

# **Monitoring and assessing the impact of vaccination and other childhood interventions for both boys and girls Nairobi Urban Health Demographic Surveillance System (NUHDSS)**

## **Data Collection Manual**

### **Background**

The Nairobi Urban Health and Demographic Surveillance System (NUHDSS) cover a Demographic Surveillance Area (DSA) that straddles the two slums of Korogocho and Viwandani in Nairobi City, Kenya. The DSA covers a land area of about 1 square kilometre, with the two informal settlements being located about 3 kilometres from each other. Overall, the two slums exhibit some notable differences with Korogocho having a more settled population since many of the residents have resided here for many years. The population in Viwandani is mainly made up of males and is also better educated compared to that in Korogocho. Both sites are characterized by poor or lack of basic infrastructure such as roads, sanitation, and clean and affordable water. There are also notable low education levels, greater mobility and a higher sense of insecurity compared to non-slum areas.

The NUHDSS was started in 2000 in response to exploratory studies conducted by African Population and Health Research Centre (APHRC) which showed huge disparities in the health and other social indicators between slum and non-slum areas of Nairobi, with slum dwellers being worse off than even the rural population. The NUHDSS's main objectives are to:

- i) Provide a platform for investigating inter-linkages between urbanization, poverty and health outcomes,
- ii) Provide a platform for monitoring and evaluation of the impact of intervention programs aimed at improving the wellbeing of the urban poor

The NUHDSS collects data on socioeconomic status (i.e. household possessions, type of dwelling units, education, etc.), livelihoods (i.e. nature of income generating activities that individuals aged 12 and above engage in, approximately how much they earn from their jobs, etc.), health (i.e. morbidity patterns, health seeking behaviour, vaccination, death and, verbal autopsies, etc.), fertility and other pregnancy outcomes, migration, marriage, and schooling status. Approximately 21,000 households are visited 3 times in a year with a population of approximately 70,000.

### **Vaccination Data**

Data on vaccination are collected routinely by a separate team, vaccination status, hospitalizations, campaigns, breastfeeding practices, morbidity, anthropometric Measurements (weight, height and MUAC) on all children aged 3 years or below and resident in the DSA at the start of the round are collected and updated every four months. The vaccination details are transcribed from the vaccination cards whenever they are available. In addition, we have specific questions on vaccination campaigns. Record is made of whether a vaccination card is actually seen at each visit, the date of the visit and the informant's identity. When the vaccination is not seen during a visit, the caretakers are asked to recall whether the child has been given specific vaccinations.

When a death occurs, a verbal autopsy is completed to try to ascertain the cause of death, and effort is made to check the child's vaccination card from the mother where possible. All children born from 2010 and have been registered into the HDSS database qualifies to be interviewed in that round. There are three rounds in a year. The data collection tool is divided into 4 modules

- i) Module 1: pregnancy, antenatal, delivery and postnatal details for women (12-54 years) who had a live birth
  - a. Background
  - b. Antenatal care, delivery and post natal care
  - c. Birth history details

ii) Module 2: child health status, feeding practices and vaccination

- a. Child's vital status
- b. Breastfeeding and child feeding practices
- c. Vaccination history
- d. Child morbidity and health seeking practices
- e. Child hospitalisation

iii) Module 3: postpartum period and sexual activity

iv) Module 4: anthropometric measurements, migration & poverty section

- a. Anthropometric measurements
- b. Migration and poverty

## Appendix A. List of variables

Variables	Variable label
ivp_id	Unique Child Record Identifier
ivp_number	Unique identifier
q1_1	Interview Date
q1_2	Field workers code
q1_4_id	ID of Household Head
q1_4dob	Household head date of birth
q1_4edu	Household head level of education
q1_4name	Household head name
q1_4sex	Household head gender
q1_5	Location ID
q1_5slum	Slum in NUHDSS
q1_6	Household ID
q1_7dssname	Mother's name - DSS
q1_7name	Mother's name - IVP
q1_8	Mother's ID
q1_8dob	Mother's date of birth
q1_8edu	Mothers level of education
q1_8ethnicity	Mother's ethnicity
q1_8gender	Mother's gender
q1_9dssname	Child's name - DSS
q1_9name	Child's name - IVP
q1_10	Child's ID

