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The World Bank

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DHS Health Components



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 **Archives**
Demographic and Health Survey [DHS] - Health Components

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London School of Hygiene and Tropical Medicine
(University of London)



31 Bedford Square London WC1B 3EL
Telephone 01-636 5281 · Telegrams Hygower London WC1

Centre for Population Studies

@TH September 1986

Althea Hill
Population Health & Nutrition
The World Bank
1818 H Street NW
WASHINGTON DC 20433
USA

*Copy to Measham
(Tom - see pp 3-4)
✓ Copy to file: ~~World~~ DHS/health
orig to Althea*

Dear Althea,

I enclose a few pages describing my preliminary thinking on the proposed in-depth survey of health and mortality in Senegal. As you know, the intention is to develop the proposal further so that it can be one of the four detailed studies foreseen in the Westinghouse - Population Council contract. The Population Council would be the organisation responsible for the overall contract, but a large part of the technical, clinical and fieldwork would be carried out by ORSTOM (Cantrelle and Garenne) and LSHTM (the Working Group on Health Impact Assessment). Dolly Frank is working full time on the proposal at the Population Council and it may be useful for you or Nancy Birdsall to speak to her before the Donors' meeting in late September.

I found your idea of a World Health Survey fascinating - it's about the size of project we need to keep the CPS body moving! I'm sorry we didn't meet but it was at least possible to talk.

John Blacker leaves tomorrow for Kenya closely followed by a spell afloat in the Aegean. Bill returns on the 15th.

Best wishes to you both.

Sincerely,

Allan G. Hill

Allan G. Hill

(August 1986)

CHILD SURVIVAL IN SENEGAL
A PROPOSAL FOR AN IN-DEPTH STUDY

I. INTRODUCTION

Prevention of illness and prolongation of life are long-standing concerns of every human society. Consequently, there is great diversity in contemporary and historical approaches to the problems of ill-health and survival around the world. The dispute over the relative efficacy of different preventative measures is ancient but frequently recurs in new forms--medical technology versus economic development, education versus public health measures, and so on. This debate will continue in the future since there can be no single, definitive answer to the questions posed in this way. The mix of possible preventative measures is always changing, and good health is a result of both biological and behavioral factors working in combination.

One of the difficulties impeding our understanding of the determinants of child mortality and morbidity levels in a particular society has been the lack of a comprehensive framework for analysis. Although there are still major gaps in our knowledge, there is a growing consensus that biology and culture-determined behavior work in unison through a common set of "proximate determinants" of mortality. The four large categories of factors identified by Mosley and Chen (1984), namely maternal factors, environment, nutrition, and injury¹ is a useful general classification of the many variables involved.

INSERT DIAGRAM HERE

Very few of the detailed links between the socioeconomic and cultural determinants and one or more of these groups of proximate determinants have been worked out in detail, but the main advance is the realization that all the factors—socioeconomic, biological, or cultural—operate together in a unified system. Hence, discussion of the role of one factor in affecting mortality and morbidity are invalid unless other complementary effects are considered simultaneously.

This proposal uses the proximate determinants schema as its organizing framework for the proposed study of the factors affecting child survival in Senegal. To limit the scope of the research and to make the work as useful as possible, several somewhat arbitrary decisions have been made. First, it has been decided that the work will concentrate on a few discrete factors which are almost certainly linked directly or indirectly to child survival and at the same time can be deliberately manipulated. Secondly, this work will look for significant first-order effects only, where the causal chain linking the factor and the mortality response is reasonably short and direct. Thirdly, the stress throughout is on the identification of immediately accessible factors which can be altered in the short-term to positively affect child survival.

II. RESEARCH QUESTIONS ADDRESSED

Five major questions are being examined within the scope of this inquiry. They are:

1. Demographic, health, and socioeconomic status of mothers

In many of the intervention programs supported internationally by the bilateral and multilateral donors, the stress has been laid on improving the

health of the child. Yet during pregnancy, the delivery itself, and the child's first year of life, the mother's own health and capacity to care for the newborn child are of central importance. As evidence of this, we need only refer to the extensive literature on breastfeeding performance and child survival or the higher mortality of orphans in every society. The project proposes to look systematically at the demographic and socioeconomic characteristics of mothers interviewed during the DHS survey, including an examination of data on birth interval lengths and parity-specific effects. The first step will be the examination of these survey data on child mortality before the survey date using the information on the household form and in the maternity history. A subsample of mothers will then be re-interviewed in the field to obtain additional anthropometric, socioeconomic, and clinical data (see below for details). The detailed questions to be asked include ascertaining the role of female education of any kind in affecting child survival when all other factors are held constant; the effect of maternal health status on birth weight (where available) and child survival; the relationship between maternal health and lactation performance; and socioeconomic background factors and use of health services.

2. Health services and child survival

A centrally important question for health planners is whether the provision of public health services alone can improve child health. Two dimensions are important: the nature and quality of the services provided and the coverage and use of these services. In every country, there are strong regional contrasts in the density of health care provision, none sharper than between Greater Dakar and the rural areas of Senegal. This unevenness in

health care provision serves as a natural experiment within which the role of health services, public and private, can be investigated. Already in the DHS interview, there are numerous questions on prenatal care and the kind of help received at the delivery, and in the postnatal period, there are questions on vaccination, morbidity, and the treatment sought for the last four children. The missing information to be added during a period of additional field work for selected communities concerns the nature, coverage, and use of the public and private health services available to mothers resident in the community. Thus, in addition to answering questions about the effectiveness of the health services already in place in preventing sickness and avoiding death, the inquiry will also add new information on the use made of the available facilities in selected areas of Senegal (see below for definition of communities).

3. Vaccination coverage and the prevalence of infection

While the laboratory effectiveness of vaccines in preventing mortality from the common communicable diseases of childhood is already known, there are many unsolved problems surrounding the way infection is spread and the epidemiological factors of importance at the household or community level. Although diseases such as polio, diphtheria, tetanus, whooping cough, and upper-respiratory-tract infections are important causes of death for children in Senegal, by far the most significant, with an effective vaccine, is measles. This disease, rarely fatal in countries where children are healthy and the pool of exposed persons is small, in tropical Africa is lethal and carries with it many damaging sequelae. Some important work by Acley and others in Guinea-Bissau has suggested that the dosage of the virus received

by small children can affect their survival. This dosage theory, although not fully accepted by virologists, does suggest some important changes in case management during epidemics.

The DHS data on measles immunization will first be examined for measles in conjunction with data on household size and child survival. A subsample of households will then be visited to learn more about detailed living arrangements, in particular the sleeping arrangements for the young children and any alterations which occur when a child is ill. All under-five's will have thumbprint blood slides made to measure, amongst other things, ^{the} ~~a~~ prevalence of measles antibodies. Using the detailed maternity histories, the researchers will then inquire about measles-related deaths amongst the dead children who died in the five years prior to the DHS interview, and between the DHS interview and this second visit. Blindness, myopia, and other sequelae of measles will be looked for during a medical examination of the under-five's. By this means, we can compare measles mortality in different communities with different vaccination coverage rates and contrasting proportions of survivors carrying the measles antibodies. Apart from broadening our understanding of measles epidemiology in a tropical environment, this work will also indicate the role of vaccination in reducing measles mortality and may suggest changes in the way measles cases are handled (i.e., isolation versus the mild exposure of healthy cases to the virus).

