

Burkina Faso - Ouagadougou HDSS INDEPTH Core Dataset 2009-2015 (Release 2018)

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Overview

Identification

ID NUMBER
INDEPTH.BF041.CMD2015.v1

Version

VERSION DESCRIPTION
CMD2015.V1: Edited dataset for public distribution

PRODUCTION DATE
2018-05-24

NOTES
Developed during workshop in May 2018

Overview

ABSTRACT

The Ouagadougou Health and Demographic Surveillance System (Ouagadougou HDSS), located in five neighborhoods at the northern periphery of the capital of Burkina Faso, was established in 2008. Data on vital events (births, deaths, unions, migration events) are collected during household visits that have taken place every 10 months.

The areas were selected to contrast informal neighborhoods (40 000 residents) with formal areas (40 000 residents), with the aims of understanding the problems of the urban poor, and testing innovative programs that promote the well-being of this population. People living in informal areas tend to be marginalized in several ways: they are younger, poorer, less educated, farther from public services and more often migrants. Half of the residents live in the Sanitary District of Kossodo and the other half in the District of Sig-Nonghin.

The Ouaga HDSS has been used to study health inequalities, conduct a surveillance of typhoid fever, measure water quality in informal areas, study the link between fertility and school investments, test a non-governmental organization (NGO)-led program of poverty alleviation and test a community-led targeting of the poor eligible for benefits in the urban context. Key informants help maintain a good rapport with the community. The Ouaga HDSS data are available to researchers under certain conditions.

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 Ouagadougou Health and Demographic Surveillance System 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
Age Distribution [N01.224.033]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Marital Status [N01.224.361.500]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Emigration and Immigration [N01.224.625.350]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Population Growth [N01.224.625.660]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Residential Mobility [N01.224.791.700]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Sex Distribution [N01.224.803]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Vital Statistics [N01.224.935]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Life Expectancy [N01.224.935.464]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Mortality [N01.224.935.698]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Cause of Death [N01.224.935.698.100]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Survival Rate [N01.224.935.698.826]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Pregnancy Rate [N01.224.935.849]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Birth Rate [N01.224.935.849.500]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Mental Health [N01.400.500]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Reproductive Health [N01.400.625]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Urban Health [N01.400.800]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Suburban Health [N01.400.700]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Urban Population [N01.600.900]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Suburban Population [N01.600.775]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Educational Status [N01.824.196]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Employment [N01.824.245]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Medical Indigency [N01.824.460]	MeSH	http://www.ncbi.nlm.nih.gov/mesh

Topic	Vocabulary	URI
Poverty [N01.824.600]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Health Services [N02.421]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Delivery of Health Care [N05.300]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Cities [N06.230.069]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Disasters [N06.230.100]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Fresh Water [N06.230.232]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Rain [N06.230.520]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Food Safety [N06.850.617]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Health Transition [N06.850.650]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Hygiene [N06.850.670]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Sanitation [N06.850.860]	MeSH	http://www.ncbi.nlm.nih.gov/mesh

KEYWORDS

Migration, Fertility, Mortality, Population

Coverage**GEOGRAPHIC COVERAGE**

Demographic Surveillance Area in Ouagadougou:

Ouagadougou is the capital city of Burkina Faso and lies at the centre of this country, located in the middle of West Africa (128 North of the Equator and 18 West of the Prime Meridian). The rainy season lasts from June to October; the rest of the year is dry.

Temperatures range from 158C in December to 428C in April. Most city dwellers work in the trade sector. Several major national public hospitals are located in the capital along with most private health centres and pharmacies.

The Ouaga HDSS sites were chosen to target the most vulnerable populations of the city. We thus paid special attention to areas of unplanned growth.

Information given by the municipalities led us to choose three informal areas devoid of formal zoning plans, located at the northern periphery of the city: Nonghin, Polesgo and Nioko 2. To be able to compare these areas with the rest of the city, we added two formal neighbourhoods located close by (Kilwin and Tanghin). Nonghin and Kilwin belong to the Sanitary District of Sig-Nonghin, whereas Polesgo, Tanghin and Nioko 2 belong to the Sanitary District of Kossodo. A population of 80 000 was defined as a minimum to measure differences in child mortality in a 'control' vs an 'intervention' area given the 1996 census urban level of mortality in Burkina Faso, and we distributed this total amount equally between formal and informal areas, and between the districts of Kossodo and Sig-Nonghin. The Ouaga HDSS areas cover only part of either district.

