WHY HIGH DROPOUT ON IMMUNISATION PROGRAMME IN THE ASHANTI AKIM NORTH DISTRICT

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DECLARATION

I hereby declare that this dissertation is an original work produced by me under the supervision of Dr Gloria Quansah-Asare, Dr Christopher Tetteh and Dr Cornelius Dodoo for the award of Master of Public Health (MPH) degree. This work has not been presented in part or whole to any other institution or board for the award of any Degree.

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LIST OF ABBREVIATIONS AND THEIR MEANINGS

ABBREVIATION	MEANINGS
BCG	Bacillus Calmette Guerin Vaccine
CHN	Community Health Nurse
DHMT	District Health Management Team
DPT	Diphtheria, Pertussis and Tetanus
EPI	Expanded Programme on Immunisation
FGD	Focus Group Discussion
MCH	Maternal and Child Health
MIS	Management Information System
OPV3	Third dose of Oral Polio Vaccine
SDHT	Subdistrict Health Team
TT	Tetanus Toxiod vaccine
UNICEF	United Nations Children Fund
WHO	World Health Organisation
WIFA	Women in Fertile (Reproductive) Age
Y. F	Yellow Fever

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LIST OF TABLES AND FIGURES

ABSTRACT

Expanded Programme on Immunisation is one of the health intervention that holdout the prospect of reducing infant and childhood mortality in developing countries. In Ghana efforts are being made to fully immunise all children against the six childhood killer diseases. Unfortunately access to and utilisation of the services by the children remains poor in many districts. The Ashanti Akim North district for instance recorded dropout rate of 29% in 1999. This dropout rate is unacceptable at the time when the country has aimed at achieving a minimum of 75% coverage for DPT3/OPV3 by the year 2001. According to WHO, there is a problem whenever dropout rate exceeds 10%.

The study looked into the reasons for such a high dropout rate in the Ashanti Akim North district. The Ashanti Akim North district is one of the 18 districts in the Ashanti Region of Ghana. It has a population of 107,771. Konongo is the district capital, with the Agogo Presbyterian Hospital as its district hospital.

The main objective of the study was to provide information to enable the District Health Directorate design and implement appropriate and relevant immunisation programme that will serve to enhance immunisation coverage and encourage mothers to fully immunize their children in the Ashanti Akim North District.

The study was descriptive in nature and combined both quantitative and qualitative methods. The findings from the qualitative research (group discussions) were used to complement the information obtained from the sample survey questionnaire that was administered to mothers

of children between 6 weeks to 24 months, who had dropout of the immunisation schedules. The sample size for the study was 170.

The results of the study showed that the dropout rate in the district was 17.3% instead of the calculated rate of 29%. The overestimation was due to poor recording of the immunisation registers. For those who dropout out, several reasons were given as to why they could not comply with the immunisation schedules. Most of the reasons 62.1% were obstacles with lack of money as the most prominent. Lack of motivation resulted in 20.6% of the respondents postponing their visit until another time. The rest were mother being busy, traveling, fear of side effect and laziness. Lack of nice clothing was not a major reason why a mother would not attend or complete the schedule. The study revealed that the mothers prefer outreach clinic to any other immunisation strategy.

The main recommendations were that;

1. Education at antenatal, postnatal and child welfare clinics should stress the total number of times mothers need to visit the clinic to complete the immunisation and when the measles vaccine needs to be taken.
2. The CHN should be trained on the need for the immunisation register and should be encouraged to do proper recording and follow up on defaulters.

It is hoped that the recommendations will be critically considered to improve immunisation coverage in the Ashanti Akim North District.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

Measles, tuberculosis, whooping cough, diphtheria, poliomyelitis, and tetanus have been described as the commonest childhood killer diseases by WHO. This is underlined by the continuing occurrence each year of some 1.7 million deaths from measles, neonatal tetanus, and pertusis and over 100,000 cases of poliomyelitis that could be prevented through immunisation. WHO (1994). In view of this, international concerns have been raised to either control or eradicate these diseases from the world through a Expanded Programme of Immunisation.

In all countries provision is made to immunize people against the vaccine preventable diseases. The Expanded Programme on Immunisation (EPI) was developed in 1974 by the World Health Organisation (WHO) and UNICEF to combat the six childhood vaccine-preventable diseases. It was aimed at achieving Universal Childhood Immunisation (UCI) by 1990 with at least 80% of infants fully immunised by their first birthday (WHO, 1998). . Since then, through staff training, development of secure cold chains, and the availability of routine immunisations, immunisation service delivery has rapidly improved. Success was measured by vaccine coverage levels in children aged 12 to 23 months and marked reduction in the incidence of some diseases had made it possible to consider the elimination of certain diseases like neonatal tetanus, poliomyelitis and measles (WHO, 1998).

In 1988, the World Health Assembly established a target to eradicate poliomyelitis world-wide by the year 2000. Eradicating poliomyelitis from the African continent is one of the remaining major challenges to achieve global eradication by the target date. The reported routine coverage of oral polio vaccine in 3 doses (OPV 3) in infants is still low in the West Africa sub-region, but has increased from 47% in 1993 to 54% in 1996 (WER, 1998). The distribution of this coverage within urban communities and between urban and rural communities is not clear. It is estimated that at least 85% OPV 3 coverage must be achieved and sustained if polio eradication is to be achieved.

However, many countries in Africa have severe constraints in maintaining coverage levels at 80 %. These constraints include inadequate financing; insufficient equipment, supplies, cold chain and transport; inadequate access to facilities; lack of trained personnel; and inadequate information to the populace as well as poor receptivity (WHO, 1998).

In Ghana, although EPI activities were introduced in the late 1970's, they did not become firmly established till 1986 when the Head of State ordered a national mass immunisation against measles. Since then, EPI activities have become the focus of public health activities at the district, sub-district and institutional levels in the health sector. Immunisation services are delivered mainly by public-sector institutions using a variety of approaches; static clinics, outreach clinics, limited house-to-house exercise, national immunisation days (NIDs) and intensified outreach campaigns (increasing outreach

services from once a week to 4 times a week) sometimes referred to as "mini-mass" campaigns. In 1995, the figures reported for Ghana based on a nation-wide survey were; BCG - 85%, DPT3 - 71%, OPV3 - 71%, Measles - 68% (WHO, 1998). These coverage's were well below the WHO target of 80% coverage. The country therefore set a minimum target of 75% for DPT3/OPV3 coverage to be attained by the year 2001 as part of its medium term health strategy (MOH, 1995). Table 1 present the coverage achieved by the Ashanti Akim North District between 1995 and 1999.

Table 1.1 Percentage Immunisation Coverage 1995 to 1999 in the Ashanti Akim North District

ANTIGEN	1995	1996	1997	1998	1999
	%	%	%	%	%
BCG	72	75	80	75.2	82
OPV 3	54	60	62	52.1	56
DPT 3	52	60	62	54	58.5
MEASLES	48	53	58	53	39
TT	47	9	17	31	52.7
Yellow Fever	24	24	47	-	55.5

Source: Annual reports 1999 Ashanti Akim North Health Directorate, Konongo

The trend as seen in Table1 shows general improvement in immunisation coverage since 1995 up to 1999, with exception of 1998 where the coverage for all the vaccines dropped. With improvement in coverage over the years, despite the dip in 1998, it was expected that the children would receive adequate and lasting protection (fully immunized) against the targeted diseases, but this is not the case.

In order to be considered fully immunized, a child should receive the following vaccinations; one dose of BCG, three doses each of DPT and polio, and one dose of the measles vaccine. BCG, which should be given at birth or at the first clinical contact, protects against tuberculosis. DPT vaccination which protects against diphtheria, pertussis, and tetanus. DPT and polio require three doses at approximately 6, 10, and 14 weeks of age. However, since this regime is not always followed, emphasis is placed on getting all the three doses by the time the child reaches the age of 12 months. Measles should be given at or soon after reaching nine months. The WHO recommends that children receive the complete schedule of vaccinations before 12 months of age, otherwise such children are considered drop out.