q1_11	Child's date of birth
q1_11a	Childs gender
q1_11age	Child's age in months
q1_11c	Twins
q1_12	Respondent's name
q1_13	Relationship to the household head
q1_13specify	Other Specified Relation of Respondent to Household Head
q1_14	Are you child's mother
q1_15	Reason for not interviewing the mother
q1_15specify	Other Specified Reasons for not interviewing the mother
q1_16	Relationship to the child
q1_16specify	Other Specified Relationship of Respondent to child
q1_17	Are you the child's guardian
q1_18	Do you stay in this household
q2_1	Did you see anyone for antenatal care while pregnant with?
q2_2	Whom did you see?
q2_2specify	Other specified
q2_3	Where did you receive antenatal care for this pregnancy?
q2_3hfcode	Health facility code
q2_3hflocation	Location of the Health facility of antenatal care
q2_3hfname	Name of the Health facility of antenatal care
q2_3specify	Other specified
q2_4	How many months pregnant were you when you first received antenatal care for the
q2_5	How many times did you receive antenatal care during this pregnancy?
q2_6antimalaria	During the ANCs for this pregnancy, was anti-malaria drugs given to you at least
q2_6bloodpressure	During the ANCs for this pregnancy, was blood pressure taken at least once?

q2_6bloodsample	During the ANC's for this pregnancy, was blood sample taken at least once?
q2_6iron	During the ANC's for this pregnancy, was iron tablets given to you at least once?
q2_6other	During the ANC's for this pregnancy, was any other service given/done to you at l
q2_6otherspecify	Other specified
q2_6tetanus	During the ANC's for this pregnancy, was tetanus vaccine given to you at least on
q2_6urine	During the ANC's for this pregnancy, was urine sample taken at least once?
q2_6weight	During the ANC's for this pregnancy, was weight measurement done to you at least
q2_7aids	During the ANC's, were you given any information/counseled about HIV/AIDS?
q2_7breastfeeding	During the ANC's, were you given any information/counseled about breast feeding?
q2_7complications	During the ANC's, were you given information/counseled about complications?
q2_7other	During the ANC's, were you given any information/counseled about other?
q2_7place	During the ANC's, were you given any information/counseled about place of deliver
q2_7pregnancy	During the ANC's, were you given any information/counseled about pregnancy?
q2_8	Place of delivery
q2_8hfcode	Health facility code
q2_8hflocation	Location of the health facility where delivery took place
q2_8hfname	Name of the Health facility of delivery place
q2_8specify	Other place of delivery specified
q2_9	Who assisted with the delivery
q2_9specify	Other specified
q2_10	Was child delivered by caesarean section?
q2_11	When child was born, what was his/her size?
q2_12	Was child weighed at birth?
q2_13weightcard	Weight from card
q2_13weightrecall	Weight from recall
q2_14	Post natal care for baby and/or mother?

q2_15baby	After how many days did the baby received the Postnatal care
q2_15mother	After how many days did the mother received the Postnatal care
q2_16	Who checked on your health at that time?
q2_16specify	Other specified
q3_1	Sons or daughters living with
q3_2daughtershome	Number of daughters living with
q3_2sonshome	Number of sons living with
q3_3	Sons or daughters not living with
q3_4daughterselsewhere	Number of daughters living elsewhere
q3_4sonselsewhere	Number of sons living elsewhere
q3_5	Sons or daughters born and died
q3_6daughtersdead	Number of daughters born and died
q3_6sonsdead	Number of sons born and died
q3_7	Parity
q3_8	Is the parity correct?
q3_9	Ever had pregnancy that did not result in a live birth?
q3_10	How many pregnancies did not end in a live birth?
q3_11	How many pregnancies did not end in a live birth lasted more than 6 months?
q3_12	Gravida
q4_6	Where is the child at the moment
q4_7	Child's date of birth
q4_8	Was child ill before he/she died?
q4_9	Was child ill before he/she died?
q4_9specify	Other specified
q4_10period	Age of the child at death in days
q5_1	Has the child ever been breastfed?

