

## **Manual to monitor and assess the impact of vaccinations and other childhood interventions on morbidity and mortality in Nouna HDSS**

### **Background**

The research area of the CRSN is located in a district in northwest Burkina Faso, 300 km from the capital, Ouagadougou. It has about 90,000 inhabitants, settled over 1.775 Km<sup>2</sup>. The Nouna area is a dry orchard savannah, populated almost exclusively with subsistence farmers of various ethnic groups. The area has a sub-Saharan climate, with a mean annual rainfall of 796 mm (range 483-1083 mm) over the past five decades.

### **Field procedures**

#### ***Initial census***

The baseline census was conducted in 1992, and gathered relevant demographic information from all individuals in the study area. The baseline census for the suburban part (Nouna town) took place in January 2000.

#### ***Regular update rounds***

Two further censuses were carried out in 1994 and 1998, to check and update information from previous censuses. Census update rounds are planned for every 2 years to supplement the vital-events registration and produce a clear picture of the study population at certain fixed points in time. Previously programmed as a monthly activity, the vital-event registration has collected data every 4 months from all households of the DSS area since January 2000. Previously, an interviewer visited the key informant of each village to obtain information about any vital events. Now, the fourteen interviewers visit each household to inquire about all members previously registered or actually living in the household and identify all new vital events since the previous visits. Data are collected on births, deaths, pregnancies, marriages, educational status, household socio-economic characteristics and migration in or out of the household, including all dates related to these events. For each death reported, a verbal autopsy is conducted with the closest relative of the deceased by the interviewers, at least 3 months after the death. The form used includes ID information retrieved from the DSS. The filed questionnaires are coded by two physicians. When the diagnoses are different, a third physician gives an independent assessment. A cause of death is determined if at least two of the medical doctors agree; otherwise, the cause is classified as “unknown.”

#### ***Vaccination, morbidity and hospitalization data***

On a trial basis we have started collecting vaccination data since January 2009. To maintain the system it will require 14 field workers and data entry clerks and 6 supervisors to collect the vaccination data in a reliable way. The data will be collected three times per year during the passage for vital events in the 59 villages in the DSS area. The vaccine data is collected from the vaccination cards of the children during the home visit. All households having children aged less than 3 years are followed. We also collected morbidity data during this household visit. Consultation and hospitalization data was collected in the health facilities every month.

### ***Supervision and quality control***

To reduce errors, interviewers use pre-printed database registration forms for data collection. Quality assurance of data collection is achieved in the field through the review of a sample of 5-10% of entire questionnaires by the field supervisors to check for consistency of data gathered. Other field check includes a number of blind-control interviews conducted by the supervisors, during which data is collected and compared to the data collected by the interviewers. In addition regular field interview observation is done followed by feedback at the end.

At the office the supervisors read and correct each questionnaire before sending it to the archivists.

### **Data management**

From the archivist the questionnaires are sent to the data-entry team. During data entry, questionnaires with missing or unclear information are sent back to the field supervisors and if necessary to the interviewers for correction.

Checking data consistency is done in two steps:

### ***Controlling data entry***

The data-entry program is developed to prevent errors, including user friendly data-entry masks, with easy-to-enter codes, two data-entry modes, and automatic attribution of individual IDs. It also has automatic validation and verification of household and individual IDs, using message boxes for warnings.

### ***Supervision Manual***

As data are entered into several computers, the data entry supervisor merges all the files into one single database. After the merging, specified variables are reviewed by listing and verification of all households and individuals entered (check for completeness) and by searching all variables for invalid values (this includes syntactic tests to check whether entered values are allowed and semantic tests to compare two variables with some logic relation). Further validation is carried out through duplicate data entry of 5% of all questionnaires by the data-entry *supervisor*.