4. Malaria

Probably the most pernicious West African disease today, malaria occupies an important position amongst the many factors affecting the health

of mothers and young children. A great deal of medical research on malaria has been completed in neighboring Gambia by the United Kingdom Medical Research Council, and it is this work which the project proposes to extend into a community study. At present, the only practical intervention in Senegambia appears to be treatment of cases with chloroquine, since use of the compound as a prophylaxis at a national level is out of the question due to cost and undesirable effects on the natural immunity. Two more practical ways of using chemoprophylaxis therapy are to administer the drugs to pregnant mothers and to all small children. Since such interventions have already begun in central Gambia and in the ORSTOM study areas of Senegal, the project proposes to compare the prevalence of malaria parasites in blood slides taken from mothers and small children at several times during a calendar year. Data on the role of bed nets and biting rates will be taken from Gambia and Burkina Faso and applied to Senegal. The questions to be answered include the likely reduction in child mortality to be anticipated following (a) malaria prophylaxis for mothers and small children, (b) use of bed nets, and (c) other possible interventions including spraying and draining.

5. Nutrition and child health

Nutrition and health are synergistically related so that only one or two close relationships can be investigated. Here we are concerned with just two simple ideas. First, we surmise that low-birthweight children are born to mothers who are themselves underweight or in poor health. This will be investigated by anthropometric measures and clinical examination of a set of mothers in different communities, supplemented by collection of birthweight

data from women giving birth in clinics and health centers. Secondly, we will investigate the idea that excess mortality occurs to these small children and that these additional risks are strongly associated with family factors. By comparing the heights and weights of all adults and children in different households, we can discern whether the excess mortality is more strongly related to family- or to individual-level factors, such as maternal education. Some prospective data on child growth from established research sites in Senegal will be used as further tests of these ideas. Some of these results will help to estimate the magnitude of the likely improvements in child mortality which can be anticipated if the nutritional status of mothers and young children is improved by selective intervention.

III. THE POPULATIONS STUDIED

One of the ideas underlying this work is that the biological factors and behavior in combination determine a population's health and mortality level. Since the factors affecting exposure to risk and attitudes and practice related to health care are generally community-specific, we propose to concentrate on a few selected communities with different life styles for all the proposed field work and data analysis. In addition, we want to use other data collected prospectively by ORSTOM and other agencies over many years, and this consideration has also affected our choice of study populations. The communities to be studied in detail are the following:

1. The urban elite of Dakar

In the plateau and Medina districts of Dakar live a section of the Senegalese population with near-European levels of health services, sanitation, and water supply. Not all the residents are well-paid and well-

educated so there are opportunities to compare higher and lower income groups with access to the same sources, and to compare the demographic factors affecting child survival in this region with other regions of Senegal. The Dakar residents will serve as a kind of reference group.

2. The spontaneous communities of Pikine and Rufisque

On the urban periphery are many poorly housed, poorly serviced communities who nonetheless may enjoy a reasonably high income. Conditions are highly diverse, but careful selection of a few districts for re-interview should be instructive. An attempt will be made to recover the sample already studied for a nutrition study in Pikine.

3. Rural Ngayokheme

The communities studied by Cantrelle, Garenne, and others over many years must be included in this detailed work because of the richness of the pre-existing data. Several interventions have been tried in this area which can also be examined in the context of this project.

4. Southeast Senegal

The Peul-Bandé populations close to the borders of Gambia and Mali have been examined by Pison and others for many years. This detailed data base for a few villages can be fitted into the DHS survey data for re-analysis.

5. Ziguinchor

In the moister southern part of Senegal, different ecological conditions prevail, and mortality causes are also different. Pison and others already

have several established sites in this area, which will be included within the larger area selected for detailed analysis within this project.

6. Senegal valley--Ferlo

An important component of the Senegalese population are the pastoralists and agropastoralists of the northern quarter of the country. Previously surveyed in detail by a French team in the 1960s, the Senegal valley has been the focus of several subsequent studies by ORANA and Jacques Fayls working with the Sahel Institute.

In each case, the sample populations will be selected using the segments or enumeration districts forming the basis for the sample for the DHS survey. The districts will be those surrounding the populations previously studied by others. In this way, it is hoped to minimize the logistic and administrative difficulties which will be encountered in conducting subsequent field work.

IV. DETAILED DESCRIPTION OF WORK

The work proposed is described under each of the five topics separately identified in Part III above. Whilst this is the most convenient format for the proposal, in practice the field work for each of the five research topics will be jointly organized so that respondents are interviewed once with a consolidated questionnaire by a single interviewing team.

[Under each of the five headings, the following:

1. (a) Office analysis of DHS results
- (b) Additional data needed
- (c) Description of methodology
- (d) Data collection and checking

- (e) Office analysis of consolidated data, including initial hypothesis^e and anticipated results
 - (f) Personnel
 - (g) Budget
- etc.]

V. ADMINISTRATIVE ARRANGEMENTS

Prime responsibility for the overall proposal will rest with the Population Council and the Government of Senegal. The two other cooperating institutions, ORSTOM and the London School of Hygiene and Tropical Medicine, will be linked to the project through subcontracts.

VI. DETAILS OF THE RESEARCH ORGANIZATIONS

VII. CURRICULUM VITAE OF THE PRINCIPAL RESEARCHERS

VIII. TIMETABLE OF WORK

* * * * *

The Population Council

(new) file: DHS Health Component

One Dag Hammarskjold Plaza
New York, New York 10017
Cable: Popcouncil, New York
Telephone (212) 644 1300
Telex: 234722 POCO UR

February 8, 1985

Dr. Robert Lapham
Director, DHS Project
Westinghouse Electric Corporation
P.O. Box 866
Columbia, Maryland 21044

Dear Bob:

I am pleased to send you the revised materials related to the Health Module. These have been prepared by Council staff and reflect the discussions that took place in meetings held at the Council on 21-22 January and 29 January. This package does not include the note on the rationale of areas to be covered in the Health Module, which was distributed at the 21-22 January meeting.

I would like to discuss the next steps required to finalize the Health Module including its wider distribution for comments, integration with Core, and pretesting. We can perhaps discuss these and other related issues during your visit to New York on February 19.

Best wishes,

Sincerely yours,

Anrudh

Anrudh Jain
Senior Associate and
Deputy Director

cc: C. Westoff

List of Enclosures

1. Note on Health Module A, B, C including Appendix A, B, C.
2. Health Module A for respondent
3. Health Module B for surviving children under age 3
4. Health Module C for children born alive and died during 5 years prior to interview.

The Population Council

Note on the Health Modules A, B, C

1. Please note that the rationale for the Health Module is presented elsewhere in an earlier note.
2. Health Module A contains questions to be asked once of the mother who is a respondent to the Core Questionnaire.

Health Module B contains questions to be asked of the mother for each of her children under three present.

Health Module C contains questions to be asked of the mother for each of her children who was born and died in the last five years.

3. If a respondent is absent in the Core Questionnaire Survey, the interviewer should attempt to establish if:
 - a. she is absent because of a health problem of one of her children, and
 - b. the child is under three.

This provides information on possible bias in the point prevalence of illness due to absence of currently or more severely ill children. The bias can range greatly and will depend among other things on proximity and availability of health services.

