# ACCESSIBILITY AND UTILISATION OF PRIMARY HEALTH CARE FACILITIES IN THE DANGME WEST DISTRICT OF THE GREATER ACCRA REGION

BY

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# DECLARATION

I hereby declare that with the exception of references to works of other persons, which have been duly acknowledged, this work is the result of my own research and that it has neither in part nor in whole been presented elsewhere for another degree.

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# DEDICATION

Dedicated to my parents and siblings for their support.

# ABSTRACT

The thrust of this study was to identify the factors which influence accessibility and utilization of health care facilities in the Dangme West District, and to find solutions to problems which were identified.

The study covered nine fully operational health centres and health posts in the district, as well as randomly sampled service providers such as nurses, personnel of NGOs, heads of some government departments, opinion leaders and the district director of health services.

The method of data collection was by structured questionnaires administered to patients, and interview guides were used to collect information from the service providers, opinion leaders, and the heads of government departments. The data were analysed using the SPSS and ArcView GIS software packages to determine relationships and the spheres of influence of the health centres and posts.

The study showed that factors which played important roles in accessibility and utilisation of the Primary Health Care (PHC) facilities in the Dangme West District, were socio-demographic ones like age and gender, distance and institutional factors such as the number and distribution of health centres, inducements offered to patients, and quality of care. For example, the relatively high antenatal and postnatal coverage for the health centre at Prampram is attributed to the free meals offered to children who use the service. The major community wide factor was the poor road network. Some factors which did not play an important role included the educational level and occupation of the respondents.

Ways in which PHC can be strengthened in the district to make health care facilities accessible to all are recommended. These include the granting of greater autonomy to District Health Management Teams (DHMTs) to hire competent staff to ensure quality health delivery. It is also recommended that support for and supervision of the health posts should be increased. The need for effective networking among the government agencies and NGOs working in the health sector in the district was advocated.

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| | |
|---|---|
| ANC | Antenatal Coverage |
| ARDWDA | Annual Report of Dangme West District Assembly |
| BARIDEP | Brong Ahafo Rural Integrated Development Programme |
| CHW | Community Health Worker |
| DADU | District Agriculture Directorate Unit |
| DANIDA | Danish International Development Agency |
| DDHS | District Director of Health Services |
| DGCEO | District Girl Child Education Officer |
| DHMT | District Health Management Team |
| DPCU | District Planning Coordinating Unit |
| DWST | District Water and Sanitation Team |
| EHU | Environmental Health Unit |
| EPI | Expanded Programme of Immunization |
| ESRI | Environmental Systems Research Institute |
| GECA | Ghana Environmental and Conservation Ambassadors |
| GIS | Geographic Information System |
| HMIS | Health Management Information System |
| ICPM | Integrated Crop Management |
| JICA | Japan International Co-operation Agency |
| KVIP | Kumasi Ventilated Improved Pit Latrine |
| MCH | Maternal and Child Health |
| MOH | Ministry of Health |
| NGO | Non-governmental Organisation |
| OAU | Organisation of African Unity |
| OPD | Out-Patient Department |
| PHC | Primary Health Care |
| PNC | Postnatal Coverage |
| SPHC | Selective Primary Health Care |
| SPSS | Statistical Package for the Social Sciences |
| TBA | Traditional Birth Attendant |
| UNICEF | United Nations International Childrens Emergency Fund |
| USAID | United States Agency for International Development |
| VIP | Ventilated Improved Pit Latrine |
| WHO | World Health Organisation |
| WIAD | Women in Agriculture Development |
| WVI | World Vision International |

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# CHAPTER ONE

## STATEMENT OF RESEARCH PROBLEM

### 1.1 Introduction

The need for greater social justice in order to improve health was first brought sharply into focus at the thirtieth World Health Assembly held in Geneva in May 1977. It was decided that the main social goal of governments and World Health Organisation (WHO) in the coming decades should be the attainment by all the people of the world, by the year 2000, of a level of health that would permit them to lead a socially and economically productive life. This became known as 'Health for all by the year 2000'(WHO, 1994).

