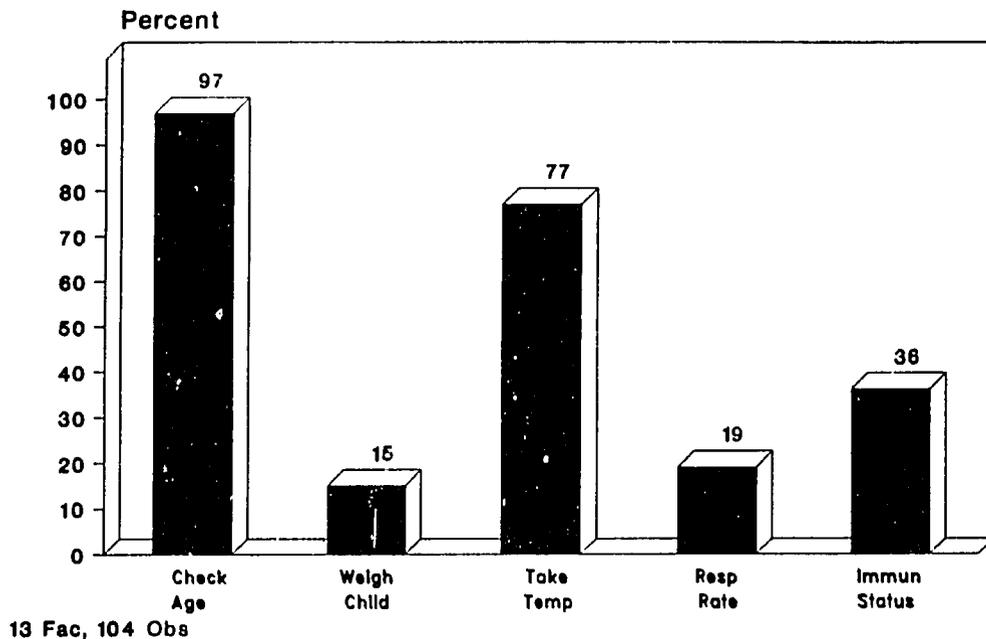


PN-ABX-939

sn-98299

# FACILITY ASSESSMENT SURVEY BARKIN LADI

## Assessment of Sick Children Health Worker Practices



1991

Conducted by:  
Barkin-Ladi Local Government Health Department

Technical assistance provided by:  
Combatting Childhood Communicable Diseases (CCCD) Project  
U.S. Agency for International Development

PA-ABX-939

15A 98277

USAID Lagos  
Department of State  
Washington, D.C. 20521-8300

**ACQUISITIONS**

Document Acquisitions

PPC/CDIE/DI

Room 303, SA-10

U.S. Agency for International Development

Washington, D.C. 20521-1803

---

Author: Maciak, Barbara J., Babaniyi, Olu, and CCCD Staff

Descriptive Title: Facility Assessment Survey Barkin Ladi

Project Name: Combatting Childhood Communicable Diseases

Project Number: 698-0421

Sponsoring AID Office: USAID Africa Regional Project

PASA Number: 620-0421

Participating Agency: Centers for Disease Control and Prevention (CDC)

Date of Publication/Issue: 1991

## **CONTENTS**

	<b>Page</b>
List of Tables	ii
List of Figures	iii
Map of Barkin-Ladi	iv
Summary of Findings	v
<b>1 BACKGROUND</b>	<b>1</b>
<b>2 OBJECTIVES</b>	<b>2</b>
<b>3 METHODS</b>	<b>3</b>
<b>4 MAJOR FINDINGS</b>	<b>5</b>
4.1 Assessment of Sick Children	5
4.2 Diarrhoea Case Management	13
4.3 Fever Case Management	16
4.4 Immunization Practices	19
4.5 Mothers Knowledge and Practices	23
4.6 Equipment and Supply Inventory	27
4.7 Management and Supervision Skills	33
<b>APPENDICES</b>	
Appendix A. Survey Questionnaire	A1
Appendix B. Malaria Equipment/Supplies Inventory	B1
Appendix C. LGA Government Officials and Health Department Staff	C1
Appendix D. Survey Participants	D1

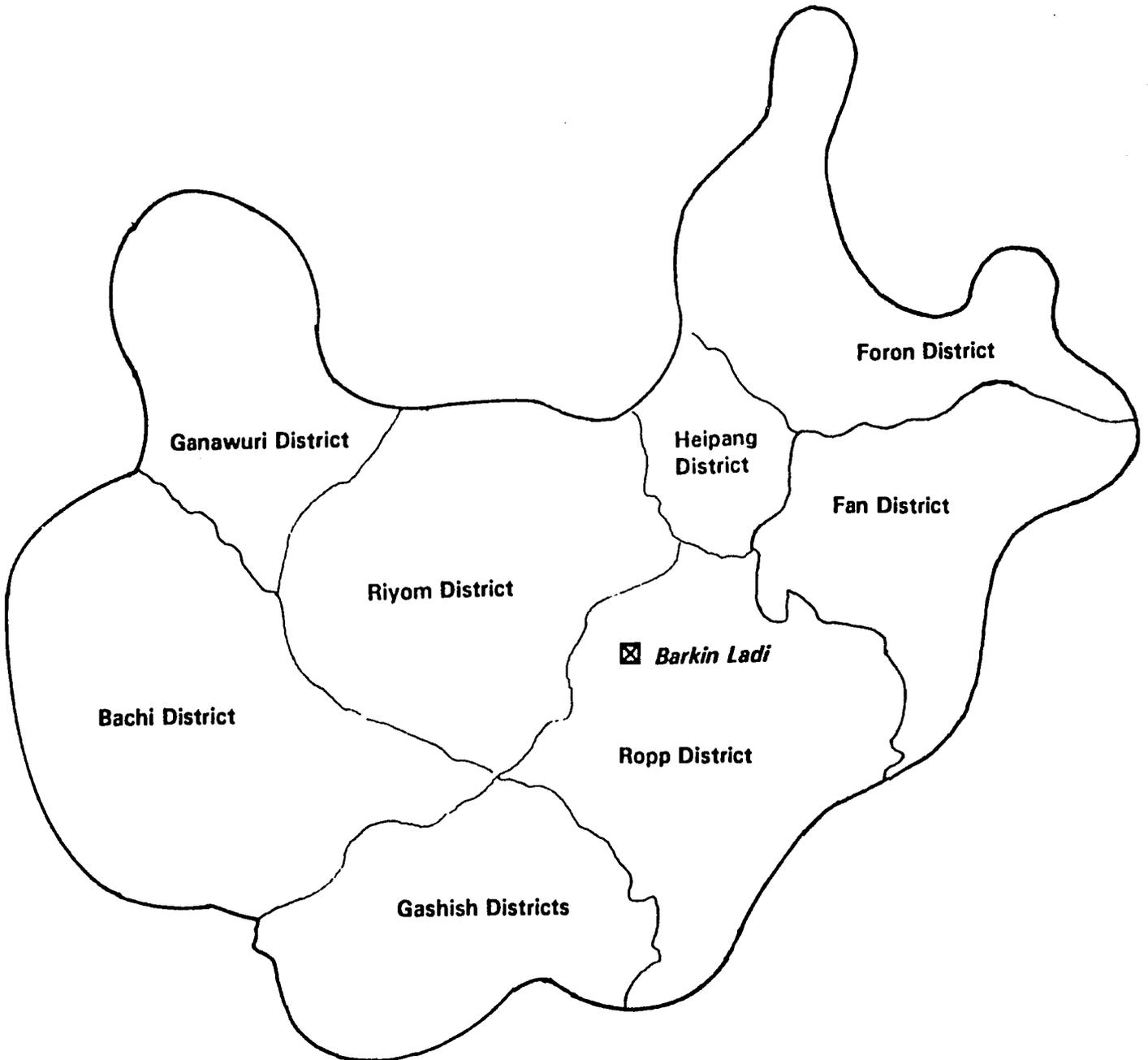
## **TABLES**

	<b>Page</b>
Table 1 List of facilities, by type and location	7
Table 2 Health workers observed, by title	7
Table 3 Sick child observations, by diagnosis	8
Table 4 Health worker practices in treating sick children	10
Table 5 Health worker practices, children with diarrhoea	15
Table 6 Health worker practices, children with fever	18
Table 7 Health worker practices, immunization	21
Table 8 Missed opportunities for immunization	22
Table 9 Mothers' knowledge and practices	25
Table 10 Equipment/supplies, vaccines, and drug inventory	30
Table 11 Malaria diagnostic equipment and supplies	32
Table 12 Health workers and supervisors interviewed, by title	35
Table 13 Management skills among health workers	37
Table 14 Management/supervision skills among supervisors	39

## FIGURES

	Page	
Figure 1	Assessment of sick children, health worker practices	9
Figure 2	Mothers of sick children, education by health workers	9
Figure 3	Case management of diarrhoea, health worker practices	14
Figure 4	Mothers of children with diarrhoea, education by health workers	14
Figure 5	Fever case management and education by health workers	17
Figure 6	Immunization and cold chain maintenance, health worker practices	20
Figure 7	Mothers of immunized children education by health workers	20
Figure 8	Mothers of sick and immunized children, knowledge upon leaving the health facility	24
Figure 9	Mothers knowledge of diarrhoea and SSS preparation	24
Figure 10	Equipment/supplies, vaccines, and ORS availability	29
Figure 11	Management skills among health workers	36
Figure 12	Management and supervisory skills among supervisors	36

**MAP OF BARKIN-LADI  
SHOWING EIGHT PRIMARY HEALTH CARE DISTRICTS**



## **SUMMARY OF FINDINGS**

**The Barkin-Ladi Facility Assessment Survey provides a concise summary of key health worker practices related to immunization and the case management of sick children. Since 1986, when the Primary Health Care program was first launched, Barkin-Ladi has made steady progress in its efforts to build a solid PHC infrastructure in the Local Government. The facility assessment survey provides a useful tool, simple and relatively inexpensive, for monitoring the quality of health service delivery at the facility level.**

**In this survey, health worker practices for two critical components of primary health care, immunization and growth monitoring, were highlighted. Despite the availability of functional weighing scales in all health facilities, very few health workers routinely weigh sick children. Growth monitoring using charts is generally done for immunized children only. While there is no official contraindication to immunizing sick children, only one in three sick children presenting at health facilities had their immunization status checked. Failure to routinely monitor the growth/nutritional status of children and to check immunization status (both for children and mothers) constitute missed opportunities.**

**Immunization technique among health workers in Barkin-Ladi was generally very good. Sterile needles and syringes were used to administer all immunizations, and the correct dose of each antigen was given at the correct site. All health workers recorded the date on which the immunization was given on the child's card. Emphasis on EPI program activities throughout Nigeria over the past several years has contributed to improvements in immunization technique.**

**Problems with immunization in Barkin-Ladi relate primarily to education practices among health workers. Many mothers were not advised about the need to complete the immunization series, and management of reactions to vaccines was often not explained. Follow-up visit dates were often not recorded on the child's card.**

**While correct immunization technique and patient education are essential, these elements alone will not ensure effective immunization. Necessary equipment and supplies, along with adequate cold chain maintenance, are critical for ensuring vaccine potency. In Barkin Ladi, further efforts are required to ensure the availability of thermometers and temperature charts. Health workers must be encouraged to monitor the temperature of all refrigeration units on a daily basis.**

**Health worker skills in assessing dehydration due to diarrhoea and correct case management technique need strengthening. Few children with diarrhoea were weighed, and only half of the children had their skin turgor checked. The oral rehydration therapy use rate was less than 50% in health facilities. There is a need for training to improve diarrhoea assessment and case management skills --- both supervisory skills training for the EPI/CDD Manager and members of the LGA Primary Health Care Team and case management training for facility level health workers.**

## **1 BACKGROUND**

Barkin-Ladi, one of twenty three Local Government Areas (LGA) in Plateau State, is situated about 42 kilometres from Jos, the state capital. The LGA occupies a land area of 1,956 sq km, with an estimated population of 152,800 (1991 census). Barkin-Ladi has a temperate climate and is predominantly rural, with farming and trading the major occupations. There are fifty-five villages in Barkin-Ladi, grouped into eight districts. Berom, the major ethnic group, is predominant in seven districts. Hausa is almost universally spoken in the LGA.

In 1986, Barkin-Ladi was selected as one of 52 LGAs nationwide for development as a PHC "Model LGA." Since that time, significant progress has been achieved in the implementation of Primary Health Care at all levels. Within the LGA Health Department, Primary Health Care is divided into five sections: 1) Immunization/Diarrhoeal Disease Control, 2) Essential Drugs, 3) Maternal and Child Health/Nutrition, 4) Health Education/Women in Health, and 5) Monitoring and Evaluation. Each section is headed by an Assistant PHC Coordinator, with overall technical direction and support provided by the LGA PHC Coordinator.

