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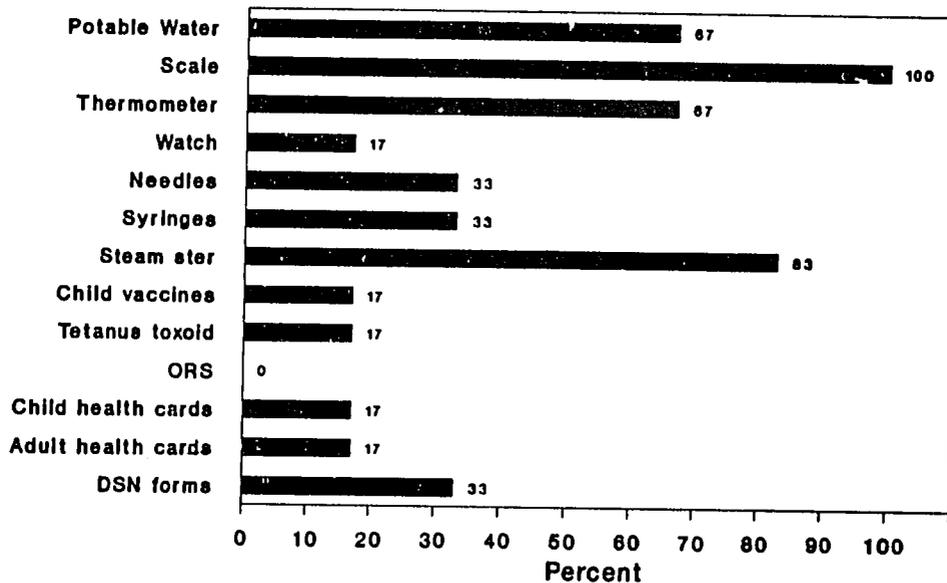
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FACILITY ASSESSMENT SURVEY ZURU

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



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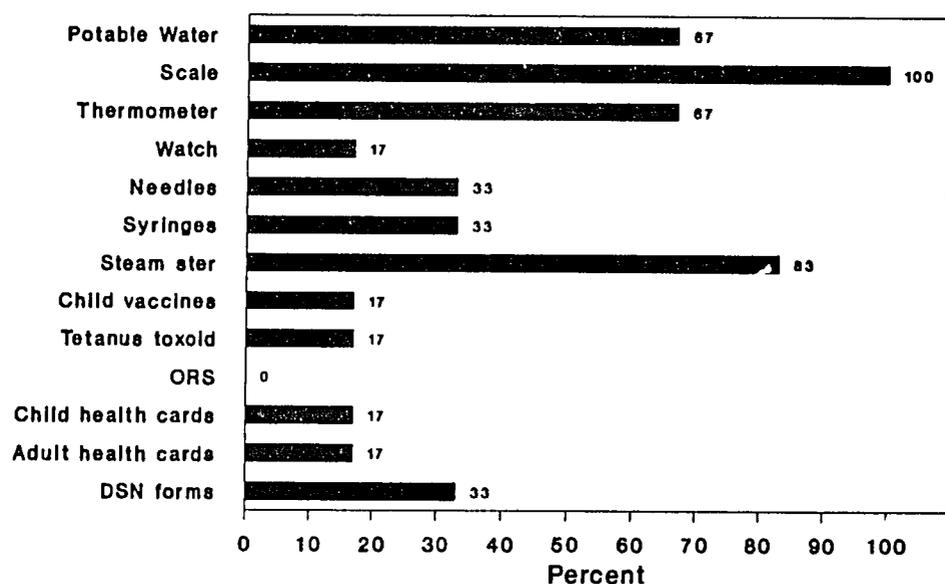
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Conducted by:
Zuru Local Government Health Department
Kebbi State, Nigeria

Technical assistance provided by:
Combatting Childhood Communicable Diseases (CCCD) Project
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SUMMARY OF FINDINGS

The Zuru Facility Assessment Survey provides a summary of key health worker practices related to immunization and the case management of sick children, and provides information on the availability of equipment and supplies necessary to perform basic PHC tasks. The Primary Health Care Program has made steady progress in Zuru, with efforts to build a solid PHC infrastructure in the Local Government. This type of survey provides a useful tool for monitoring the quality of health service delivery at the facility level.

Key observations made during the survey include the following:

- Despite the availability of functional weighing scales in all health facilities, few health workers routinely weigh sick children. Both the growth/nutritional status and immunization status of children should be monitored routinely to avoid missed opportunities.
- Immunization technique among health workers in Zuru was generally good. Sterile needles and syringes were used to administer immunizations, and the correct dose of each antigen was given at the correct site. Most health workers recorded the date on which the immunization was given on the child's card.
- Functional equipment and supplies, along with adequate cold chain maintenance, are critical for ensuring vaccine potency. In Zuru, further efforts are required to ensure the availability of cold chain equipment (i.e., refrigerators and/or cold boxes), thermometers, and temperature charts. In some areas of the Local Government, immunization is not carried out due to logistics problems in reaching health facilities.
- Health worker skills in assessing dehydration due to diarrhoea and correct case management technique need strengthening. Less than half of the children with diarrhoea were weighed, and few had their skin turgor checked. Only one in three children with diarrhoea received any form of oral rehydration therapy.
- Case management skills for assessing and treating children with fever need improvement. Only half of the children with fever had their temperature taken with a thermometer. Less than half of these children received some form of chloroquine, and many children received an injection. Availability of essential drugs at health facilities would improve with the establishment of a well-functioning Drug Revolving Fund (DRF).
- Education of mothers about appropriate home treatment practices for children with diarrhoea and fever needs to be strengthened. Upon exiting health facilities, many mothers knew neither what to do for the child at home nor when to return to the health facility. While the majority of mothers had heard about Sugar-Salt Solution

(SSS) and many could demonstrate how to prepare it, very few mothers actually gave SSS to their children with diarrhoea at home before coming to the health facility. Both community education and patient education (by health workers at health facilities) need strengthening in Zuru.

- There is a need for training to improve clinical and management/supervisory skills among LGA PHC Managers and facility level health workers. In-service training through the Continuing Education Unit at Kebbi State Ministry of Health has begun to address this area of need. Training of LGA Managers and facility-based health workers, complemented by routine field supervision and follow-up on-the-job training, will enhance skills and improve managerial performance.
- In Zuru, many health workers are female and are posted at Zuru Town Dispensary or MCH Clinic. Other more remote facilities may be neglected, due to shortages of trained health workers, especially midwives.

1 BACKGROUND

Zuru Local Government, one of sixteen LGA's in Kebbi State, covers an area of approximately 3,974 sq km and has an estimated population of 171,963 (1991 census). The LGA headquarters is about 253 km from Birnin-Kebbi, the state capital. There are twenty-five villages in Zuru, grouped into two main districts, Dabai and Fakai. Dakkarchi and Fakkashi are the major languages spoken.

Within the Zuru 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 two districts in Zuru have a District Supervisor who coordinates health activities within the district and reports to the LGA PHC Coordinator.

The only state government health facility in Zuru (Zuru General Hospital) serves as a referral centre for all other LGA health facilities located in both districts. The State Ministry of Health PHC Zonal Health Office, Zuru, distributes vaccines to health facilities within the three LGAs located in Zuru Emirate and investigates/controls any reported outbreaks of infectious diseases in the area.

There are over fourteen private and voluntary health institutions in Zuru. The majority of Zuru inhabitants who live in the rural areas patronize these voluntary health institutions. Both state and LGA health facilities provide integrated health services, including immunization, nutrition, health education, family planning, and maternal and child health. Seven health facilities provide routine immunization services. During 1993, the LGA plans to upgrade a number of dispensaries to PHC Clinics, which will also provide integrated PHC services.

