)

- used to link individuals to households.
- Used to update information about the household memberships and member status observations
- Information preprinted of member status observations as at previous.

Individual registration form (IDR)

- Used to uniquely identify each individual
- Mainly to ensure members with multiple household memberships are appropriately

captured

Migration notification form (MGN)

- Used to record change in the BS of residency of individuals or households
- Migrants are tracked and updated in the database

Pregnancy history form (PGH) & pregnancy outcome notification form (PON)

- Records details of pregnancies and their outcomes
- Only if woman is a new member
- Only if woman has never completed WHL or WGH

Death notification form (DTN)

- Records all deaths that have recently occurred
- includes information about time, place, circumstances and possible cause of death

Data Collection

Data Collection Dates

Start	End	Cycle
1995-08-01	1995-12-31	1
1996-08-01	1996-12-31	2
1997-08-01	1997-12-31	3
1998-08-01	1998-12-31	4
1999-08-01	1999-12-31	5
2000-08-01	2000-12-31	6
2001-08-01	2001-12-31	7
2002-08-01	2002-12-31	8
2003-08-01	2003-12-31	9
2004-08-01	2004-12-31	10
2005-08-01	2005-12-31	11
2006-08-01	2006-12-31	12
2007-08-01	2007-12-31	13
2008-08-01	2008-12-31	14
2009-08-01	2009-12-31	15
2010-08-01	2010-12-31	16
2011-08-01	2011-12-31	17
2012-08-01	2012-12-31	18

Time Periods

Start	End	Cycle
1995-01-01		1

Data Collection Mode

Face-to-face [f2f]

DATA COLLECTION NOTES

Enumerators were trained immediately prior to the baseline data collection, as data collectors. Data entry staff received fieldwork training in addition to training in the use of the data entry programs.

Data Collectors

Name	Abbreviation	Affiliation
Dikgale Health and Demographic Surveillance System	ZA021	UL

Data Processing

Data Editing

On data entry data consistency and plausibility were checked by 455 data validation rules at database level. If data validation failure was due to a data collection error, the questionnaire was referred back to the field for revisit and correction.

No imputations were done on the resulting micro data set, except for:

- a. If an out-migration (OMG) event is followed by a homestead entry event (ENT) and the gap between OMG event and ENT event is greater than 180 days, the ENT event was changed to an in-migration event (IMG).
- b. If an out-migration (OMG) event is followed by a homestead entry event (ENT) and the gap between OMG event and ENT event is less than 180 days, the OMG event was changed to an homestead exit event (EXT) and the ENT event date changed to the day following the original OMG event.
- c. If a homestead exit event (EXT) is followed by an in-migration event (IMG) and the gap between the EXT event and the IMG event is greater than 180 days, the EXT event was changed to an out-migration event (OMG).
- d. If a homestead exit event (EXT) is followed by an in-migration event (IMG) and the gap between the EXT event and the IMG event is less than 180 days, the IMG event was changed to an homestead entry event (ENT) with a date equal to the day following the EXT event.
- e. If the last recorded event for an individual is homestead exit (EXT) and this event is more than 180 days prior to the end of the surveillance period, then the EXT event is changed to an out-migration event (OMG)

Other Processing

All homesteads in the Dikgale HDSS were geocoded and entered into a geographic information system (GIS) prior to the start of surveillance.

Before the round, a SQL script generated a list of questionnaires to be printed for each household resident in the surveillance area. Each questionnaire is given a unique integer key which is printed as a barcode on the questionnaire. A series of web-based reports called 'Unified Reports' are then used to track and control the status of each questionnaire from document production, data collection, data entry and document archiving. A strict chain of custody is enforced for all questionnaire movements.

A data entry is performed by one data capturer with one supervisor using in-house developed software (Delphi and .NET C#).

Data is stored in a MS SQL database, with transaction logging, daily backups and twice weekly off-site backups. Constraints and validation rules placed on the database help in checking data quality during data entry.

Because of error in data entry 100% recheck was done on all entries.

Field QC Procedures

The team leader checks the conduct of the interviewer.

After data collection and before data entry, the questionnaires are checked for completeness, consistency and accuracy. If a questionnaire failed to meet the quality standard requirements, the questionnaire is sent back the questionnaires to the team leader.

Specify how the data was extracted (including which software program was used) to produce the core micro data set. How was inconsistent records dealt with during this process?

Following data collection and data entry completion a snapshot of the operational database is created as an analytical database. This snapshot is uniquely identified and analytical datasets must reference the analytical database they originated

from..

An SQL script produces a normalised episode table each time an analytical database is created. This episode table contains an exposure record for each exposure episode for an individual, from initial enumeration, birth or in-migration, up to eventual death or out-migration. The episode table contains the start event and date of the exposure as well as the end event and date of the end of exposure. Individuals that out-migrate and later in-migrate are reconciled as far as possible using individual identifiers (national identity number, names, sex and date of birth) under a single individual identity. All internal movements (migrations) are reconciled and residencies at different homesteads within the surveillance area are reflected as separate episodes in the episode table.

To produce this micro-data set, the episode table is processed using Pentaho Kettle ETL program to produce this standard event-history format dataset.

Data Appraisal

Estimates of Sampling Error

Not Applicable.