Each of the eight districts in Barkin-Ladi (see map) has a District Supervisor who coordinates health activities within the district and reports to the LGA PHC Coordinator. The LGA PHC Coordinator conducts monthly planning and coordination meetings with all eight district supervisors. PHC Committees have been formed and are functional at all levels — LGA, District, and Village.

There are approximately twenty government health facilities in Barkin-Ladi, including a general hospital and basic and rural primary health care clinics. In addition, there are over fifty private/voluntary health institutions. The Christian Health Association of Nigeria (CHAN) provides logistics and training support to a number of health facilities throughout Plateau State, including Barkin-Ladi.

Most government health facilities in Barkin-Ladi provide integrated primary health care services, including immunization and family planning. At the time of the facility assessment, thirteen facilities provided routine immunization services. During 1992, the Local Government plans to upgrade a number of "dispensaries" to PHC clinics which will provide routine immunization. Through support received from the Bamako Initiative, Barkin-Ladi has established a well-functioning Revolving Drug Fund at the LGA level.

Government health facilities are staffed by various cadres of community health workers, including Community Health Officers/Supervisors, Senior and Junior Community Health Extension Workers, nurses, midwives and environmental health officers. In addition, over one hundred and fifty Village Health Workers (VHW) and Traditional Birth Attendants (TBA) have been trained to provide basic Primary Health Care services in villages throughout the LGA.

Since mid-1991, the Combatting Childhood Communicable Diseases (CCCD) Project has provided support for Primary Health Care implementation in Barkin-Ladi. Major activities supported by CCCD include:

- management and supervisory skills training for PHC program managers and supervisors
- continuing education for facility-based PHC workers, village health workers (VHW), and traditional birth attendants (TBA)
- strengthening/establishment of ORT units and corners
- clinical training on case management of diarrhoea
- PHC supervision support through vehicle repair and maintenance
- PHC orientation for LGA government officials and district and village health committee members
- establishment of PHC library at LGA Health Department

During 1992, CCCD will provide on-going support for continuing education programs to strengthen both technical and management/supervisory skills among program managers and facility-based health workers. Logistics support though will be provided to enhance supervision and promote community outreach from health facilities.

## **2 OBJECTIVES**

The Barkin-Ladi Facility Assessment Survey was conducted primarily to obtain information about case management and education practices among health workers in the Local Government. Special emphasis was placed on obtaining information about immunization and diarrhoea/fever case management and the availability of necessary equipment and supplies.

Specific objectives of the Facility Assessment Survey included:

- 1) to describe health worker skills in the assessment and case management of sick children under five years of age, with particular emphasis on diarrhoea and fever case management
- 2) to assess immunization technique and cold chain maintenance at health facilities

- 3) to identify missed opportunities for immunization of women and children
- 4) to describe patient/mother education practices among health workers
- 5) to document the availability of equipment/supplies and selected essential drugs at health facilities, with emphasis on malaria diagnostic equipment and supplies
- 6) to describe management and supervisory skills among health workers and their supervisors
- 7) to identify logistical factors which may hinder the delivery of quality health services to children under five years

### 3 METHODS

**Sample:** The assessment was conducted at all thirteen government primary health care facilities in Barkin-Ladi that provide routine immunization services. These PHC facilities included twelve basic health clinics and one maternal and children welfare clinic. Eight dispensaries (smaller outposts that do not provide immunization services) and the general hospital in Barkin-Ladi (a *state*-supported and supervised health institution), were not included in the LGA Facility Assessment.

**Survey Instrument:** Instruments used in the facility assessment included (see Appendix A):

- observation checklists for the case management of sick children and immunization
- exit interviews with mothers of sick children and children receiving immunization
- equipment/supply inventory
- questionnaires for interviews with health workers and their supervisors

A detailed malaria diagnostic equipment/supply inventory was also carried out (Appendix B).

**Survey Participants:** LGA Government officials and Primary Health Care Department staff provided logistics and technical support for the Barkin-Ladi Facility Assessment Survey

(Appendix C). Actual survey participants were recruited from Barkin-Ladi Local Government and the Continuing Education Unit at Plateau State Ministry of Health (Appendix D). Three interviewer teams of four persons each (three interviewers and one team coordinator) were formed. At least one member of each team spoke Hausa and one member spoke Berom.

Survey participants were trained for five days on questionnaire content and survey methods. Training included an overview of survey goals and objectives and technical issues related to immunization and diarrhoea/fever case management. Each survey instrument was carefully reviewed to clarify the purpose of each item and how it was defined. Role plays with exit interview forms were conducted to reach consensus on correct language translation into Hausa and Berom. Two supervised field exercises were carried out at clinics near the Barkin-Ladi PHC Secretariat. Special meetings were conducted with team coordinators to review specific management responsibilities.

**Data collection:** A schedule of team visits to each facility was created in advance to ensure that visits coincided with provision of immunization services. On the morning of the survey, teams arrived at the facility well before the clinic opened for service, so that sterilization procedures could be observed. Upon arrival, the team coordinator introduced the general purpose of the survey to the head of the facility and explained methods that would be used. A brief tour was conducted to determine where services are provided, and to decide where interviewers should sit and where exit interviews should be conducted.

Mothers of children for whom an observation checklist was completed were given an identification card to present at the exit interview table. At the exit interview table, mothers of children with diarrhoea were asked to prepare sugar-salt solution. Observations and interviews continued in this fashion until five children with diarrhoea, five children with fever (as primary symptom), five children with acute respiratory infection (ARI, as defined by the health worker), and five children being immunized had been observed. Multiple observations on sick children presenting with more than one complaint were allowed.

Equipment/supply inventories and interviews with health workers (and supervisors, whenever available) were conducted by the team coordinator either after service hours or during a break in service delivery. While data were collected, team coordinators checked periodically for accuracy and completion. Validation observations on at least one mother/child in each program area (immunization, diarrhoea, ARI, and fever) were conducted.

**Data analysis:** Data were manually abstracted into tables and tabulated by LGA health department personnel and survey interviewers, with technical support from CCCD staff. Later, data were entered onto computer at the CCCD office in Kaduna and analyzed using EPI-INFO software.

## 4 MAJOR FINDINGS

Thirteen facilities included in the Barkin-Ladi Facility Assessment Survey are listed in Table 1. Both "health clinics" (formerly referred to as rural health centres) and "basic health clinics" provide comprehensive primary health care services including immunization, oral rehydration therapy, and family planning. While both types of facilities have in-patient capability, the number of beds may be greater in full "health clinics." Maternal and child health (MCH) clinics provide health services for women and children only, with no provision for overnight stay. As shown in Table 2, all cadres of facility health workers were observed during the survey. Of 36 health workers observed treating sick children or providing immunization, the majority were Junior or Senior Community Health Extension Workers, Community Health Supervisors, and Public Health Nurses.

### 4.1 Assessment of Sick Children

A total of 104 observations of sick children were made (Table 3). Half of these sick children (54.8%) had fever, 43.3% had diarrhoea, and 31.7% had cough as a primary complaint. Among children with fever, almost half (43.9%) had fever coincident with diarrhoea and/or cough. Among children with diarrhoea, only one half (51.1%) had diarrhoea only. The remainder of these children had diarrhoea with fever and/or cough. Other problems noted among sick children included malnutrition, otitis media, and accident-related injuries.

The following points highlight key findings (summarized in detail in Table 4 and Fig. 1) related to health worker assessment and prescription of drugs for sick children:

- Despite the availability of functional scales in all health facilities, very few health workers (15.4%) routinely weigh sick children. Weight is more commonly assessed among children being immunized who have an immunization card, with a growth chart for plotting weight.
- Immunization status was checked for only one in three sick children presenting at health facilities.
- The majority of health workers took a history of the child's illness by asking questions about duration and history of fever, diarrhoea, and cough. Only one third of health workers asked mothers about home treatment with western or traditional medicine before coming to the health facility.
- On the average, each sick child received 3.1 drugs for treatment of his or her illness. The number of drugs given per child ranged from one to eight.

**Patient education practices among health workers, summarized in Table 4 and Fig. 2, were as follows:**

- **A majority of health workers greeted the mother, a gesture which helps the mother feel comfortable and acknowledges her role as a child care provider.**
- **Almost all health workers explained how to administer medications to the child's mother. Only one in four stressed the importance of *completing* the treatment, and only half explained to the mother that she should return to the health center if the child's condition gets worse.**
- **Health workers explained and demonstrated SSS preparation to very few mothers of sick children. Education about SSS was given most often to mothers of children with diarrhoea.**
- **About half of the health workers asked the mother questions to determine whether she understood the information given to her. Only one in four health workers asked the mother if she herself had any questions.**

**Table 1. List of facilities, by type and location**

List of primary health care facilities visited during Facility Assessment Survey, by type and location, Barkin Ladi, 1991

<b>Facility</b>	<b>Number</b>	<b>Location</b>
<b>Health Clinic</b>	<b>9</b>	Bakin Kogi Barkin Ladi Dorowa Tsoho Fan'loh Ganawuri Heipang Hoss Lobiring Mai'ido Toro
<b>Basic Health Clinic</b>	<b>3</b>	Bachit Danwal Foron
<b>MCH Clinic</b>	<b>1</b>	Kura Falls
<b>Total</b>	<b>13</b>	

**Table 2. Health workers observed, by title**

<b>Title</b>	<b>Number</b>
Community Health Supervisor	2
Senior Community Health Extension Worker	1
Junior Community Health Extension Worker*	4
Public Health Nurse	1
Midwife	4
Lab Assistant	1
<b>Total</b>	<b>13</b>

*\* Includes Community Health Aides/Assistants*

**Table 3. Sick child observations, by diagnosis**

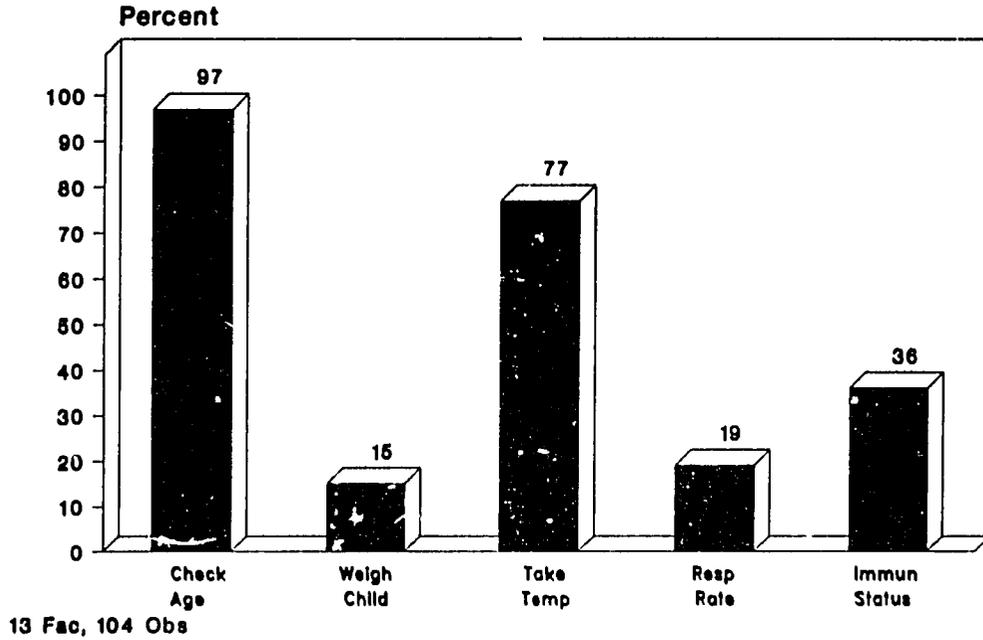
Sick children presenting at health facilities, by health worker diagnosis, Barkin-Ladi, 1991

<b>Diagnosis</b>	<b>Number (%) of observations</b>
Fever	57 (54.8)
Diarrhoea	45 (43.3)
Cough	33 (31.7)
Fever only*	32 (30.8)
Diarrhoea only*	23 (22.1)
Cough only*	17 (16.3)
Fever + diarrhoea	14 (13.5)
Fever + cough	8 (7.7)
Diarrhoea + cough	5 (4.8)
Fever + diarrhoea + cough	3 (2.9)
Other problems**	32 (30.8)
Total	104