q5_2	Why not breastfed?
q5_2specify	Other specified
q5_3period	How long after birth was child put to the breast? hours
q5_4	Why was child not put to the breast immediately after birth?
q5_4specify	Other specified
q5_5	Was child given colostrum at birth or soon after?
q5_6	Was child given anything to drink other than breast milk?
q5_7formula	What was child given infant formula to drink?
q5_7fruitjuice	What was child given Fruit juice to drink?
q5_7gripewater	What was child given Gripe water to drink?
q5_7gruel	What was child given Gruel (thin porridge) to drink?
q5_7honey	What was child given Honey to drink?
q5_7milk	What was child given Tinned/powdered/fresh milk to drink?
q5_7other	What was child given Other liquid to drink?
q5_7otherspecify	Other specified
q5_7plainwater	What was child given Plain water to drink?
q5_7sweetenedwater	What was child given Sweetened/flavoured water to drink?
q5_7tea	What was child given Tea/infusion to drink?
q5_7vitamin	What was child given Vitamin/mineral supplements to drink?
q5_8a	Why given something else? Baby ill/unable/refused to suckle?
q5_8b	Why given something else? Mother refused to breast feed?
q5_8c	Why given something else? Spouse recommended?
q5_8d	Why given something else? Mother was sick/tired?
q5_8dontknow	Why given something else? Don't Know?
q5_8e	Why given something else? Not enough breast milk?
q5_8f	Why given something else? Mother was away?



q5_8g	Why given something else? Mother died?
q5_8h	Why given something else? Sore/cracked nipples?
q5_8i	Why given something else? Advice by health professional?
q5_8j	Why given something else? Advice by other person?
q5_8k	Why given something else? To prevent/cure stomach upset?
q5_8kspecify	Other specified
q5_8l	Why given something else? Baby had hiccups?
q5_8m	Why given something else? Baby thirsty?
q5_8other	Why given something else? Other?
q5_9	Is the child still breastfeeding
q5_10period	For how long did child breastfeed (in days)
q5_11	Why did child stop breastfeeding?
q5_11specify	Other specified
q5_12	Apart from breast milk, has the child ever been given any liquid/food?
q5_13_01	In the last 3days, did child receive Vitamin/mineral supplements
q5_13_02	In the last 3days, did child receive Plain water
q5_13_03	In the last 3days, did child receive Sweetened/flavoured water
q5_13_04	In the last 3days, did child receive Fruit juice
q5_13_05	In the last 3days, did child receive Beverages (tea,etc)
q5_13_06	In the last 3days, did child receive Powdered/fresh milk
q5_13_07	In the last 3days, did child receive Infant formula
q5_13_08	In the last 3days, did child receive Porridge
q5_13_09	In the last 3days, did child receive Soup (gravy/bone)
q5_13_10	In the last 3days, did child receive Soft drinks (soda etc)
q5_13_11	In the last 3days, did child receive Solid/semi-solid (mushy) food
q5_13_12other	In the last 3days, did child receive Other liquids