1.2 STATEMENT OF THE PROBLEM

One of the major objectives of EPI is to fully immunize 80% of the targeted population (WHO 1992). Being fully immunized is important because it is the only way to reduce the number of cases of vaccine-preventable diseases. The first and the last vaccination for a child to be fully vaccinated are BCG and measles respectively. In the Ashanti Akim North District, a high proportion of the children, who receive BCG fail to get other vaccines, particularly measles. It has been the estimated that the overall dropout rate for 1997 was 32%, 29% for 1998 and 29.1% for 1999 (EPI report 1999; Ashanti Akim North Health Directorate, Konongo). According to the WHO there is a problem whenever dropout rate exceeds 10%. The dropout or defaulter rate is estimated by the following formula;

$$\frac{\text{The number of children who received BCG} - \text{The number of children immunised for Measles}}{\text{The number of children immunised against BCG}} \times 100$$

During a mop up exercise at the end of 1999, two hundred and fifty eight (258) children were found to have defaulted on measles. The question is "why such a high dropout in the immunization programme in the district?" This trend of dropout rate over the years has been a source of great concern to the district health directorate. It is the wish of the District Health Management Team (DHMT) to reduce the drop out rate to 10% by the year 2001. It has therefore become necessary that a study be conducted among the women with children aged less than two years in the Ashanti Akim North District and the health workers to determine the reasons behind the dropouts.

CHAPTER TWO

LITERATURE REVIEW AND STUDY OBJECTIVES

21. LITERATURE REVIEW

Immunization has been identified as the single most important factor that determines whether a child will have any of the vaccine-preventable diseases – measles, tuberculosis, whooping cough, diphtheria, poliomyelitis, and tetanus. There is therefore the urgent need to increase and maintain immunization coverage levels worldwide.

It was reported by WHO (1991) that the EPI coverage has on the increase since 1985. By 1990 Africa and member states are reported to have achieved 80% vaccination. The increase was attributed to mass immunization exercises where districts were given financial support to implement the programme.

In 1989, a situational analysis of EPI coverage in Ghana showed that in spite of the success of the EPI the third dose vaccinations was still low. There were only 50.7% coverage for DPT3 and 51.2% for OPV3 with dropout rate of approximately 40% (UNICEF 1990).

Since 1992 a decline in vaccination coverage has been observed, and possible reasons for the decline have been given as inadequate resources and managerial capacities at different levels, low accessibility to health services, and the eruption of social and political conflicts (WHO1994). This is illustrated by a report in the Ghanaian daily

newspaper the Daily Graphic in the 16th March 1999 issue. The paper reported that "Managers of EPI in West Africa had begun a meeting in Accra to analysis why immunisation coverage in the sub-region remains low despite all efforts to increase coverage". Dr. Martin Mandara, the then WHO representative in the said paper had this to say, " It is worrying that although the target dates set for the elimination or eradication of certain diseases under EPI are drawing near, we still have a long way to go"

Cutts and Smith (1994) reported that an evaluation of the Cameroon EPI which began in 1975 for children under age 3, with the goal of 80% coverage showed that the goal could not be reached. According to Cutts and Smith, poor vaccination system that lack a method for finding unvaccinated children, lack of information about immunisation, and bad experiences with vaccinations and poor socio-economic factors were the main reasons for the failure to attain the goal.

It has been documented further that a number of other socioeconomic, demographic and cultural factors impact negatively on immunization coverage. Burgha and Kevany (1995) after a study in the Eastern Region of Ghana found that higher education, antenatal attendance, improved economic status, lower parity (<5), and urban residence contribute to better use of Primary Health Care services particularly immunisation by mothers. Studies in Kenya, based on DHS data have also shown that children of never married and polygamously married mothers had significantly higher probability of polio dropout and acute under nutrition than those of monogamously married mothers. Although children were not disadvantaged nutritionally when their fathers have more than one wife,

polygamy was also associated with a higher probability of polio dropout and lower probability of full immunization. Higher socioeconomic status was associated with a greater probability of full immunization and lower probability of malnutrition. (Gage, 1997)

In Nigeria, Odebiyi and Ekong (1982) found that, beliefs about the causes and supposed alternative source of preventing diseases, and the literacy level of mother influence their acceptance or non acceptance of vaccination. The authors concluded that as long as people defined disease within the supernatural context, they would be reluctant to use scientific measures to prevent and/or manage it.

A study in America by the National Vaccine Advisory Committee (1991) identified the following as known barriers to successful immunisation of all children;

1. Missed opportunities for administering vaccines
2. Shortfalls in the health care delivery system with barriers to immunisation.
3. Inadequate access to care and
4. Incomplete public awareness or lack of public interest for immunisation services.

Vaccination in the third world, a study by Nichter (1996) found that practical difficulties due to geographical location and poor infrastructure which make the task of immunisation difficult for both managers and health workers. In addition motivation and attitudes to immunisation among people play an important role in the acceptance of vaccination, which ultimately affect immunisation coverage in the population.

In all communities in Ghana, provision is made to immunize children against the six communicable diseases which cause a great deal of ill health and death. However logistical problems prevent the achievement of set targets. Hutchin S. et al (1993), observed that logistical problems with immunization delivery such as vaccine shortage, poor clinic organization and inefficient clinic scheduling were some of the major reasons, which affected immunization coverage in Ghana. In their study they found that the average prevalence of missed opportunities for children and women due to logistical problems was 10% (range 1-24%). This was confirmed in another study carried out in Ghana by Brugha R. and Kevery J. (1995). These researchers found that missed opportunities for immnisation during curative visits stood at 21.4%. This was due to logistical problems at the local hospital, shortage of Community Health Nurses to administer vaccines and the applications of false contra-indications by some health workers. In another study Sommerfelt E. et al (1997), have indicated that the missed opportunities for measles vaccination in Ghana was 11.3% among children aged 12-23 months.

Strategies adopted in immunisation programme also play important role in immunisation coverage. Home visiting is a more effective strategy in a community with low coverage where there is greater potential for improvement in coverage. Brugha and Kevany (1996) have showed that home-visiting increased DPT3/OPV3 coverage from 38% to 91% in an urban area. In another study Brugha R. F. and Kevany J.P. (1996) indicated that coverage in the intervention group rose by 26.5% compared with a 6% rise in the control group

during the same period. Such findings are supported by studies done earlier on in Egypt, where a house to house immunisation delivery strategy achieved vaccine coverage of 100% as compared to 86% for a fixed site delivery strategy.

As mentioned in an earlier section, the success in EPI is measured by the percentage of fully immunized children and reduction in the cases of vaccine preventable diseases. According to the Ghana 1998 DHS, the proportion of children fully vaccinated before the age of one year has increased over the last five years, from 43% in 1993 to 51 % in 1998. This increase was still not impressive, as only one in two Ghanaian Children age12-23 months was fully immunized by 12 months of age, while 9% received no vaccination before their first birthdays. Many factors have been attributed to this high dropout rate.

Bosu *et al* (1997) found that the major factors hindering attendance of EPI services were; poor knowledge about immunisation, lack of suitable venues and furniture at outreach clinics, financial difficulties, long waiting times, transport difficulties, poorly motivated service providers and weak inter-sectoral collaboration. In another study in an urban district area in Ghana it was observed that involving fathers, especially if those with high educational level, in the decision to send children to clinic improves the chances of completing vaccinations.

In a 1988 KAP study, UNICEF identified the following factors accounting for non-immunisation of children,in Ghana.

- Fear of side effects of immunisation

- Preoccupation of the mother with work
- Financial constraints
- Lack of belief in the importance of child health
- Long waiting time
- Discourteous treatment by health personnel
- Absence from home or town
- Forgetfulness
- Lack of information on the time and place of immunization
- Previous experience with occurrence of disease in older sibling after immunisation
- Distance from home to the immunization sites being too long.

Ebrahim et al (1988) had also made the following observations;

- "Parents who are knowledgeable and aware of the need of their children create a demand for immunization.
- Failure to inform the parents about reactions and side effects of immunisation causes unnecessary panic when they occur and lead to lack of cooperation in the future."

From the forgoing review it becomes apparent that there are several factors influencing the high immunisation dropout rate and that no one factor or group of factors could account for the global situation. Each study reflects the socio-cultural, economic and geographical circumstances of the community studied. Therefore the influencing factors are bound to be different in the Ashanti Akim North District. Again most of the studies

done in Ghana were urban based. It is therefore necessary to determine the influencing factors in the study population with the uniqueness it deserves.