### **Vaccination Data Collection form**

The data collection form has the following sections

1. Demographic characteristics of child
2. Health card status
3. Vaccination status
4. Birth weight, BCG scar,
5. EPI number
6. Campaigns
7. Hospitalisation
8. Breastfeeding practices
9. Morbidity

## 10. Bednet use and MUAC

### **1. Demographic Characteristics**

1. Name of child
2. The ranking of the child
3. Name of chief of the household
4. ID of child
5. ID of the chief of the household
6. Mother education
7. Household number
8. village number
9. Sex M – Male, F- Female
10. Respondent 1-Mother 2 other
11. Date of Interview
12. Field worker's name and code

### **Vaccine Status (columns 18-19)**

Has the child got at least one vaccine dose

1. Yes
2. No
3. Don't know

### ***Why the child is not vaccinated (column 19)***

Before we ask this question the child must fulfill one of the following conditions: One month old and no BCG; three months old and not received penta1; and 11 months old and not received MV

1. Was at the health center to get vaccinated – but did not succeed
2. Mother does not know of vaccination schedule
3. Mother considers the child too small / sick for vaccination
4. Religious/Cultural reasons
5. Distance to health facility
6. Other

### **Health Card Status (column 18)**

#### ***Existence of card***

1. Yes
2. No

### ***Why the child don't have a card? (column 21)***

1. The card was destroyed
2. Never had a card
3. Had a card but lost
4. High price of card
5. Others

### ***Have you seen the Card? (column 20)***

1. Yes, seen
2. Not seen

### **Vaccination status information (columns 22-23)**

If the health card is seen, the dates of the vaccines indicated on the health card are copied into the vaccination data collection form. Data is collected on the following current vaccination schedule:

- At the birth: BCG +POLIO ZERO
- Two months: DTC-hepB-hib1 + POLIO 1
- Three months: DTC-hepB-hib2 + POLIO 2
- Four months: DTC-hepB-hib3 + POLIO3
- Nine months: VAR (measles vaccine)/ VAA (yellow fever).

### **Campaigns (column 24)**

All campaigns are documented with dates and the specific vaccines and/or micronutrients given during those campaigns. All campaigns period/dates are given to the supervisors and fieldworker and the field worker is expected to find out whether the child took part in that particular campaign describing the activities that took place during that particular campaign. If the mother says the child got something during the campaign and she doesn't remember the date the fieldworker notes the first date of the campaign.

<b>Time Period</b>	<b>Vaccines and Nutrients Given</b>	<b>Name of campaign</b>	<b>Target age</b>
23-26 <sup>th</sup> March 2012	Polio and vitamin A	JNV (national days of vaccination)	Child from 0 to 59 months
29 June to 2 <sup>nd</sup> July 2012	Polio, and detection of malnutrition	JNV (national days of vaccination)	Child from 0 to 59 months

### **Birth weight, EPI number, BCG scar, mid-upper Arm circumference (MUAC) (columns 9,10, 22)**

Information on the child's birth weight and EPI number is recorded from the mother pregnancy health card. This information is collected once because they don't change.

Before measuring the size of BCG scar in mm, the fieldworker asks whether the child got BCG: 1= Yes, 2= No. The BCG scar is measured until the child reaches one year of age. If the child doesn't have the scar the fieldworker writes: NC, but if the scar is evolved: CE.

The information about MUAC is collected until 3 years of age.

### **Bed net use (column 25-27)**

Mothers are asked whether their children slept under a bed net last night.

1. Yes
2. No
3. Don't know

Child slept every time or rainy season

1. all time
2. rainy season

What kind of bed net child use?

- Giving during pregnant consultation= CPN
- Giving during campaign= CDM
- Paid= ACH

### **Breastfeeding practices (column 13,14)**

The questions on breastfeeding are:

When did you start supplementary feeding?

- Yes= date in month
- Not yet
- Don't know

When did you stop breastfeeding?

- Yes =date in month
- Not yet
- Don't know

### **Living-room condition (column 15,16)**

Question is about the number of people who leave in the same room with child. And the number of people who sleep in the same bed with the child?

### **Morbidity**

On morbidity, questions are asked about the experience or occurrence of illnesses in the last two weeks and whether the child sought care for such illnesses. Questions are asked about what kind of care. The following options are given as reasons for hospitalization:

- 1) Respiratory infection
- 2) Fever
- 3) Diarrhoea
- 4) Skin disease
- 5) Accident
- 6) Other

### **Hospitalization**

Mothers/Guardians are asked whether the child has been hospitalized since the last visit (4 months) and the number of hospitalization. If yes, the hospitalization form is used by the fieldworker to get information in the consultation and hospitalization.