Other forms of Data Appraisal

CentreId	MetricTable	QMetric	Illegal	Legal	Total	Metric	RunDate
ZA021	MicroDataCleaned	Starts	49133	2015-06-09	12:34		
ZA021	MicroDataCleaned	Transitions	0	102220	102220	0	2015-06-09 12:34
ZA021	MicroDataCleaned	Ends	49133	2015-06-09	12:35		

File Description

Variable List

ZA021.CMD2012.V1

Content

Cases 109356

Variable(s) 14

Structure Type:
Keys: ()

Version

Producer

Missing Data

Variables

ID	Name	Label	Type	Format	Question
V21	RecNr	RecNr	contin	numeric	
V22	CountryId	CountryId	discrete	numeric	
V23	CentreId	CentreId	discrete	character	
V24	IndividualId	IndividualId	contin	numeric	
V25	Sex	Sex	discrete	numeric	
V41	DoB	DoB	discrete	character	
V27	EventCount	EventCount	discrete	numeric	
V28	EventNr	EventNr	discrete	numeric	
V29	EventCode	EventCode	discrete	character	
V42	EventDate	EventDate	discrete	character	
V43	ObservationDate	ObservationDate	discrete	character	
V32	LocationId	LocationId	contin	numeric	
V33	MotherId	MotherId	discrete	numeric	
V34	DeliveryId	DeliveryId	discrete	numeric	

RecNr (RecNr)

File: ZA021.CMD2012.V1

Overview

Type: Continuous	Valid cases: 109356
Format: numeric	Invalid: 0
Decimals: 0	Minimum: 1
Range: 1-74249	Maximum: 109356
	Mean: 54678.5
	Standard deviation: 31568.5

Description

A sequential number uniquely identifying each record in the data file

CountryId (CountryId)

File: ZA021.CMD2012.V1

Overview

Type: Discrete	Valid cases: 109356
Format: numeric	Invalid: 0
Decimals: 0	
Range: 710-710	

Description

ISO 3166-1 numeric code of the country in which the surveillance site is situated

CentreId (CentreId)

File: ZA021.CMD2012.V1

Overview

Type: Discrete	Valid cases: 109356
Format: character	Invalid: 0
Width: 5	

Description

An identifier issued by INDEPTH to each member centre of the format CCCSS, where CCC is a sequential centre identifier and SS is a sequential identifier of the site within the centre in the case of multiple site centres

IndividualId (IndividualId)

File: ZA021.CMD2012.V1

Overview

Type: Continuous	Valid cases: 109356
Format: numeric	Invalid: 0
Decimals: 0	Minimum: 1
Range: 1-36405	Maximum: 49134
	Mean: 24552.4
	Standard deviation: 14178.2

Description

A number uniquely identifying all the records belonging to a specific individual in the data file. This number is not be the same as the identifier used by a contributing centre to identify the individual.

Sex (Sex)

File: ZA021.CMD2012.V1

Sex (Sex)

File: ZA021.CMD2012.V1

Overview

Type: Discrete	Valid cases: 109356
Format: numeric	Invalid: 0
Decimals: 0	
Range: 0-2	

Description

Sex of the individual. 1 for Male and 2 for Female

DoB (DoB)

File: ZA021.CMD2012.V1

Overview

Type: Discrete	Valid cases: 109356
Format: character	

Description

The date of birth of the individual. Format: YYYY/MM/DD

EventCount (EventCount)

File: ZA021.CMD2012.V1

Overview

Type: Discrete	Valid cases: 109356
Format: numeric	Invalid: 0
Decimals: 0	
Range: 2-4	

Description

The total number of events associated with this individual in this data set

EventNr (EventNr)

File: ZA021.CMD2012.V1

Overview

Type: Discrete	Valid cases: 109356
Format: numeric	Invalid: 0
Decimals: 0	
Range: 1-4	

Description

A number increasing from 1 to EventCount for each event record in order of event occurrence

EventCode (EventCode)

File: ZA021.CMD2012.V1

Overview

Type: Discrete	Valid cases: 109356
Format: character	Invalid: 0
Width: 3	

Description

A code identifying the type of event that has occurred.

EventDate (EventDate)

File: ZA021.CMD2012.V1

Overview

Type: Discrete	Valid cases: 109356
Format: character	

Description

The date on which the event occurred. Format: YYYY/MM/DD

ObservationDate (ObservationDate)

File: ZA021.CMD2012.V1

Overview

Type: Discrete	Valid cases: 109356
Format: character	

Description

Date on which the event was observed (recorded), also known as surveillance visit date. Format: YYYY/MM/DD

LocationId (LocationId)

File: ZA021.CMD2012.V1

Overview

Type: Continuous	Valid cases: 109356
Format: numeric	Invalid: 0
Decimals: 0	Minimum: 1
Range: 1-6607	Maximum: 7322
	Mean: 3677.1
	Standard deviation: 2118.3

Description

Unique identifier associated with a residential unit within the site and is the location where the individual was or became resident when the event occurred. This identifier is not be the same as the identifier used internally by the contributing centre.

MotherId (MotherId)

File: ZA021.CMD2012.V1

Overview

Type: Discrete	Valid cases: 7929
Format: numeric	Invalid: 101427
Decimals: 0	

Description

The IndividualId of the mother. Only provided for BTH events.

DeliveryId (DeliveryId)

File: ZA021.CMD2012.V1

Overview

Type: Discrete	Valid cases: 7929
Format: numeric	Invalid: 101427
Decimals: 0	

Description

The RecNr of the delivery event associated with this birth

