**Readme file for Health Calendar Data File**

***ES/K01207X/1 - Determinants of Health Care Decisions: Children's Health in Mali***

**Mark Dean – Columbia University –** **mark.dean@columbia.edu**

**Anja Sautmann – Brown University –** **anja\_sautmann@brown.edu**

*Introduction*

This read me file contains background information for the data produced as part of the above research project in part funded by the above named ESRC grant. This read me file provides background and overview for three data files in Stata format

1. Roster\_ESRC.dta
2. Health\_Calendar\_ESRC.dta
3. Objective\_Health\_ESRC.dta

The documentation also includes

1. Roster variable list
2. Health calendar variable list
3. Objective health variable list
4. Health\_Survey.xls, which includes the survey instruments for the health calendar and objective health data
5. Roster.xls, which includes the survey instruments for the roster data
6. The English translation of the training manual provided to surveyors
7. Consent documents

*Background*

This data was collected as part of a project designed to study the choices parents made about their children’s healthcare in Bamako, Mali, and the response of those decisions to different healthcare policies – specifically free care at the local clinic, and health worker visits. These questions were studied in the context of a randomized controlled trial, in which different households were assigned to one of three experimental groups - which was provided with free care, health worker visits or both, or to a control group.

In order to study the effect of these policies on the health seeking choices of parents, the study collected daily data on the health status of each child, as well as any health related consultations, medicines taken, and medicines that were proscribed but not purchased by the households. This data was used to construct a 9-week health calendar for each child in the study. This data file contains this calendar data.

The survey instrument was provided to the surveyors in French, who in turn asked questions in Bambara, the local language. All documentation has been translated into English. Original language available from the authors on request.

Further details on the study are available in Brown University Department of Economics Working Paper 2016-02 ‘Subsidies, Information, and the Timing of Children’s Health Care in Mali’

*Study design*

Mali Health (our partner organization) started their Action for Health (AfH) program in 2010 in collaboration with the two local CSCOMs (clinics) in Sikoro, a peri-urban area on the outskirts of Bamako, Mali.

The AfH program combines health worker visits and subsidized care. The health worker component provides biweekly visits from community health workers (CHW). CHWs live in the area and are trained and employed by Mali Health. They monitor children's health, advise families on acute care, and most importantly encourage them to see a formal doctor in the event of illness. They are trained following the C-IMCI, a set of guidelines for community health workers that incorporates the WHO's and UNICEF's “Integrated Management of Childhood Illness” recommendations for when to refer children to formal healthcare.

The free care part of AfH is administered via a personalized card that entitles the child to a free consultation at one of two local CSCOMs and free treatment for any illness due to diarrhea and malnutrition, malaria, vaccine-preventable diseases, and respiratory infection (the five main causes of child mortality). Households are eligible for program enrollment if they pass a basic proxy-means test, designed to select about the poorest third of families in the area.

The research design took advantage of the second planned roll-out wave of AfH in late 2012. Mali Health conducted a census in their new expansion area in summer 2012 to enumerate all eligible families based on geography, the presence of children under five years of age (or a pregnant mother), and the proxy means test. Data was collected in two survey rounds in 2012 and 2013 in the rainy season (August-October). Households identified by the Mali Health census were revisited for the baseline survey in 2012. All households that were found at baseline were included in the random assignment to the different treatment groups. This data file covers the second survey round in 2013.

Data was collected at the level of the household, defined as all persons who identify the same individual as their household head. The surveyors were instructed to first approach the most senior mother in the compound enumerated by Mali Health. As part of the roster, she is asked whom she considers the head of her family (the ‘first authority’). All in the compound under the same household head are part of the same household. If the household head she names is absent, the mother, her children, and all who consider her the de-facto decision maker in family matters constitute a separate household. If there are other eligible women and children in another household in the compound, the surveyor proceeds to the next most senior mother who was not yet included in the survey. This definition aims to identify the respondent who makes decisions over small children's health. The split of a household with an absent head into sub-households accounts for polygamous households where each mother and her children form a “decision unit”. This occurs only very infrequently in our data.