2.2 STUDY OBJECTIVE

GENERAL OBJECTIVE

Generally the study was aimed at providing information that would enable the District Health Directorate design and implement appropriate and relevant immunisation programme. To enhance immunisation coverage and encourage mothers to fully immunize their children in the Ashanti Akim North District.

SPECIFIC OBJECTIVES

1. To investigate whether respondents attend Antenatal
2. To identify the immunisation strategies (static, outreach, house to house, and mass) preferred by the respondents.
3. To determine reasons why a mother may not complete immunisation schedule for her baby.
4. To provide recommendations to direct future delivery of immunisation services.

CHAPTER THREE

METHODOLOGY

3.1 RESEARCH SETTING

The study was conducted within the Ashanti Akim North District. The district is one of the 18 districts in the Ashanti Region. It covers about 1361 square km, which is 5.6% of the total land area of the Ashanti Region. The Ashanti Akim North District shares boundaries with Ejisu-Juaben district in the west, Sekyere East district on the north, Kwahu South district on the East and Ahanti Akim South on the south. It has a population of 107,771 (2000 provisional census figure: Source- Daily Graphic July 28, 2000 No. 147972) distributed over 4 sub-districts. The subdistricts are Konongo, Juansa, Dwease/Praaso and Agogo. There are 75 communities in the district. The Afram Plains contains about 40% of these communities. Konongo is the district capital.

The main economic activities are small scale farming, trading, sand winning and galamsey. The vegetation of the district is mainly tropical rain forest and savannah grassland. The major crops produced by the farmers are maize, tomatoes yam, cassava, and plantain.

The main towns enjoy electricity from the national electricity grid. Pipe borne water exists in the towns, but is not very reliable. The medium-sized towns and villages especially the Afram Plains depend on hand dug wells. The are a total of 108 boreholes and 276 handdug wells.

Most of the people in the district belong to the Akan tribe and minority ethnic groups include Fantis, Gas, Ewes, Frafra, Moshies, Nzemas, Dagombas, and Kusasis.

The district has two hospitals at Agogo and Konongo, and five health centres at Ananekrom, Bedome, Dwease, Juansa and Praaso. Agogo Presbyterian Hospital is the district hospital. The Agogo sub district had been adopted by the Presbyterian Health Services for their Primary Health Care Activities since August 1999. There are five private clinics and two maternity homes in the district manned by two medical officers and two midwives respectively. The district has five Maternal and Child Health static clinics, and 47 outreach points manned by two Public Health Nurses and 12 Community Health Nurses. The following are the demographic characteristics of the sub districts

Table 3.1 Demographic characteristics of the sub districts

NAME OF SUB DISTRICT	POPULATION	NUMBER OF COMMUNITIES	NO. OF OUT-REACH POINTS	NO. OF SCHOOLS	NO OF MCH STAFF
Agogo	51,241	39	12	70	4
Dwease/Praaso	12,878	10	9	27	3
Juansa	27,265	14	12	53	3
Konongo	45,624	12	14	78	4
Total	137,008	75	47	228	12

Source: 1999 Annual Report; Ashanti Akim North Health Directorate, Konongo

Immunisation services are carried out daily from Monday to Friday at the Health facilities (static points), and once a month at the out reach points on Mondays, Wednesdays, Thursdays and Fridays. Tuesdays are used for report writing. The monthly immunisation coverage for 1999 is as follows;

Table 3.2 Monthly immunisation coverage for 1999.

ANTIGEN	J	F	M	A	M	J	J	A	S	O	N	D	TOTAL
BCG	403	311	379	396	547	339	404	256	382	412	469	405	4,721
MEASLES	314	304	276	256	338	285	240	176	338	257	294	269	3,344
DPT3	233	246	218	230	249	231	267	228	280	341	351	331	3,206
OPV3	228	257	226	241	245	252	258	225	310	349	349	331	3,271
Y.F	319	275	225	203	434	223	245	161	300	245	295	274	3,199

Source: EIP report 1999; Ashanti Akim North Health Directorate, Konongo

3.2 STUDY TYPE

The study was a cross sectional descriptive type using both qualitative and quantitative methods. Mothers of children 6 weeks - 24 months in the Ashanti Akim North District who had been registered for immunisation and had defaulted were used as the sampling frame.

3.3 SAMPLING STRATEGY

Ten communities were selected by systematic random sampling from the 75 communities, for the study. This was based on the 95% confidence level, expected frequency of 29% (the estimated dropout rate for 1999) and ±5 margin of error. The selected communities were Juansa, Obenemase, Domeabra Hwediem, Agogo, Atunsu, Dwease, Brahabebome, Kowireso and Ananekrom (A district map showing these communities is in the appendix 2). Mothers of children 6 weeks - 24 months in the 10 selected communities who had been registered for immunisation and had defaulted according to the records, were used for the sampling frame. The names and addresses of the mothers of dropout children were compiled from the immunization registers of the health centres in the district. A list of a total number of 720 mothers was made and

systematic random sampling was used to select 170 for the study. These mothers were then followed up into their homes and interviewed. The sample size of 170 was based on confidence level of 95%, expected frequency of 29% with ±5 margin of error and the sampling units of 720 mothers. Two focus group discussions of six Maternal and Child Health (MCH) staff each were carried out at Juansa and Praaso Health Centres. In-depth interviews were conducted on six MCH staff at Agogo, and Konongo Hospitals. The computer programme EPI 6 statistical calculator was used to estimate the sample size and the number of communities selected for the study.

3.3 DATA COLLECTION TECHNIQUE

Three main techniques used in collecting the data were;

1. Structured questionnaires were used to interview the mothers of defaulted children on the immunisation programme
2. In-depth interviews of 6 Maternal and Child Health staff and
3. Focus group discussions with Maternal and Child Health staff.

Training

Two research assistants were identified and trained in order to standardize data collection procedures. The training covered the following areas:

- Interview skills;
- Community entry skills;
- Definition of Mother;
- Translation of the questions into Twi;

- Selection criteria for mothers and children;
- Extraction of data from the Road to Health Cards (RHC); and
- Field work and pre-testing

Pretest

The survey instrument (questionnaire) was pretested at the Zongo community at Konongo to identify potential problem areas. At the end of the exercise some of the questions were found to be unnecessary, others were modified and new questions added.

DATA COLLECTION

The field data were collected within 10 weeks period, from June to August 2000. One of the major constraints during the data collection was lack of addresses of the respondents. The Community Health Nurses sometimes recorded the names and towns/villages without the addresses of their clients in the immunisation register. This made follow up difficult.

The strategy adopted was that in any community, the two data collectors and myself first report to the Chief, the Assemblyman (if any) and the Unit Committee Members in the community to introduce ourselves and to present the list of the sampled mothers in the community to them. In most of the communities they were able to identify most of the respondents. The rest we had to keep asking as we collected the data from those identified. One interesting observation was that most of the mothers did not use their usual common names when they register for the EPI. This further compounded the

problem of the follow up. In all the communities the services of three Unit Committee members and/or Assemblyman were engaged. These recruited people had to be trained to collect the data for those respondents we did not meet. A second visit was usually made to collect the fill questionnaire from the Assemblyman or the Unit committee members. In some of the communities the filled questionnaires were brought to me at Agogo.

Another constraint was that three of the communities selected fell in the Afram Plains portion of the Ashanti Akim North District. The communities were not readily accessible. I had to wait and tie the data collection exercises to the National Vitamin A Supplementation Programme and the Sub National Immunisation Days (Sub NIDs), This was done because special 4 x 4 vehicles and motor bikes were made available for the exercise in the Afram Plains. These problems made the data collection difficult and expensive than what was budgeted for.

VARIABLES

The key variables that will be studied are;

Dependent

- Dropout rate in immunisation programme
- Immunisation staus of children

Independent

- Occupation of mother
- Distance of place of immunisation from residence

- Mothers knowledge on schedule
- Mothers knowledge on timing of clinic
- Attitude of health workers
- Cost of immunisation
- Religious and cultural belief of mother
- Mothers knowledge on the need for immunisation
- Mothers reaction to side effects
- Strategy of immunisation
- Availability of vaccines
- Waiting time
- Availability of information on immunization
- Level of motivation of the mother.
- Health status of the child and mother

Data Entry, Cleaning and Checking

Data from structured questionnaires were entered onto computer and processed using EPI-INFO. Regular verification and validation of data sets were done. Logical and consistency checks were programmed into the data entry system. In addition, data sets were checked regularly during field work. All inconsistencies were resolved through discussions by the research team.