4. If a household schedule is not used in any Core Questionnaire administration, Appendix A should be used to review:
 - a. the presence or absence in the household of each of the mother's surviving children under three years;
 - b. the status of each child born in the last five years; and
 - c. the number of adults, of children, and of total people in the household.

Appendix A should first be filled in by the interviewer with the information from the Birth History on the Core Questionnaire.

5. If fostering is prevalent, the following options may be considered:
 - a. Inclusion of children under three in Respondents' care. Appendix B will be necessary. Interviewers will then need DON'T KNOW categories or should be alerted to writing them in when the Respondent cannot answer for historical questions on the child's health.

Note that Questions 8 to 14 in Health Module B should not be asked about foster children.

Similarly, the fact of wet nursing should be established before any questions on breastfeeding during morbid episodes are asked in BLOCKS A through F.

Note also that Respondents who have not otherwise been eligible for the Health Modules (no children born in the last five years) must receive Health Module A once as well as Health Module B for each foster child under three.

b. Inclusion of children under three in the care of household members who are not Respondents. (N.B. This may involve particularly, but not exclusively women who are over 49 years of age).

Appendix C will be necessary.

Note that health Module A must be administered in addition to Health Module(s) B in all cases.

Note that Questions 8 to 14 in Health Module B should not be asked about foster children.

Similarly, the fact of wet nursing should be established before any questions on breastfeeding during morbid episodes are asked in BLOCKS A through F.

Note also that Respondents who have not otherwise been eligible for the Health Modules (children born in the last five years) must receive Health Module A once as well as Health Module B for each foster child under three.

If options a. and b. are adopted, the following question must be added to Health Module B:

5. Who is the Child's Principal Caretaker?

- A. Respondent who is the mother _____ (write in ID number)
- B. Respondent who is not the mother _____ (write in ID number)
- C. Other Caretaker _____ (check)

If other Caretaker, record age, sex and relationship of Caretaker to child:

Age _____

Sex _____
Relationship _____
Caretaker ID _____ (allocate an ID number)

Note that 5-A and 5-B only are necessary under option a. If option b. is also adopted, 5-A, 5-B and 5-C are necessary.

Provision must be made for Caretaker Identification under option b.

c. Inclusion of children under three in the care of members of households in which there is no Respondent (no woman aged 15-49 years).

This option requires administration of Health Modules A and B in households that have been otherwise eliminated from the Core Questionnaire Survey. Health Modules A and B can be administered to Caretakers after it has been established that there is no woman eligible for the Core Questionnaire through household listing or through administration of a household schedule, before the household is dropped. If household listing seeks only to determine the presence or absence of eligible women, the option is not feasible. If a household schedule is used, the presence of children under three can also be determined, and the option can be exercised.

6. Health Module A

Health Module A must be administered in all cases where there is at least one Health Module B or Module C administered. Questions 1 to 5 are intended to establish the availability and relative abundance of the water supply. Questions 1 and 2 establish the location and constancy of the supply. Questions 3 and 5 seek to determine its relative abundance. Question 4 is to allow accounting for the effect of volume on the frequency of supply.

Note that the container categories in Question 4 can be modified to match local usage. Note also that buckets and gasoline or rain barrels are sufficiently invariant in volume for these purposes, and generally have local names.

Questions 6 to 10 seek to determine the minimal amount of basic information on sanitation and hygiene.

Questions 11 to 15 are reserved for use in areas where there is or has been an identifiable program on Oral Rehydration Therapy.

Note that Question 14 should be modified where the ingredients for an ORT solution differ.

7. Health Module B

Health Module B to be administered to all Respondents who have an own

child under three alive, present, and in their care.

See section 5 above regarding the administration of Health Module B in all other cases.

Note that the child should be present, its identity established, and then weighed and measured for each Module B administration.

Questions 1 through 4 help to establish the child's identity. This information should be consistent with the same information on the Birth History of the Core Questionnaire.

Questions 5 and 6 regard any health card in the child's name. If there is a card, the fact that the card presented does indeed relate to the child present should be verified.

Note that where immunization practice varies (e.g. Tetracoq is used), the list of immunizations should be modified.

Question 7 is intended to capture the possibility that a child who has no health card has ever been immunized. It more closely captures children who have ever received an injection of any type with a hypodermic syringe.

Question 8 seeks to capture the possibility of either low birth weight or prematurity as reported by the mother. In some areas, a substantial availability of birthweights on the health card may provide a perspective on mothers' evaluations.

Question 9 seeks to separate all prematurity from low birth weight at term, as reported by the mother. It is asked only of respondents who reported small babies in 8.

Questions 10 through 14 collect information on prenatal and delivery care. Question 14 establishes tetanus toxoid prophylaxis specific to the child under three who is the subject of the module.

Maternal history of tetanus toxoid vaccination will have been established in the Core Questionnaire.

Note that where maternal immunization against tetanus has been the object of mass vaccination campaigns, this information should be made available elsewhere.

Question 15 opens the section on the child's health. Questions 15 and 16 are the only historical questions on health status, and only Question 16 collects retrospective data beyond two weeks in Module B.

Questions 17 and 18 are designed to allow for spontaneous reporting of current child morbidity, by the mother. Questions 19 to 21 (in addition to 17 and 18) seek the point prevalence of reported symptoms, but allow

for prompted reporting so that the two modes of response remain analytically separate.

Questions 22 to 24 are directed at two-week recall of the same major symptoms. Addition of reports under 18, under 19 to 21, and under 23 to 24 provides the total numerator for two-week period prevalence of symptoms. It should be noted that Questions 17 to 24 are designed to filter reports so morbidity enquiry can be efficient (respondents are directed to the enquiry that applies as early as possible), non-repetitive for any symptom, and specific to the symptom(s) reported. The "BLOCKS" of morbidity enquiry are as follows:

Current report of diarrhea (spontaneous or prompted) is followed up in BLOCK A.

Two-week report of diarrhea is followed up in BLOCK B.

Current report of fever (spontaneous or prompted) is followed up in BLOCK C.

Two-week report of fever is followed up in BLOCK D.

Current report of coughing (spontaneous or prompted) is followed up in BLOCK E.

Two-week report of coughing is followed up in BLOCK F.

Note that the maximum number of BLOCKS that would apply in any case is 3 (some combination of current and two-week reporting of each of the 3 symptoms one time only).

BLOCKS differ in four respects:

a. Language changes specific to a symptom; b. Question changes specific to related symptom; c. Question changes specific to timing (current/two-week report) of the symptom; d. Language changes specific to timing of the symptom.

8. Health Module C

Health Module C, to be administered to the Respondent for each of her children who was born and died in the last five years, is designed to be consistent with the data collection on live children.

Note that throughout the Module wherever "child" is used, the name of the child can be used instead.

Questions 1 to 6 are intended to provide basic information on the child's death. Questions can be presented as a review of the information

in the Birth History of the Core Questionnaire.

Questions 8 and 9 are designed to eliminate from further enquiry children who died as the result of an accident or died outside their mother's observation.

Question 10 seeks information on history of fostering for children who subsequently died in the care of their mothers.

Questions 11 to 25 comprise the morbidity enquiry on the terminal illness, and parallel the morbidity enquiry in BLOCKS A to F. Minor changes in ordering of questions and a symptom checklist are the main departures tailored to enquiry on a child who is now dead.