The unit of randomization is the compound. A compound may house more than one family, and typically consists of a few rooms around a common courtyard with shared latrines and other facilities. After stratifying compounds by average household assets, number of eligible children, and location, each was assigned to one of four groups: a full treatment group that received health worker visits and free care, a free care only group, a health worker only group, and a control. The health workers in the two health worker treatment groups were trained and managed separately by Mali Health, and no health worker visited families in both the health worker-only and the full treatment group, to avoid spillovers on the provider side.

Health workers could not be assigned across the entire intervention area in order to keep their travel distances manageable. Instead, Mali Health paired health workers of similar experience and quality, and one of each pair was assigned to the health worker only or the health worker and free care group. The pairs were then assigned in an overlapping pattern by stratum. For example, pair 1 and pair 2 were each randomly assigned half of the families in the same stratum, and half of the families in a different stratum, each shared with another pair of health workers. In this manner, each stratum was assigned four health workers (two in each treatment group), the quality of the health workers in the treatment groups was matched, and no two strata had identical sets of health workers.

In both survey rounds, mothers with eligible children answered questions on their own children, the most senior mother reported on demographics and household finance, and the household head was interviewed on household assets and income. In this study we use demographic, location, and household asset data from the baseline survey, and daily health diary data on children from the follow-up round.

*Description of data files*

The data in these files generally comes from the 2013 follow up survey, which was the survey round covered by the ESRC grant. However, some 2012 data is included in order to provide some household level demographic variables.

Broadly speaking we have relatively raw data, with the minimum of processing, so that researchers can make their own choices about how to make use of the data.

We have performed significant further processing of the data for particular projects. If the researcher is interested in this data, or in additional data from the 2012 survey, they can contact Mark or Anja using the email addresses above.

The data comes in three files. These files are linked using the unique individual identifier masked\_ID. This variable can be used to merge the Roster and Objective\_health data files on a 1:1 basis, and merge those files with the Health\_calendar file on a 1:n basis.

Complete variable lists for each file are included in the documentation, as are the questions asked in the survey (in excel form as the survey was performed on computers using the Blaise software). The training manual for surveyors is also included for background.

*Roster\_ESRC.dta data file*

Each record in this file is an individual. It includes all adults and children for which data was collected in either 2012 or 2013, and so contains many more individuals that the other two data files. Unborn children also appear as an individual in this file

This file contains the following types of information

**Identification:** Each individual is uniquely identified by the Masked\_ID variable. In addition, this file contains the compound and household that the individual lived in in 2012 and 2013. It also contains a 4 digit person ID, unique within the household. Adults have 00 for the last two digits, while children do not. The file also identifies, for each child, their first authority, mother, and the respondent to the survey using the person\_ID veriable

**Treatment:** The file also contains data on the treatment received by the individual. The key variable here is TrtRand, which identifies the treatment group to which the individual was randomly assigned (Healthworker only., Healthworker and Free Care, Free Care only and Control).. There is also information on the striatum used to assign individuals to treatment groups. The KeyChild2013 and KeyPerson2013 variables show whether the individual was in fact part of the original group of subjects identified for assignment prior to the 2012 survey (rather than someone who was born subsequently, or for whom data was collected by mistake). The file also includes self reports of whether the subject received the benefits of the healthcare program

**Demographics and socioeconomics:** The data set contains data on gender, age, relationship to the first authority, whether a child was adopted, language, education, etc, both in 2012 and in 2013

**Assets:** We have added to the file data on assets for each household (attached to the household head record) as recorded in the 2012 survey

*Health\_Calendar\_ESRC.dta* data file

The data file is organized in such a way that each row refers to a particular medical event for a particular child on a particular date. There are four types of medical event which are reported in this file: symptoms, medical consultations, medications taken, and medications proscribed but not purchased.