Ethical Considerations

Ethical clearance for this research was obtained from the District Health Administration. Verbal consent was obtained from the Chiefs and Assemblymen of the communities as well as individuals involved in the research.

CHAPTER FOUR

STUDY FINDINGS

4.1 SURVEY FINDINGS

In all one hundred and seventy (170) mothers were visited. Out of this number 68 (40%) were found not to be defaulters, as had been indicated in the immunisation register. Forty-two (61.8%) out of the 68 were fully immunised and the remaining 26 (38.2%) had received their vaccines as expected. Of those who were fully immunised, 6 (14.3%) completed their immunisation schedules outside the district, resulting in having their names appear in the register as defaulters.

The dropouts constituted 60% of the sample. Out of this 13 (12.7%) moved into the study area either to deliver or soon after delivery, and had moved back to their usual places of residence, while 2 (2%) of the mothers had lost their children (dead). Eighty-seven (85.3%) of the mothers were therefore interviewed for their reasons for dropping out of the immunisation programme.

SOCIO-DEMOGRAPHIC AND ECONOMIC CHARACTERISTICS OF RESPONDENTS

Defaulting on immunisation schedule cut across the fertility age for the mothers. However there is a higher proportion 28 (32.2) in the 16-20 age group. Respondents with no formal education and just primary education constituted the majority 53 (60.9%) whilst those above primary level education were 24 (39.1%) This is however contrary to the educational level of their husbands as shown in sections (b) and (e) in table 4.1

Table 4.1 **SOCIO-DEMOGRAPHIC AND ECONOMIC CHARACTERISTICS OF RESPONDENTS**

CHARACTERISTICS	NUMBER	PERCENTAGE
a) AGE GROUP OF MOTHERS		
16-19	19	21.8
20-24	18	20.7
25-29	16	18.4
30-34	20	23.0
35-39	5	5.7
40-44	8	9.2
45-59	1	1.1
b) LEVEL EDUCATION OF MOTHER		
No formal education	14	16.1
Primary	39	44.8
JSS/Middle	24	27.6
SSS/Secondary	10	11.5
c) OCCUPATION OF MOTHER		
Salary worker	5	5.7
Trader	9	10.3
Farmer	38	43.7
Artisan	11	12.6
Unemployed	24	27.6
d) NO. OFCHILDREN		
1-3	46	52.9
4-6	30	34.5
7-9	9	10.3
8-12	2	2.3
e) FATHER EDUCATION		
No formal education	4	4.7
Primary	6	7.0
Middle/JSS	58	67.4
SEC/SSS	13	15.1
Tertiary	5	5.8

Majority of the respondents husbands 77 (88.5%) have had above primary level, whilst 10 (11.5%) were below middle or JSS level. With regards to occupation most of the respondents were farmers 38 (43.7%). Unemployed constituted 24 (27.6%) with only 5 (5.7%) salary workers.

There was no gender discrimination in sending children for immunisation. Forty-five (51.7%) of the dropout children were females while 42 (48.3%) were males. The number of children for the mothers interviewed ranged from one to eleven. Most of the mothers 46 (52.9%) had 1-3 children as indicated in section (d) of table 4.1

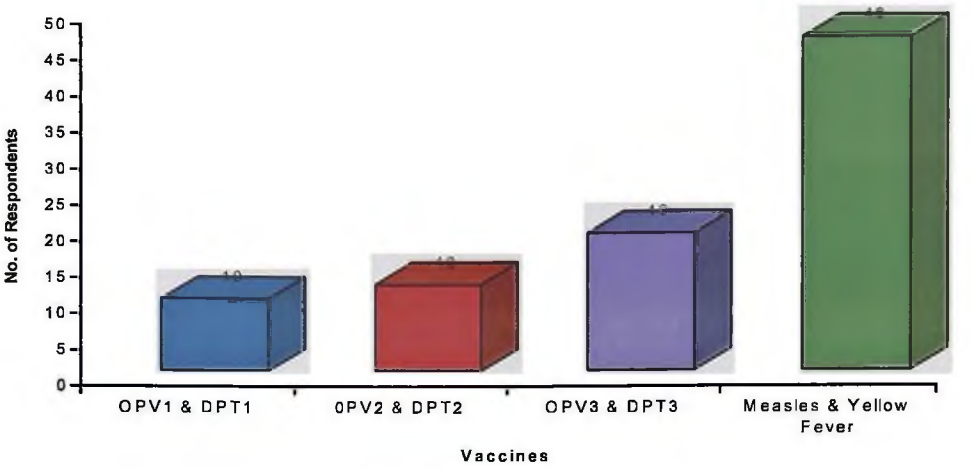
ANTENATAL ATTENDANCE

Most of the respondents 75 (86.2%), attended antenatal clinic at least once, whilst 12 (13.8%) did not. Out of the number who attended antenatal 26 (34.7%) received education on the importance of immunisation for their children, whilst 49 (65.3%) were not informed.

THE DEFAULTING ANTIGEN

All the respondents had, at least, had BCG vaccination for their children either at birth or within six weeks after birth. The problem of dropout was with the subsequent antigens. There was increase in the number of children who defaulted on the vaccines from OPV1and DTP1 to measles and yellow fever. Majority of the respondents 46 (52.8%) dropped out on measles and yellow fever as shown in figure 1.

Figure 1. DEFAULTING ANTIGEN

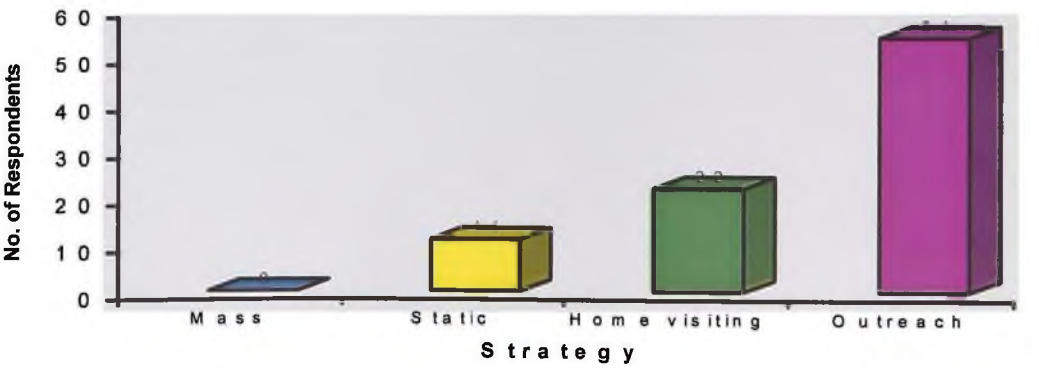


Most of the respondents 61 (70.1%) did not know the next antigen their children were supposed to take. Twenty-six (29.9%) however had this information.

PREFERRED IMMUNISATION STRATEGY

None of the respondents did like mass immunisation. Most of them, 54 (62.1%) preferred outreach to static programmes. This finding is presented by figure 2.