Before the WHO conference, the government of Ghana had adopted, in 1974, the Primary Health Care (PHC) policy. It was realised that it is through this policy that the vast majority of rural people can receive basic health care. Within the context of the PHC programme, increased attention would be given to retraining of traditional healers in the hope that they would be able to augment health delivery in the country.

The direct treatment of infectious diseases and other organic disorders is of high priority in any developing country. But there is the tendency to emphasise curative care at the expense of prevention. The adoption of PHC is based on the argument that Ghana needs more drains and better water supplies, among others, to minimise the outbreak and transmission of infectious diseases. It is in this regard that the Ghana government is trying to place more emphasis on the preventive aspects of health.

Ghana's PHC strategy is based on decentralised health services administration. The strategy makes the district and health centre levels, the unit and sub-unit, respectively, of health services administration. The PHC policy as envisaged by WHO was adopted by the government of Ghana in 1978 and it was initially introduced on a pilot basis in 10 districts.

The objectives of Ghana's PHC strategy were as follows:

(i) To make health services available and easily accessible to at least 80% of the population.

(ii) To reduce the disease problems of the population by 80%.

(iii) To improve management of health resources and health programmes (WHO 1987).

**1.2 Statement of Problem**

Attempts to address health problems are hampered by weaknesses in the health service delivery system. Coverage of services is relatively low: only 60% of the national and 45% of the rural population have access to health facilities (defined as the ability to reach a health facility within one hour of travel, or location within an eight kilometre radius of a facility). About 73% of the national and 85% of the rural population do not have sanitation facilities; and only about half of the national population have access to potable water.

Improving immunization coverage is vital to promoting child health and reducing childhood diseases and deaths. In spite of being actively promoted as a major public health intervention for national development since the 1970s, immunization coverage in Ghana remains low (Bosu et al., 1998).

The government of Ghana developed a health policy, which has as its main aim, the equitable distribution of health services to all the people of Ghana. It has also adopted PHC as the strategy to achieve this (WHO 1987). Due to the seriousness of the problem of accessibility to health by the people, President Jerry Rawlings, on November 18, 1998 appealed to West African countries to lay emphasis on primary health care to ensure good health for the majority of their people. The President made this remark when a delegation of the West African College of Physicians called on him at the Castle, Osu (Panafrican News Agency, 1998). The President recalled the effectiveness of sanitary inspectors of the old days and said they contributed immensely to environmental sanitation, thus promoting primary health care.

In spite of the adoption of the PHC policy in 1978, its implementation has remained largely incomplete. While some governments have seriously put into place the necessary physical, institutional, and administrative infrastructures required for the realisation of the goal "Health For All By the Year 2000," many have paid lip service to the implementation of PHC (Anyinam, 1989).

A study of the number of health centres in the Dangme West District as compared to its population distribution shows that there is a serious problem with accessibility and utilisation of health services in this district. The report, prepared by the planning unit of the Dangme West Assembly, notes that the health delivery system is poorly developed. This report also notes the absence of settlements and any major road network in the central part

of the district. Settlements are mainly along the major road network.

With the commencement of the year 2000, it was worthwhile investigating the degree to which the PHC system had been able to deliver health care to the people. This is because this district was among the 10 pioneering districts of the PHC concept. Apart from the District Level of the PHC hierarchy, which is not yet fully developed in the district, other levels do exist. The problem researched, therefore, is the factors accounting for the spatial patterns of access to and utilisation of PHC facilities in the Dangme West district.

## 1.3 Literature Review

### 1.3.1 The Concept of Accessibility

Phillips (1990) notes that in most developing countries, health care implies much more than access to medical facilities. To Phillips, a discussion, of access to services should begin with distinctions between the following:

a) physical (potential) accessibility and revealed accessibility(utilisation);
b) equity and equality of services: and
c) quality and quantity of services.

In the first place, the definition of 'accessibility' is rarely clear-cut. Accessibility may be considered a slippery notion, meaning, in general terms, that something is 'get-at-able' (Moseley, 1979). It is useful to distinguish between *locational accessibility* (a measure of proximity) and *effective accessibility,* dependent on having the ability, mobility and time to reach a service. In health care terms, the provision of a facility of a given type within a specified distance of an intended user population is frequently considered to give more or less equal access to all 'potential' users. The word 'potential' is used because it is assumed that once a facility exits, it would be used. Effective accessibility, dependent on having the ability, mobility and time to reach a service, is discussed later in the chapter.