Questions 26 to 37 provide information on historical health matters regarding the child and the mother's prenatal and delivery care. These questions are at the end rather than at the beginning of the Dead Child Module so that they are raised only after full acknowledgment of the child's illness and death has been established by the interviewer towards the Respondent in the morbidity enquiry for the final illness.

Appendix A.

Schedule to be used for determining the administration of Health Modules A, B and C.

INTERVIEWER: Fill in information below from the Birth History for the Respondent for the last five years. Review information with mother and verify. Then ask additional questions.

Name of child	Is child alive?		Is child present?		Age of child	Sex of child	If child is absent, is child away:		If child is absent, at what age did child leave home?	If child is present: has child ever been away for more than one month?
	No	Yes	No	Yes			Permanently?	Temporarily?		
CHILDREN BORN IN THE LAST 3 YEARS										

INTERVIEWER: Put 1 here if absent child is currently hospitalized
Put 2 if two absent children are currently hospitalized

INTERVIEWER: If there are any of her children under 3 present or children reported lived & died in the last 5 years administer Health Module A to the respondent.

INTERVIEWER: Administer Health Module B for each child born in the last 3 years who is present.

INTERVIEWER: Administer Health Module C for each child born and died in the last 5 years

INTERVIEWER: Check number of modules to be administered

MODULE A 1

MODULE B 1 2 3 (other)

MODULE C 1 2 3 (other)

INTERVIEWER: Ask the following questions:

1. How many adults altogether live here in this household including yourself? _____
(Review and count with Respondent and write in)
2. How many children altogether live here in this household? _____
(Review and count with Respondent and write in)
3. Am I right then that altogether _____ live here in this household, including yourself?
(No. of people)

Appendix B

Schedule to be used for obtaining information on other children present in care or respondent.

1. Do you have (other) children here under 3 to whom you did not give birth, but for whom you care?

Name of Child	Date of Birth	(or) Age	Sex	Who is the Mother of the Child? Relationship to Respondent	How long has this child been in your care?			
					Days	Weeks	Months	Years
1.				(Check that child was not born to another respondent in the household, e.g. co-wife)				
2.								
3.								

↳ INTERVIEWER: Administer Health Module B for each child under 3, to the Respondent

NOTE: Also administer Health Module A to the Respondent if you have not had to do so already.

Appendix C

Schedule to be used for obtaining information on other children present in care of another household member.

Ask of a Respondent:

What other children under 3 in this household were born to a mother who does not live here, and who are in the care of other people in this household?

Name of Child	Who is the Caretaker?
1.	(Check that child is not in the care of another Respondent, or is child of potential Respondent who is temporarily away)
2.	
3.	

INTERVIEWER: If Caretaker present obtain the following information from the Caretaker:

Schedule for information to be asked of Caretaker(s) of children under 3 who are not born to Respondents, are not in Respondents' care, and are identified by Respondents(s)

Name of Child	Date of Birth	(or) Age	Sex	Who is the Mother of this Child? Relationship to Caretaker
1.				(Check whether child was born to a Respondent i.e. a child "away" in the same household: if so, enter Respondent I.D.)
2.				
3.				

INTERVIEWER: Administer Health Module A to the Caretaker and Health Module B for each child under 3, to the Caretaker.

The Population Council

HEALTH MODULE A Form for the Mother

(To be Administered Once)

1. What is the major source of water for you and your children?

	INSIDE (Household/Compound)	OUTSIDE (Village/Community)
Well	_____	_____
Pump	_____	_____
Open Source	_____	_____
Piped	_____	_____
Other (write in)	_____	_____
D.K.	_____	_____

2. Is it always available from this source?

Yes _____

No, not in dry season _____

No, other _____

D.K. _____

INTERVIEWER: If the source is OUTSIDE the household or compound, ask 3-5. Otherwise go to 6.

3. How often do you fetch it or buy it?

Once a day _____

Several times a day _____
(fill in how many)

Less than once a day _____
(fill in how often)

Other _____
(fill in)

4. What volume is usually fetched or purchased each time?

Bucketfulls _____
(fill in number)

Barrelfulls _____
(fill in number)

Other _____
(fill in container and number)

5. If you fetch the water, is it far or near?

Small distance, easy to reach _____

Some distance, but manageable _____

Very far, resented, inconvenient _____

6. Where do you yourself defecate? (Check all that apply)

Flush toilet _____
Latrine _____
Bucket _____
Fields _____
Other compound location _____
D.K. _____

7. Where do children in this household defecate (Check all that apply)

Potty _____
Latrine _____
Fields _____
Garbage heaps _____
Anywhere outside _____
D.K. _____

8. Do you have a bar of soap? (Ask to see)

Yes _____ No _____ D.K. _____

9. After you defecate, do you wash your hands?

Yes _____ No _____
(Go to 11 or Module B)

10. What do you use to wash your hands?

Washes hands with water (Ablutes) _____
Washes hands with soap _____
Washes hands with something
else _____
(write in)

FOR SITES WHERE THERE IS AN ORT PROGRAM:

11. Show ORT Packet and ask, "Have you ever seen a packet like this?"

Recognizes _____ Does not recognize _____
(Go to 14)

12. What is it for?

Treating diarrhea -- _____

Other _____
(Go to 14)

13. Have you ever used one?

Yes _____ No _____

14. Can you prepare a special salt/sugar solution at home from household ingredients to treat diarrhea?

Yes _____ No _____

15. Have you ever used such a solution?

Yes _____ No _____

The Population Council

HEALTH MODULE B

Child Questionnaire

This questionnaire to be administered for each child under three in the household, to the mother:

Child should be present during identification and until it is established
(1) that the respondent to this questionnaire is the primary caretaker and
(2) that the health card is the child's.

Once interview begins, child can be weighed and measured by co-interviewer.
This information must be given to the interviewer administering the questionnaire and recorded by (her) before the end of the interview.

Today's weight _____ kgs. Height _____ cms.

1. Child Identification _____
2. Child's Name _____
3. Child's Date of Birth _____
Or Age _____
4. Child's Sex _____

5. Was there ever a health card for this child?

Yes _____ (go to 6)

No, never _____ (go to 7)

6. Ask for health card and record:

INTERVIEWER: If health card is not now available, check here _____ and go to 7.

Date of birth _____ (check with d.o.b. above)

Birthweight _____

Immunizations:
(Check Yes or No
for each type)

TYPE	Yes	No
DPT 1		
DPT 2		
DPT 3		
POLIO 1		
POLIO 2		
POLIO 3		
MEASLES (or MMR)		
BCG		

Go to 8

7. Has this child ever had any immunizations?

Yes _____ No _____ DK _____

8. At birth, was this child larger than usual, usual in size, or smaller than usual in size?

Larger than usual _____ (Go to 10)

Usual in size _____ (Go to 10)

Smaller than usual _____

9. Was this child born earlier than you expected?

Yes _____ No _____ DK _____

10. When you were pregnant with _____, and before labor started, did you seek advice on your health from anyone:
(name of child)

Yes, Health facility (clinic) _____

Hospital _____

Private physician _____

Pharmacist _____

Traditional midwife _____

Other _____

No _____

11. At what month of pregnancy did you seek advice for the first time?

Month _____ DK _____

12. Where did you deliver the baby?

Health facility (clinic) _____

Hospital _____

At home _____

Midwife's home _____

Elsewhere _____

13. Who delivered the baby?

Physician _____

Pharmacist _____

Traditional midwife _____

Trained birth attendant/
midwife _____

Family member _____

Other _____

14. Did you get a tetanus toxoid shot (to protect the baby from convulsions) during this pregnancy?

Yes, date _____ (If Health Card for mother available, verify on card)

No _____

15. Compared to other children at this age, would you say that this child is more frequently sick, sick as often, or less frequently sick?