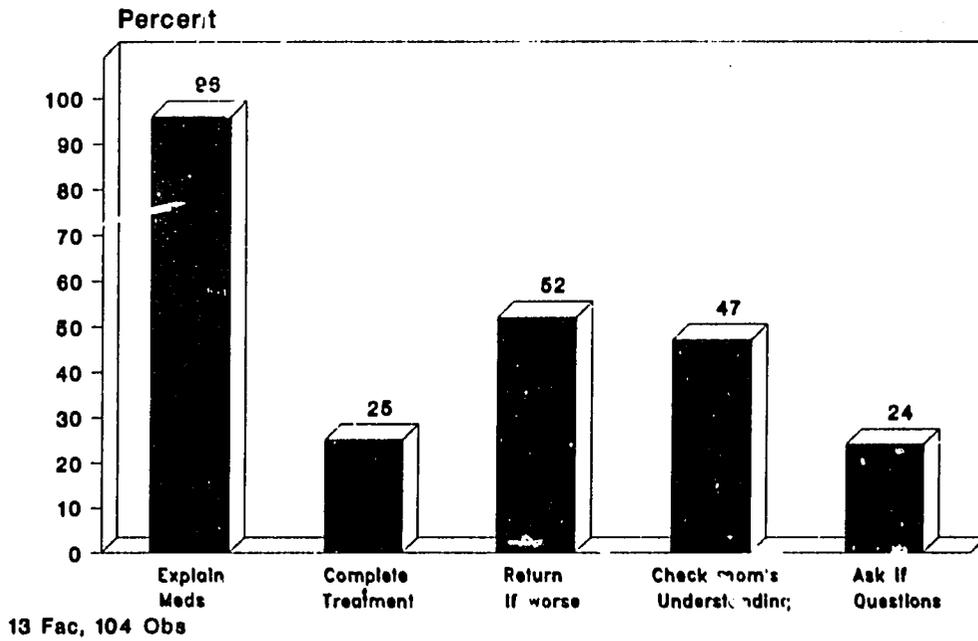
\* *"Fever only" refers to fever without diarrhoea or cough, though fever may have been coincident with "other problems." The same holds true for "diarrhoea only" and "cough only."*

\*\* *Other problems include malnutrition, otitis media, injuries, etc. These may have been coincident with fever, diarrhoea, and/or cough.*

**Figure 1**  
**Assessment of Sick Children**  
**Health Worker Practices**



**Figure 2**  
**Mothers of Sick Children**  
**Education by Health Workers**



**Table 4. Health worker practices in treating sick children**

Case management practices among health workers in the treatment of sick children presenting at health facilities, Barkin-Ladi, 1991

<i>Number of observations = 104</i> <i>Number of facilities = 13</i>	Percentage	
	Yes	No
<b>Does the health worker determine the child's:</b>		
Age	97.1	2.9
Weight	15.4	84.4
Temperature with a thermometer	76.9	22.1
Respiratory rate	19.2	80.8
Immunization status	35.6	64.4
<b>Does the health worker ask questions about:</b>		
General condition of the child	89.4	10.6
Duration of the illness	94.2	5.8
History of fever	86.5	13.5
Vomiting	77.9	22.1
Diarrhoea	71.2	28.8
Coughing	66.3	33.7
Difficulties with breathing	11.5	88.5
Problems with swallowing	7.7	92.3
History of home treatment with:		
Western medicine	39.4	60.6
Traditional medicine	26.0	74.0
<b>Does the health worker examine the child's:</b>		
Eyes	74.0	26.0
Ears	53.8	46.2
Throat	27.9	72.1
Breathing	35.6	64.4
Abdomen	55.8	44.2

**Table 4. Health worker practices in treating sick children (continued)**

	Percentage	
	Yes	No
<b>Does the health worker diagnose the child as having:</b>		
Fever	54.8	45.2
Malaria	47.2	52.8
Diarrhoea	43.3	56.7
Dehydration	32.5	57.5
Cough	31.7	58.3
Cold	16.3	83.7
Pneumonia/Bronchitis	10.6	89.4
Other	30.8	69.2
<b>Does the health worker give/prescribe:</b>		
Chloroquine		
Any form	72.1	27.9
Tablets	25.0	75.0
Syrup	39.4	60.6
Injection	23.1	76.9
Tab/syrup + injection	15.4	84.6
Paracetamol	70.2	29.8
Antibiotic	25.0	75.0
Cough mixture	33.7	66.3
Cold remedy	12.5	87.5
Vitamins	23.1	76.9
Phenerzon	8.7	91.3
Daraprin	5.8	94.2
At least one other drug	20.2	79.8
Average number drugs/child	3.1	
Range	1-8	

**Table 4. Health worker practices in treating sick children (continued)**

	Percentage	
	Yes	No
<b>Does the health worker explain to the mother:</b>		
How to administer medications	96.2	3.8
The importance of completing the treatment	25.0	75.0
That she should return to the health center if the child's condition gets worse	51.9	48.1
<b>Does the health worker:</b>		
Explain how to prepare SSS	37.6	62.4
Demonstrate how to prepare SSS	12.5	87.5
Ask the mother to demonstrate how to prepare SSS	4.8	95.2
Ask the mother questions to see if she has understood	47.1	52.9
Ask the mother if she has any questions	24.1	75.9
Greet the mother	84.2	15.8

## **4.2 Diarrhoea Case Management**

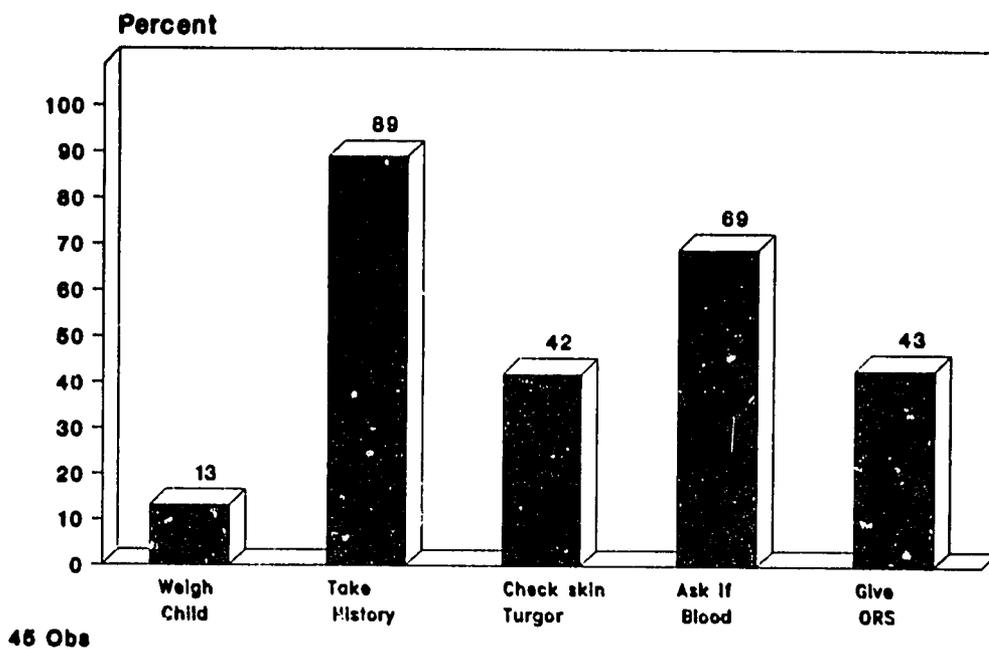
Among 104 sick children, 45 (43.3%) had diarrhoea. Table 5 and Fig. 3 present health worker practices in the assessment and case management of these children. The following points summarize key findings.

- Weighing the child with diarrhoea is important both for determining the amount of ORS to give and for assessing fluid gain following ORS administration. In this survey, only one in ten children with diarrhoea was weighed. It appears the majority of health workers may use the child's age to estimate the amount of ORS needed.
- Skin turgor, a tool for assessing the extent of dehydration, was checked in only half of the children with diarrhoea.
- The majority of health workers took a complete history from the mother, asking questions about duration and number of stools in the past 24 hours, and presence of blood in the stool.
- Less than half of the children with diarrhoea were given or prescribed with oral rehydration fluids. In this survey, it was not possible to tell whether the fluid given was ORS or SSS.
- No child with diarrhoea was prescribed antidiarrhoeal medicine such as kaolin or thalozole.

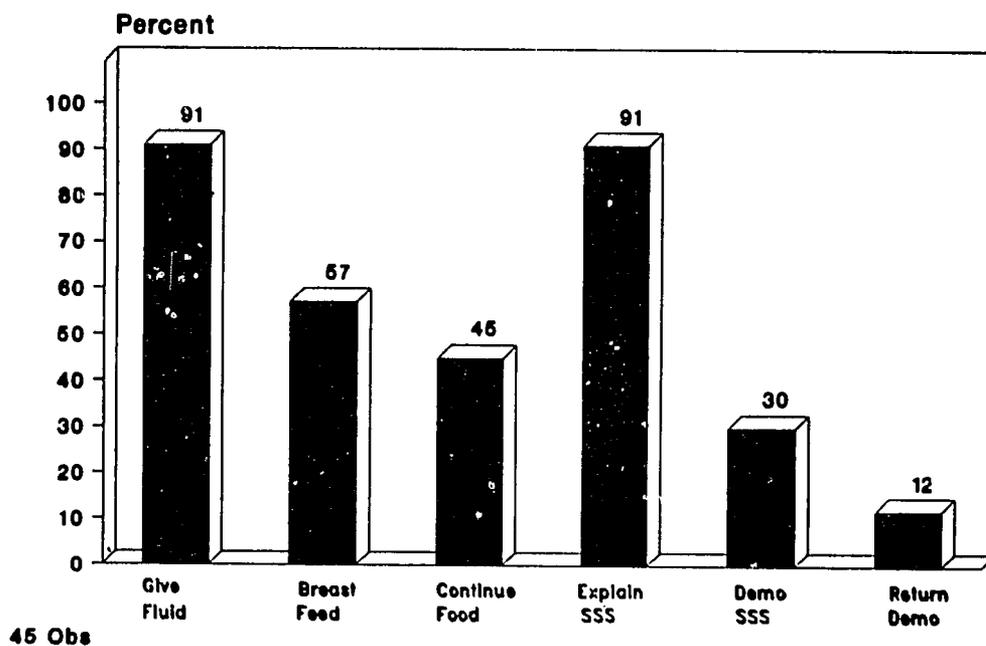
Education about follow-up treatment at home and SSS preparation (Fig. 4) are summarized below:

- While almost all mothers received information about the need to give more fluids than usual, few mothers were advised to give fluids after each diarrhoea or vomiting episode.
- Among mothers who were breastfeeding their child before the diarrhoea episode started, slightly more than half were advised to continue throughout the episode. Less than half of all mothers were encouraged to continue feeding the child.
- While health workers explained SSS preparation to almost all mothers of children with diarrhoea, only one in three mothers were shown how to prepare SSS and even fewer mothers were asked to actually prepare SSS themselves.

**Figure 3**  
**Case Management of Diarrhoea**  
**Health Worker Practices**



**Figure 4**  
**Mothers of Children with Diarrhoea**  
**Education by Health Workers**



**Table 5. Health worker practices, children with diarrhoea**

Case management practices among health workers in the treatment of children presenting with diarrhoea, Barkin-Ladi, 1991

	Percentage	
	Yes	No
<i>Number of observations = 45</i>		
<i>Number of facilities = 13</i>		
<b>Does the health worker:</b>		
Determine the child's age	95.6	4.4
Determine the child's weight	13.3	86.7
Examine the child's skin turgor	42.2	57.8
<b>Does the health worker ask questions about:</b>		
Duration of diarrhoea	100.0	
Number of stools in past 24 hours	88.9	
Blood in stool	68.9	
<b>Does the health worker explain the need to:</b>		
Give more fluids than usual	91.1	8.9
Give fluids after each diarrhoea episode	28.9	71.1
Give fluids after each vomiting episode	22.2	77.8
Continue breastfeeding the child*	56.6	43.5
Continue feeding the child	44.5	55.6
<b>Does the health worker:</b>		
Explain how to prepare SSS	90.7	9.3
Demonstrate how to prepare SSS	30.2	69.9
Ask the mother to demonstrate how to prepare SSS	11.6	85.4
<b>Does the health worker give/prescribe:</b>		
ORS	43.3	56.7
SSS	31.1	68.9
Antidiarrhoeal	—	100.0