In September 2008, we defined the limits of our areas using existing census tracks (census 2006), and creating new ones in places where the city had expanded.

Altogether, the areas we followed consist of 55 census tracks divided into 494 blocks. We mapped all the census tracks and blocks using fieldworkers with handheld global positioning system (GPS) receivers and ArcGIS 9. During a first census (October 2008 to

March 2009), the demographic surveillance system was explained to every head of household and a consent form was signed; during subsequent censuses, new households are enrolled in the same way.

UNIVERSE

Resident household members of households resident within the demographic surveillance area. Immigrants (Visitors) are defined by intention to become resident, but actual residence episodes of less than six months (180 days) are censored. Outmigrants are defined by intention to become resident elsewhere, but actual periods of non-residence less than six

months (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 (03 Oct 2009 to 31 Dec 2014)

Producers and Sponsors

PRIMARY INVESTIGATOR(S)

Name	Affiliation
Abdramane SOURA	Ouagadougou HDSS Site Leader (BF041)

OTHER PRODUCER(S)

Name	Affiliation	Role
OHDSS Team	OHDSS	Questionnaire design, Sampling methodology/selection, Data collection, Data analysis
KOMBASSDERE Kouliga	OHDSS	Data Collection and processing
DIELBEOGO DASMANE	OHDSS	Data Collection and processing
COMPAORE YACOU	OHDSS	Data Collection and Analysis
SANOGO SOULEYMANE	OHDSS	Data Collection and Analysis

FUNDING

Name	Abbreviation	Role
Wellcome Trust	WT	prior funder
African Population and Health Reseach Centre	APHRC	Secondary fnder
International Vaccine Institute	IVI	Funder of TSAP Burkina
International Development Research centre	IDRC	Funder of water and climate variabiliy project

OTHER ACKNOWLEDGEMENTS

Name	Affiliation	Role
Stephanie Dos Santos	IRD	Coordination team
Clementine Rossier	INED	Coordination team
Scientific advisor committee	ISSP, Ouagadougou University	Scientific committee

Metadata Production

METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
INDEPTH	int.indepth	INDEPTH Network	agency
iSHARE2 Technical Team	isTT	INDEPTH Network	Technical Support
Diellebeogo Dasmene	DD	Ouagadougou HDSS	DDI Author

DATE OF METADATA PRODUCTION

2018-05-24

DDI DOCUMENT VERSION

CMD2015.v1: 2018-05-24

DDI DOCUMENT ID
DDI.INDEPTH.BF041.CMD2015.V1

Sampling

Sampling Procedure

This dataset is not based on a sample but contains information from the complete demographic surveillance area of Ouagadougou in Burkina Faso.

Deviations from Sample Design

None

Response Rate

Reponse units (households) by Round:

Round Households

2008 4941

2009 19159

2010 21168

2011 12548

2012 24174

2013 22326

2014 21853

2015 21876

Household response rates are as follows (assuming that if a household has not responded for 2 years following the last recorded visit to that household, that the household is lost to follow-up and no longer part of the response rate denominator)

Year Response Rate

2008 100%

2009 100%

2010 100%

2011 98%

2012 100%

2013 95%

2014 100%

2015 100%

Weighting

Not applicable

Questionnaires

Overview

List of questionnaires

Collective Housing Unit (UCH) Survey Form

- use to register characteristics of the house
- Use to register Sanitation installations
- All registered house as at previous round are uploaded behind the PDA or tablet.

Household registration (HHR) or update (HHU) form

- used to register characteristics of the HH
- Used to update information about the composition of the household
- All registered households as at previous rounds are uploaded behind the PDA or tablet.

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
- All member status observations as at previous rounds are uploaded behind the PDA or tablet.

Presences registration form (PDR)

- Used to uniquely identify the presence of each individual in the household and to identify the new individual in the household
- Mainly to ensure members with multiple household memberships are appropriately captured
- All presences observations as at previous rounds are uploaded behind the PDA or tablet.

Visitor registration form (VDR)

- Used register the characteristics of the new individual in the household
- Used to capt the internal migration
- Use matching form to facilitate pairing migration

Out Migration notification form (MGN)

- Used to record change in the status 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
- All member pregnancy without pregnancy outcome as at previous rounds are uploaded behind the PDA or tablet.