Figure 2. PREFERRED IMMUNISATION STRATEGY



REASONS FOR DROPOUT

Most of the reasons for dropping out of the immunisation schedule were due to obstacles 54 (62%), lack of motivation was mentioned 22 (25%), and lack of information by 11 (12.6%) as shown in the figure 3;

Figure 3. **PIE CHART OF REASONS FOR DROPOUT**

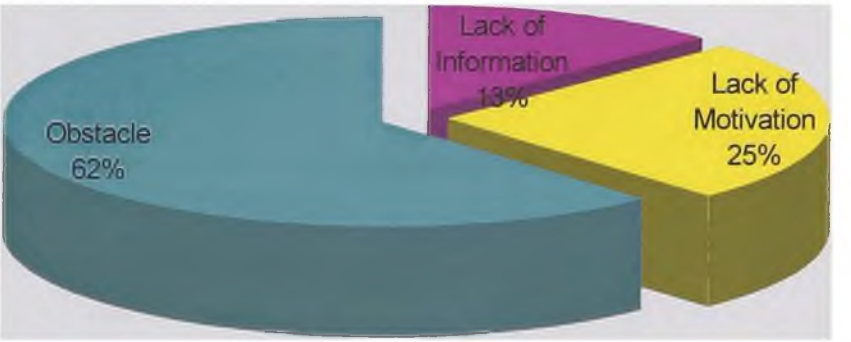


Table 4.2. **REASONS FOR FAILURE TO IMMUNISE**

	REASONS	NUMBER	PERCENTAGE
Lack of information	Unaware of need for immunization	1	1.1
	Unaware of need to return for 2nd or 3rd dose	1	1.1
	Place of immunisation unknown	0	0
	Time of immunisation unknown	2	2.3
	Fear of side-effects	7	8.0
	Wrong ideas about contraindications	0	0
	Sub total	**11**	**12.6**
Lack of motivation	Postpone until another time	18	20.7
	No faith in immunisation	1	1.1
	Laziness	4	4.6
	Sub total	**22**	**25.3**
Obstacles	Place of immunisation too far	1	1.1
	Time of immunisation inconvenient	0	0
	Vaccinator absent	2	2.3
	Vaccines not available	2	2.3
	Mother too busy	1	1.4
	Family problems (e.g. illness of mother)	4	4.6
	Child ill – not brought	2	2.3
	Child ill – brought but not immunised	1	1.1
	Long waiting time	4	4.6
	Lack of desent cloth	3	3.4
	Lack of money	24	27.6
	Travelled	9	10.3
	Sub total	**54**	**62.1**
	TOTAL	87	100

Table 4.3 DISTRIBUTION OF MOTHERS (RESPONDENTS) BY AGE AND MAJOR REASONS FOR DROPPING OUT.

AGE OF MOTHER	FEAR OF SIDE EFFECT	POSTPONE-MENT OF VISIT	LACK OF MONEY	LACK OF CLOTHS	TRAVEL	OTHERS	TOTAL
15-19	3 (3.4%)	2 (2.3%)	10(11.5%)	0	1 (1.1%)	3 (3.4%)	19 (21.8%)
20–24	0	3 (3.4%)	4 (4.6%)	2 (2.3%)	1 (1.1%)	8 (9.2%0	18 (20.7%)
25-29	2 (2.3%)	6 (6.9%)	3 (3.4%)	1 (1.1%)	2 (2.3%)	2 (2.3%)	16 (18.4%)
30-34	1 (1.1%)	5 (5.8%)	5 (5.8%)	0	3 (3.4%)	6 (6.9%)	20 (23.0%)
35-39	0	1 (1.1%)	2 (2.3%)	0	0	2 (2.3%)	5 (5.8%)
40-44	1 (1.1%)	1 (1.1%)	0	0	1 (1.1%)	5 (5.6%)	8 (9.2%)
45-50	0	0	0	0	1(1.1%)	0	1 (1.1%)
TOTAL	7 (8.0%)	18 (20.7%)	24(27.6%)	3 (3.4%)	9 (10.3%)	26(29.9%)	87 (100%)

From the above table, dropout due to lack of money was highest in the 15-19 year age group and declined with increasing age. Lack of cloths was only an issue in the 20 –29 age group.

Table 4.4 DISTRIBUTION OF MOTHERS (RESPONDENTS) BY EDUCATIONAL LEVEL AND MAJOR REASONS FOR DROPPING OUT

EDUCATION	FEAR OF SIDE EFFECT	POSTPONE-MENT OF VISIT	LACK OF MONEY	LACK OF CLOTHS	TRAVEL	OTHERS	TOTAL
NO EDUCATION	3 (3.4%)	4 (4.5%)	2 (2.3%)	2 (2.3%)	0	3 (3.4%)	14 (16.1%)
PRIMARY	1 (1.1%	9 (10.3%)	11(12.6%)	1 (1.1%)	5(5.8%)	12(14.9%)	39 (44.8%)
MIDDLE/JSS	3 (3.4%)	1 (1.1%)	9 (10.3%)	0	2 (2.3%)	9 (10.3%)	24 (27.6%)
SEC/SSS	0	4 (5.8%)	2 (2.3%)	0	2 (2.3%)	2 (2.3%)	10 (11.5%)
TOTAL	7 (8.0%)	18 (20.7%)	24 (27%)	3 (3.4%)	9 (10.3%)	26(29.9%)	87 (100%)

Fear of side effect was not a problem for the mothers with education above Sec/JSS level but it was an issue for those with no education and the Middle/JSS level. Lack of money was the major problem 11 (12.6%) for those with primary education. Postponement of visit for vaccinating the child was a problem for all the age groups while lack of clothing was mentioned as a problem by those with no education or just primary education.

Table 4.5 DISTRIBUTION OF MOTHERS (RESPONDENTS) BY OCCUPATION AND MAJOR REASONS FOR DROPPING OUT.

OCCUPATION	FEAR OF SIDE EFFECT	POSTPONE -MENT OF VISIT	LACK OF MONEY	LACK OF CLOTHS	TRAVEL	OTHERS	TOTAL
SALARY WORKER	0	2 (2.3%)	0	0	0	2 (2.4%)	5 (5.8%)
TRADER	2 (2.3%)	3 (3.4%)	1 (1.1%)	0	6 (6.9%)	1 (1.1%)	9 (10.3%)
FARMER	3 (3.4%)	8 (9.2%)	6 (6.9%)	1 (1.1%)	2 (2.3%)	14(16.1%)	38 (43.7%)
ARTISAN	0	3 (3.4%)	2 (2.3%)	0	1 (1.1%)	5 (5.8%)	11 (12.6%)
UNEMPLOYED	2 (2.3%)	2 (2.3%)	15(17.2%)	2 (2.3%)	0	3 (3.4%)	24 (27.6%)
TOTAL	7 (8.0%)	18 (20.7%)	24(27.6%)	3 (3.4%)	9 (10.3%)	12(13.8%)	87 (100%)

Most of the unemployed 17.2% attributed their reason for dropout to lack of money, while dropout due to travel was the major problem for the traders.

Table 4.6 DISTRIBUTION OF MOTHERS (RESPONDENTS) BY ANTENATAL ATTENDANCE AND MAJOR REASONS FOR DROPPING OUT.

ANTENATAL ATTENDANCE	FEAR OF SIDE EFFECT	POSTPONE -MENT OF VISIT	LACK OF MONEY	LACK OF CLOTHS	TRAVEL	OTHERS	TOTAL
YES	4 (4.6%)	13 (14.9%)	22(25.3%)	2 (2.3%)	9 (10.3%)	24(28.8%)	75 (86.2%)
NO	3 (3.4%)	5 (5.7%)	2 (2.3%)	1 (1.1%)	0	1 (1.1)	12 (13.8%)
TOTAL	7(8.0%)	18 (20.7%)	24(27.6%)	3 (3.4%)	9 (10.3%)	25(28.7%)	87(100%)

For the respondents who attended antenatal clinics their reasons for defaulting on the immunisaton schedules cut across the major reasons for dropout. However for those who did not attend antenatal clinics postponement was the main reason for defaulting.

Table 4.7 DISTRIBUTION OF MOTHERS (RESPONDENTS) BY DEFAULTING ANTIGEN AND MAJOR REASONS FOR DROPPING OUT.

DEFAULTING ANTIGEN	FEAR OF SIDE EFFECT	POSTPONE -MENT OF VISIT	LACK OF MONEY	LACK OF CLOTHS	TRAVEL	OTHERS	TOTAL
DPT1 & OPV1	1 (1.1%)	2 (2.3%)	3 (3.4%)	0	0	4 (4.6%)	10 (11.5%)
DPT2 & OPV2	2 (2.3%)	0	5 (5.7%)	1 (2.3%)	2 (2.3%)	2 (2.3%)	12 (13.8%)
DPT3 & OPV3	3 (3.4%)	4 (4.6%)	2 (2.3%)	2 (3.4%)	3 (3.4%)	5 (5.7%)	19 (21.8%)
MEASLES & YF	1 (1.1%)	12 (13.8%)	14(16.1%)	0	4 (4.6%)	15(17.2%)	46 (52.9%)
TOTAL	7 (8.0%)	18 (20.7%)	24(27.6%)	3(3.4%)	9 (10.3%)	26(29.9%)	87 (100%)

The major reason for defaulting on the antigens were lack of money except with DPT3 & OPV3 for which respondents gave fear of side effects and travels, as the major reasons for defaulting.