- More frequently sick _____
- No more sick than other children
at this age _____
- Less frequently sick _____
- Only one child, no basis for
comparison _____
- D.K. _____

16. Has this child ever had "measles"?

Yes _____ No _____ D.K. _____

(Probe and follow-up for hesitation, no and don't know)

17. Is this child healthy now?

- Yes _____ (Go to 19)
- No _____ (Go to 18)
- D.K. _____ (Go to 19)

(Questions 18 - 24)

18. What problems does the child have? (Do not read answers; write in 1 if first reported, 2 if second, 3 if third)

Interviewer: Check if Yes reported to any question.

				If Yes to: Go to:	
DIARRHEA	Not Reported ___ Reported ___	19. Has the child had Diarrhea in the last 24 hours? Yes ___ No ___	22. Has the child had Diarrhea in the last two weeks? Yes ___ No ___	18 ___ or 19 ___ 22 ___	Go to BLOCK A Go to BLOCK B
FEVER	Not Reported ___ Reported ___	20. Has the child had Fever in the last 24 hours? Yes ___ No ___	23. Has the child had Fever in the last two weeks? Yes ___ No ___	18 ___ or 20 ___ 23 ___	Go to BLOCK C Go to BLOCK D
COUGH	Not Reported ___ Reported ___	21. Has the child had a Cough in the last 24 hours? Yes ___ No ___	24. Has the child had a Cough in the last two weeks? Yes ___ No ___	18 ___ or 21 ___ 24 ___	Go to BLOCK E Go to BLOCK F

Other _____
(Enter)

Interviewer: For each symptom not reported, ask next question (19, 20, 21).

Interviewer: For each No, ask next question (22, 23, 24).

Interviewer: Go to all BLOCKS that apply.

BLOCK A

Let me ask you about the diarrhea:

25. How long has the child had diarrhea?

(days) (weeks) (months)

26. What was the number of stools in the last 24 hours?

(Since yesterday morning/afternoon/evening)

Number of stools

27. Was there blood in the stools in the last 24 hours?

Yes _____ No _____

28. Has the diarrhea been accompanied by vomiting in the last 24 hours?

Yes _____ No _____

INTERVIEWER: If the child is the last born, go to 29

Otherwise, go to 33

29. Was the child still breastfeeding at the onset of this diarrhea?

Yes _____

No _____ (Go to 33)

30. Have you breastfed as often as usual in the last 24 hours?

(Probe)

Yes, as often as usual _____ (Go to 32)

No, interrupted or irregular _____ (Go to 32)

No, more often than usual _____ (Go to 32)

No, stopped _____

31. Why did you stop breastfeeding?

Child had difficulty sucking or refused

the breast _____

Not good for child to breastfeed with

diarrhea _____

Child reached weaning age _____

Other _____

32. Did the child eat or drink foods other than breastmilk as usual in the last 24 hours? Yes _____ (Go to 37)

No, does not eat or drink other foods (breastmilk only)

_____ (Go to 38)

No _____ (Go to 37)

33. Has the child eaten as usual in the last 24 hours?

Yes _____ No _____
(Go to 35)

34. Why not? Withheld _____ Refused (no appetite) _____

Other _____

35. Has the child been drinking as usual in the last 24 hours?

Yes _____ No _____
(Go to 37)

36. Why not? Withheld _____ Refused _____ Other _____

37. What did the child take in the last 24 hours (Check all that apply)?

_____ Breastmilk
_____ Other milks
_____ Non-milk liquids (including ORT)
_____ Semi-solids, solids
_____ No intake

38. Have you yourself treated the child with anything special for the diarrhea in the last 24 hours?

Gave medicines _____ (Record names, if known)

Gave tea or herbal drink _____

Gave special food _____ (Record food)

Other _____

No _____

39. Have you shown/taken the child to any person for advice or asked anyone for advice to treat the diarrhea since it started?

Yes _____

No _____ (End questionnaire)

40. To whom/where did you go?

Clinic _____

Hospital _____

Doctor _____

Traditional healer _____

Pharmacist _____

Friend, neighbor, relative _____

Other (write in) _____

41. What treatment was given?

Prescription for Pharmacy (record name of drug or injection) _____

Drug (record name, if known) _____

Injection (Record name, if known) _____

Herbal or traditional medicine _____

ORT _____

Special food _____

Other (Write in) _____

None _____

BLOCK B

Let me ask you about the diarrhea:

42. For how long did the child have diarrhea?

(days) (weeks) (months)

43. What was the number of stools on the worst day?

Number of stools

44. Was there blood in the stools at any time?

Yes _____ No _____

45. Was the diarrhea accompanied by vomiting at any time?

Yes _____ No _____

INTERVIEWER: If the child is the last born, go to 46.

Otherwise, go to 50.

46. Was the child still breastfeeding at the onset of this diarrhea?

Yes _____ No _____ (Go to 50)

47. Did breastfeed as often as usual during the diarrhea? (Probe)

Yes, as often as usual _____ (Go to 49)

No, interrupted or irregular _____ (Go to 49)

No, more often than usual _____ (Go to 49)

No, Stopped _____

48. Why did you stop breastfeeding?

Child had difficulty sucking or refused the breast _____

Not good for child to breastfeed with diarrhea _____

Child reached weaning age _____

49. Did the child eat or drink foods other than breastmilk as usual

during the diarrhea? Yes _____ (Go to 54)

No, was not eating or drinking
other foods (breastmilk only) _____ (Go to 54)

No _____ (Go to 54)

50. Did the child eat as usual during the diarrhea?

Yes _____ No _____
(Go to 52)

51. Why not? Withheld _____ Refused (no appetite) _____

Other _____

52. Did the child drink as usual during the diarrhea?

Yes _____ No _____
(Go to 54)

53. Why not? Withheld _____ Refused _____ Other _____

54. Did you yourself treat the child with anything special for the diarrhea?

Gave medicines _____ (Record names, if known)

Gave tea or herbal drink _____

Gave special food _____ (Record food)

Other _____

No _____

55. Did you show/take the child to any person for advice or ask anyone for advice to treat the diarrhea?

Yes _____

No _____ (End questionnaire)

56. To whom/where did you go?

Clinic _____

Hospital _____

Doctor _____

Traditional healer _____

Pharmacist _____

Friend, neighbor, relative _____

Other (Write in) _____

57. What treatment was given?

Prescription for Pharmacy (Record name of drug or injection) _____

Drug (Record name, if known) _____

Injection (Record name, if known) _____

Herbal tea or traditional medicine _____

ORT _____

Special food _____

Other (Write in) _____

None _____

BLOCK C

Let me ask you about the fever:

58. How long has the child had fever?

(days) (weeks) (months)

59. Has the child been lethargic or had convulsions in the last 24 hours?
(Since yesterday morning/afternoon/evening) Yes _____ No _____

60. Has the child had chills or rigors with the fever in the last 24 hours?
Yes _____ No _____

61. Has the child's fever been cyclic in the last 24 hours?
Yes _____ No _____

INTERVIEWER: If the child is the last born, go to 62.

Otherwise, go to 66.