LGA health facilities are staffed by various cadres of Primary Health Care workers, including Community Health Officers, Community Health Supervisors, Senior and Junior Community Health Extension Workers, Midwives, Nurses and Environmental Health Officers. In addition, over 180 Village Health Workers and Traditional Birth Attendants (TBAs) have been trained by the LGA and by the former Sokoto/Kebbi Health Projects to provide basic health care in towns/villages and hamlets throughout the LGA.

Since mid-1992, the Combatting Childhood Communicable Diseases (CCCD) Project has provided support for PHC implementation in Zuru. Activities supported by CCCD include:

- technical and management/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)

- renovation and improvement of LGA cold room for proper maintenance of cold chain
- strengthening/establishment of ORT units and corners
- clinical training on case management of diarrhoea
- establishment of PHC library at LGA Health Department
- strengthening of Health Information Systems

2 OBJECTIVES

The Zuru 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 immunizing 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
- 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 seven government Primary Health Care facilities in Zuru. These PHC facilities include Zuru General Hospital, Bajida Health Clinic, and five dispensaries.

Survey Instrument: Instruments used in the facility assessment included (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

Survey Participants: LGA Government officials and Primary Health Care Department staff provided logistics and technical support for the Assessment (Appendix B). Survey participants were recruited from Zuru Local Government and the Continuing Education Unit at Kebbi State Ministry of Health (Appendix C). 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 the dialect commonly used in the area where each participating facility was located.

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/or the area-specific local dialect. Two supervised field exercises were carried out at clinics near the LGA 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. Arrangements were made to ensure that vaccines were available at health facilities on the day of the survey, to allow observation of immunization technique among health workers. 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, 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.

4 MAJOR FINDINGS

The seven PHC facilities participating in the Zuru Facility Assessment Survey are listed in Table 1. Both Bajida Health Clinic (formerly referred to as Zuru Town Dispensary) and the MCH Clinic at Zuru General Hospital provide PHC services including immunization, oral rehydration therapy, and family planning. None of the health facilities owned by the LGA provide in-patient services. MCH Clinics provide health services for women and children only, with no provision for overnight stay.

As shown in Table 2, eight facility health workers were observed during the survey, either treating sick children or providing immunization. These health workers included one Community Health Officer, three Community Health Supervisors, four Senior Community Health Extension Workers, and one Environmental Health Officer.

Table 1. List of facilities, by type and location

List of primary health care facilities visited during Facility Assessment Survey, by type and location, Zuru, 1993

PHC Facility	Number	
Health Clinic	1	Bajida
MCH Clinic	1	Zuru General Hospita
Dispensaries	5	Zuru Town Dabai Amanawa Tadurga Mahuta
Total	7	

Table 2. Health workers observed, by title

Health workers observed during Facility Assessment Survey, Zuru, 1993

Title	Number
Community Health Officer	1
Community Health Supervisor	3
Senior Community Health Extension Worker	4
Environmental Health Officer	1
Total	8

4.1 Assessment of Sick Children

A total of 119 observations on sick children presenting at health facilities were made (Table 3). Among these sick children, nearly half (40.3%) presented with fever and/or diarrhoea (38.7%), about one in four (21.0%) with cough.

Table 3. Sick child observations, by diagnosis

Sick children presenting at health facilities, by health worker diagnosis, Zuru, 1993

Diagnosis	Number (%) of observations
Fever	48 (40.3)
Diarrhoea	46 (38.7)
Cough	25 (21.0)
Fever + Diarrhoea	14 (11.8)
Fever + Cough	19 (16.0)
Diarrhoea + Cough	3 (2.5)
Fever + Diarrhoea + Cough	3 (2.5)
Total	119

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, only one in three health workers (31.9%) routinely weigh sick children. In some facilities, 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 very few sick children presenting at health facilities.
- Most health workers took a history of the child's illness by asking questions about duration and history of fever, diarrhoea, and cough. About one third of the 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 1.8 drugs for treatment of his or her illness. The number of drugs given per child ranged from one to six.

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

- While most health workers explained how to administer medications to the child's mother, only half of the health workers stressed the importance of *completing* the treatment and returning to the health center if the child's condition gets worse.
- Very few health workers explained how to prepare SSS (or actually demonstrated SSS preparation) to mothers of sick children.
- Few health workers asked the mother questions to determine whether she understood the information given to her. Hardly any health workers asked the mother if she herself had any questions.