q5_14_01days	At what age were Vitamin/mineral supplements introduced (in days)
q5_14_02days	At what age were Plain water introduced (in days)
q5_14_03days	At what age were Sweetened/flavo-ured water introduced (in days)
q5_14_04days	At what age were Fruit juice introduced (in days)
q5_14_05days	At what age were Beverages introduced (in days)
q5_14_06days	At what age were Powdered/fresh milk introduced (in days)
q5_14_07days	At what age were Infant formula introduced (in days)
q5_14_08days	At what age were Porridge introduced (in days)
q5_14_09days	At what age were Soup (gravy/bone) introduced (in days)
q5_14_10days	At what age were Soft drinks introduced (in days)
q5_14_11days	At what age were Solid/semi-solid (mushy) food introduced (in days)
q5_14_12otherdays	At what age were Other liquids introduced (in days)
q5_14_12otherspecify	Other specified
q5_15bottlenipple	Do you use Bottle with nipple/teat to feed the child?
q5_15cupholes	Do you use Cup with holes to feed the child?
q5_15cupnipple	Do you use Cup with nipple/teat to feed the child?
q5_15cupnocover	Do you use Cup/ bowl with no cover and spoon to feed the child?
q5_15other	What Other do you use to feed the child?
q5_15otherspecify	Other specified
q5_15palm	Do you use Feeding with palm/hands to feed the child?
q5_16a	Why was child given liquids/solids? Baby ill/unable/refused to suckle?
q5_16b	Why was child given liquids/solids? Mother refused to breast feed?
q5_16c	Why was child given liquids/solids? Mother was very sick?
q5_16d	Why was child given liquids/solids? Baby not satisfied/ baby hungry/Breast milk
q5_16dontknow	Why was child given liquids/solids? Don't Know?
q5_16e	Why was child given liquids/solids? Mother was away (for work)?

q5_16f	Why was child given liquids/solids? Mother was away (elsewhere)?
q5_16g	Why was child given liquids/solids? Mother died?
q5_16h	Why was child given liquids/solids? Mother had sore/cracked nipples?
q5_16i	Why was child given liquids/solids? Child is old enough?
q5_16j	Why was child given liquids/solids? Advised by spouse/friend/relative?
q5_16k	Why was child given liquids/solids? Advised by health worker?
q5_16l	Why was child given liquids/solids? Baby cries a lot?
q5_16m	Why was child given liquids/solids? To prevent/cure stomach upset?
q5_16n	Why was child given liquids/solids? Baby had hiccups?
q5_16o	Why was child given liquids/solids? Baby thirsty?
q5_16other	Why was child given liquids/solids? Other?
q5_16otherspecify	Other specified
q5_17	In your opinion, at what age should complementary foods be introduced to a baby?
q5_18	Age in Months
q5_19	Child is above/below 6 months?
q5_20liquidperiod	At what age were complementary liquids introduced (in days)
q5_20solidperiod	At what age were complementary solids introduced (in days)
q5_21	How many times did the child breastfeed yesterday during the day
q5_22	How many times did the child breastfeed yesterday during the night
q5_23	Was the child still breastfeeding
q5_25a	Yesterday, did child eat Grains/cereals or any foods made from
q5_25b	Yesterday, did child eat Roots and tubers or any foods made from
q5_25c	Yesterday, did child eat Legumes and nuts or any foods made from
q5_25d	Yesterday, did child eat Dairy products or any foods made from
q5_25e	Yesterday, did child eat Flesh foods or any foods made from
q5_25f	Yesterday, did child eat Eggs or any foods made from

q5_25g	Yesterday, did child eat Green leafy Vegetables or any foods made from
q5_25h	Yesterday, did child eat Vit A rich (non-leafy) veges or any foods made from
q5_25i	Yesterday, did child eat Vitamin A rich fruits or any foods made from
q5_25j	Yesterday, did child eat Other Fruits or any foods made from
q5_25k	Yesterday, did child eat Other matoke or any foods made from
q5_25l	Yesterday, did child eat Oils and fat or any foods made from
q5_25m	Yesterday, did child eat Sugar or any foods made from
q5_25nother	Yesterday, did child eat Others (condiments/tea/coffee) or any foods made from
q5_25otherspecify	Other specified
q5_26	How many times did child eat yesterday during day/& night?
q6_1	Vaccination card?
q6_2a	Main reason for no card?
q6_2aotherspecify	Other specified
q6_3aclinicno	Card clinic Number
q6_3ahfcodeci	HF code where card was issued
q6_3ahfcodemv	HF code where the mother goes for vaccination services
q6_3alocationci	HF location where card was issued
q6_3alocationmv	HF location where the mother goes for vaccination services
q6_3anameci	Name of the HF where card was issued
q6_3anamemv	Name of the HF where the mother goes for vaccination services
q6_3aserialno	Card Serial Number
q6_3bcg	BCG status
q6_3bcgcode	Main reason why BCG was not given: code
q6_3bcgdate	BCG date
q6_3bcgdatereason	Main reason why BCG was not given
q6_3deworm	Deworming status