To determine which type of event a particular row refers to, one can examine the variables sympno, consno, medsno and mednbno. If the row is a symptom, then the sympno will record which type, while the other variables will be blank. Similarly, if the event is a consultation, consno will contain a reference number while the others will be blank, and so on for medications taken (medsno) and medications not purchased (mednbno)

The survey asked for information on 13 different types of symptom

|  |  |
| --- | --- |
| **Symptom number** | **Symptom** |
| 0 | Mother Concerned |
| 1 | Convulsions/Fits/Spasms |
| 2 | Lethargic/Unconscious |
| 3 | Unable to drink |
| 4 | Vomiting everything |
| 5 | Coughing |
| 6 | Difficulty breathing |
| 7 | Diarrhea |
| 8 | 3 or more loose stools a day (asked only if diarrhea is reported) |
| 9 | Blood in the stool (asked only if diarrhea is reported) |
| 10 | Sunken eyes |
| 11 | Unusually hot |
| 12 | Unusually cold (asked only if the child was under 6 months) |
| 13 | Other symptoms |

Other symptoms were recorded free form by the surveyor. Ex post, these reports were used to construct occurrences for the following symptoms

|  |  |
| --- | --- |
| **Symptom number** | **Symptom** |
| 20 | Wound/Injury/Burn |
| 21 | Rash/Spots/Itch |
| 22 | Head/Neck/Eye Ache |
| 23 | Cold Symptoms |
| 24 | Stomach Ache |
| 25 | Ear Ache |

For each symptom, the variable ‘day’ records whether the child was reported as having the symptom on that day. One issue in constructing the calendar was what to do with ‘overlap’ days – for example if the surveyor visited every week on a Wednesday, then we would have data on the Wednesday of week 1 both from the survey conducted in week 1, and from the survey conducted on week 2, when they were asked for data from the last 7 days. Our preferred specification was to use the later recorded data to determine whether a symptom was present on a particular day. However, an alternative specification, identified with the suffix \_MAX was to record the symptom as present if it was reported in either week

Each consultation is assigned a three digit code, unique within each child. A consultation will generate one row for each day of the survey. The actual day on which the consultation took place can be identified again by using the day variable, which takes the value 1 on the day on which the consultation took place.

For each row referring to the consultation, there is data on

* the role of the person who was consulted, (doctor, pharmacist, healer, etc). This is recorded from a list (cons\_who), or free form if the role did not appear on the list (cons\_ol)
* the location of the visit. This was recorded from a list (cons), or if not on the list estimated relative to other locations (cons\_loc – which records whether the consultation was local, cons\_dst1 for local consultations and cons\_dst2 for non local consultations)
* The people who accompanied the child to the visit (cons\_ac1, cons\_ac2 and cons\_ac3
* The main reason for the visit. This links the consultation to a particular symptom number (cons\_why)
* The waiting time for the consultation (cons\_wt)
* The name of the person or organization who paid for most of the consultation (cons\_whopaid), and the amount paid by the household (cons\_amtpaid)
* Whether any drugs were prescribed (cons\_presc)

Each incidence in which medicines were purchased or taken (medsno) or proscribed but not bought (mednbno) are also assigned an id number unique within the child. In addition, information is provided on

* The name of the medication. Surveyors first tried to identify the medication from a preprogrammed list (meds). However, if they could not (and so selected ‘Autre’ from the list), the name of the medication could be entered free form (meds\_name). The medications were also classified into groups (meds\_code)
* Amount that was paid for the medication if purchased (meds\_amtpaid)
* The consultation at which the medication was proscribed (meds\_consp) and bought (meds\_consa)

*Objective\_Health\_ESRC.dta data file*

This file contains data on objective health measures recorded by the surveyor. Each record in the file is a child

There are two classes of data

**Weekly data**. Surveyors collected data on a weekly basis on 6 symptoms: Chest indrawing, swollen belly, Skin pinch test for dehydration, respiratory noise, brittle hair, foot oedema. In addition, the surveyor measured the child’s arm circumference, took their temperature, and asked the mother about their health. See the training manual for details of these measurement. All of these measures are included in the child’s record, with a number at the end indicating the week (so, for example, chest\_indrawing1 is the result of the chest indrawing test in week 1).

**Data only collected once**. In addition, weight and height measures were taken for each child, but only once during the course of the 9 week survey. See training manual for details on how weight and height were measured.