\* Among children currently breastfed

### **4.3 Fever Case Management**

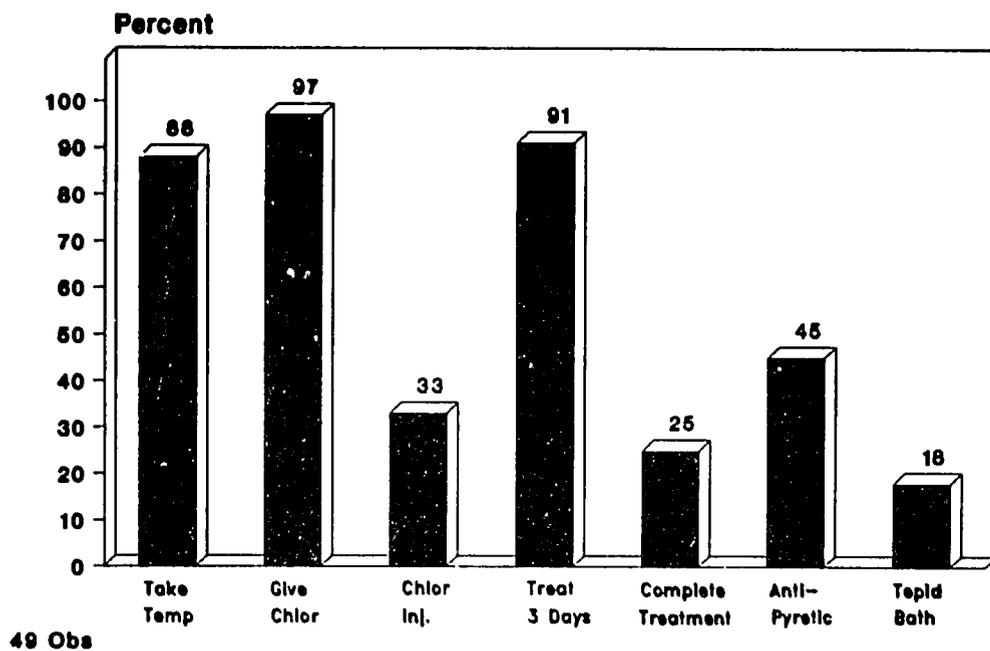
Forty-nine sick children (54.8%) had fever as a primary complaint. Key findings related to assessment and case management practices by health workers (summarized in Table 6) are highlighted below:

- Nearly all health workers took the child's temperature using a thermometer.
- Following national malaria treatment guidelines, almost every child with fever was given some form of chloroquine. About half of the children were given syrup and one third were given tablets.
- Chloroquine injection was given to one in three children with fever.
- Paracetamol, an antipyretic, was given to the majority of children.

Education of mothers about follow-up treatment at home and measures to prevent malaria is a critical component of the overall case management support provided by health workers. When health worker education practices were observed (Fig. 5), the following points were noted:

- Almost all mothers were instructed how to administer the antimalarial medicine they were given. However, the importance of completing the treatment (i.e., giving chloroquine for *three days*) was stressed to only one quarter of the mothers.
- About half of the mothers were told to give an antipyretic (like paracetamol) at home for fever.
- Few mothers were told to give a tepid sponge bath to children with fever.

**Figure 5**  
**Fever: Case Management**  
**and Education by Health Workers**



**Table 6. Health worker practices, children with fever**

Case management practices among health workers in the treatment of children presenting with fever, Barkin-Ladi, 1991

<i>Number of observations = 49</i>	Percentage	
	Yes	No
<b>Does the health worker determine the child's:</b>		
Age	93.0	7.0
Weight	17.5	82.5
Temperature with a thermometer	87.7	12.3
<b>Does the health worker explain to the mother:</b>		
How to administer malaria medications	91.2	8.8
The importance of completing the 3-day treatment	24.6	75.4
The need to give an antipyretic	44.9	55.1
give a tepid bath	18.4	81.6
<b>Does the health worker give/prescribe:</b>		
Chloroquine		
Any form	96.5	3.5
Tablets	36.8	63.2
Syrup	50.9	49.1
Injection	33.1	66.9
Tab/Syr + Injection	24.6	75.4
Paracetamol	84.2	15.8

#### **4.4 Immunization Practices**

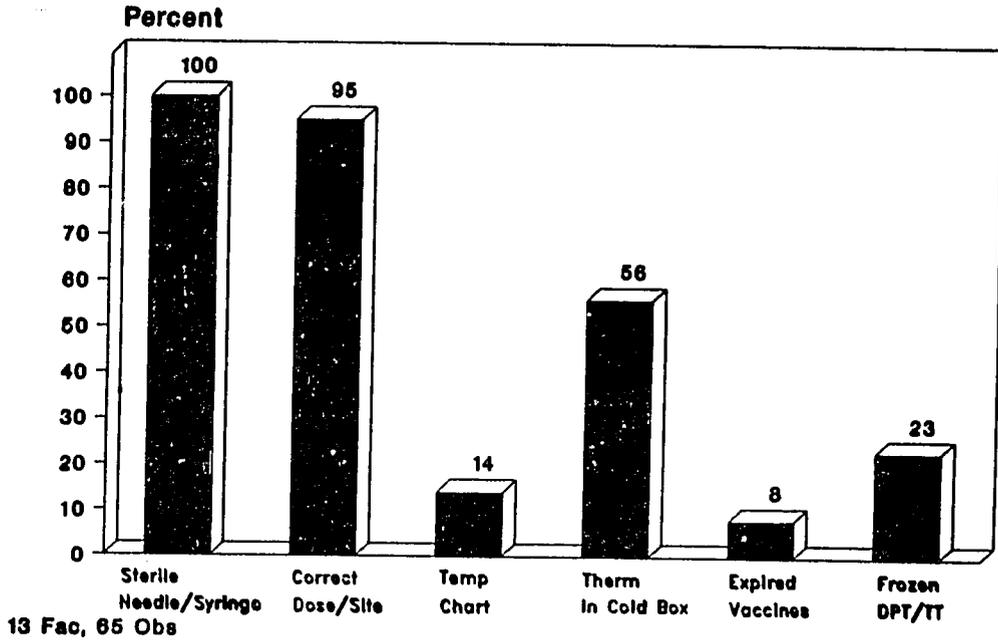
During the survey, observations were made on 65 children receiving immunization. Health worker technique and education practices are summarized in Table 7 and Figs. 6-7.

- All health workers used a sterile needle to immunize the child. A sterile syringe was used by all but one health worker.
- The correct antigen dose was given for all immunizations.
- Nearly all health workers immunized the child at the correct site.
- The date on which the immunization was given was recorded on the child's immunization card by almost all health workers.
- Only half of the health workers explained the importance of completing the immunization series and coming back for follow-up doses. The date for the child's next visit was recorded on the immunization card for only one third of the children.
- Most mothers were told what diseases the immunization could prevent. However, fewer than half of the mothers were told possible reactions to the vaccine and what to do if the child had such a reaction.
- About half of the health workers asked the mother questions (to determine whether she understood the information given to her) and half asked the mother if she herself had any questions.

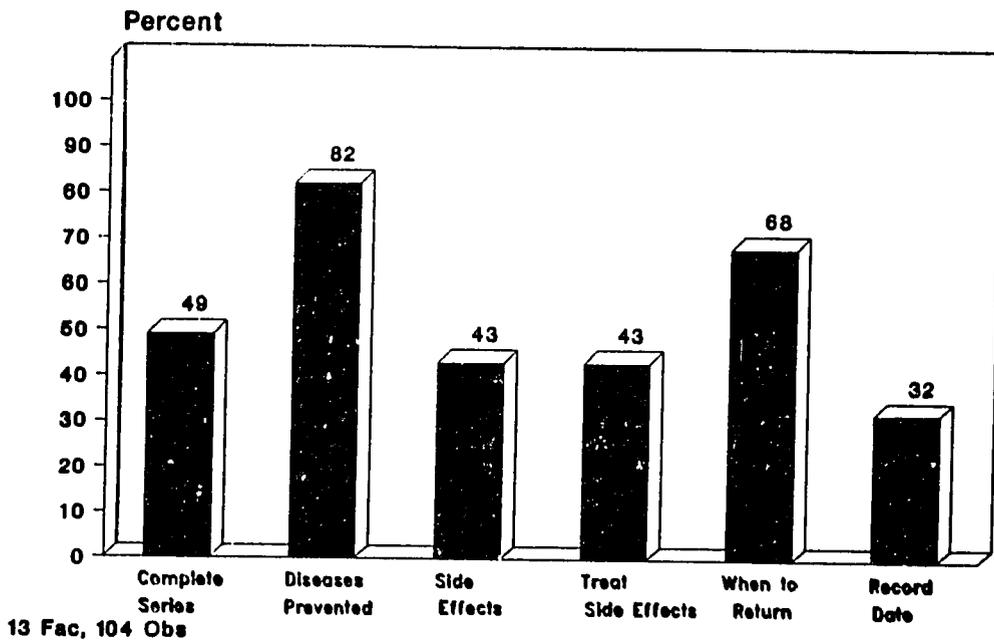
Adequate cold chain maintenance is necessary to ensure vaccine potency. The following cold chain practices (summarized in Fig. 6 and Table 10) were observed at health facilities in Barkin-Ladi:

- Only one out of seven refrigerators and one out of nine cold boxes had a temperature chart to monitor temperature.
- About one half of all refrigeration units (refrigerators and cold boxes) had a thermometer inside.
- Expired vaccines were a problem in one health facility.
- Three facilities had either frozen DPT or tetanus toxoid (TT).

**Figure 6**  
**Immunization and Cold Chain Maintenance**  
**Health Worker Practices**



**Figure 7**  
**Mother's of Immunized Children**  
**Education by Health Workers**



**Table 7. Health worker practices, immunization**

Immunization practices among health workers, Barkin-Ladi, 1991

	Percentage responding:	
	Yes	No
<hr/>		
<i>Number of observations = 65</i>		
<i>Number of facilities = 13</i>		
<hr/>		
<b>Does the health worker determine the child's:</b>		
Age	100.0	—
Weight	64.6	35.4
Temperature with a thermometer	—	100.0
<b>Does the health worker:</b>		
Use a sterile needle	100.0	—
Use a sterile syringe	98.5	1.5
Administer the correct dose	100.0	—
Immunize at the correct site	95.4	4.6
<b>Does the health worker explain to the mother:</b>		
Importance of completing the immunization series	49.2	50.8
Diseases prevented by these vaccines	81.5	18.5
Possible reactions to the vaccines	43.0	57.0
What to do if there is a reaction	43.0	57.0
When she should return to the health center	67.7	32.3
<b>Does the health worker:</b>		
Ask the mother questions to see if she has understood	61.5	38.5
Ask the mother if she has any questions	55.4	44.6
<b>Does the health worker record on the child's immunization card:</b>		
Today's date	96.9	3.1
Date of next visit	32.3	67.7

**Table 8. Missed opportunities for immunization**

Missed opportunities for immunization among children and mothers presenting at health facilities, Barkin-Ladi, 1991

<i>Number of observations = 104</i>	Number (%)	
	Yes	No
<i>Among sick children:</i>		
Was immunization card available	37/104 (36.6)	67/104 (64.4)
Did health worker check the child's immunization status	30/37 (81.1)	7/37 (18.9)
Was child referred for immunization if needed	17/30 (56.7)	13/30 (43.4)
<i>Among mothers of sick children:</i>		
Does mother have a health (TT) card	0/104 (—)	104/104 (100.0)
Did health worker check mother's TT status	—	(100.0)
Was mother referred for immunization if needed	—	(100.0)

When a sick child visits a health facility, immunization status should be routinely checked and the child referred for immunization, if needed. Information presented in Table 8 indicates that there are a substantial number of "missed opportunities" for immunizing children and their mothers at health facilities in Barkin-Ladi. During the survey, the following observations were made:

- Immunization cards were available for only one third of sick children presenting at health facilities. When an immunization card was available, most health workers checked the child's immunization status. Only half of those children needing immunization were referred for immunization on that day.
- None of the mothers who accompanied their sick child to the health facility had her own health (TT) card with her. Thus, mothers who may have been in need of TT immunization were not identified and the vaccine was not administered.

#### 4.5 Mothers Knowledge and Practices

Knowledge and practices among mothers of sick and immunized children, as reported during exit interviews, are presented in Table 9 and Fig. 9.