Figure 1
Assessment of Sick Children
Health Worker Practices

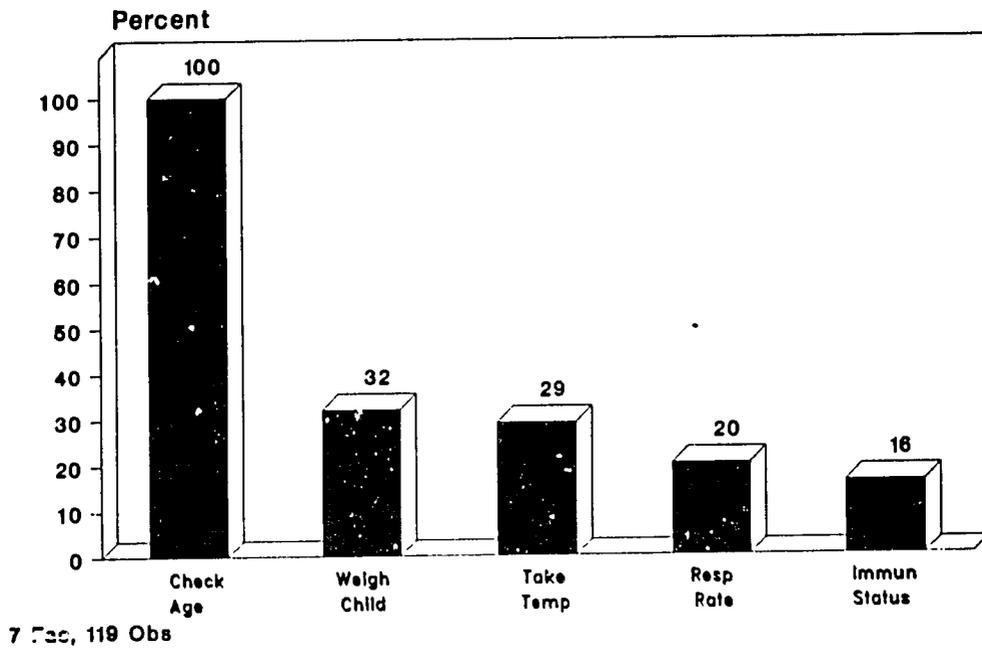


Figure 2
Mothers of Sick Children
Education by Health Workers

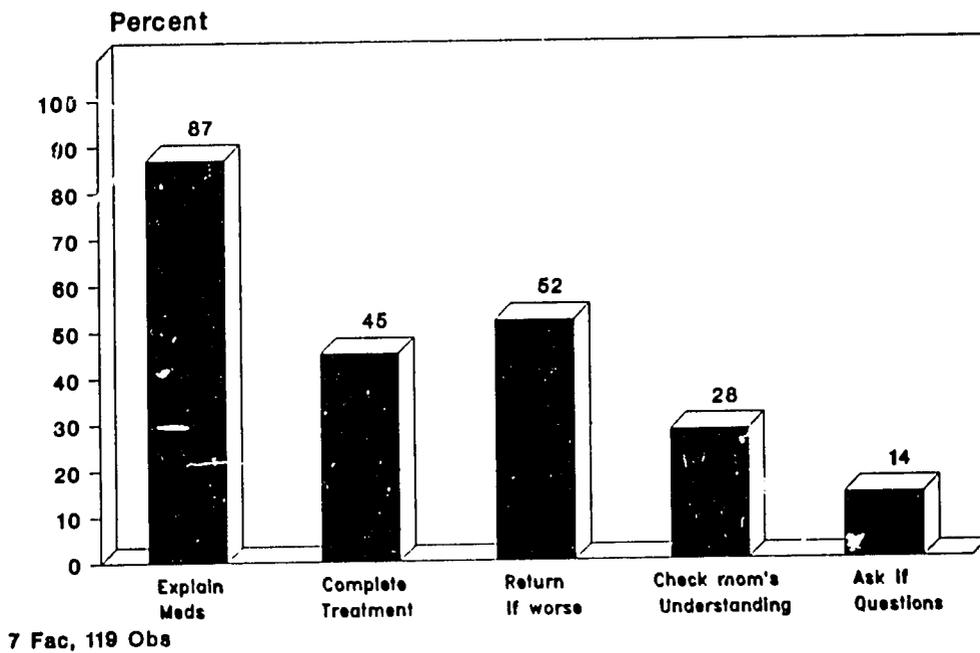


Table 4. Health worker practices in treating sick children

Case management practices among health workers in the treatment of sick children presenting at health facilities, Zuru, 1993

	Percentage	
	Yes	No
<i>Number of observations = 119</i>		
<i>Number of facilities = 7</i>		
Does the health worker determine the child's:		
Age	100.0	—
Weight	31.9	68.1
Temperature with a thermometer	29.4	70.6
Respiratory rate	20.2	79.8
Immunization status	16.0	84.0
Does the health worker ask questions about:		
General condition of the child	95.8	4.2
Duration of the illness	97.4	2.6
History of fever	84.0	16.0
Vomiting	73.9	26.1
Diarrhoea	67.2	32.8
Coughing	45.4	54.6
Difficulties with breathing	32.8	67.2
Problems with swallowing	22.7	77.3
History of home treatment with:		
Western medicine	36.1	63.9
Traditional medicine	21.8	78.2
Does the health worker examine the child's:		
Eyes	45.4	54.6
Ears	13.4	86.6
Throat	10.9	89.1
Breathing	21.8	78.2
Abdomen	15.1	84.9

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

	Percentage	
	Yes	No
Does the health worker diagnose the child as having:		
Fever	27.7	72.3
Malaria	42.0	58.0
Diarrhoea	37.8	62.2
Dehydration	15.1	84.9
Cough	31.1	68.9
Cold	16.8	83.2
Pneumonia/Bronchitis	17.6	82.4
Other	3.4	96.6
Does the health worker give/prescribe:		
Chloroquine		
Any Form	65.9	34.1
Tablets	26.1	73.9
Syrup	46.4	53.6
Injection	14.3	85.7
Tab/syrup + injection	15.4	84.6
Other Antimalarial	14.3	85.7
Paracetamol	57.1	42.9
Antibiotic	34.5	65.5
Cough/Cold Remedy	6.7	93.3
Antidiarrhoeal	16.0	84.0
At least one other drug	13.4	86.6
Average number drugs/child	1.8	
Range	1-6	

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

	Percentage	
	Yes	No
Does the health worker explain to the mother:		
How to administer medications	86.6	13.4
The importance of completing the treatment	44.5	55.5
That she should return to the health center if the child's condition gets worse	52.1	47.9
Does the health worker:		
Explain how to prepare SSS	36.1	63.9
Demonstrate how to prepare SSS	13.4	86.6
Ask the mother to demonstrate how to prepare SSS	10.9	89.1
Ask the mother questions to see if she has understood	27.7	72.3
Ask the mother if she has any questions	14.3	85.7

4.2 Diarrhoea Case Management

Among 119 sick children, 46 (38.7%) 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 for determining the amount of ORS to give and for assessing fluid gain following ORS administration. In this survey, about half of the children with diarrhoea were weighed.
- Skin turgor, a tool for assessing the extent of dehydration, was checked in about one third of the children with diarrhoea.
- The majority of health workers asked mothers about the duration of the diarrhoea episode, the number of stools in the past 24 hours, and the presence of blood in the stool.
- Only one third of the children with diarrhoea were given oral rehydration fluids, in the form of SSS. ORS sachets were not available at any health facility.
- Nearly half of the children with diarrhoea were prescribed antidiarrhoeal medicine such as kaolin or thalozole.

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

- About one half of the mothers received information about the need to give more fluids than usual during the diarrhoea episode.
- Only one in three mothers who were breastfeeding their child before the diarrhoea episode started were advised to continue breastfeeding throughout the episode. About half of the mothers were encouraged to continue feeding the child.
- The majority of health workers explained correct SSS preparation to mothers of children with diarrhoea. However, very few mothers were either shown how to prepare SSS or asked to actually demonstrate SSS preparation themselves.