Death notification form (DTN)

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

Updated Basic information Form (UBIF)

- Use to change the individual basic information

Health questionnaire (adults, women, child, elder)

- Family planning
- Chronic illnesses
- Violence and accident
- Mental health
- Nutrition, alcohol, tobacco
- Access to health services
- Anthropometric measures
- Physical limitations

- Self-rated health
- Food security

Variability of climate and water accessibility

- accessibility to water
- child health outcomes
- gender outcomes
- data on rainfall, temperatures, water quality

Data Collection

Data Collection Dates

Start	End	Cycle
2009-01-01	2015-12-31	Release coverage

Time Periods

Start	End	Cycle
2008-10-07		Round 0
2009-05-14		Round 1
2010-02-09		Round 2
2011-07-01		Round 3
2012-07-24		Round 4
2013-02-23		Round 5
2013-08-06		Round 6
2014-06-24		Round 7
2015-07-02		Round 8

Data Collection Mode

Proxy Respondent [proxy]

Data Collection Notes

Enumerators were trained immediately prior to the baseline data collection and then refresher training was conducted for one week between each surveillance round. New fieldworkers received a standardised 1 or 2 week training course prior to appointment as data collectors.

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Data Collectors

Name	Abbreviation	Affiliation
The Ouagadougou Health and Demographic Surveillance System	BF041	ISSP/UO

Supervision

Fieldworkers operated in teams of between 3 and 5 each supervised by a Fieldwork supervisor. Supervisors conduct supervised visits and quality control visits and review fieldworkers data collection.

Data Processing

Data Editing

The data collection system is composed by two databases:

- A temporary database, which contains data collected and transferred each day during the round.
- A reference database, which contains all data of Ouagadougou Health and Demographic Surveillance System, in which is transferred the data of the temporary database to the end of each round.

Note: The temporary database is emptied at the end of the round for a new round. Thus, the data processing takes place in two ways:

First: When collecting data with PDAs or tablets and theirs transfers by Wi-Fi, data consistency and plausibility are controlled by verification rules in the mobile application and in the database. In addition to these verifications, the data from the temporary database undergo validation. This validation is performed each week and produces a validation report for the data collection team. After the validation, if the error is due to an error in the data collection, the field worker equipped with his PDA or tablet go back to the field to revisit and correct this error. At the end of this correction, the field worker makes again the transfer of data through the wireless access points on the server.

If the error is due to data inconsistencies that might not be directly related to an error in data collection, the case is remanded to the scientific team of the main database that could resolve the inconsistency directly in the database or could with supervisors perform a thorough investigation in order to correct the error.

Second: At the end of the round, the data from the temporary database are automatically transferred into the reference database by a transfer program. After the success of this transfer, further validation is performed on the data in the database to ensure data consistency and plausibility. This still produces a validation report for the data collection team. And the same process of error correction is taken.

Other Processing

At the end of all data processing, Macro files are generated by the IT team for statisticians, who do some consistency checks. If inconsistencies are identified, they are given to the manager of the main database for correction. For the corrections, the field back is often necessary to correct certain inconsistencies.

Data Appraisal

Estimates of Sampling Error

Not applicable

Other forms of Data Appraisal

CentreId MetricTable QMetric Illegal Legal Total Metric RunDate

BF041 MicroDataCleaned Starts 151624 2018-05-24 18:11

BF041 MicroDataCleaned Transitions 0 314778 314778 0. 2018-05-24 18:11

BF041 MicroDataCleaned Ends 151624 2018-05-24 18:11

BF041 MicroDataCleaned SexValues 314778 2018-05-24 18:11

BF041 MicroDataCleaned DoBValues 314778 2018-05-24 18:11

File Description

Variable List

BF041.CMD2015.v2

Content	Event History Micro Data Set
Cases	449683
Variable(s)	14
Structure	Type: Keys: ()
Version	BF041.CMD2015.v2
Producer	Ouagadougou HDSS
Missing Data	

Variables

ID	Name	Label	Type	Format	Question
V1	RecNr	RecNr	contin	numeric	
V2	CountryId	CountryId	discrete	numeric	
V3	CentrelId	CentrelId	discrete	character	
V4	IndividualId	IndividualId	contin	numeric	
V5	Sex	Sex	discrete	numeric	
V6	DoB	DoB	discrete	character	
V7	EventCount	EventCount	discrete	numeric	
V8	EventNr	EventNr	discrete	numeric	
V9	EventCode	EventCode	discrete	character	
V10	EventDate	EventDate	discrete	character	
V11	ObservationDate	ObservationDate	discrete	character	
V12	LocationId	LocationId	contin	numeric	
V13	MotherId	MotherId	contin	numeric	
V14	DeliveryId	DeliveryId	contin	numeric	