### **Blank Vaccination Forms**

Blank vaccination forms are printed for field workers to use in registering new births and children who are qualified to be interviewed but did not appear in the vaccination form listing.

### **Vaccination forms for dead children**

Vaccination information on all children aged 3 years or below who died are to be collected. If a child dies before age 3, a field worker is expected to ask for the vaccination card and if available document vaccination information for the dead child. A data manager prints a list of dead children without vaccination information for the field workers to ask for the health card and if it seen document the information in their next visit to the household.

## Appendix the vaccination tool

### COLLECTE DE DONNEES VACCINALES DES ENFANTS DE 0-3 ANS

N° Village/Secteur  /  Nom du Village  ID/CHM

Nom Prénom du Chef du Ménage

Niveau d'instruction du Chef du Ménage  Activité du Chef du Ménage

ID/Ménage      Nom et prénom du Répondant (1) : ----- (2) : ----- (3) : -----

Nom et Prénoms de l'Enquêteur  Code Enq

DONNEES INDIVIDUELLES										Date de visite (J/M/A)	PASSAGE NEEV	Date du début de L'allaitement mixte(en mois) Oui=date Non NSP	Date d'arrêt de l'allaitement (en mois) Oui=date Non NSP	Combien de personne dort dans la pièce avec l'enfant ?	Combien de personne dort sur le même lit que l'enfant ?
RANG	Nom prénom(s) et ID individu	Date de naissance Age	Sexe	Statut de Résidence	Parenté A Qui	Répondant Mère (1=oui 2=non )	Niveau d'instruction de la Mère	Poids de l'enfant à la naissance	N0 PEV de l'enfant						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Nom du Village \_\_\_\_\_

ID/Ménage \_\_\_\_\_

\_\_\_\_|\_\_\_\_|\_\_\_\_|\_\_\_\_|\_\_\_\_|\_\_\_\_|

VACCINATION DE ROUTINE							VACCINATION OCCASIONELLE (Campagne de vaccination)		l'utilisation de moustiquaire			Date de visite (J/M/A)	PASSAGE NEEV
RANG	Statut Vaccinal (1=oui 2=non 3=ns p )	Existence de Carte (1=oui 2=non)	pourquoi l'enfant n'a pas été vacciné ?	Carte Vue (1=oui 2=non)	Pourquoi l'enfant n'a pas de carte de vaccination ?	BCG	POLIO (0-3), DTC-HepB Hib (1-3),  Fièvre Jaune +Rougeôle (9 mois)	Antigène  (J/M/A)	L'enfant a-t-il dormi sous une moustiquaire la nuit dernière ?  Oui Non NSP	Si oui tout le temps ou seulement en saison pluvieuse ?  1. tout le temps 2. saison pluvieuse	Comment avez-vous acquis cette moustiquaire ?  CPN CDM ACH	11	12
1	17	18	19	20	21	22	23	24	25	26	27	11	12
						(J/M/A) ____ ____ ____ TDB (mm) ____ ____ ____ ____	Oui= ____ ____ ____  Non= ____ ____ ____  Cicatrice ____ ____  Diamètre (mm) ____ ____ ____	POLIO (0-3) (J/M/A) 0 ____ ____ ____  1 ____ ____ ____	MEN A+C ____ ____ ____  ROU ____ ____ ____  Vit A ____ ____ ____  POLIO ____ ____ ____  POLIO&VIT.A ____ ____ ____				



						TDB (mm)  _ _ _ _ _	Cicatrice  _  Diamètre (mm)  _ _ _	2  _ _ _ _  3  _ _ _ _  DTC-HepB Hib (1-3) (J/M/A)	MEN A+C  _ _ _ _  ROU  _ _ _ _  Vit A  _ _ _ _  POLIO  _ _ _ _  POLIO&VIT.A  _ _ _ _						
						TDB (mm)  _ _ _ _ _	Cicatrice  _  Diamètre (mm)  _ _ _	1  _ _ _ _  2  _ _ _ _  3  _ _ _ _  FJ+ROU (9 mois) (J/M/A) FJ  _ _ _ _  ROU  _ _ _ _	MEN A+C  _ _ _ _  ROU  _ _ _ _  Vit A  _ _ _ _  POLIO  _ _ _ _  POLIO&VIT.A  _ _ _ _						