In this survey, among mothers of *sick children* leaving the health facility ---

- about half understood what to do for the child upon returning home
- about half knew when it may be necessary to bring the child back
- fewer than half knew that they should return to the health facility if the child's condition became worse

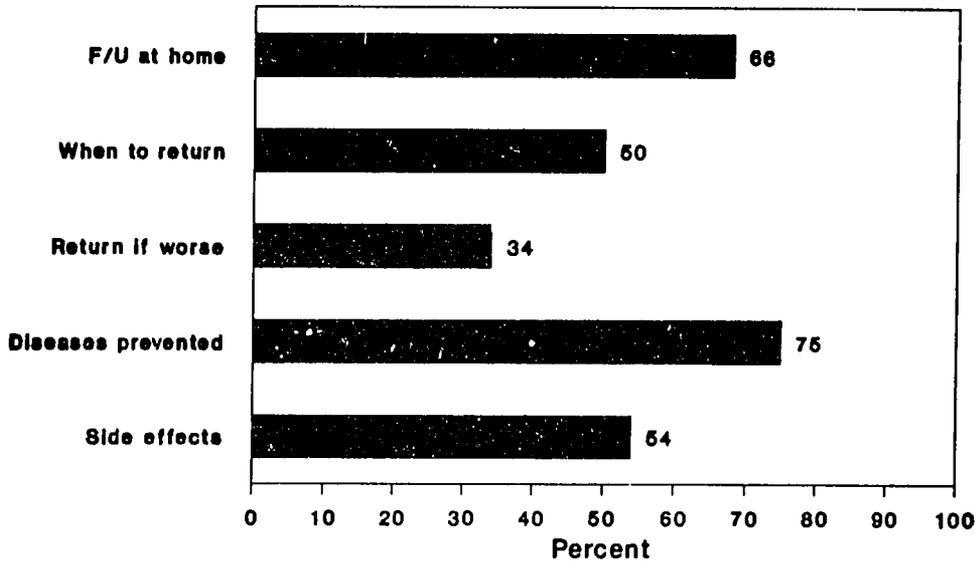
Among mothers of children with *diarrhoea* ---

- almost all had heard about the "solution which one gives to children with diarrhoea"
- about half did something at home *before* coming to the health facility) to treat the child's diarrhoea. Of these mothers, half gave sugar-salt solution (SSS) and one quarter gave increased fluids of some other type
- the majority knew that SSS could prevent dehydration and help stop diarrhoea in their children
- most knew how to prepare SSS and demonstrated the correct amount of water, salt, and sugar to be added

Finally, among mothers of *immunized* children ---

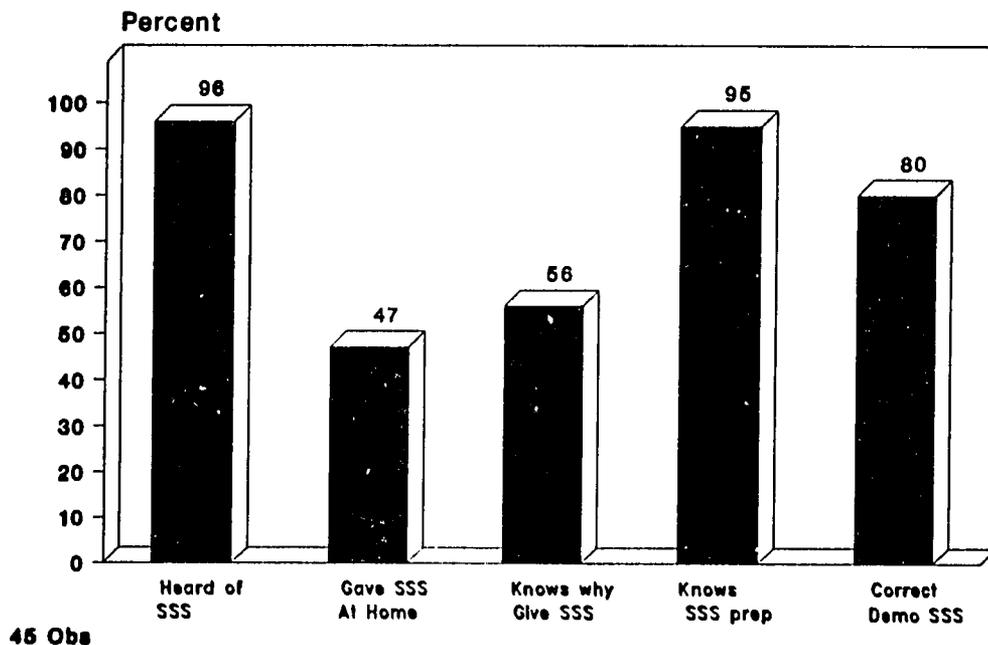
- the majority knew which diseases the immunization would prevent
- about half knew possible side effects which might occur

**Figure 8**  
**Mothers of Sick and Immunized Children**  
**Knowledge upon Leaving Health Facility**



95 Obs, sick children  
 65 Obs, immunized children

**Figure 9**  
**Mothers' Knowledge of Diarrhoea**  
**and SSS Preparation**



45 Obs

**Table 9. Mothers' knowledge and practices**

Knowledge and practices among mothers of sick and immunized children,  
as reported during exit interviews, Barkin-Ladi, 1991

	Number (%)	
	Yes	No
<i>Mothers of sick children (n=95)</i>		
Those who know:		
What to do when she returns home	61 (68.4)	34 (31.6)
When to bring the child back	47 (49.5)	48 (50.5)
To return if the child's condition becomes worse	32 (33.7)	63 (66.3)
<i>Mothers of children with diarrhoea (n=45)</i>		
Did you do anything at home to treat the child	21 (46.7)	24 (53.3)
What did you do at home		
Gave SSS	9 (46.7)	12 (57.1)
Gave more fluids	5 (23.8)	16 (76.2)
Other	7 (33.4)	14 (66.6)
Have you heard of the solution which one gives to children with diarrhoea	43 (95.5)	2 (4.5)
Do you know why people give SSS to children with diarrhoea		
To stop diarrhoea	34 (75.5)	11 (24.5)
To prevent dehydration	26 (55.8)	19 (44.2)
Did the health worker explain how to prepare SSS in the clinic today	36 (80.0)	9 (20.0)
Do you yourself know how to prepare SSS	38 (84.4)	7 (15.6)

**Table 9. Mothers' knowledge and practices (continued)**

	Number (%)	
	Yes	No
<b>Mothers who know correct amount of:</b>		
Water	34 (89.5)	4 (10.5)
Salt	37 (97.4)	1 (2.6)
Sugar	37 (97.4)	1 (2.6)
<b>Mothers who demonstrate correct amount of:</b>		
Water	37 (82.5)	8 (17.8)
Salt	36 (80.0)	9 (20.0)
Sugar	36 (80.0)	9 (20.0)
<b><i>Mothers of immunized children (n=65)</i></b>		
<b>Those who know:</b>		
Diseases the immunization would prevent	49 (75.4)	16 (24.6)
Possible side effects	35 (53.8)	30 (46.2)

#### **4.6 Equipment and Supply Inventory**

An *equipment/supply* inventory conducted at all thirteen health facilities (Table, Fig. revealed that ---

- potable water, for drinking and handwashing, was not available at two facilities
- all facilities had a functional weighing scale
- though needles and syringes were available at all facilities, three facilities did not have a functional steam sterilizer
- a functional refrigerator was available at seven facilities, and nine facilities had a cold box
- childhood antigens (measles, DPT, OPV, and BCG) and tetanus toxoid were not available at two facilities

*Essential drugs* available included ---

- chloroquine (tablets and/or syrup), in stock at all facilities
- cotrimoxazole tablets, available at all but one facility
- ORS packets, not available at five health facilities. Among the eight facilities that did have ORS, five had 1 liter sachets and three had 600 ml sachets.

For *sugar-salt solution (SSS)* ---

- containers, bowls, and spoons for SSS preparation were available at all facilities
- sugar was not available at three facilities, and salt was unavailable at two facilities

Each health facility in Barkin-Ladi had either ORS or sugar and salt for SSS preparation.

A review of *record-keeping supplies* revealed that ---

- whereas child health/immunization cards were available at all facilities, adult health cards were not available at two facilities and tetanus toxoid

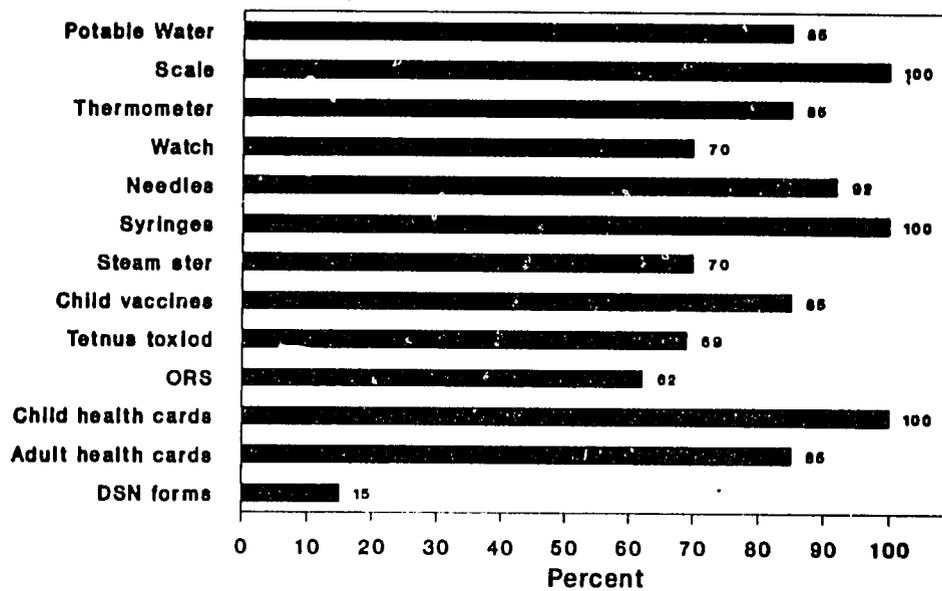
cards were not available at five facilities

- one facility did not have an immunization register
- notifiable disease forms (DSN) were available at only two facilities

A detailed inventory of *diagnostic equipment and supplies* (Table 11) indicated that most health facilities in Markin-Ladi have neither reagents nor supplies required for malaria diagnosis. The following specific observations were made:

- Three facilities had no laboratory facility available.
- Binocular microscopes were available at three facilities and a monocular microscope at seven facilities.
- Stains and reagents for malaria diagnosis are essentially unavailable at all facilities.
- Additional equipment (i.e., microhaematocrit centrifuge, tally counters and autolets) were not available in any facility. An analytic balance was available in one facility.

Figure 10  
Equipment/Supplies, Vaccines, and ORS  
Availability at Health Facilities



13 Fac

**Table 10. Equipment/supplies, vaccines, and drug inventory**

Equipment/supplies, vaccines, and selected essential drugs available at health facilities, Barkin-Ladi, 1991

<i>Number of facilities = 13</i>	Number (%)	
	Yes	No
<b>General equipment/supplies:</b>		
Thermometer	11 (84.6)	2 (15.4)
Weighing scale, functional	13 (100.0)	—
Timer	8 (61.5)	5 (30.8)
Watch (with second hand)	9 (69.2)	4 (30.8)
Oxygen cylinder	1 (7.7)	12 (92.3)
full	—	13 (100.0)
Needles		
disposable	12 (92.3)	1 (7.7)
reusable	9 (69.2)	4 (30.8)
Syringes	13 (100.0)	—
Steam sterilizer, functional	9 (69.2)	4 (30.8)
Kerosene stove, functional	13 (100.0)	—
Potable water	11 (84.6)	2 (15.4)
<b>Cold storage:</b>		
Refrigerator, functional	7 (53.8)	6 (46.2)
temperature chart	1	6
thermometer inside	2	5
spare cylinder	1	6
Cold Box	9 (69.2)	4 (30.8)
temperature chart	1	8
thermometer inside	5 (55.5)	4 (44.5)
Either refrigerator or cold box	13 (100.0)	—
expired vaccines	1 (7.7)	12 (92.3)
frozen DPT or TT	3 (23.1)	10 (76.9)
frozen blocks	7 (53.8)	6 (46.2)
<b>Vaccines:</b>		
Measles	11 (84.6)	2 (15.4)
DPT	11 (84.6)	2 (15.4)
OPV	11 (84.6)	2 (15.4)
BCG	11 (84.6)	2 (15.4)
TT	9 (69.2)	4 (30.8)

**Table 10. Equipment/supplies, vaccines, and drug inventory (continued)**

	Number (%)	
	Yes	No
<b>Selected essential drugs:</b>		
Chloroquine tablets	11 (84.6)	2 (15.4)
Chloroquine syrup	12 (92.3)	1 (7.7)
Cotrimoxazole tablets	12 (92.3)	1 (1.7)
Cotrimoxazole syrup	—	13 (100.0)
ORS packets		
Any size	8 (61.5)	5 (38.5)
600 ml	3 (23.1)	10 (76.9)
1 liter	5 (38.5)	8 (61.5)
<b>SSS/ORS supplies:</b>		
Containers (for measuring)	13 (100.0)	—
Bowls	13 (100.0)	—
Spoons	13 (100.0)	—
Sugar	10 (76.9)	3 (23.1)
Salt	11 (84.6)	2 (15.4)
<b>Record-keeping supplies:</b>		
Child health (immunization) cards	13 (100.0)	—
Adult health cards	11 (84.6)	2 (15.4)
TT cards	5 (38.5)	8 (61.5)
Immunization register	12 (92.3)	1 (7.7)
Notifiable disease (DSN) forms	2 (15.4)	11 (84.6)