DROPOUT RATE

The target population for EPI in Ashanti Akim North District was estimated as 10,560 for 1999 (EPI Report 1999). If 29% of these were said to have defaulted in the EPI programme, then the defaulter population would be 3,062 (29% of 10,560).

From the study it was found out that 40% of the estimated defaulters were in fact not defaulters. The defaulter population would therefore be 1,837 (40% of 3,062 subtracted from estimated defaulter population of 3,062), which constituted 17.3% of the targeted population. The dropout rate therefore was about 17.3% instead of 29%.

4.2 FOCUS GROUP AND INDEPTH INTERVIEW FINDINGS

The major purpose for conducting the focus group discussions and in-depth interviews with the maternal and child health staff, was to determine the health service factors contributing to dropout from the immunisation programme.

The study revealed that Child Welfare Clinics were ran by Community Health Nurses stationed at Juansa, Agogo, Dwease and Konongo. The number of years of service ranged from 2 to 23 years.

The operational strategies used for EPI were static and outreach services. House to house was only employed during the National Immunisation Days (NID). Mass immunisation was not practised.

All the respondents knew their target population, the childhood vaccine preventable diseases and the number of times a mother needs to visit the clinic to have all the antigens, as well as intervals between the vaccines. However their knowledge on the cold chain system was limited. Most of the Community Health Nurses could not tell what constitutes the cold chain and the temperature requirements for the various vaccines.

The staffing level of the EPI staff in the health facilities ranged from 3 – 4. Community Health Nurses. The workload they said was too much for them to manage conveniently and effectively. As a result of the heavy workload some programmes such as School

Health and defaulter tracing were hardly carried out. All the respondents called for additional hands.

The study revealed that, most often one staff runs a Child Welfare Clinic of about 20 to 30 children. The staff have to give health talks, weigh the children, administer the vaccines, do recording in both the immunisation register and in the Road to Health Cards as well as do counselling on individual basis. For the children receiving DPT, paracetamol syrup is sold to mothers to prevent fever that is usually associated with the DPT vaccine. It takes about 15 – 20 minutes to complete the process for one child. A child welfare clinic therefore takes about 5 – 6 hour to complete, and consequently, the waiting time was found to be too long for the mothers.

With regards to logistics, the study established that there are occasions when planned outreach sessions had to be cancelled due to lack of transport, and lack of vaccines. None of the Community Health Nurses knew how to ride a motor bike even though three of them had been trained. The DHMT had only one old vehicle, for all it activities.

The Community Health Nurses were of the impression that the immunisation coverage had been at a standstill for the past two years. This was attributed to inadequate number of staff and their inability to do home visiting.

Most of the Community Health Nurses indicated that there is no contraindication for the EPI vaccines, and would vaccinate a sick child even with raised body temperature. The

nurses gave a number of reasons why a mother might not complete the immunisation schedules for her child. These include:

- Missing Road to Health card;
- Bad previous experiences with immunisation e.g. abscess formation at needlepoint and fever after receiving DPT;
- Time of immunisation inconvenient for the mother;
- Traveling, and
- Laziness.

The health staff interviewed had the opinion that the immunisation programme in the Ashanti Akim North district would improve if the following suggestions were considered;

- Intensification of the on going public education on immunisation;
- Provision of reliable means of transport for outreach immunisation services;
- Incentive to motivate the MCH staff;
- Increase in staffing level;
- Institution of well baby shows to motivate the mothers to come for child welfare clinic, and
- Ensured availability of logistics for immunisation;

CHAPTER FIVE

DISCUSSION OF STUDY FINDINGS

5.1 DROPOUT RATE

The study established that the 29% dropout rate for the Ashanti Akim North district is an overestimation, as 40% of the dropouts as indicated by the immunisation register were found either to be fully immunised or had received their vaccines as expected. The immunisation registers were poorly kept and the reason assigned for this was lack of staff. There were also children, (3.5%) who started the immunisation but traveled out of their communities to complete the schedules elsewhere. The dropout rate according to the study is 17.3%. This is higher than **what Sommerfelt et al (1997)** found in a study, which indicated that the EPI defaulter rate in Ghana is 11.3% among children aged between 12 – 23 months. This emphasizes that fact that all is not well with the coverage in the district. According to WHO there is a problem whenever the dropout rate from immunisation programme exceeds 10%.

The study again revealed that in the case of 7.6% of the children who were recorded to have dropped out of the immunisation programme, their mothers came to deliver or moved into the study area after delivery and had left for their normal places of residence. Defaulting due to the death of children registered, constituted 2%. All these must be taken into consideration in assessing the immunisation coverage level for the district.

CHARACTERISTICS OF THE RESPONDENTS

Defaulting on immunisation schedules in the district cut across all the fertility age groups however, there seems to be more defaulters 32.2% in the 16 – 20 year group than the other age groups. This was however contrary to the finding of a study by **Browne et al (1999)** in the Kumasi Metropolis, where mothers aged 16 – 20 years, and 50 and above years had 100% coverage for all antigens.

Educational level of the mother seems to play an important role in the immunisation status of the child. The study finding shows that 60.9% of those who dropped out either had no education or had up to primary level education.

5.3 ANTENATAL CLINIC ATTENDANCE

Attending antenatal clinic had no effect on the immunisation status of the child, as most of the dropout mothers 86.2% attended antenatal, at least, once. This can be explained by the fact that majority of the mothers (65.3%) were not informed about immunisation during the antenatal period. Again, most of the respondents did not know the order of the antigen their children were supposed to take – also pointing to inadequacy of education on immunisation at during the antenatal, postnatal and child welfare clinics. This finding is supported by observation made by **Ebrahim et al. (1988),** that education of the parents particularly the mother about immunisation is very necessary to be able to achieve coverage greater than 80%, to realise the full benefit of immunisation.

5.4 PREFERRED IMMUNISATION STRATEGY

In relation to immunisation strategy preferred by the mothers, 62.1% chose outreach as compared to static and house to house. This is because they would not get the education the nurses' give at the outreach points or at the clinic. They also felt that it would be a bother for the few nurses to do house to house immunisation. The respondents did not also like static clinics because of the distances involved. This is an interesting finding, which shows that health education is very important to the mothers and mothers also appreciate the heavy workload on the nurses.

5.5 REASONS FOR DROPOUT

The number of defaulting children increased gradually from OPV1and DPT1 through to OPV3 and DPT3, with a sharp increase in defaulters for Measles and Yellow Fever. The reason for this was postponement with the mothers thinking that they could come for the Measles and Yellow fever vaccine at any age of the child after the 9 months. The mothers need to be educated on this.

The respondents gave several reasons as to why they could not comply with the immunisation schedules. Most of the reasons (62.1%) point to obstacles, with lack of money as the most prominent. Postponement until another time, mother being busy, traveling, fear of side effects and laziness were the other reasons. These findings are validated by findings of such works as **UNICEF (1988), and Rouse and De Graft**

(1992). Rouse and De-Graft, found misconceptions about immunisations, fear of side effects, money, time and distance to be major influences on immunisation uptake.

The findings from the study indicate that the nurses charge mothers fees ranging from ¢200 to ¢500 for weighing their babies. The mothers were also made to buy weighing panties to avoid spread of infection among the children during the weighing process. These serve as obstacles to attendance at child welfare clinics for mothers who cannot afford.

The nurses interviewed were of the impression that the immunisation coverage in the district has been at a standstill for the past two years. This finding was surprising because according to the **DHMT annual report for 1999**, the immunisation coverage had been on the increase.

The occasional shortage of vaccines and lack of transport constitutes a factor in the high dropout rate. There were 5.6% of the respondents who attributed the reason for defaulting to either lack of vaccine or absence of a vaccinator. The DHMT must consider this as a very serious issue. The intended objectives for the programme cannot be achieved no matter how well qualified and efficient the staff may be, if the equipment and materials to work with are not available. The DHMT has five motor bikes but none of the three community health nurses who had been trained feel competent enough to ride the bike. Another training for them may be helpful.