62. Was the child still breastfeeding at the onset of this fever?
Yes _____ No _____ (Go to 66)

63. Have you breastfed as often as usual in the last 24 hours? (Probe)
Yes, as often as usual _____ (Go to 65)
No, interrupted or irregular _____ (Go to 65)
No, more often than usual _____ (Go to 65)
No, stopped _____

64. Why did you stop breastfeeding?

Child had difficulty sucking or refused the breast _____
Not good for child to breastfeed with fever _____
Child reached weaning age _____
Other _____

65. Did the child eat or drink foods other than breastmilk
as usual in the last 24 hours? Yes _____ (Go to 70)
No, Does not eat or drink other foods
(breastmilk only) _____ (Go to 71)
No _____ (Go to 70)

66. Has the child eaten as usual in the last 24 hours?

Yes _____ No _____
(Go to 68)

67. Why not? Withheld _____ Refused (no appetite) _____
Other _____

68. Has the child been drinking as usual in the last 24 hours?

Yes _____ No _____

(Go to 70)

69. Why not? Withheld _____ Refused _____ Other _____

70. What did the child take in the last 24 hours?(Check all that apply)

_____ Breastmilk
_____ Other milks
_____ Non-milk liquids (including ORT)
_____ Semi-solids, solids
_____ No intake

71. Have you yourself treated the child with anything special for the fever in the last 24 hours?

Gave medicines _____ (Record names, if known)

Gave tea or herbal drink _____

Gave special food _____ (Record food)

Other _____

No _____

72. Have you shown/taken the child to any person for advice or asked anyone for advice to treat the fever since it started?

Yes _____

No _____ (End Questionnaire)

73. To whom/where did you go?

Clinic _____

Hospital _____

Doctor _____

Traditional healer _____

Pharmacist _____

Friend, neighbor, relative _____

Other (Write in) _____

74. What treatment was given?

Prescription for Pharmacy (Record name of drug or injection) _____

Drug (Record name, if known) _____

Injection (Record name, if known) _____

Herbal or traditional medicine _____

ORT _____

Special food _____

Other (Write in) _____

None _____

BLOCK D

Let me ask you about the fever?

75. For how long did the child have fever?

_____ (days) _____ (weeks) _____ (months)

76. Was the child ever lethargic or did he/she have convulsions with the fever?

Yes _____ No _____

77. Did the child ever have chills or rigors with the fever?

Yes _____ No _____

78. Was the child's fever cyclical?

Yes _____ No _____

INTERVIEWER: If the child is the last born, go to 79

Otherwise, go to 83.

79. Was the child still breastfeeding at the onset of this fever?

Yes _____ No _____ (Go to 83)

80. Did you breastfeed as often as usual during the fever? (Probe)

Yes, as often as usual _____ (Go to 82)

No, interrupted or irregular _____ (Go to 82)

No, more often than usual _____ (Go to 82)

No, stopped _____

81. Why did you stop breastfeeding?

Child has difficulty sucking or refused the breast _____

Not good for child to breastfeed with fever _____

Child reached weaning age _____

Other _____

82. Did the child eat or drink foods other than

breastmilk as usual during the fever Yes _____ (Go to 87)

No, was not eating or drinking other foods (breastmilk only) _____ (Go to 87)

No _____ (Go to 87)

83. Did the child eat as usual during the fever?

Yes _____ No _____

(Go to 85)

84. Why not? Withheld _____ Refused (no appetite) _____

Other _____

85. Did the child drink as usual during the fever?

Yes _____ No _____

86. Why not? (Go to 87)
Withheld _____ Refused _____ Other _____

87. Did you yourself treat the child with anything special for the fever?

Gave medicines _____ (Record names, if known)

Gave tea or herbal drink _____

Gave special food _____ (Record food)

Other _____

No _____

88. Did you show/take the child to any person for advice or ask

anyone for advice to treat the fever?

Yes _____

No _____ (End questionnaire)

89. To whom/where did you go?

Clinic _____

Hospital _____

Doctor _____

Traditional healer _____

Pharmacist _____

Friend, neighbor, relative _____

Other (Write in) _____

90. What treatment was given?

Prescription for Pharmacy (Record name of drug or injection) _____

Drug (Record name, if known) _____

Injection (Record name, if known) _____

Herbal or traditional medicine _____

ORT _____

Special food _____

Other (Write in) _____

None _____

BLOCK E

Let me ask you about the cough:

91. For how long has the child had a cough?

(days) (weeks) (months)

92. Has the child had trouble breathing in the last 24 hours?

(Since yesterday morning/afternoon/evening) Yes _____ No _____

93. Has the child whooped with this cough in the last 24 hours?

Yes _____ No _____

INTERVIEWER: If the child is the last born, go to 94. Otherwise, go to 98.

94. Was the child still breastfeeding at the onset of this cough?

Yes _____

No _____ (Go to 98)

95. Have you breastfed as often as usual in the last 24 hours? (Probe)

Yes, as often as usual _____ (Go to 97)

No, interrupted or irregular _____ (Go to 97)

No, more often than usual _____ (Go to 97)

No, stopped _____

96. Why did you stop breastfeeding?

Child had difficulty sucking or refused the breast _____

Not good for child to breastfeed with cough _____

Child reached weaning age _____

Other _____

97. Did the child eat or drink foods other than breastmilk as usual in the

last 24 hours? Yes _____ (Go to 102)

No, does not eat or drink
other foods (breastmilk only) _____ (Go to 103)

No _____ (Go to 102)

98. Has the child eaten as usual in the last 24 hours?

Yes _____ No _____

(Go to 100)

99. Why not? Withheld _____ Refused (no appetite) _____

Other _____

100. Has the child been drinking as usual in the last 24 hours?

Yes _____ No _____

101. Why not? (Go to 102)
Withheld _____ Refused _____ Other _____

102. What did the child take in the last 24 hours (Check all that apply)?

_____ Breastmilk
_____ Other milks
_____ Non-milk liquids (including ORT)
_____ Semi-solids, solids
_____ No intake

103. Have you yourself treated the child with anything special for the cough in the last 24 hours?

Gave medicines _____ (Record names, if known)

Gave tea or herbal drink _____

Gave special food _____ (Record food)

Other _____

No _____

104. Have you shown/taken the child to any person for advice or asked anyone for advice to treat the cough since it started?