RecNr (RecNr)

File: BF041.CMD2015.v2

Overview

Type: Continuous	Valid cases: 449683
Format: numeric	Invalid: 0
Decimals: 0	Minimum: 1
Range: 1-394154	Maximum: 449683
	Mean: 224842
	Standard deviation: 129812.4

Description

A sequential number uniquely identifying each record in the data file

CountryId (CountryId)

File: BF041.CMD2015.v2

Overview

Type: Discrete	Valid cases: 449683
Format: numeric	Invalid: 0
Decimals: 0	
Range: 854-854	

Description

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

CentreId (CentreId)

File: BF041.CMD2015.v2

Overview

Type: Discrete	Valid cases: 449683
Format: character	Invalid: 0
Width: 5	

Description

An identifier issued by INDEPTH to each member centre of the format CCNNNS, Where CCNNNS is the INDEPTH Member site code, constructed as follows:

- CC the ISO 3166-1 alpha-2 code of the country where the site is situated
- NN is a sequential number uniquely identifying an INDEPTH member centre within the country. Starting with 01 to 99, for a maximum of 99 centres per country
- S is a sequential character uniquely identifying the geographical surveillance site. Starting with 1 to 9, thereafter A to Z, for a maximum of 35 sites per centre.

IndividualId (IndividualId)

File: BF041.CMD2015.v2

Overview

Type: Continuous	Valid cases: 449683
Format: numeric	Invalid: 0
Decimals: 0	Minimum: 1
Range: 1-128904	Maximum: 151644
	Mean: 75823.6
	Standard deviation: 43790.3

Description

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

Sex (Sex)

File: BF041.CMD2015.v2

Overview

Type: Discrete	Valid cases: 449683
Format: numeric	Invalid: 0
Decimals: 0	
Range: 0-2	

Description

Sex of the individual

DoB (DoB)

File: BF041.CMD2015.v2

Overview

Type: Discrete	Valid cases: 449683
Format: character	Minimum: NaN
	Maximum: NaN

Description

The date of birth of the individual Format YYYY-MM-DD

EventCount (EventCount)

File: BF041.CMD2015.v2

Overview

Type: Discrete	Valid cases: 449683
Format: numeric	Invalid: 0
Decimals: 0	
Range: 1-7	

Description

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

EventNr (EventNr)

File: BF041.CMD2015.v2

Overview

Type: Discrete	Valid cases: 449683
Format: numeric	Invalid: 0
Decimals: 0	
Range: 1-7	

Description

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

EventCode (EventCode)

File: BF041.CMD2015.v2

Overview

Type: Discrete	Valid cases: 449683
Format: character	Invalid: 0
Width: 3	

Description

EventCode (EventCode)

File: BF041.CMD2015.v2

A code which identifies the type of event that has occurred

EventDate (EventDate)

File: BF041.CMD2015.v2

Overview

Type: Discrete	Valid cases: 449683
Format: character	Minimum: NaN
	Maximum: NaN

Description

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

ObservationDate (ObservationDate)

File: BF041.CMD2015.v2

Overview

Type: Discrete	Valid cases: 449576
Format: character	Minimum: NaN
	Maximum: NaN

Description

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

LocationId (LocationId)

File: BF041.CMD2015.v2

Overview

Type: Continuous	Valid cases: 449683
Format: numeric	Invalid: 0
Decimals: 0	Minimum: 1
Range: 1-21037	Maximum: 22867
	Mean: 11455
	Standard deviation: 6595

Description

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

MotherId (MotherId)

File: BF041.CMD2015.v2

Overview

Type: Continuous	Valid cases: 31738
Format: numeric	Invalid: 417945
Decimals: 0	Minimum: 30
Range: 3-128891	Maximum: 151623
	Mean: 76013.3
	Standard deviation: 44055.2

Description

The individual of the mother, only provided for BTH events

DeliveryId (DeliveryId)

File: BF041.CMD2015.v2

Overview

Type: Continuous	Valid cases: 31738
Format: numeric	Invalid: 417945
Decimals: 0	Minimum: 1
Range: 1-11263	Maximum: 15815
	Mean: 7904
	Standard deviation: 4566.4

Description

The RecNr of the delivery event associated with this birth