The distinction between *equity* and *equality* of provision is complex but important. Equality of provision implies the arithmetic division of available facility resources equally among the population, possibly by a formula adjusted for demographic criteria such as local age structure. Equity, by contrast, implies justice in distribution, in which those who for some reason require more of a service will be provided more than their equal share (Smith, 1979). These persons or groups might then become targets for special provision because of their relatively high requirements. This involves the problem of how to define

and measure needs, the solution to which has, for practical purpose, eluded medical and social scientists to date.

The distinction between quality and quantity of service is also particularly acute in many Third World countries. To Phillips (1990), in the Third World just because facilities are identified on paper, there is sometimes very little reason not to believe they exist at all or in fully-fledged form in practice. Some countries, for example, have planned and even built networks of primary medical units that are in theory staffed by doctors and nurses, and fully supplied with medicines and logistics and embedded in a referral hierarchy. This, he notes, is not so in most instances. In reality, however, relatively lowly trained field workers, who have no professional support, medicines, and logistics, might staff a facility. They may not even have the opportunity to refer to more appropriate services, difficult cases or those beyond their skills. The 'quality' of service available, therefore, often does not equate with that which allegedly or quantitatively exits.

### 1.3.2 The Concept of Utilisation

Diamenu (1992) described the use of a health service as an act of the consumer receiving the service from the service provider or acting on the service provider's instructions concerning the use of the service. According to Benyoussef & Wessen (1974), the use of health services is the result of a complex interaction between different explanatory variables and the health status of the population. The interaction is even more complex in developing countries because of the change in illness concepts and health behaviour amongst people (Kroeger, 1983).

There have been a variety of meanings to the concept of utilisation. Foets, Berghmans & Janssens (1985) consider utilisation as the end of a process which is called illness behaviour. Mechanic & Volkart (1960) define illness behaviour as the 'way in which given symptoms may be differently perceived, evaluated, and acted or not acted upon by different kind of persons'. Kasl & Cobb (1966) define illness behaviour as 'any activity undertaken by a person who feels ill, to define the state of his health and to discover a suitable remedy'.

Foets *et al.* (1985) argue that illness behaviour is a process in which the individual passes a number of stages, whereby he has to make choices among different alternatives. They consider utilisation as a decision-making and social process because it is influenced by a

number of personal and social factors.

Suchman (1965) also describes illness behaviour as a logical sequence of steps beginning with the perception and evaluation of the symptoms and concluding with the use of different kinds of health care facilities. It appears, therefore, that before the use of any health services, people should feel the need for the services, as the perceived need is the major prerequisite that leads to the demand for the use of health services (Habib & Vaughan, 1986).

Foets *et al.* (1985) argue that when people perceive illness, the decision is further influenced by socio-cultural factors and the cost of the course of action which either predispose or deter them from using health services. They consider perceived morbidity, predisposing and enabling factors and system factors as explanatory variables for utilisation. They further state that system factors are institutional factors which characterise the concept in which the individual decision making process occurs. They argue that unlike the perceived morbidity and socio-cultural factors, system factors are constant for all people within a particular population. System factors include the quantity and quality of the health services available; hence, they are also, probably, one of the determinants of the use and the non-use of the services. For instance, Fielder (1981) hypothesised, "prior to utilisation, an individual's perception about the health delivery system influences his or her decision to enter it".

Foets *et al.* (1985) have summarised the factors that affect the utilisation of health services as follows:

- Structural background characteristics of the individual and of the individual's household.
- The past experience of the individual with health care services.
- The past and current morbidity profile of the individual and of the members of the households.
- The perspective of the individual.
- The illness behaviour developed by the individual on the basis of perceived morbidity.
- The presence and actual operation of the medical supply.
- The socio-cultural context of the individual.