q6_3dewormcode	Main reason why deworming was not given: code
q6_3dewormdate	Deworming date
q6_3dewormdatereason	Main reason why deworming was not given
q6_3dpt1	Penta 1 status
q6_3dpt1code	Main reason why Penta 1 was not given: code
q6_3dpt1date	Penta 1 date
q6_3dpt1datereason	Main reason why Penta 1 was not given
q6_3dpt2	Penta 2 status
q6_3dpt2code	Main reason why Penta 2 was not given: code
q6_3dpt2date	Penta 2 date
q6_3dpt2datereason	Main reason why Penta 2 was not given
q6_3dpt3	Penta 3 status
q6_3dpt3code	Main reason why Penta 3 was not given: code
q6_3dpt3date	Penta 3 date
q6_3dpt3datereason	Main reason why Penta 3 was not given
q6_3measles	Measles status
q6_3measlescode	Main reason why measles was not given: code
q6_3measlesdate	Measles date
q6_3measlesdatereason	Main reason why measles was not given
q6_3opv0	Polio 0 status
q6_3opv0code	Main reason why polio 0 was not given: code
q6_3opv0date	Polio 0 date
q6_3opv0datereason	Main reason why polio 0 was not given
q6_3opv1	Polio 1 status
q6_3opv1code	Main reason why polio 1 was not given: code
q6_3opv1date	Polio 1 date

q6_3opv1datereason	Main reason why polio 1 was not given
q6_3opv2	Polio 2 status
q6_3opv2code	Main reason why polio 2 was not given: code
q6_3opv2date	Polio 2 date
q6_3opv2datereason	Main reason why polio 2 was not given
q6_3opv3	Polio 3 status
q6_3opv3code	Main reason why polio 3 was not given: code
q6_3opv3date	Polio 3 date
q6_3opv3datereason	Main reason why polio 3 was not given
q6_3oth1	Other specified vaccine 1
q6_3oth1date	Other 1 vaccine date
q6_3oth1specify	Other specified
q6_3oth2	Other specified vaccine 2
q6_3oth2date	Other 2 vaccine date
q6_3oth2specify	Other specified
q6_3oth3	Other specified vaccine 3
q6_3oth3date	Other 3 vaccine date
q6_3oth3specify	Other specified
q6_3oth4	Other specified vaccine 4
q6_3oth4date	Other 4 vaccine date
q6_3oth4specify	Other specified
q6_3oth5	Other specified vaccine 5
q6_3oth5date	Other 5 vaccine date
q6_3oth5specify	Other specified
q6_3pcv1	Pneumococcal 1 status
q6_3pcv1code	Main reason why PCV 1 was not given: code

q6_3pcv1date	Pneumococcal vaccine first dose date
q6_3pcv1datereason	Main reason why PCV 1 was not given
q6_3pcv2	Pneumococcal 2 status
q6_3pcv2code	Main reason why PCV 2 was not given: code
q6_3pcv2date	Pneumococcal vaccine second dose date
q6_3pcv2datereason	Main reason why PCV 2 was not given
q6_3pcv3	Pneumococcal 3 status
q6_3pcv3code	Main reason why PCV 3 was not given: code
q6_3pcv3date	Pneumococcal vaccine third dose date
q6_3pcv3datereason	Main reason why PCV 3 was not given
q6_3vas1	Vitamin A supplement status - 6 months
q6_3vas1code	Main reason why VAS was not given
q6_3vas1date	Vitamin A supplement 6 month date
q6_3vas1datereason	Main reason why VAS was not given
q6_3vas2	Vitamin A supplement status - 12 months
q6_3vas2code	Main reason why VAS was not given
q6_3vas2date	Vitamin A supplement 12 month date
q6_3vas2datereason	Main reason why VAS was not given
q6_3vas3	Vitamin A supplement status - 18 months
q6_3vas3code	Main reason why VAS was not given
q6_3vas3date	Vitamin A supplement 18 month date
q6_3vas3datereason	Main reason why VAS was not given
q6_3vas4	Vitamin A supplement status - 24 months
q6_3vas4code	Main reason why VAS was not given
q6_3vas4date	Vitamin A supplement 24 month date
q6_3vas4datereason	Main reason why VAS was not given