Figure 3
Case Management of Diarrhoea
Health Worker Practices

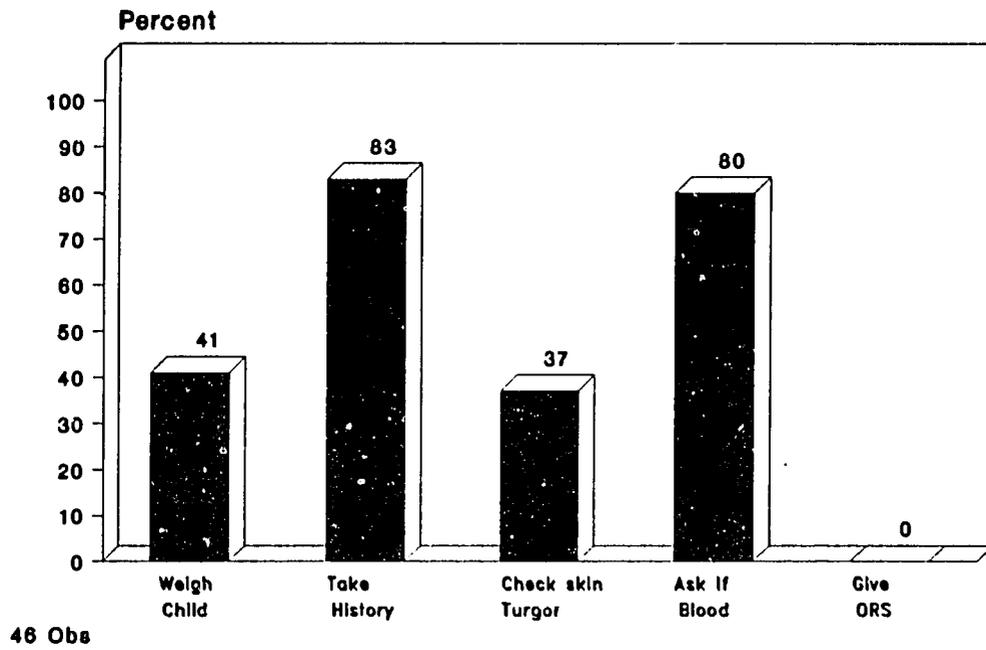


Figure 4
Mothers of Children with Diarrhoea
Education by Health Workers

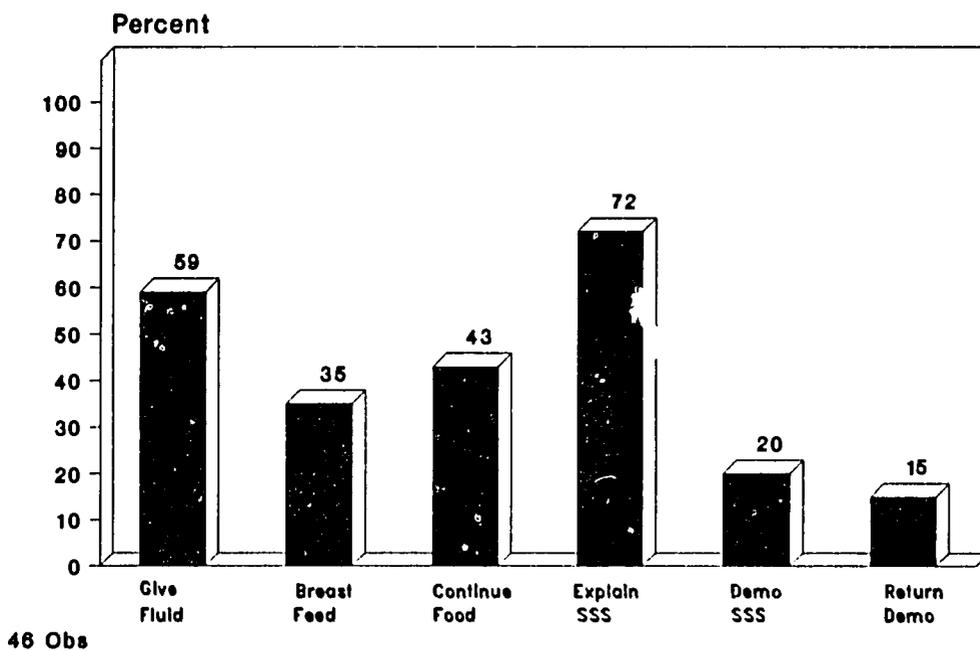


Table 5. Health worker practices, children with diarrhoea

Case management practices among health workers in the treatment of children presenting with diarrhoea, Zuru, 1993

	Percentage	
	Yes	No
<i>Number of observations = 46</i>		
<i>Number of facilities = 7</i>		
Does the health worker:		
Determine the child's age	100.0	—
Determine the child's weight	41.3	58.7
Examine the child's skin turgor	37.0	63.0
Does the health worker ask questions about:		
Duration of diarrhoea	95.7	4.3
Number of stools in past 24 hours	82.6	17.4
Blood in stool	80.4	19.6
Does the health worker explain the need to:		
Give more fluids than usual	58.7	41.3
Give fluids after each diarrhoea episode	41.3	58.7
Give fluids after each vomiting episode	37.0	63.0
Continue breastfeeding the child*	34.8	65.2
Continue feeding the child	43.4	56.6
Does the health worker:		
Explain how to prepare SSS	71.7	28.3
Demonstrate how to prepare SSS	19.6	80.4
Ask the mother to demonstrate how to prepare SSS	15.2	84.8
Does the health worker give/prescribe:		
ORS	—	100.0
SSS	37.0	63.0
Antidiarrhoeal	41.3	58.7

* Among children currently breastfed

4.3 Fever Case Management

Forty-eight sick children (40.3%) presented with fever as a primary complaint. Key findings related to the assessment and case management of children with fever (summarized in Table 6) are highlighted below:

- Among children with fever, only one in three had their temperature taken with a thermometer. In some facilities, failure to use thermometers occurred due to lack of availability of thermometers.
- Following national malaria treatment guidelines, almost every child with fever was given some form of chloroquine. About a third of the children were given tablets, and another third were given syrup.
- Chloroquine injection was given to one out of four children with fever.
- Paracetamol, an antipyretic, was given to the majority of children with fever.

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:

- Less than half of all mothers received instructions on how to administer the antimalarial medicine they were given. The importance of completing the treatment (i.e., giving chloroquine for *three days*) was stressed to fewer than half of the mothers.
- Very few mothers were advised to give an antipyretic (like paracetamol) at home for fever.
- Very few mothers were advised to give a tepid sponge bath to their children with fever.

Figure 5
Fever: Case Management
and Education by Health Workers

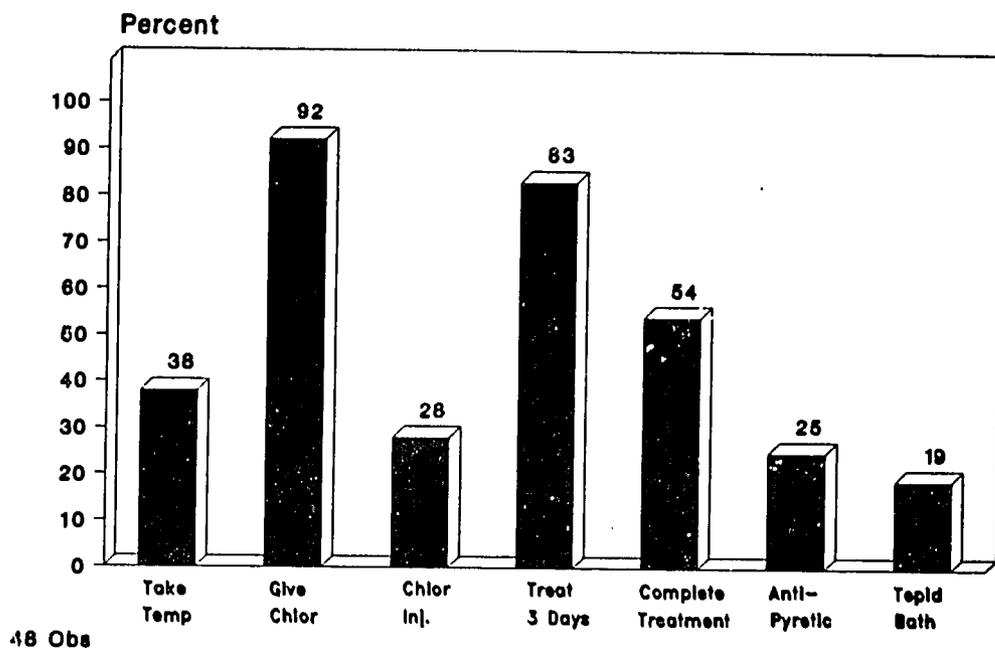


Table 6. Health worker practices, children with fever

Case management practices among health workers in the treatment of children presenting with fever, Zuru, 1993

<i>Number of observations = 48</i>	Percentage	
	Yes	No
Does the health worker determine the child's:		
Age	100.0	—
Weight	37.5	62.5
Temperature with a thermometer	37.5	62.5
Does the health worker explain to the mother:		
How to administer malaria medications	83.3	16.7
The importance of completing the three-day treatment	54.2	45.8
The need to give an antipyretic	25.0	75.0
give a tepid bath	18.8	81.2
Does the health worker give/prescribe:		
Chloroquine		
Any form	91.6	8.4
Tablets	35.4	64.6
Syrup	37.5	62.5
Injection	28.0	72.0
Tab/Syr + Injection	14.9	85.1
Paracetamol	79.2	20.8

4.4 Immunization Practices

During the survey, observations were made on 41 children receiving immunization. Health worker technique and education practices are summarized in Table 7 and Figs. 6-7.

- Most health workers used a sterile needle and syringe to immunize the child. It is important that *all* immunizations be given with a sterilized needle/syringe.
- The correct antigen dose was given for nearly all immunizations.
- 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 the majority of health workers.
- Less than half of the health workers explained the importance of completing the immunization series and coming back for follow-up doses. While the majority of health workers recorded the date of today's immunization, very few health workers recorded the date for the child's next visit.
- Half of the mothers were told what diseases the immunization could prevent, possible reactions to the vaccine, and what to do if the child had such a reaction.
- Few health workers either asked the mother questions to determine whether she understood the information given to her, or 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 Zuru:

- Only one facility had a cold box; none of the facilities had a functional refrigerator.
- The facility with a cold box had neither a chart for monitoring temperature nor a thermometer inside.
- There were no expired vaccines in the health facilities, mainly because most facilities did not have vaccines (other than those delivered on the day of the survey).