**Table 11. Malaria diagnostic equipment and supplies**

Availability of equipment, supplies, and reagents required for diagnosis of malaria, Barkin-Ladi, 1991

Item	Yes	No
Laboratory facility available	10 (76.9)	3 (23.1)
Microscopes		
Binocular	3 (23.1)	10 (76.9)
Monocular	7 (53.8)	6 (46.2)
Oil immersion	2 (15.4)	11 (84.6)
Microscope slides	6 (46.2)	7 (53.8)
Slide boxes	—	13 (100.0)
Slide markers	4 (30.8)	9 (69.2)
Slide rack	1 (7.7)	12 (92.3)
Stains		
Giemsa	2 (15.4)	11 (84.6)
Fields	—	13 (100.0)
Staining jar or rack	9 (69.2)	4 (30.8)
Any reagents for malaria diagnosis	—	13 (100.0)
Glycerol	—	13 (100.0)
Xylol	—	13 (100.0)
Buffer salts	—	13 (100.0)
Methanol (analar)	—	13 (100.0)
Absolute alcohol	—	13 (100.0)
Methylated spirit	1 (7.7)	12 (92.3)
Microhaematocrit centrifuge	—	13 (100.0)
Reader for microhaematocrit centrifuge	—	13 (100.0)
Analytical balance	1 (7.7)	12 (92.3)
Tally counter	—	13 (100.0)
Timer or stop clock	—	13 (100.0)
Autolet	—	13 (100.0)
Absorbent cotton wool	7 (53.8)	6 (46.2)
Bench aid handbook for malaria diagnosis	—	13 (100.0)

#### **4.7 Management and Supervision Skills**

Interviews were conducted with twelve health workers and eleven supervisors (Table 12) to determine management and supervisory skills. Key management practices among *health workers* (summarized in Table 13, Fig. 11) included the following:

- About half of the health workers interviewed had a workplan.
- Target populations for measles, TT, malaria, and diarrhoea were not known by most health workers.
- Most health workers had a written job description, and standing orders (job guidelines) were available at all but two facilities.
- Schedules for supervisory visits were generally not available, although health workers report receiving regular supervisory visits from district and LGA staff.
- Most health workers report that routine supervisory visits are helpful in keeping their technical skills up-to-date.
- Health worker performance is evaluated regularly, and most health workers report feeling comfortable discussing problems with their supervisor.
- Reports (mainly health statistics and patient data) are regularly submitted by all health workers, and these reports are used on the job.

**Key management and supervisory practices among facility *supervisors* (summarized in Table 14, Fig. 12) included the following:**

- **Few supervisors reported having a map of the Local Government or knowing the LGA population.**
- **Job descriptions, standing orders, and procedures to evaluate health workers were available among half of the supervisors.**
- **Although supervisors regularly engage in supervision activities, supervisory schedules are generally not available. Most supervisors do report making more frequent supervisory visits to health workers not performing well.**
- **Supervisory checklists are rarely used to monitor health worker performance.**
- **Although some supervisors reported having cancelled planned supervisory visits due to lack of transport, logistics support for supervision was not a major problem.**
- **Nearly all supervisors had observed facility-level health education activities in the past six months.**

**Table 12. Health workers and supervisors interviewed, by title**

Health workers and supervisors interviewed during  
Facility Assessment Survey, by title, Barkin-Ladi, 1991

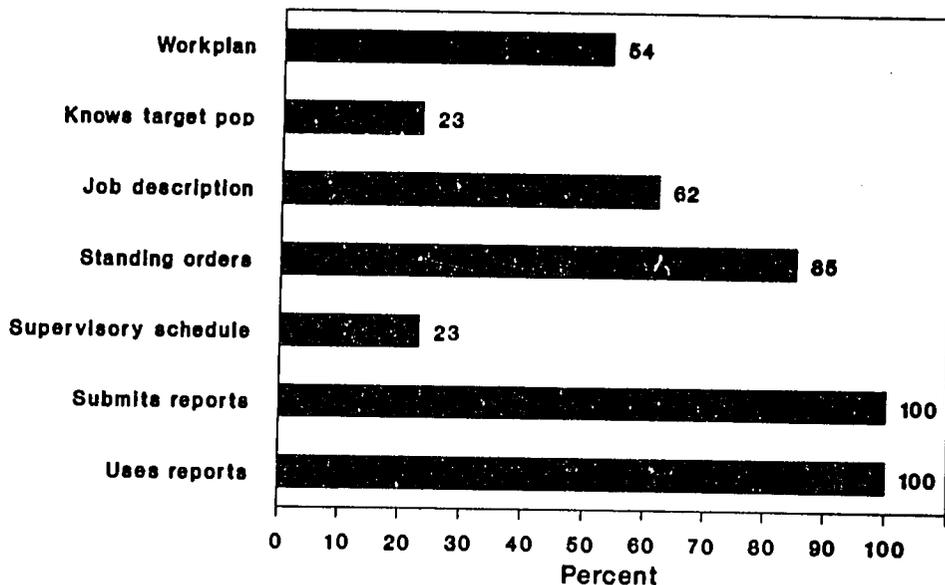
---

<b>Title/position</b>	<b>Number</b>
<b>Health workers:</b>	
Community Health Supervisor	2
Senior Community Health Extension Worker	1
Junior Community Health Extension Worker*	4
Midwife	4
Lab Assistant	1
<b>Total</b>	<b>12</b>
<b>Supervisors:</b>	
Head of Unit/Facility	5
District Supervisor	2
Community Health Supervisor	2
Assistant Chief Community Health Sister	1
Senior Health Sister	1
Midwife	1
<b>Total</b>	<b>11</b>

---

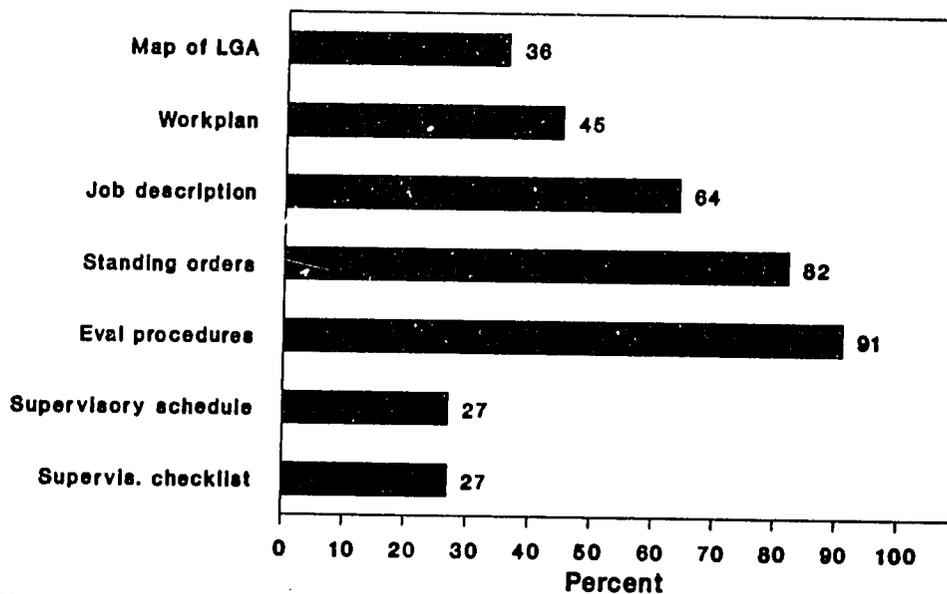
*\* Includes Community Health Aides/Assistants*

**Figure 11  
Management Skills  
Among Health Workers**



12 Obs

**Figure 12  
Management and Supervisory Skills  
Among Supervisors**



11 Obs

**Table 13. Management skills among health workers**

Management skills among health workers interviewed during the Facility Assessment Survey, Barkin-Ladi, 1991

<i>Number of interviews = 13</i>	Number (%)	
	Yes	No
<b>Workplan:</b>		
Does the health worker have a written workplan	7 (53.8)	6 (46.2)
Was the workplan developed with health worker input	5 (71.4)	2 (28.6)
<b>Target populations:</b>		
Were target populations explained to the health worker by his/her supervisor for:		
Measles	3 (23.1)	10 (76.9)
Tetanus Toxoid	3 (23.1)	10 (76.9)
Malaria	2 (15.4)	11 (84.6)
Diarrhoea	2 (15.4)	11 (84.6)
Does the health worker know target populations for:		
Measles	3 (23.1)	10 (76.9)
Tetanus Toxoid	3 (23.1)	10 (76.9)
Malaria	2 (15.4)	11 (84.6)
Diarrhoea	2 (15.4)	11 (84.6)
<b>Job description:</b>		
Does the health worker have a written job description	8 (61.5)	5 (38.5)
<b>Standing orders:</b>		
Are there written standing orders or job guidelines	11 (84.6)	2 (15.4)

**Table 13. Management skills among health workers (continued)**

	Number (%)	
	Yes	No
<b>Supervisory visits:</b>		
Is there a schedule for supervisory visits	3 (23.1)	10 (76.9)
Were any supervisory visits canceled in the past 6 months	3 (23.1)	10 (76.9)
Does the supervisor keep health worker's skills up to date	11 (84.6)	2 (15.4)
Is the health worker's performance evaluated regularly	12 (92.3)	1 (7.7)
Does he/she discuss problems with supervisor	9 (69.2)	4 (30.8)
<b>Reports:</b>		
Does the health worker submit reports regularly	13 (100.0)	—
Does he/she use the reports on the job	13 (100.0)	—

**Appendix A**

**FACILITY ASSESSMENT SURVEY**

+++++  
**LGA:** \_\_\_\_\_ **Facility:** \_\_\_\_\_ **Obs #:** \_\_\_\_\_ **Date:** \_\_/\_\_/91

**Health Worker Observed (Title):** \_\_\_\_\_ **Interviewer:** \_\_\_\_\_  
 +++++

**OBSERVATION CHECKLIST #1  
 \*\*\*SICK CHILDREN\*\*\***

**DOES THE HEALTH WORKER DETERMINE THE CHILD'S:**

- |   |   |   |
|---|---|---|
| 1. Age .....                            | Y | N |
| 2. Weight .....                         | Y | N |
| 3. Temperature with a thermometer ..... | Y | N |
| Temperature by touching the skin .....  | Y | N |
| 4. Respiratory rate .....               | Y | N |

5. Does the child have a health (immunization) card.. Y N
- If Yes, does the health worker:**
- |   |   |   |
|---|---|---|
| Check the child's immunization status ..... | Y | N |
| Refer for immunization (when needed) .....  | Y | N |

6. Does the mother have a health (TT) card ..... Y N
- If Yes, does the health worker:**
- |   |   |   |
|---|---|---|
| Check the mother's TT status .....            | Y | N |
| Refer for TT immunization (when needed) ..... | Y | N |

**DOES THE HEALTH WORKER ASK QUESTIONS ABOUT:**

- |   |   |   |
|---|---|---|
| 7. General condition of the child ..... | Y | N |
| 8. Duration of the illness .....        | Y | N |
| 9. History of fever .....               | Y | N |
| 10. Vomiting .....                      | Y | N |
| 11. Diarrhea .....                      | Y | N |
| 12. Duration of diarrhea .....          | Y | N |
| 13. Number of stools/past 24 hrs .....  | Y | N |
| 14. Blood in the stool .....            | Y | N |
| 15. Coughing .....                      | Y | N |

-39-

- |     |                                     |   |   |
|-----|-------------------------------------|---|---|
| 16. | Difficulties with breathing .....   | Y | N |
| 17. | Problems with swallowing .....      | Y | N |
| 18. | History of home treatment with:     |   |   |
|     | Traditional medicine/practice ..... | Y | N |
|     | Western medicine .....              | Y | N |

**DOES THE HEALTH WORKER EXAMINE THE CHILD'S:**

- |     |                 |   |   |
|-----|-----------------|---|---|
| 19. | Eyes .....      | Y | N |
| 20. | Ears .....      | Y | N |
| 21. | Throat .....    | Y | N |
| 22. | Breathing ..... | Y | N |
| 23. | Abdomen .....   | Y | N |
| 24. | Skin fold ..... | Y | N |

**\*\*\*DIAGNOSIS\*\*\***

**DOES THE HEALTH WORKER DIAGNOSE THE CHILD AS HAVING:**

- |     |                   |   |   |
|-----|-------------------|---|---|
| 25. | Diarrhea .....    | Y | N |
| 26. | Dehydration ..... | Y | N |

If Yes:    \_\_\_\_\_ Slight  
               \_\_\_\_\_ Moderate  
               \_\_\_\_\_ Severe