In Ghana, several factors have been identified as influencing levels of utilisation of health services. These include physical distance, ease of getting to these centres, convenience, costs, humanness, technical competence, provision of information to clients, physical facilities, outcome of care and availability of drugs, and equipment. (Dovlo *et al* 1992; Haran Iqbal & Dovlo, 1993; Kumekpor & Richardson 1992; Odoi-Agyarko, Dollimore & Owusu-Agyei, 1992).

## 1.4 Review of Conceptual Models

### 1.4.1 General Review of Conceptual Models

According to Phillips (1990), the use of health services is quite simple, that is either facilities are used or they are not. This simplistic assumption hides many variables and factors that can determine whether the service is used, and also of great importance, whether the service is used effectively at an appropriate time.

The precursor of the modern study of health care utilisation may be seen in Jarvis's detection in the mid-nineteenth century of an inverse relationship between distance from mental hospitals and admission rates. Today, the field of investigation into utilisation behaviour of people when ill or when seeking to prevent illness and optimise their health is a major area of research.

Much research to date has involved what might be called mechanistic formulations of health care behaviour. The complexity of the field was clearly identified as long ago as the early 1970s in Mckinley's (1972) review of approaches to the study of utilisation. Phillips (1990) notes that there are numerous features of health care delivery systems in the Third World countries that can complicate matters. These include the coexistence of modern and traditional practice, the frequent lack of universal coverage of health care, and economic and mobility problems.

Several discrete but often interrelated variables appear to influence the use of health care. Some are service-related characteristics such as type, size, location, costs, and quality; others are community-wide such as transport or the availability of financial support; yet others may be personal or family-related: for example age, sex, income, social status, family size, mobility, and religion.

There have been many attempts in the social sciences and the broad fields of community medicine and public health to apply models to describe, determine, and predict the use of health service. Some models have had an explicit spatial concern, attempting to identify the location of facilities that will be used, and how these may be selected.

Other models have attempted to identify those variables which 'predispose' or 'enable' utilisation, with the explicit intention of reducing any barriers identified. One of such models developed by Rosenstock (1960) stressed the existence of a state of psychological readiness to act, whereby a person believes himself to be susceptible to a disease that could have serious effects, but that can somehow be prevented or ameliorated by action on his part. Other factors emphasised include barriers such as costs, distance, and inconvenient service hours, whilst reminders from physicians or the media can serve as triggers to behaviour.

Some models recognize groups of factors which influence utilisation: those which may predispose towards utilisation are a family's size, composition and health beliefs. Enabling factors such as the family's or community's health resources may enhance or frustrate utilisation in spite of the predisposition to use.

A common factor about the models reviewed so far is their omission of the concept of accessibility which has a direct effect on utilisation. A model proposed by Gross (1972) incorporates accessibility as one of the major components affecting utilisation. However Phillips (1990) notes that this model incorporates a wide range of variables, but their numerical expression and measurement can be very problematic. Veeder (1975) indicates that the measurement and quantification of beliefs and attitudes, for example, has proved to be a stumbling block for most models developed so far. This is an empirical weakness, since sufficiently precise data for accurate measurement of the variables are rarely available.