Figure 6
Immunization and Cold Chain Maintenance
Health Worker Practices

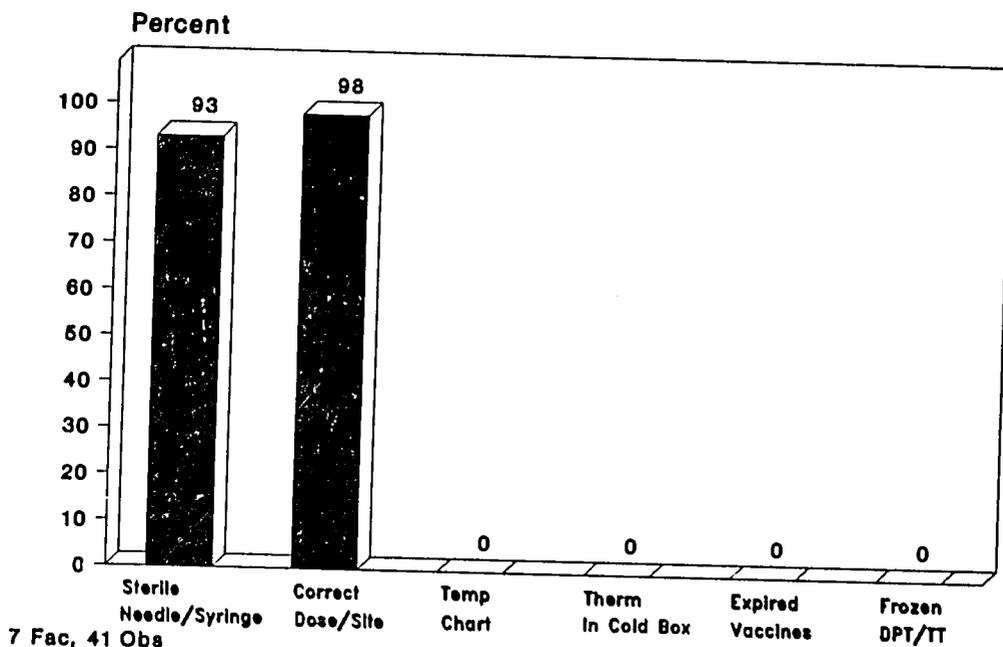


Figure 7
Mothers of Immunized Children
Education by Health Workers

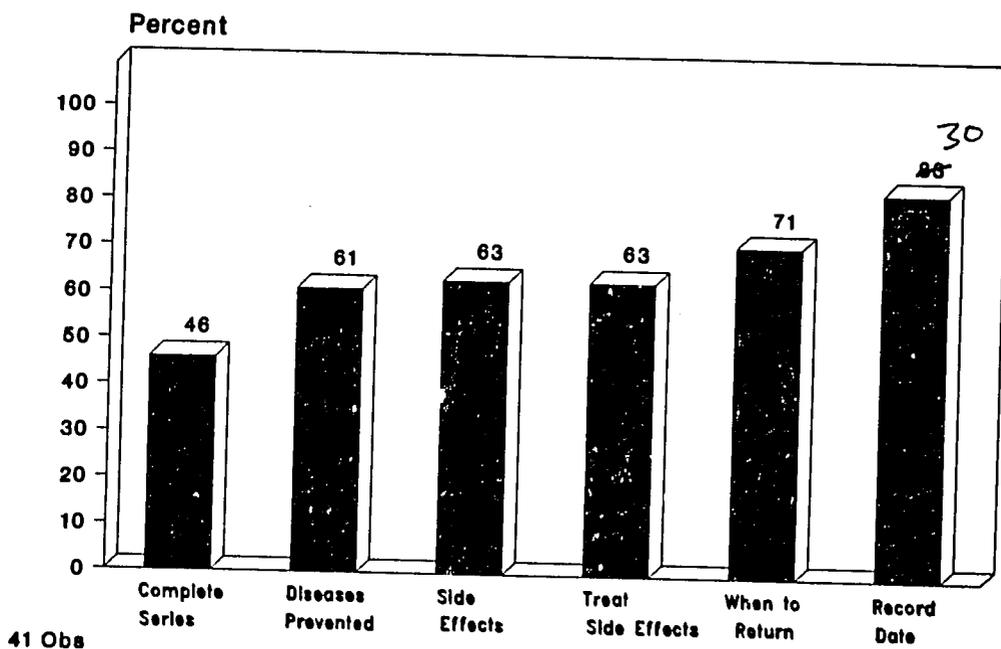


Table 7. Health worker practices, immunization

Immunization practices among health workers, Zuru, 1993

<i>Number of observations = 41</i> <i>Number of facilities = 7</i>	Percentage responding:	
	Yes	No
Does the health worker determine the child's:		
Age	92.7	7.3
Weight	46.3	53.7
Temperature with a thermometer	—	100.0
Does the health worker:		
Use a sterile needle	92.7	7.3
Use a sterile syringe	92.7	7.3
Administer the correct dose	97.6	2.4
Immunize at the correct site	100.0	—
Does the health worker explain to the mother:		
Importance of completing the immunization series	46.3	53.7
Diseases prevented by these vaccines	61.0	39.0
Possible reactions to the vaccines	63.4	36.6
What to do if there is a reaction	63.4	36.6
When she should return to the health center	70.7	29.3
Does the health worker:		
Ask the mother questions to see if she has understood	36.6	63.4
Ask the mother if she has any questions	31.7	68.3
Does the health worker record on the child's immunization card:		
Today's date	82.9	17.1
Date of next visit	29.3	70.7

Table 8. Missed opportunities for immunization

Missed opportunities for immunization among children and mothers presenting at health facilities, Zuru, 1993

<i>Number of observations =</i>	Number (%)	
	Yes	No
<i>Among sick children:</i>		
Was immunization card available	38/119 (31.9)	81/119 (68.1)
Did health worker check the child's immunization status	19/38 (50.0)	19/38 (50.0)
Was the child immunized	14/19 (73.7)	5/19 (26.3)
<i>Among mothers of sick children:</i>		
Does mother have a health (TT) card	9/119 (7.6)	110/119 (92.4)
Did health worker check mother's TT status	4/9 (44.4)	5/9 (55.6)
Was mother referred for immunization if needed	3/4 (75.0)	1/4 (25.0)

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 Zuru. During the survey, the following observations were made:

- Immunization cards were available for only one in three sick children presenting at health facilities. Even when an immunization card was available, half of the most health workers checked the child's immunization status.
- Very few 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 often 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 Figs. 8-9.