- |     |                            |   |   |
|-----|----------------------------|---|---|
| 27. | Cough .....                | Y | N |
| 28. | Cold .....                 | Y | N |
| 29. | Pneumonia/Bronchitis ..... | Y | N |
| 30. | Fever .....                | Y | N |
| 31. | Malaria .....              | Y | N |
| 32. | Other: _____               |   |   |

**\*\*\*EDUCATION OF THE MOTHER\*\*\***

**DOES THE HEALTH WORKER EXPLAIN TO THE MOTHER:**

- |     |  |   |   |
|-----|--|---|---|
| 33. | How to administer medications .....  | Y | N |
| 34. | The importance of completing the treatment .....   | Y | N |
| 35. | The need to:   |   |   |
|     | . give more fluids than usual .....  | Y | N |
|     | . give fluids after each diarrhea episode .....  | Y | N |
|     | . give fluids after each vomiting episode .....  | Y | N |
|     | . continue breastfeeding the child .....   | Y | N |
|     | . continue feeding the child .....   | Y | N |
|     | . give an antipyretic .....  | Y | N |
|     | . give a tepid bath .....  | Y | N |
| 36. | That she should return to the health center<br>if the child's condition gets worse ..... | Y | N |

**DOES THE HEALTH WORKER:**

- |     |   |   |   |
|-----|---|---|---|
| 37. | Explain how to prepare SSS .....                    | Y | N |
| 38. | Demonstrate how to prepare SSS .....                | Y | N |
| 39. | Ask the mother to demonstrate how to prepare SSS... | Y | N |

**DOES THE HEALTH WORKER:**

- |     |  |   |   |
|-----|--|---|---|
| 40. | Ask the mother questions to see if she<br>has understood ..... | Y | N |
| 41. | Ask the mother if she has any questions .....                  | Y | N |

**FACILITY ASSESSMENT SURVEY**

+++++  
**LGA:** \_\_\_\_\_ **Facility:** \_\_\_\_\_ **Obs #:** \_\_\_\_\_ **Date:** \_\_/\_\_/9

**Health Worker Observed (Title):** \_\_\_\_\_ **Interviewer:** \_\_\_\_\_  
 +++++

**OBSERVATION CHECKLIST #2  
 \*\*\*IMMUNIZATION\*\*\***

**DOES THE HEALTH WORKER DETERMINE THE CHILD'S:**

- |   |   |   |
|---|---|---|
| 1. Age .....  | Y | N |
| 2. Weight .....                                       | Y | N |
| 3. Temperature with a thermometer .....               | Y | N |
| Temperature by touching the skin .....                | Y | N |
| 4. Does the child have a health (immunization) card.. | Y | N |
| <b>If Yes, does the health worker:</b>                |   |   |
| Check the child's immunization status .....           | Y | N |
| 5. Does the mother have a health (TT) card .....      | Y | N |
| <b>If Yes, does the health worker:</b>                |   |   |
| Check mother's TT status .....                        | Y | N |
| Refer for TT immunization (when needed) .....         | Y | N |
| 6. Is the child sick today .....                      | Y | N |

**DOES THE HEALTH WORKER:**

- |  |   |   |
|--|---|---|
| 7. Immunize the child .                          | Y | N |
| Send the child to the immunization service ..... | Y | N |
| Use a sterile needle for each injection .....    | Y | N |
| Use a sterile syringe for each injection .....   | Y | N |
| Administer the correct dose .....                | Y | N |
| Immunize at the correct site .....               | Y | N |

42

**DOES THE HEALTH WORKER EXPLAIN TO THE MOTHER:**

- |     |  |   |   |
|-----|--|---|---|
| 12. | The importance of completing the immunization series ..... | Y | N |
| 13. | What diseases can be prevented by these vaccines..         | Y | N |
| 14. | The possible reactions to these vaccines .....             | Y | N |
| 15. | What to do if there is a reaction .....                    | Y | N |
| 16. | When she should return to the health center .....          | Y | N |

**DOES THE HEALTH WORKER:**

- |     |   |   |   |
|-----|---|---|---|
| 17. | Ask the mother questions to see if she has understood ..... | Y | N |
| 18. | Ask the mother if she has any questions .....               | Y | N |

FACILITY ASSESSMENT SURVEY

+++++  
LGA: \_\_\_\_\_ Facility: \_\_\_\_\_ Obs #: \_\_\_\_\_ Date: \_\_/\_\_/91

Health Worker Observed (Title): \_\_\_\_\_ Interviewer: \_\_\_\_\_  
+++++

EXIT INTERVIEW #1  
\*\*\*ALL CHILDREN\*\*\*

"I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT YOUR VISIT TO THE HEALTH CENTER"

- 1. In which village/town do you live? \_\_\_\_\_
- 2. How old is the child? Years \_\_\_\_\_ Months \_\_\_\_\_
- 3. What is the reason for your visit today?

Child suffering from: \_\_\_\_\_ Fever  
\_\_\_\_\_ Cough  
\_\_\_\_\_ Diarrhea  
\_\_\_\_\_ Other

Child in good health needing: \_\_\_\_\_ Immunization (Go to Q.6)  
\_\_\_\_\_ Other: \_\_\_\_\_

- 4. Did you receive any medicine (prescription) for your child ..... Y N

CHECK ALL MEDICINE GIVEN/PREScribed FOR THE CHILD:

- \_\_\_\_\_ ORS
- \_\_\_\_\_ SSS
- \_\_\_\_\_ Chloroquine (Tablets)
- \_\_\_\_\_ Chloroquine (Syrup)
- \_\_\_\_\_ Chloroquine (Injection)
- \_\_\_\_\_ Other Antimalarial: \_\_\_\_\_
- \_\_\_\_\_ Paracetamol (Antipyretic)
- \_\_\_\_\_ Antidiarrheal
- \_\_\_\_\_ Antibiotic
- \_\_\_\_\_ Cough Mixture (Benylin, Tussifin, Linctus, Codeine, etc.)
- \_\_\_\_\_ Cold Remedy (Actifed, Phenergan, etc.)
- \_\_\_\_\_ Other: \_\_\_\_\_

44

**FILL IN THE TABLE BELOW BY ASKING THE MOTHER:**

- . How much medicine do you give the child at one time?
- . How many times do you give it to the child each day?
- . For how many days will you give the medicine to the child?

<u>MEDICINE</u>	<u>How much each time?</u>	<u>How many times each day?</u>	<u>For how many days?</u>
Chloroquine (Tab)	_____ Tsp	_____	_____
Chloroquine (Syr)	_____ Tsp	_____	_____
Antibiotic (Tab)	_____ Tabs	_____	_____
Antibiotic (Syr)	_____ Tabs	_____	_____
Paracetamol (Tab)	_____ Tabs	_____	_____
Paracetamol (Syr)	_____ Tsp	_____	_____

5. Did the health worker tell you what to do for the child when you return home ..... Y N

What did he tell you? (Check all that apply)

- \_\_\_\_\_ Give more fluids than usual
- \_\_\_\_\_ Give fluids after each diarrhea episode
- \_\_\_\_\_ Give fluids after each vomiting episode
- \_\_\_\_\_ Continue breastfeeding the child
- \_\_\_\_\_ Continue feeding the child
- \_\_\_\_\_ Give an antipyretic (medicine against fever)
- \_\_\_\_\_ Give a tepid bath
- \_\_\_\_\_ Other: \_\_\_\_\_

45

6. Did the health worker tell you when to bring the child back ..... Y N

What did he say? (Check all that apply)

There is no need to return  
(Child is in good health and has received all necessary immunizations)

Return for the child's next immunization

When?  Knows  
 Doesn't know

Return if the child's condition becomes worse

How will you know if the child's condition becomes worse?

- If he has fever
- If he refuses to eat
- If diarrhea gets worse
- If he has chest indrawing
- Other: \_\_\_\_\_

7. Did the health worker greet you ..... Y N

FACILITY ASSESSMENT SURVEY

+++++
LGA: Facility: Obs #: Date: \_\_/\_\_/91

Health Worker Observed (Title): Interviewer:

EXIT INTERVIEW #2
\*\*\*CHILD WITH DIARRHEA\*\*\*

1. Did you do anything at home for this child with diarrhea Y N

If Yes, what did you do? Gave SSS (Go to Q.3)
Gave Home Fluids
Other:

2. Have you ever heard of the solution (liquid) which one gives to children with diarrhea Y N

3. Why do people give SSS to children with diarrhea?

To stop diarrhea
To prevent dehydration
Other:
Doesn't know

4. Did the health worker show you how to prepare SSS in the clinic today Y N

5. Do you yourself know how to prepare SSS Y N

If Yes: "PLEASE, TELL ME HOW YOU PREPARE SSS"

6. The amount of WATER the mother said she adds is:

Correct (2 Fanta bottles or a Beer bottle)
Incorrect

7. The amount of SALT the mother said she adds is:

Correct (1 level tsp)
Incorrect

8. The amount of SUGAR the mother said she adds is:

Handwritten mark resembling '47'

\_\_\_\_\_ Correct (10 level tsp or 5 cubes)  
\_\_\_\_\_ Incorrect

**"PLEASE, SHOW ME HOW YOU PREPARE SSS."**

**NOTE WHETHER THE MOTHER PREPARED THE SSS CORRECTLY.**

**DID SHE ADD THE CORRECT AMOUNT OF WATER? SALT? SUGAR?**

9. The amount of **WATER** the mother added is:

\_\_\_\_\_ Correct (2 Fanta bottles or a Beer bottle)  
\_\_\_\_\_ Incorrect

10. The amount of **SALT** the mother added is:

\_\_\_\_\_ Correct (1 level tsp)  
\_\_\_\_\_ Incorrect

11. The amount of **SUGAR** the mother added is:

\_\_\_\_\_ Correct (10 level tsp or 5 cubes)  
\_\_\_\_\_ Incorrect

FACILITY ASSESSMENT SURVEY

+++++  
LGA: \_\_\_\_\_ Facility: \_\_\_\_\_ Obs #: \_\_\_\_\_ Date: \_\_/\_\_/91

Health Worker Observed (Title): \_\_\_\_\_ Interviewer: \_\_\_\_\_  
+++++

EXIT INTERVIEW #3  
\*\*\*IMMUNIZED CHILD\*\*\*

1. Did the health worker tell you which diseases  
the immunization would prevent ..... Y N

- If Yes, which diseases? \_\_\_\_\_ Measles  
\_\_\_\_\_ Diphtheria  
\_\_\_\_\_ Pertussis ("Whooping Cough")  
\_\_\_\_\_ Tetanus  
\_\_\_\_\_ Poliomyelitis  
\_\_\_\_\_ Tuberculosis

2. Did the health worker tell you what might happen  
as a side effect after the immunization ..... Y N

- If Yes, what? \_\_\_\_\_ Child might have fever  
\_\_\_\_\_ Child might have painful arms  
\_\_\_\_\_ Other: \_\_\_\_\_

3. May I see the child's health (immunization) card?

- CHECK ALL VACCINES GIVEN TODAY: \_\_\_\_\_ BCG  
\_\_\_\_\_ DPT  
\_\_\_\_\_ OPV  
\_\_\_\_\_ Measles

WAS THE FOLLOWING INFORMATION CORRECTLY RECORDED:

Today's Date ..... Y N  
Date of next visit ..... Y N

49

**FACILITY ASSESSMENT SURVEY**

+++++  
**LGA:** \_\_\_\_\_ **Facility:** \_\_\_\_\_ **Type:** \_\_\_\_\_

**Interviewer:** \_\_\_\_\_ **Date:** \_\_\_\_/\_\_\_\_/91

**\*\*\*EQUIPMENT/SUPPLIES\*\*\***

- |     |   |   |   |                            |
|-----|---|---|---|----------------------------|
| 1.  | Thermometer .....                       | Y | N |                            |
| 2.  | Weighing scale .....                    | Y | N |                            |
|     | In working order? .....                 | Y | N |                            |
| 3.  | Immunization register .....             | Y | N |                            |
| 4.  | Child health (immunization) cards ..... | Y | N |                            |
| 5.  | Adult health cards .....                | Y | N |                            |
| 6.  | TT cards .....                          | Y | N |                            |
| 7.  | Timer .....                             | Y | N |                            |
| 8.  | Watch (60 second) .....                 | Y | N |                            |
| 9.  | Oxygen cylinder .....                   | Y | N |                            |
|     | If yes: _____ Empty                     |   |   |                            |
|     | _____ Full                              |   |   |                            |
|     |   |   |   | <b>AMOUNT<br/>IN STOCK</b> |
| 10. | Needles (Disposable) .....              | Y | N | _____                      |
| 11. | Needles (Reusable) .....                | Y | N | _____                      |
| 12. | Syringes .....                          | Y | N | _____                      |
| 13. | Sterilization method: _____ Steam       |   |   |                            |
|     | _____ Boiling                           |   |   |                            |
|     | _____ Other: _____                      |   |   |                            |
| 14. | Steam sterilizer .....                  | Y | N |                            |
|     | In working order? .....                 | Y | N |                            |
| 15. | Kerosene stove .....                    | Y | N |                            |
|     | In working order? .....                 | Y | N |                            |
| 16. | Electric cooker .....                   | Y | N |                            |
|     | In working order? .....                 | Y | N |                            |