Yes _____

No _____ (End Questionnaire)

105. To whom/where did you go?

Clinic _____

Hospital _____

Doctor _____

Traditional healer _____

Pharmacist _____

Friend, neighbor, relative _____

Other (Write in) _____

106. What treatment was given?

Prescription for Pharmacy (Record name of drug or injection) _____

Drug (Record name, if known) _____

Injection (Record name, if known) _____

Herbal or traditional medicine _____

ORT _____

Special food _____

Other (Write in) _____

None _____

BLOCK F

Let me ask you about the cough:

107. For how long did the child have a cough?

 (days) (weeks) (months)

108. Did the child have trouble breathing at any time?

Yes No

109. Did the child whoop at any time with this cough?

Yes No

INTERVIEWER: If the child is the last born, go to 110

Otherwise, go to 114

110. Was the child still breastfeeding at the onset of this cough?

Yes No (Go to 114)

111. Did you breastfeed as often as usual during the cough? (Probe)

Yes, as often as usual (Go to 113)

No, interrupted or irregular (Go to 113)

No, more often than usual (Go to 113)

No, stopped

112. Why did you stop breastfeeding?

Child had difficulty sucking or refused the breast

Not good for child to breastfeed with cough

Child reached weaning age

Other

113. Did the child eat or drink foods other than

breastmilk as usual during the cough? Yes (Go to 118)

No, was not eating or drinking
other foods (breastmilk only) (Go to 118)

No (Go to 118)

114. Did the child eat as usual during the cough?

Yes No
(Go to 116)

115. Why not? Withheld Refused (no appetite)

Other

116. Did the child drink as usual during the cough?

Yes _____ No _____

117. Why not? (Go to 118)
Withheld _____ Refused _____ Other _____

118. Did you yourself treat the child with anything special for the cough?

Gave medicines _____ (Record names, if known)

Gave tea or herbal drink _____

Gave special food _____ (Record food)

Other _____

No _____

119. Did you show/take the child to any person for advice or ask anyone for advice to treat the cough?

Yes _____ No _____ (End questionnaire)

120. To whom/where did you go?

Clinic _____

Hospital _____

Doctor _____

Traditional healer _____

Pharmacist _____

Friend, neighbor, relative _____

Other (Write in) _____

121. What treatment was given?

Prescription for Pharmacy (Record name of drug or injection) _____

Drug (Record name, if known) _____

Injection (Record name, if known) _____

Herbal or traditional medicine _____

ORT _____

Soecial food _____

Other (Write in) _____

None _____

The Population Council

Health Module C

Form for Dead Child

To be administered to each respondent for each of her children who was recorded as born and died in the last five years in the birth history

1. Respondent I.D. _____
2. Child's name: _____
3. Date of birth of [child]: _____
(from birth history)
4. Date of death of [child]: _____
(from birth history)
5. Age of death of [child]: _____
(from birth history)
6. Season at which [child] died: _____
(write in local name)
7. Sex of [child]: _____
8. Did [this child] die as a result of an accident?
 - Yes _____ (Go to 9 and end questionnaire)
(fill in nature of accident)
 - No _____
9. Where did [the child] die?
 - At site of the accident _____
 - At home _____
 - At hospital _____
 - Health facility/clinic _____
 - Other _____
 - Away, in foster care, or otherwise outside the
mother's observation _____ (END QUESTIONNAIRE)
10. Had [the child] ever been away from your care for more than one month?
 - Yes _____
 - No _____
11. How long was [the child] ill before he/she died?
Days _____ Weeks _____ Months _____

Instructions should indicate that the interviewer confirm this information with the respondent to ensure that identity of the child is unambiguous

12. During [the child]'s illness that led to his/her death, did he/she have any of the following problems?

INTERVIEWER: If Respondent offers a list of symptoms spontaneously, go back to ask about each symptom listed that she did not report.

	Yes	No
Unable to open mouth to suck or cry	_____	_____
Fever or "malaria"	_____	_____
Rash	_____	_____
Severe, prolonged cough	_____	_____
Difficulty breathing	_____	_____
Red hair	_____	_____
Swollen feet	_____	_____
Severe weight loss	_____	_____
Diarrhea	_____	_____
Convulsions	_____	_____
Spasms or stiff body	_____	_____

13. Was [the child] still breastfeeding at the onset of the illness that led to death?

Yes _____ (Go to 15)

No _____

14. At what age was [the child] weaned?

Age in months _____ (Go to 18)

Don't remember _____ (Go to 18)

15. Was [the child] still breastfeeding on the day s/he died?

Yes _____ (Go to 17)

No _____

Don't remember (Go to 17)

16. Why not?

Child had difficulty sucking or refused the breast _____

Not good for child to breastfeed with the illness _____

Child reached weaning age _____

Other _____

Don't remember _____

17. Did [the child] eat or drink food other than breastmilk as usual during the illness

Yes _____ (Go to 22)

No, did not eat or drink other foods
(breastmilk only) _____ (Go to 22)

No _____ (Go to 22)

18. Did [the child] eat as usual during the illness?

Yes _____ (Go to 20)

No _____

19. Why not?

Withheld _____

Refused (no appetite) _____

Other _____

20. Did [the child] drink as usual during the illness?

Yes _____ (Go to 22)

No _____

21. Why not?

Withheld _____

Refused _____

Other _____

22. Did you yourself treat [the child] with anything special for the illness?

No _____

Gave medicines _____
(Record names, if known)

Gave tea or herbal drink _____

Gave special food _____
(Record food)

Other _____

23. Did you take [the child] to any person for advice or ask anyone for advice to treat the illness?

Yes _____

No _____ (Go to 26)

24. To whom/where did you go?

Clinic _____
Hospital _____
Doctor _____
Traditional Healer _____
Pharmacist _____
Friend, neighbor, relative _____
Other (write in) _____

25. What treatment was given?

Prescription for Pharmacy (record name
of drug or injection) _____
Drug (record name, if known) _____
Injection (Record name, if known) _____
Herbal or traditional medicine _____
ORT _____
Special food _____
Other (Write in) _____
None _____

26. Was there ever a health card for [this child]?

Yes _____
No _____ (Go to 28)

27. Ask for health card and record:

INTERVIEWER: If health card is not now available, check here _____ and to to 28.

Date of birth _____ (check with d.o.b. above)

Birthweight _____

Immunizations:
(Check Yes or No
for each type)

TYPE	Yes	No
DPT 1		
DPT 2		
DPT 3		
POLIO 1		
POLIO 2		
POLIO 3		
MEASLES (or MMR)		
BCG		

Go to 29

28. Did [this child] ever have any immunizations?

Yes _____

No _____

Don't know _____

29. Did [the child] ever have "measles"?

Yes _____

No _____

Don't know _____

(Probe and follow-up for hesitation, no and don't know)

30. Compared to other children at the same age, would you say that [this child] was more frequently sick, sick as often, or less frequently sick?

More frequently sick _____

No more sick than other children
at this age _____

Less frequently sick _____

Only one child, no basis for
comparison _____

Don't know _____

31. At birth, was [this child] larger than usual, usual in size, or smaller than usual in size?

Larger than usual _____ (Go to 33)

Usual in size _____ (Go to 33)

Smaller than usual _____

32. Was [this child] born earlier than you expected?

Yes _____

No _____

Don't know _____

33. When you were pregnant with _____, and before labor started, did you seek advice on your health from anyone:
name of child

Yes, Health facility (clinic) _____

Hospital _____

Private physician _____

Pharmacist _____

Traditional midwife _____

Other _____

No _____

34. At what month of pregnancy did you seek advice for the first time?

Month _____

Don't know _____

35. Where did you deliver [the baby]?

Health facility (clinic) _____

Hospital _____

At home _____

Midwife's home _____

Elsewhere _____

36. Who delivered [the baby]?

Physician _____

Pharmacist _____

Traditional midwife _____

Trained birth attendant/
midwife _____

Family member _____

Other _____

37. Did you get a tetanus toxoid shot (to protect [the baby] from convulsions) during that pregnancy?

Yes, date _____ (if Health Card for mother available, verify)

No _____

Don't know _____

SENEGAL IN-DEPTH SURVEY

Odile Frank 29 July 1986

This note outlines the principal characteristics and dimensions of an in-depth survey on child health and related factors to be conducted in Senegal.