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

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

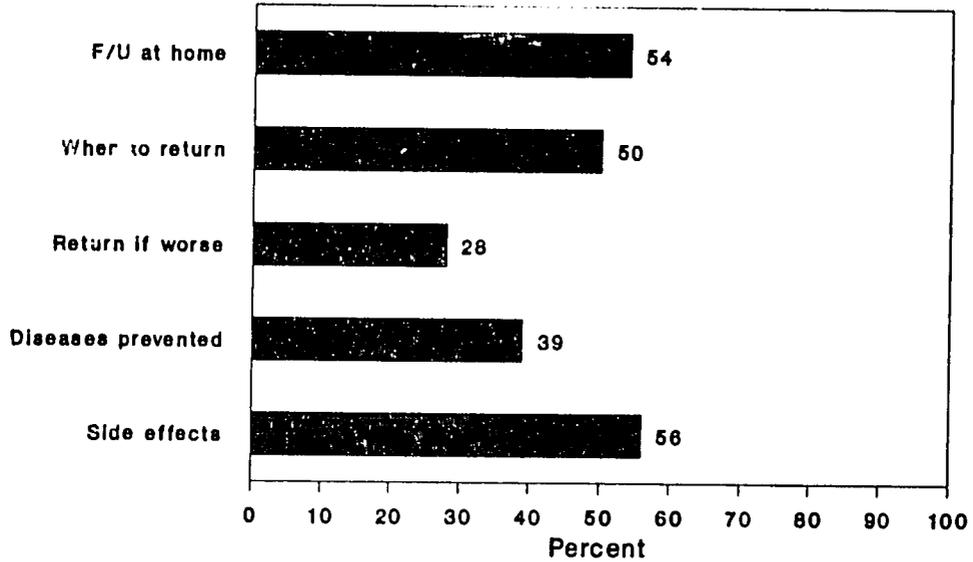
Among mothers of children with *diarrhoea* —

- the majority had heard about the "solution which one gives to children with diarrhoea"
- half did something at home *before* coming to the health facility to treat the child's diarrhoea. Very few mothers gave sugar-salt solution (SSS) at home.
- half knew that SSS could prevent dehydration and help stop diarrhoea in their children
- about half knew how to prepare SSS, and one out of four mothers could demonstrate the correct amount of water, salt, and sugar to be added

Finally, among mothers of *immunized* children —

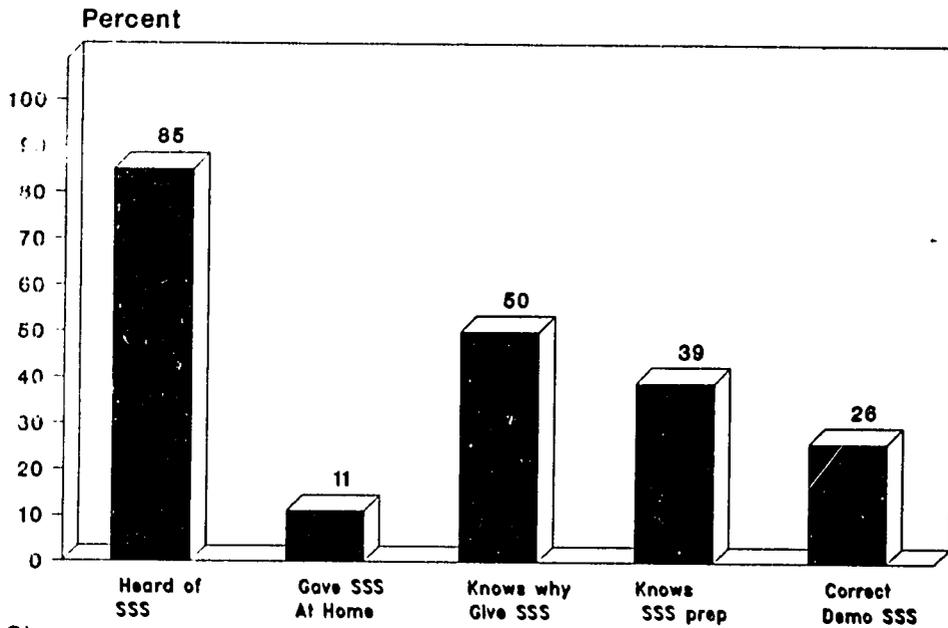
- about one third knew which diseases the immunization would prevent
- about half knew possible side effects which might occur

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



119 Obs, sick children
 41 Obs, immunized children

Figure 9
Mothers' Knowledge of Diarrhoea
and SSS Preparation



46 Obs

Table 9. Mothers' knowledge and practices

Knowledge and practices among mothers of sick and immunized children,
as reported during exit interviews, Zuru, 1993

	Number (%)	
	Yes	No
<i>Mothers of sick children (n=119)</i>		
Those who know:		
What to do when she returns home	64 (53.8)	55 (46.2)
When to bring the child back	59 (49.6)	60 (50.4)
To return if the child's condition becomes worse	33 (27.7)	86 (72.3)
<i>Mothers of children with diarrhoea (n=46)</i>		
Did you do anything at home to treat the child	23 (50.0)	23 (50.0)
What did you do at home		
Gave SSS	5 (10.9)	41 (89.1)
Gave more fluids	2 (4.3)	44 (95.7)
Other	22 (47.8)	24 (52.2)
Have you heard of the solution which one gives to children with diarrhoea	39 (84.8)	7 (15.2)
Do you know why people give SSS to children with diarrhoea		
To stop diarrhoea	25 (54.3)	21 (45.7)
To prevent dehydration	23 (50.0)	23 (50.0)
Did the health worker explain how to prepare SSS in the clinic today	19 (41.3)	27 (58.7)
Do you yourself know how to prepare SSS	23 (50.0)	23 (50.0)

Table 9. Mothers' knowledge and practices (continued)

	Number (%)	
	Yes	No
Mothers who know correct amount of:		
Water	19 (41.3)	27 (58.7)
Salt	18 (39.1)	28 (60.9)
Sugar	19 (41.3)	27 (58.7)
Mothers who demonstrate correct amount of:		
Water	16 (34.8)	30 (65.3)
Salt	12 (26.1)	34 (73.9)
Sugar	12 (26.1)	34 (73.9)
Mothers of immunized children (n=41)		
Those who know:		
Diseases the immunization would prevent	16 (39.0)	25 (61.0)
Possible side effects	23 (56.1)	18 (43.9)

4.6 Equipment and Supply Inventory

An *equipment/supply* inventory conducted at six facilities (Table 10, Fig. 10) revealed that —

- potable water, for drinking and handwashing, was not available at two facilities
- all facilities had a functional weighing scale
- needles and syringes were not available at most facilities, and one facility did not have a functional steam sterilizer
- none of the facilities had a functional refrigerator, and only one facility had a cold box
- childhood antigens (measles, DPT, OPV, and BCG) and tetanus toxoid were available at only one facility — vaccines were brought in during the survey for the purpose of observing health workers administering immunizations.

An inventory of *essential drugs* revealed that —

- chloroquine (tablets and/or syrup) was in stock at only half of the facilities
- cotrimoxazole tablets were not available at any facility
- ORS packets were not available at any facility.

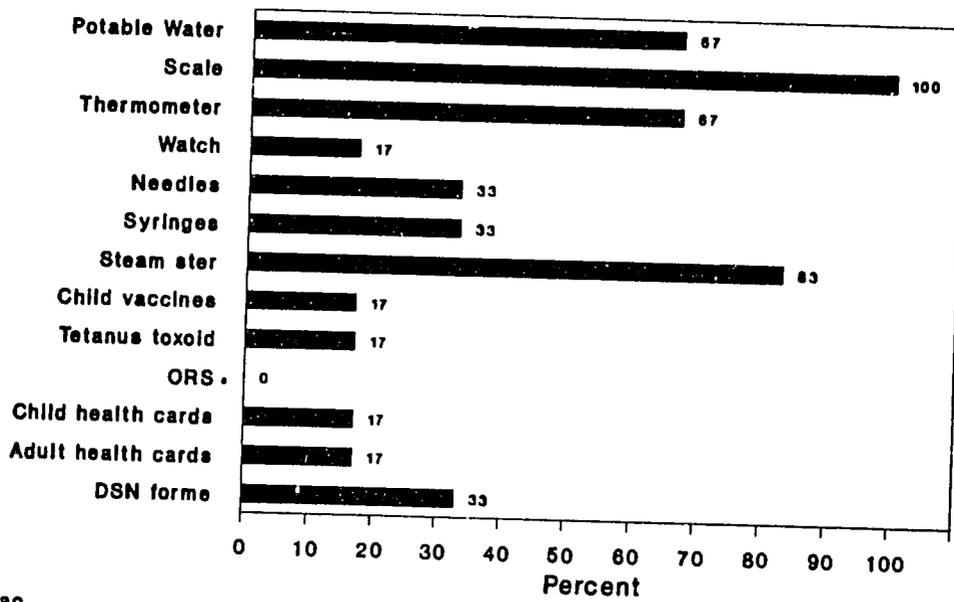
For *sugar-salt solution (SSS)* —

- containers, bowls, and spoons for SSS preparation were available at about one third of the facilities
- sugar and salt were available at half of the facilities