The performance of the community health nurses in the Ashanti Akim North district is being hampered by workload. The Ministry of Health EPI report (1992) recommended that if all the health workers, irrespective of category could participate in one form or the other in the immunisation programme, coverage could improve. There should also be frantic efforts to boost the staff numbers of community health nurses, in the district.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSIONS

The main purpose of the study was to identify the causes/reasons for the high dropout rate on the immunisation programme in the Ashanti Akim North District, in order that the DHMT can take steps to address this, in their effort to enhance immunisation coverage.

Based on the findings of the study, the following conclusions are reached:

1. The dropout rate of 29% in 1999 is an over estimation. The actual dropout is about 17.3%
2. The immunisation registers were not properly kept.
3. Mothers who dropped of the immunisation programmes were mostly those under 20 years and employed.
4. Monies ranging from ¢200 – ¢500 are charged for the weighing and the mothers are asked to buy weighing panties for the children, to avoid cross infection during weighing. These serve as obstacle to attendance at Child Welfare Clinics.
5. Non-compliance to immunisation schedules are attributed to obstacles such as
   - lack of money
   - mother being busy
   - family problems, and
   - travelling

6. For those who defaulted on measles, the reasons were mostly postponement, thinking that they could vaccinate their children any time after 9 months.
7. Because of outreach programmes, lack of nice clothing did not constitute a major reason why a mother will not complete the schedules. They could wear their casual clothes to outreach programmes.
8. Mass immunisation is the least preferred immunisation strategy by both the nurses and the mothers.
9. Health education offered by the nurses is very important to the mothers.
10. Lack of logistics e.g transport and supplies is a contributory factor to dropout on immunisation programme
11. The staff level for MCH activities are too low.
12. Outreach clinics are suitable for the mothers but the waiting time seems to be too long
13. The knowledge of the Community Health Nurses on the Cold Chain and temperature requirements for the vaccines is limited.
14. Inadequate education on immunisation at antenatal and child welfare clinics is contributory factor to the dropout from immunisation programme.

6.2 RECOMMENDATIONS

Even though the study revealed that the dropout rate is not as high as previously estimated by the DHMT, the following recommendations are being made, to provide information to enable the DHMT design and implement appropriate and relevant immunisation programmes that will serve to reduce the dropout rate in the Ashanti Akim North District.

1. Education at antenatal, postnatal and child welfare clinics should stress the total number of times mothers need to visit the clinic to complete the immunisation and when the measles vaccine needs to be taken.
2. The CHN should be trained on the need for the immunisation register and should be encouraged to do proper recording.
3. Follow up on defaulters should be encouraged
4. Monies collected at CWC must cease since it is an obstacle to mothers. Services for under five children are supposed to be free.
5. More CHNs are needed in the district to boost up the present staffing level.
6. The DHMT must train, if possible, all CHNs on how to ride motor bikes to ensure that outreach services are efficiently carried out.
5. The DHMT needs, as matter of urgency, four wheel drive vehicle to carry out its activities particularly EPI programmes.

It is hoped that these recommendations will be critically considered, to improve immunisation coverage in the Ashanti Akim North District.

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APPENDIX 1

QUESTIONNAIRE

Informed consent declaration

Dear madam/sir,

We are from the District Health Administration in Konongo. As part of part of our efforts to improve immunisation uptake, we would like to know from community members what they think about the service we provide and how they think these services could be improved. We shall therefore be grateful if you could spare some time to talk to us.

Name of Interviewer ---------- Date of Interview ……/……./2000

Time started ----- Time ended----------

SECTION A. Background

1. Community. ……. 2. House no. ……
2. Is the child a dropout on immunisation schedules (Check from the Road to Health Card)? Yes or No
3. If no, where did the child complete the immunisation schedules? ……
4. If yes, where is the child?
   a) Traveled (probe)
   b) Dead
   c) others ……

Proceed if the child is in the community

MOTHER

5. Name of Mother/Caretaker.....

6. Mother's /caretaker'sAge (yrs) ----------

7. Hometown .....

8. Region/Country .....

9. **Education**	10. **Occupation**	11. **Religion**
a. None	a. Salary Worker	a. Traditional
b. Primary	b. Businesswoman/Trader	b. Christian
c. JSS/Middle	c. Farmer	c. Pagan
d. SSS/Secondary	d. Artisan	d. Islam
e. Tertiary		

12. No. of children? .....

13. Did you attend antenatal clinics when your were pregnant with this child? Yes/No

14. If Yes, a) How many times? .....

b). Where? .....

c) Why did you attend that particular clinic?

1. The only one

2. Close to me

3. Better service

4. Others .....

15. How will you rate your antenatal care for that pregnancy?

a. Good

b. Average

c. Poor

16. Were you informed about the benefit of immunization during the antenatal Yes or No

FATHER

17. Name of Father/male guardians .....

18. Father's Age (years) --------

19. Hometown ..... 20. Region/Country .....

21. Education	**22. Occupation**	**23. Religion**
a. None	a. Salary Worker	a. Traditional
b. Primary	b. Businessman	b. Christian
c. JSS/Middle	c. Farmer	c. Pagan
d. SSS/Secondary	d. Artisan	d. Islam
e. Tertiary	e. Others (specify)	e. Others (specify)
f. Others (specify)	.....	.....

SECTION B

24. Name of child .....

25. Sex M / F

26. Date of birth ...../..../.....

27. Place of birth ----------

28. Road-to-Health Card / Immunisation Card available? Yes/No

29. Which antigen had the child received? *Find it from Card or Mother's history.*

	Card available	**Card not available** (Mother's History)
Antigen	Date of Immunisation	Date of Immunisation
BCG		
OPV0		
OPV1		
OPV2		
OPV3		
DPT1		
DPT2		
DPT3		
Measles		
Yellow Fever		
Others		

30. Which antigen is next to receive? .....

31. Which of the immunization strategies do you prefer?

A. At clinic B. At Home C. In the community D. Mass

32. Give reason for you answer ....

.....

SECTION C. REASONS FOR FAILURE TO IMMUNISE

33.

Ask only one question. Why was the child not fully immunised?

		(Spontaneous)	(Probe)
Lack of information	a. Unaware of need for immunization		
	b. Unaware of need to return for 2nd or 3rd dose		
	c. Place of immunisation unknown		
	d. Time of immunisation unknown		
	e. Fear of side-effects		
	f. Wrong ideas about contraindications		
	g. Cultural beliefs		
Lack of motivation	h. Postpone until another time		
	i. No faith in immunisation		
	j.Rumours		
Obstacles	k. Place of immunisation too far		
	l. Time of immunisation inconvenient		
	m. Vaccinator absent		
	n. Vaccines not available		
	o. Mother too busy		
	p. Family problems (e.g. illness of mother)		
	q. Child ill - not brought		
	r. Child ill – brought but not immunised		
	s. Long waiting time		
	t. Lack of money		
	u. Travel		
	t. Lack of desent cloth		
	Other (specify)		

2. Focus Group Discussion and Key Informer Interview Guide for MCH (EPI) Staff

1. **Background Information**

i. Name of Centre _____

ii. Rank _____

iii. No of years post qualification _____

iv. No of years at present station _____

2. What are the common illnesses of young children and babies in your clinic or catchment area? .....

3. What are the important childhood vaccine-preventable diseases in Ghana? How can they be prevented? .....

.....

4. What immunisation strategy do you use in your EPI .....

.....

5. At what age should a baby complete immunization? .....

6. How often should a baby need to visit the clinic to complete immunization (excluding weighing visits) .....

7. What are the dangers of immunization? .....

.....

8. When should a child not be immunized? .....

.....

9. Can a child develop another illness from immunization? .....

10. What is the cold chain system? .....

.....

11. What is the storage requirement for each vaccine? .....

.....

12 What do you do on a typical immunization day? .....

.....

.....

13. Would you say immunization coverage in your facility is increasing or decreasing. .....

14. Why? .....

.....

15. Are there reasons why a mother would not bring her child for immunization?

.....

.....

16. For those who come, why would they not complete immunization schedule?

.....

.....

.....

17. How can EPI coverage in your clinic/catchment area be improved? Explore issues in depth .....

.....