Introduction

Cause of death information and reporting of child deaths are generally too poor in Africa to permit any detailed understanding of conditions of childhood morbidity and mortality necessary to growth in knowledge about child survival in that continent. At the same time, it is broadly apparent, because strong underlying patterns are discernible, and broadly recognized, that children die in excess numbers from some combination of malnutrition and diarrhea, measles, respiratory disease or malaria, across the continent. The contributions of poverty and ignorance, the malignancy of the environment, and the scarcity of preventive and curative interventions need to be unfolded and itemized to reveal discrete, manipulable determinants. At the same time, apparently competing explanations deserve clarification and ordering, which argues for equivalent treatment in the same experimental design, and simultaneous measurement.

Consequently, the in-depth survey outlined below is an attempt to implement a conceptual view of the determinants of childhood morbidity and mortality based on an appreciation of the roles of both behavioral and biological determinants, that stresses the mediating mechanisms of effect, and assesses their importance from measurement of their immediate practical significance. To illustrate, examples can be drawn from three major groups of mediating mechanisms. We will select the

influence of poverty on a child's environment, the inadequacy of a child's resistance to disease due to maternal ignorance of nutrition, and lack of corrective intervention because of nonavailability. A search for the practical implications of these mechanisms could be pursued through measurement of outputs which would be, respectively, say: counts of co-resident human bodies, presence of growth media for microbiological organisms, and prevalence of microbiological or protozoan organisms; nutritional status, immunization history, and antibody count of the child; presence of therapeutic measure(s) and implementation of therapeutic measures.

Clearly, an a priori deductive approach (such as the foregoing implies) requires a high tolerance for broad-ranging stabs at measuring outputs to which the conceptual framework points, whereas inevitably some will be nonproductive. To a large extent, therefore, this in-depth survey is wittingly exploratory. Nevertheless, since the framework will be heavily informed by existing research and prior knowledge of its various component aspects, it is felt that inefficiency will be kept at a minimum. The scope of the survey promises otherwise to provide richly detailed information about factors implicated in the several causal chains of childhood deaths.

Objectives

The overriding objective of the survey is to permit analysis of associations between an unusually wide range of posited determinants and indicators of the health of children aged from

birth to 3 years. The survey is also designed to attempt a holistic profile of child health from simultaneous and coincidental measurement of a wide range of relevant variables.

Scope of enquiry

The focus of enquiry is women aged 15 to 44, their surviving and dead children aged less than 3 years. Four major substantive areas will be covered in the enquiry:

- o Social and economic characteristics, including family structure and sources of income.
- o Demographic behavior, including fertility and mortality events.
- o Epidemiological characteristics, covered by the range of enquiry of the DHS health questionnaire, and including information about children who have died.
- o Microbiological and anthropometric characteristics, including height and weight measures of children, malaria and measles antibodies, and vitamin A deficit measurement.

Collaborative Arrangement

The principal executing agency will be either the Ministère du Plan (BNR) or the Ministère de la Santé of the Republic of Senegal. Negotiations will determine which of the two once the capability of the Ministère de la Santé is better known. It is possible that both Ministeries will be involved. Technical direction will be assured by a mini-consortium of interested scientists coordinated by The Population Council:

- o The Population Council will direct the social/economic, demographic and epidemiological components of the enquiry, which are largely addressed through questionnaire enquiry.
- o ORSTOM will both direct malaria antibody data collection (including coordination of regional mosquitology), and provide capability for direct data input, verification, and cleaning in the field for the entire survey. Both Paris and Dakar offices will be involved.
- o LSHTM will direct measles antibody testing. Both the Centre for Population Studies and the Laboratories of the London School will be involved.
- o It is anticipated that height and weight measurement can be assured similarly to the anthropometric component of the earlier DHS.
- o One principal clinical responsibility of the Council's will be the direction of vitamin A deficit data.

Sample and Design

After consideration of a number of alternative approaches to the substantive questions and their analytical needs, three major options are now being explored:

- o Returning to the DHS sample, the in-depth survey would focus on measurement and characteristics of children, and would seek inclusion of eligible children in all the survey compounds. Children born since the DHS Survey would be included, and the age ceiling for inclusion would

be raised by X, the elapsed time between DHS and the in-depth survey. This option has two advantages:

- it is economical in terms of time and resources, since it utilizes the DHS frame, lists, and sample.
- it provides for two analytically important but distinctive designs: first, a cross-sectional survey of a large number of children aged 0 to 48 months at the time of the in-depth survey (the sample implies about 5800 liveborn children, of which 15 to 35 percent or so will have died by the 4th birthday), which would make possible representative findings relative to factors associated with child health indicators; second, a longitudinal perspective on the characteristics of a far smaller sample of children (between 1000 and 2000) is provided over the time elapsed between the DHS and the in-depth survey. Although anticipated attrition severely limits the representativity of findings, data at two points on a large number of children make it possible to explore a number of questions regarding mechanisms of effect. Most particularly, efforts to identify deaths can also be stressed.

One problem that this option raises is the treatment of attrition. A next-compound option can alleviate the problem for the cross-sectional survey, but does not protect the longitudinal study from losing explanatory power. An important exercise would then be to compare the

characteristics of the samples found and those lost to follow-up. A second, but lesser problem is that of child identification for the purpose of linkage, which is hampered by co-wife co-residence, child fostering, age misreporting, and the absence of birth certification or other papers.

- o Drawing a parallel sample to DHS by systematically visiting the next compound. Children 0 to 3 years in all compounds would be included in the in-depth survey. This option has three advantages:

- it is economical in time and resources to arrive at the survey sample.
- it allows for analysis of a larger cross-sectional sample of children aged under 3 years, since the two samples, of between 1000 and 2000 children from DHS, and of approximately 3500 surviving children from the in-depth survey are statistically additive.

In principle, this sample could be doubled, tripled, and so on, entirely dependent on the limitation in direct costs for the field work.

The principal disadvantage of this option is that each compound must be newly approached and interviewed for the entire range of DHS questionnaires.

- o Drawing a sample from the DHS frame, utilizing a stratification of clusters by mortality level, and oversampling in clusters of lowest mortality to provide an

analytically adequate pool of deaths where they are scarcer. Clusters would be reduced, and compounds per cluster increased relative to the DHS sample. Since clusters are too small to provide any adequate estimate of mortality rates, mortality stratification can be defined on the basis of other sources.

- the advantage of this design is that it enhances the analytic possibilities for the dependent variable of mortality.
- a second advantage is that field work logistics would be facilitated.

The major disadvantage is that data from strata may not be additive, depending on the stratification necessary to maximize variance of the dependent variable. Second, a valid source of mortality differentials is necessary for the stratification strategy.

Analysis

It is anticipated that a great deal of descriptive information will be generated by the survey. Aside from this, analysis of the survey data provides for testing questions regarding the associations of a range of background characteristics and putative determinants of the health of children with the critical dependent variables of nutritional status, health status, morbidity, and mortality of young children.

Human Subjects Experimentation Approval

Since the microbiology component of this study requires blood samples, ethical standards must be sought, applied, and enforced in field work. The extent of intrusive procedures will be limited for ethical considerations to those minimally necessary for the analytical needs of the research. Consultations with both ORSTOM and LSHTM in September will allow for definitive assessment of quantity and type of blood samples necessary, with as much multiple use as possible of any sample the major goal and guideline. We will seek approval from both the Government of Senegal and the Population Council's Human Investigation Committee.