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

- child health/immunization cards and adult cards were available at only one facility, and tetanus toxoid cards were available at half of the facilities
- half of the facilities did not have immunization registers
- notifiable disease forms (DSN) were generally not available

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



6 Fac

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

Equipment/supplies, vaccines, and selected essential drugs available at health facilities, Zuru, 1993

<i>Number of facilities = 6</i>	Number (%)	
	Yes	No
General equipment/supplies:		
Thermometer	4 (66.7)	2 (33.3)
Weighing scale, functional	6 (100.0)	—
Timer	—	6 (100.0)
Watch (with second hand)	1 (16.7)	5 (83.3)
Oxygen cylinder	—	6 (100.0)
full	—	6 (100.0)
Needles		
disposable	—	6 (100.0)
reusable	2 (33.3)	4 (66.7)
Syringes	2 (33.3)	4 (66.7)
Steam sterilizer, functional	5 (83.3)	1 (16.7)
Kerosene stove, functional	5 (83.3)	1 (16.7)
Potable water	4 (66.7)	2 (33.3)
Cold storage:		
Refrigerator, functional	—	6 (100.0)
temperature chart	—	—
thermometer inside	—	—
spare cylinder	—	—
Cold Box	1 (16.7)	5 (83.3)
temperature chart	—	—
thermometer inside	—	—
Either refrigerator or cold box	1 (16.7)	5 (83.3)
expired vaccines	—	6 (100.0)
frozen DPT or TT	—	6 (100.0)
frozen blocks	—	6 (100.0)
Vaccines*:		
Measles	1 (16.7)	5 (83.3)
DPT	1 (16.7)	5 (83.3)
OPV	1 (16.7)	5 (83.3)
BCG	1 (16.7)	5 (83.3)
TT	1 (16.7)	5 (83.3)

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

	Number (%)	
	Yes	No
Selected essential drugs:		
Chloroquine tablets	3 (50.0)	3 (50.0)
syrup	4 (66.7)	2 (33.3)
Cotrimoxazole tablets	—	6 (100.0)
syrup	—	6 (100.0)
ORS packets	—	6 (100.0)
Any size	—	6 (100.0)
600 ml	—	6 (100.0)
1 liter	—	6 (100.0)
SSS/ORS supplies:		
Containers (for measuring)	4 (66.7)	2 (33.3)
Bowls	4 (66.7)	2 (33.3)
Spoons	4 (66.7)	2 (33.3)
Sugar	3 (50.0)	3 (50.0)
Salt	3 (50.0)	3 (50.0)
Record-keeping supplies:		
Child health (immunization) cards	1 (16.7)	5 (83.3)
Adult health cards	1 (16.7)	5 (83.3)
TT cards	3 (50.0)	3 (50.0)
Immunization register	3 (50.0)	3 (50.0)
Notifiable disease (DSN) forms	2 (33.3)	4 (66.7)

* *For purposes of the survey, vaccines were brought to the facilities so that the health workers could demonstrate technique in giving injections*

4.7 Management and Supervision Skills

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

- Only two health workers had a written workplan.
- Target populations for measles, TT, malaria, and diarrhoea were known by very few health workers.
- None of the health workers had a written job description, although standing orders (job guidelines) were available at half of the facilities.
- Schedules for supervisory visits were not available at most facilities.
- Only half of the health workers report that routine supervisory visits are helpful in keeping their technical skills up-to-date.
- Health worker performance is not evaluated regularly at some facilities, though health workers report feeling comfortable discussing problems with their supervisor.
- Reports (mainly health statistics and patient data) are regularly submitted by most health workers, and about half of the health workers use the reports on the job.

Key management and supervisory practices among facility *supervisors* (summarized in Table 13, Fig. 12) included the following:

- Few supervisors reported having a map, or knowing the population, of the Local Government.
- Job descriptions were not available at health facilities. Standing orders and procedures for evaluating health worker performance were available at about half of the facilities.
- Supervisory schedules and supervisory checklists are not often used.
- Three supervisors reported having to cancel a planned supervisory visit due to lack of transport.
- About half of the supervisors had observed facility-level health education activities in the past six months.

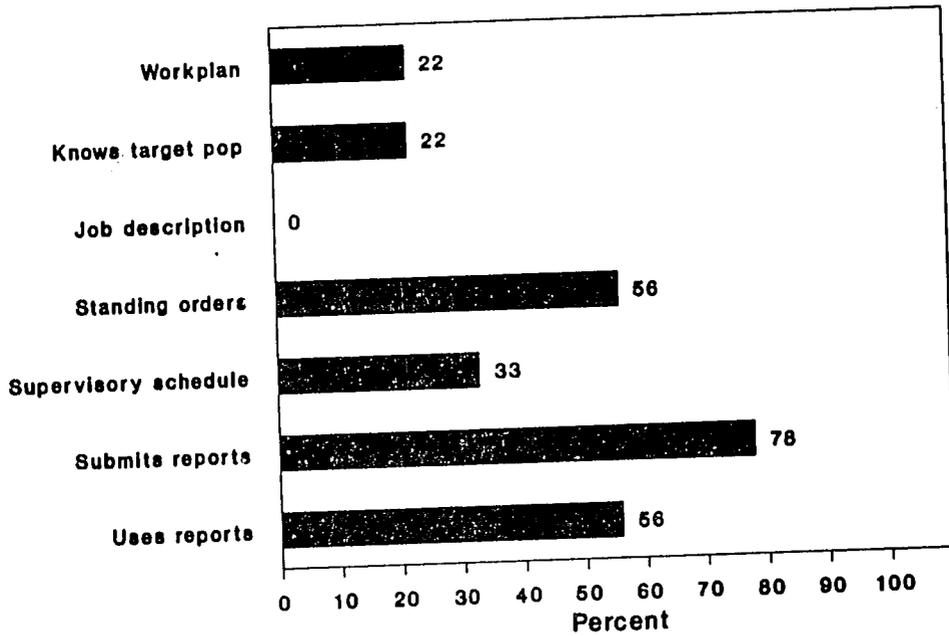
Table 11. Health workers and supervisors interviewed, by title

Health workers and supervisors interviewed during
Facility Assessment Survey, by title, Zuru, 1993

Title/position	Number
Health workers:	
Community Health Supervisor	1
Junior Community Health Extension Worker*	3
Midwife	4
Public Health Nurse	1
Total	9
Supervisors:	
Head of Unit/Facility	5
PHC Coordinator	1
Community Health Supervisor	2
Matron	1
Total	9