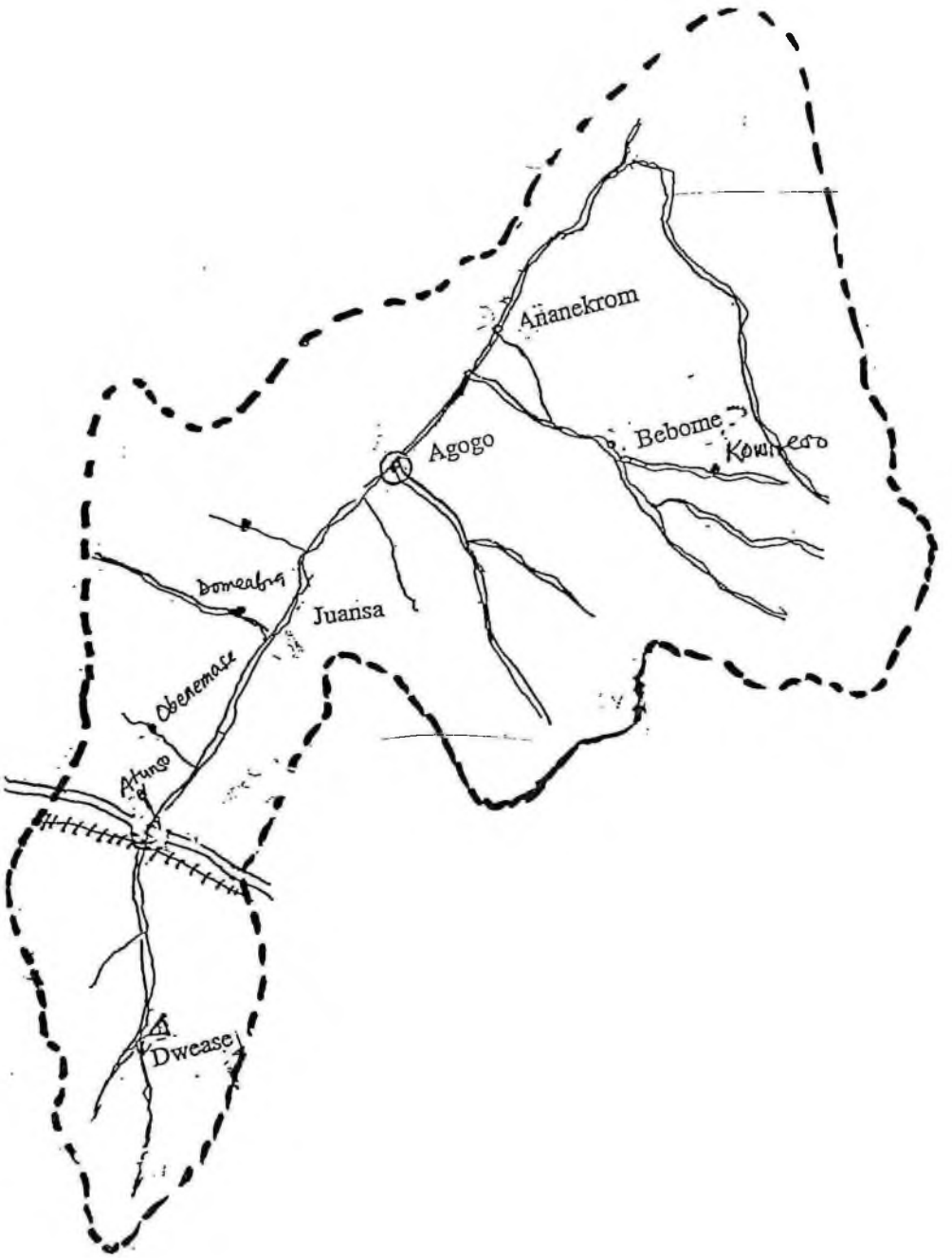
18. How can staff be motivated to improve EPI coverage? .....

.....

.....

APPENDIX 2

MAP OF ASHANTI AKIM NORTH DISTRICT SHOWING COMMUNITIES SELECTED FOR DATA COLLECTED



DISTRICT MAP OF GHANA

ASHANTI REGION

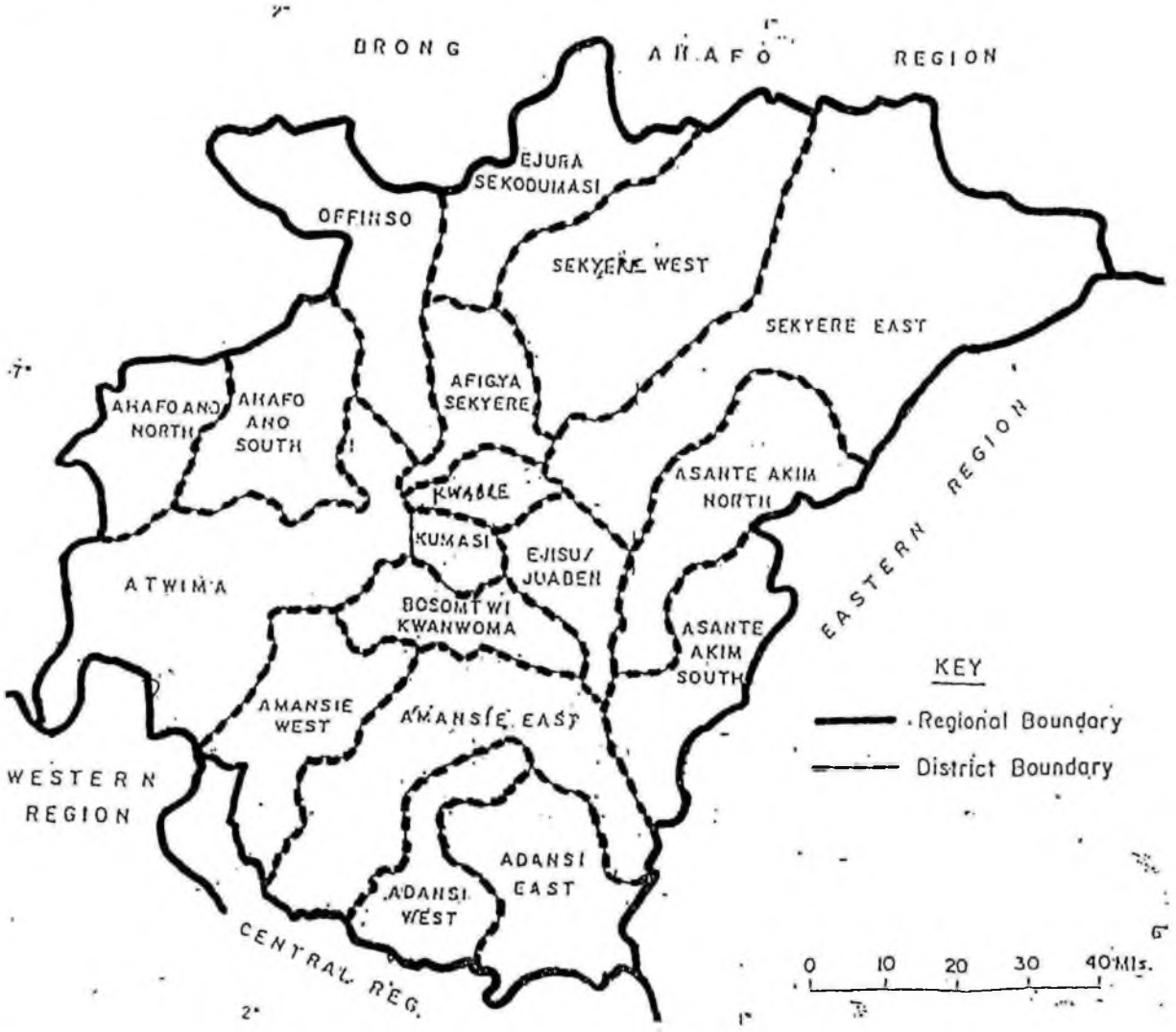


FIG. 1

SOURCE - DEPARTMENT OF GEOGRAPHY, LEGON.

Drawn by S.B. Quaye, Dept. of Geogr. Legon

MAP OF ASHANTI AKIM NORTH DISTRICT
SHOWING HOSPITALS AND HEALTH CENTRES