17. Refrigerator ..... Y N  
 In working order? ..... Y N
- Type:   \_\_\_ Electric           Condition:   \_\_\_ Good  
          \_\_\_ Kerosene                                   \_\_\_ Fair  
          \_\_\_ Gas   \_\_\_ Poor
- Thermometer inside ..... Y N  
 Temperature today: \_\_\_\_\_
- Temperature chart ..... Y N  
 Since start of month, number of days  
 when temperature was: 0-8   \_\_\_  
                                   <0   \_\_\_  
                                   >8   \_\_\_
- Spare cylinder for refrigerator ..... Y N
18. Cold box ..... Y N
- Condition:   \_\_\_ Good  
               \_\_\_ Fair  
               \_\_\_ Poor
- Thermometer inside ..... Y N  
 Temperature today: \_\_\_\_\_
- Temperature chart ..... Y N  
 Since start of month, number of days  
 when temperature was: 0-8   \_\_\_  
                                   <0   \_\_\_  
                                   >8   \_\_\_
19. Expired vaccines in refrigerator/cold box ..... Y N  
 20. Frozen DPT or TT in refrigerator/cold box ..... Y N  
 21. Frozen cold blocks available ..... Y N
22. Bowls to prepare ORS ..... Y N  
 23. Containers to measure ORS ..... Y N  
 24. Spoons to give ORS ..... Y N  
 25. Sugar for SSS ..... Y N  
 26. Salt for SSS ..... Y N  
 27. Potable water at health center ..... Y N

51



+++++  
LGA: \_\_\_\_\_ Facility: \_\_\_\_\_ Obs #: \_\_\_\_\_

Health Worker's Title: \_\_\_\_\_ Community Health Officer  
\_\_\_\_\_ Community Health Supervisor  
\_\_\_\_\_ Community Health Aide  
\_\_\_\_\_ Senior Community Health  
\_\_\_\_\_ Extension Worker  
\_\_\_\_\_ Public Health Nurse  
\_\_\_\_\_ Other: \_\_\_\_\_

Interviewer: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/91  
+++++

\*\*\*HEALTH WORKER INTERVIEW\*\*\*

1. Is there a written WORKPLAN for the clinic ..... Y N  
Can I see it ..... Y N  
Did you help develop this plan ..... Y N

2. Is there a schedule for supervisory visits ..... Y N  
Can I see it ..... Y N

3. How many times has your supervisor visited in the  
past six months? \_\_\_\_\_ When was the last visit? \_\_\_\_\_

During these visits, how many times did he/she  
observe you:

Immunize someone \_\_\_\_\_  
Treat malaria \_\_\_\_\_  
Give ORT \_\_\_\_\_

How long was he/she here for that visit? \_\_\_\_\_

What did the supervisor do during that visit:

Talked to: \_\_\_\_\_

Activities: \_\_\_\_\_

Other: \_\_\_\_\_

- 3

4. Have any planned supervisory visits been canceled in the last 6 months ..... Y N

5. Has the supervisor explained to you the target populations for:

Measles Immunization ..... Y N  
Tetanus Toxoid ..... Y N  
Malaria ..... Y N  
Diarrhea ..... Y N

Does the health worker know the target populations for:

Measles Immunization ..... Y N  
Tetanus Toxoid ..... Y N  
Malaria ..... Y N  
Diarrhea ..... Y N

6. Do you have a written JOB DESCRIPTION ..... Y N  
Can I see it ..... Y N

7. Do you have written guidelines or STANDING ORDERS for your work ..... Y N  
Can I see them ..... Y N

8. Does your supervisor do anything to keep your technical skills up to date ..... Y N

What does he do? \_\_\_\_\_

9. Is your performance evaluated regularly ..... Y N

How? \_\_\_\_\_

54

10. Do you have to submit any **REPORTS** ..... Y N

Type of Report	Submitted To	How Often	Up to Date?
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Do you use the information from these reports to help you in your job ..... Y N

11. What are the most significant **PROBLEMS** you face in doing your job?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Have you discussed these problems with your supervisor ..... Y N

What was the response? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

12. Are there any areas where you would like to receive more **TRAINING** from your supervisor ..... Y N

What are these areas: \_\_\_\_\_  
\_\_\_\_\_

55

**FACILITY ASSESSMENT SURVEY**

+++++  
**LGA:** \_\_\_\_\_ **Facility:** \_\_\_\_\_ **Obs #:** \_\_\_\_\_

**Supervisor's Title:** \_\_\_\_\_ PHC Coordinator  
 \_\_\_\_\_ EPI/CDD Manager  
 \_\_\_\_\_ Head of Unit  
 \_\_\_\_\_ Other: \_\_\_\_\_

**Interviewer:** \_\_\_\_\_ **Date:** \_\_\_\_/\_\_\_\_/91  
 +++++

**\*\*\*SUPERVISOR INTERVIEW\*\*\***

1. Do you have a **MAP** of the LGA ..... Y N  
 Can I see it ..... Y N

2. Do you know which villages/towns in the LGA  
 do **NOT** have access to a health facility ..... Y N

What villages/towns are those?  
 Why don't they have access?

VILLAGE/TOWN	REASON
_____	_____
_____	_____
_____	_____

3. Can you tell me the **population** of the LGA ..... Y N  
 What is it? \_\_\_\_\_

*fb*



10. In the past 6 months, have you visited this facility to supervise health worker activities ..... Y N

How many times? \_\_\_\_\_

During these visits, how many times did you see the health worker:

Immunize someone \_\_\_\_\_  
Treat malaria \_\_\_\_\_  
Give ORT \_\_\_\_\_

Do you have **supervisory checklists** to assess their performance ..... Y N  
Can I see them ..... Y N

When was your last supervisory visit here? \_\_\_\_\_

How long were you here for that visit? \_\_\_\_\_

11. Are there **STANDING ORDERS** or performance manuals available for all categories of health workers ... Y N  
Can I see them ..... Y N

12. Do you have other ways of keeping the health workers up to date ..... Y N

What are they: \_\_\_\_\_

13. Have you observed any **health education** activities in the last 6 months ..... Y N

About how many:

Group sessions in clinic \_\_\_\_\_  
Group sessions in community \_\_\_\_\_  
Home visits \_\_\_\_\_

14. Do you have procedures you use to evaluate the performance of health workers ..... Y N

What are they: \_\_\_\_\_



15. When did this facility (or other facilities in the LGA) last receive:

Drugs \_\_\_\_\_  
Vaccines \_\_\_\_\_  
ORS Packets \_\_\_\_\_  
Supplies \_\_\_\_\_

16. Are there adequate quantities of all supplies and drugs in stock now ..... Y N

17. Have there been any months since last January when you ran out of drugs or supplies ..... Y N

How many months did it happen? \_\_\_\_\_

18. How many health facilities are in the LGA? \_\_\_\_\_

How many of these facilities are supposed to send you reports? \_\_\_\_\_

How often do they send reports? \_\_\_\_\_

How often SHOULD they send reports? \_\_\_\_\_

19. What do you think are the most important needs for training in order to improve health services?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

20. What are the most significant problems you face in supervising health workers?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

59'

21. Have you attended any training programs  
in the last two years ..... Y N

What were they about? Who sponsored them? Where were they?

Topic	Sponsor	Location
_____	_____	_____
_____	_____	_____
_____	_____	_____

10

## Appendix B

### FACILITY ASSESSMENT SURVEY EQUIPMENT, SUPPLIES, AND REAGENTS FOR "MALARIA DIAGNOSIS"

LGA: \_\_\_\_\_ Facility: \_\_\_\_\_ Type: \_\_\_\_\_ Date: \_\_\_\_\_

#### A. STAINS/REAGENTS

- |                                   |              |   |   |
|-----------------------------------|--------------|---|---|
| 1. Stains                         |              |   |   |
| Giemsa stain                      |              |   |   |
| powder _____                      | liquid _____ | Y | N |
| Field stain                       |              |   |   |
| powder _____                      | liquid _____ | Y | N |
| 2. Methanol (analar)              |              | Y | N |
| 3. Absolute Alcohol               |              | Y | N |
| 4. Oil immersion                  |              | Y | N |
| 5. Buffer salts                   |              | Y | N |
| a. Disodium Phosphate             |              | Y | N |
| b. Potassium dihydrogen phosphate |              | Y | N |
| 6. Methylated spirit              |              | Y | N |
| 7. Glycerol                       |              | Y | N |
| 8. Xylol                          |              | Y | N |

#### B. EQUIPMENT/SLIDES

- |   |                 |   |   |
|---|-----------------|---|---|
| 1. Microscopes                                  |                 |   |   |
| Type: monocular _____                           | binocular _____ | Y | N |
| Is it with light source?                        |                 | Y | N |
| 2. Slides                                       |                 | Y | N |
| 3. Staining jar or rack                         |                 | Y | N |
| Specify _____                                   |                 |   |   |
| If no, what do you use in staining your slides: | _____           |   |   |
| 4. Absorbent cotton                             |                 | Y | N |
| 5. Slide rack                                   |                 | Y | N |
| 6. Timer or stop clock                          |                 | Y | N |
| Alarm: with _____                               | without _____   |   |   |
| 7. Slide boxes                                  |                 | Y | N |
| 8. Slide markers                                |                 | Y | N |
| 9. Slide adhesive                               |                 | Y | N |

61

**C. MISCELLANEOUS EQUIPMENT, & SUPPLIES**

- |   |   |   |
|---|---|---|
| 1. Autolets<br>If no, specify the type of instrument<br>used for finger prick | Y | N |
| 2. Microhaematocrit centrifuge  | Y | N |
| 3. Reader for microhaematocrit centrifuge                                     | Y | N |
| 4. Capillary pipette<br>plain ___ heparinized ___                             | Y | N |
| 5. Calculator   | Y | N |
| 6. Tally counter  | Y | N |
| 7. Analytical balance<br>Specify type: _____                                  | Y | N |
| 8. Graduated measuring cylinder<br>Specify graduation: _____                  | Y | N |
| 9. White cell counting pipette  | Y | N |
| 10. Neubar chamber<br>Specify type: _____                                     | Y | N |
| 11. Bench aid handbook for diagnosis of malaria                               | Y | N |
| 12. Differential wall charts for<br>malaria identification                    | Y | N |
| 13. Do you do haemoglobin estimation?<br>If yes, by what method: _____        | Y | N |

## Appendix C

### Barkin Ladi Government Officials and Health Department Staff

#### Government Officials

Mr. Jock D. Alamba	Chairman
Dr. Luka Lobadunze	Secretary
Mr. Yakubu Gang	Vice-Chairman
Mr. Yusufu Chuwang	Supervisor for Health

#### Primary Health Care Department Staff

Alhaji Tanimu Dogora	Director, PHC
Mrs. Monica Gotip	Deputy Director, PHC, and PHC Coordinator
Mrs. Rifkatu Akims	Asst. Coordinator, Health Ed/Women Affairs
Mr. Bulras Ari	Asst. Coordinator, Immunization/Watsan
Mr. Caleb Gotip	Asst. Coordinator, Planning/M&E
Mrs. Mary Jwander	Asst. Coordinator, MCH/FP/Nutrition
Mr. Dauda P. Rwang	Asst. Coordinator, Essential Drugs/Supplies

## Appendix D

### Participants Facility Assessment Survey Barkin Ladi Local Government

Name	Title	Location
Kubra Ahmed	Nurse Tutor	CEU Zawan*
Rifkatu Akims	ACCO	PHC Secretariat
John Akor	ACCHO	CEU Zawan*
Rose Anpe	CHS	SHT Zawan*
Bulus Ari	Sr. H. Supt.	EPI Unit
Martha Fom	CHS	HC Heipang
Ruth Gbefwi	PHN	PHC Tudun Wada*
Daniel Makara	Nurse	MCWC Bukuru*
Anna Selzing	Nurse	MCWC Bukuru*
Nvel Shok	Midwife	HC Heipang
Tokkie Sunday	CHS	HC Barkin Ladi
Zainab Washik	CHS	Staff Clinic SHT*
Hanatu Yakzum	SCHO	HC Hoss
Alhaji Tanimu Dogoro	PHC Director	PHC Secretariat
Mrs. Monica Gotip	PHC Coordinator	PHC Secretariat

\* *Jos South Local Government Area*