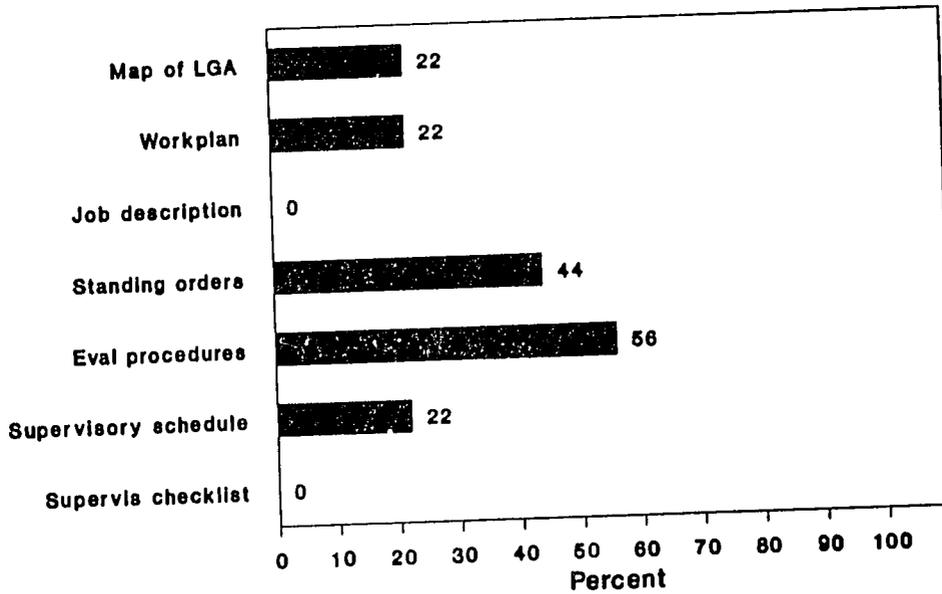
** Includes Community Health Aides/Assistants*

Figure 11
Management Skills among Health Workers



9 Obs

Figure 12
Management and Supervisory Skills Among Supervisors



9 Obs

Table 12. Management skills among health workers

Management skills among health workers interviewed during the Facility Assessment Survey, Zuru, 1993

<i>Number of interviews = 9</i>	Number (%)	
	Yes	No
Workplan:		
Does the health worker have a written workplan	2 (22.2)	7 (77.7)
Was the workplan developed with health worker input	2 (22.2)	7 (77.7)
Target populations:		
Were target populations explained to the health worker by his/her supervisor for:		
Measles	2 (22.2)	7 (77.7)
Tetanus Toxoid	2 (22.2)	7 (77.7)
Malaria	2 (22.2)	7 (77.7)
Diarrhoea	2 (22.2)	7 (77.7)
Does the health worker know target populations for:		
Measles	1 (11.1)	8 (88.8)
Tetanus Toxoid	1 (11.1)	8 (88.8)
Malaria	1 (11.1)	8 (88.8)
Diarrhoea	1 (11.1)	8 (88.8)
Job description:		
Does the health worker have a written job description	—	9 (100.0)
Standing orders:		
Are there written standing orders or job guidelines	5 (55.5)	4 (44.4)

Table 12. Management skills among health workers (continued)

	Number (%)	
	Yes	No
Supervisory visits:		
Is there a schedule for supervisory visits	3 (33.3)	6 (66.7)
Were any supervisory visits canceled in the past 6 months	2 (22.2)	7 (77.7)
Does the supervisor keep health worker's skills up to date	5 (55.5)	4 (44.4)
Is the health worker's performance evaluated regularly	4 (44.4)	5 (55.5)
Does he/she discuss problems with supervisor	9 (100.0)	—
Reports:		
Does the health worker submit reports regularly	7 (77.8)	—
Does he/she use the reports on the job	5 (55.6)	—

Table 13. Management/supervision skills among supervisors

Management and supervision skills among supervisors of health facilities,
Zuru, 1993

<i>Number of interviews = 9</i>	Number (%)	
	Yes	No
Does the supervisor have:		
Map of the LGA	2 (22.2)	7 (77.8)
Written workplan	2 (22.2)	7 (77.8)
Job descriptions for all cadres of health workers	—	9 (100.0)
Standing orders for all cadres of health workers	4 (44.4)	5 (55.6)
Procedures to evaluate health workers	5 (55.6)	4 (44.4)
Does the supervisor know:		
Which villages/towns do not have access to a health facility	8 (88.8)	1 (11.2)
Population of the LGA	1 (11.2)	8 (88.8)
Target populations for:		
Measles	1 (11.2)	8 (88.8)
Tetanus Toxoid	1 (11.2)	8 (88.8)
Malaria	1 (11.2)	8 (88.8)
Diarrhoea	1 (11.2)	8 (88.8)
Were they explained to staff	1 (11.2)	8 (88.8)
Does/has the supervisor:		
Follow a supervisory schedule	2 (22.2)	7 (77.8)
Use supervisory checklists to assess health worker performance	—	9 (100.0)
Make more visits to health workers not performing well	2 (22.2)	7 (77.8)
Cancelled any planned supervisory visits because of lack of transport	3 (33.3)	6 (66.7)
Observed any health education activities in the last 6 months	6 (66.7)	3 (33.3)

Appendix A

**FACILITY ASSESSMENT SURVEY
ZURU LOCAL GOVERNMENT AREA**

+++++
 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 |

- | | | | |
|-----|-------------------------------------|---|---|
| 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
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
has understood Y N
- 41. Ask the mother if she has any questions Y N

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FACILITY ASSESSMENT SURVEY

+++++
LGA: _____ **Facility:** _____ **Obs #:** _____ **Date:** __/__/91
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 |
| If Yes, does the health worker: | | |
| Check the child's immunization status | Y | N |
| 5. Does the mother have a health (TT) card | Y | N |
| If Yes, does the health worker: | | |
| 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 |
| 8. Use a sterile needle for each injection | Y | N |
| 9. Use a sterile syringe for each injection | Y | N |
| 10. Administer the correct dose | Y | N |
| 11. Immunize at the correct site | Y | N |

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: _____

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: _____

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: _____

Did the health worker greet you Y

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:

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

W

Appendix B

Zuru Local Government Officials and Health Department Staff

GOVERNMENT OFFICIALS

Alhaji Mohammed Sani Tadurga	Chairman
Mr. Sunday Dazi	Vice Chairman/Councillor for Health
Alhaji Tukur Yusufu	Secretary

PHC DEPARTMENT STAFF

Alhaji Abubakar Fakai	Director, PHC
Hajiya Mairamu Ali	Deputy Director, PHC
Alhaji Musa Adamu Danko	Asst. Coordinator, Planning/M&E
Umaru M. Faruk	Asst. Coordinator, EPI/CDD
Mohammed Ganya Karatu	Asst. Coordinator, Health Ed/Women in Heal
Hajiya Maimuna Ali	Asst. Coordinator, Essential Drugs
Mrs. Deborah Joshua	Asst. Coordinator, MCH/Family Planning

Appendix C

Participants Facility Assessment Survey Zuru Local Government

Name	Title	Location
Musa Maidawa	PCHO	CEU/SHT Jega
Mohammed Bello Bandiya	PCHO	SMOH
Mohammed A. Bubuche	EHO Tutor	SHT Jega
Faruk Wakili	CHS	Zonal Health Office
Elizabeth Oyetoki	PCHO	SMOH
Musa Adamu Danko	PCHO	LGA Zuru
Umara Mohammed Faruk	CHS	EPI Office Zuru
Esther Ango	CHO	SMOH/MCH Zuru
Mohammed Ganya Karatu	EHO	LGA Zuru
Jummai Kaduna	HRH Sup	LGA Zuru
Hussaina Bamayi	CHS	LGA Zuru
Rebecca Ibrahim	SCHEW	LGA Zuru
Mairamu Karatu	SCHEW	LGA Zuru
Umaru Abubakar Maje	CHS	LGA Zuru
Abdulrahaman Yusufu	SCHEW	LGA Zuru