q6_3vas5	Vitamin A supplement status - 30 months
q6_3vas5code	Main reason why VAS was not given
q6_3vas5date	Vitamin A supplement 30 month date
q6_3vas5datereason	Main reason why VAS was not given
q6_3vas6	Vitamin A supplement status - 36 months
q6_3vas6code	Main reason why VAS was not given
q6_3vas6date	Vitamin A supplement 36 month date
q6_3vas6datereason	Main reason why VAS was not given
q6_3yellow	Yellow fever status
q6_3yellowcode	Main reason why yellow fever was not given
q6_3yellowdate	Yellow fever date
q6_3yellowdatereason	Main reason why yellow fever was not given
q6_5	BCG by recall
q6_6	BCG scar present?
q6_7	Any penta by recall
q6_8	Number of penta given by recall
q6_9	Any polio by recall
q6_10	Number of polio given by recall
q6_11	Polio at birth given by recall
q6_12	Any measles vaccine by recall
q6_15	Has child ever been vaccinated
q6_16	Has child ever been vaccinated
q6_16specify	Other specified
q6_17bcgdate	Date when the BCG scar information was recorded
q6_17bcgscar	BCG scar present? from card
q6_18	Was BCG re-done? from card



q6_19date	Date when the BCG scar was redone
q6_20	BCG scar present?
q6_21	Immunization campaign participation
q6_22polio1	Polio 1 vaccine given during campaign
q6_22polio2	Polio 2 vaccine given during campaign
q6_22polio3	Polio 3 vaccine given during campaign
q6_22polio4	Polio 4 vaccine given during campaign
q6_22polio5	Polio 5 vaccine given during campaign
q6_23measle1	Measles 1 vaccine given during campaign
q6_23measle2	Measles 2 vaccine given during campaign
q6_24vas1	Vitamin A supplement 1 given during campaign
q6_24vas2	Vitamin A supplement 2 vaccine given during campaign
q6_24vas3	Vitamin A supplement 3 vaccine given during campaign
q6_24vas4	Vitamin A supplement 4 vaccine given during campaign
q6_24vas5	Vitamin A supplement 5 vaccine given during campaign
q6_25other1	Other 1 vaccine given during campaign
q6_25other2	Other 2 vaccine given during campaign
q6_25other3	Other 3 vaccine given during campaign
q6_25other4	Other 4 vaccine given during campaign
q6_25other5	Other 5 vaccine given during campaign
q6_26	Any pneumococcal vaccine by recall
q6_27	Number of pneumococcal vaccines given by recall
q6_28	Has the child ever been given vitamin A supplement since birth?
q6_29	How many time has child been given the vitamin A supplements
q6_29_6months	VAS at 6 months
q6_29_12months	VAS at 12 months

q6_29_18months	VAS at 18 months
q6_29_24months	VAS at 24 months
q6_29_30months	VAS at 30 months
q6_29_36months	VAS at 36 months
q7_15	Has child suffered anything other illness in the past two weeks
q7_15serious	Has child suffered anything other illness in the past two weeks
q7_15seriousspecify	Other specified
q7_18	During the time that child had diarrhoea, was ORS prepared for him/her?
q7_24	Have the child ever suffered from Measles since birth
q7_25	Have the child ever suffered from Whooping cough since birth
q12_1a	Anthropometric measurement date
q12_2	Is the respondent mother of the child
q12_3	Measured child length
q12_4	Measured mother's weight
q12_5	Measured combined mother and child's weight
q12_6	Computed child's weight
q12_7	Child's MUAC
q12_8	Referred to a nutritional centre?
q12_9	Mother's height
q12_13	Mother's MUACs
q12_14	Reasons for not examining the child?
q13_1	Interview results of module 1
linknumber	link to follow up data

## **Appendix B. Data collection form**

Attached as a separate document.