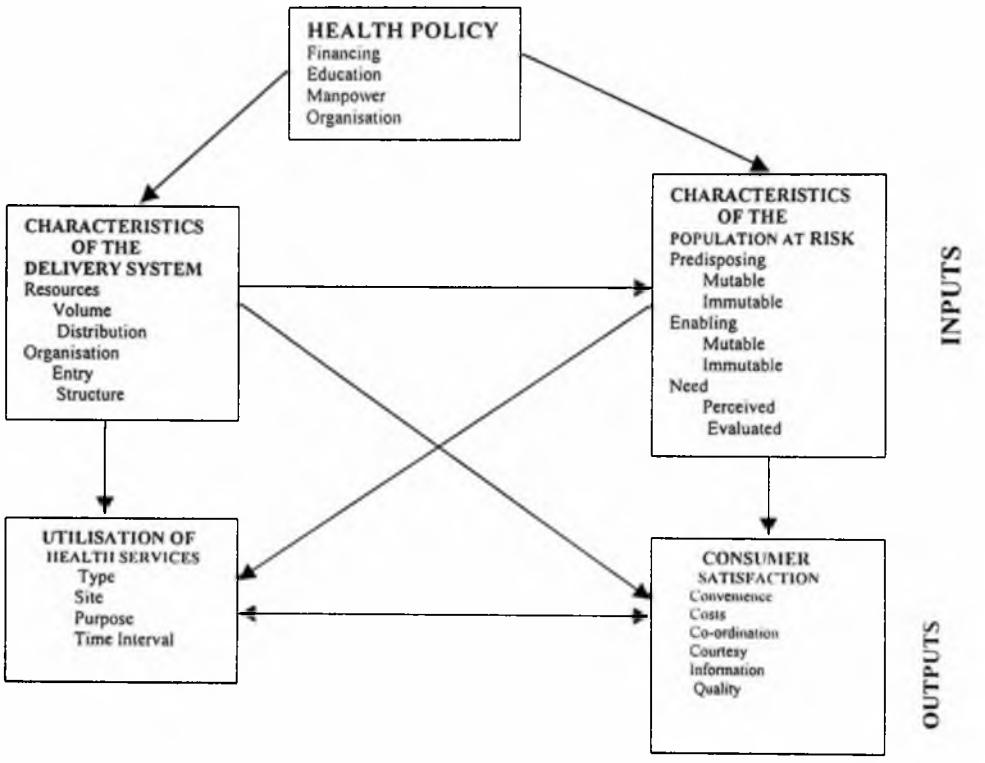
Most models today do recognise the existence of the various predisposing, enabling and need factors outlined above. However, it is also possible to envisage utilisation as the product of characteristics of patient, provider and system. Aday & Anderson (1974) for example, consider a general model that provides a framework for the access to health services. This model takes account of accessibility as one of the components influencing the use of health services, and from our Third World setting, accessibility plays a crucial

role in the use of health care facilities, especially in the rural sectors. It is because of its general applicability to the study of accessibility and utilisation of health care facilities in rural settings of developing countries like Ghana that this model has been adopted for this study. The model is shown in Figure 1.1

1.4.2 Conceptual Model for Study

The conceptual model adopted for this work is the one by Aday & Anderson (1974) which is a general framework for the study of access to health services. This model views the use of health services, both physician-controlled and patient-controlled, as the result of patient characteristics and the provider and system characteristics.

Figure.1.1 A Framework for the Study of Access to Health Services.




From Aday & Anderson (1974)

Broadly, health policy is based on the characteristics of the system and the population at risk. These may be considered 'inputs' to health services. The 'outputs', dependent on the inputs, are utilisation of a given type, level and purpose, and the resulting consumer satisfaction with costs, quality, convenience and the like. They note that such a framework might also be valuable in analysing the use of health services in any given location.

In Third World countries, the distinction between discretionary (self-determined) and physician-controlled utilisation may be valuable when preventive or promotive services are being introduced. Doctors are more likely to be influenced by their professional training and opinions as to the value of their treatment, whereas patients may well be sensitive to financial, organisational, spatial and cultural impediments to utilisation. It is essential to recognise the relative importance of the various barriers to utilisation if effective health services are to be delivered.

A number of the assumptions of these models require reappraisal and perhaps modification for application in certain third world settings. The most important variables that affect utilisation and therefore, require careful assessment, relate to the effects of availability (accessibility) and the frequent existence of pluralistic health care systems.

Wan & Soifer (1974) have suggested that the assessment of illness within a culture-specific framework is essential for the understanding of health behaviour in non-western societies, in which modern or scientific definitions of symptoms and treatment may not be recognised by the patient. They note further that, the most distinctive feature of health care that impinges on utilisation in many Third World settings is probably the existence of pluralistic health care systems, which means that people often have in theory a wide choice of types of therapies to use. Options may be used in preference to one another, sequentially or concurrently to one another so utilisation patterns may appear very complex.

According to Joseph & Phillips (1984), this model provides a type of blueprint for research on individual national systems. According to a definition of a district health system adopted by WHO Global Committee in 1986, 'A district health system based on primary health care is a more or less self-contained segment of the national health system. It comprises a well-defined population, living within a clearly delineated administrative and geographical area. It includes all institutions and individuals providing health care in the district, whether governmental, private, or traditional. A district health system therefore,

consists of a large variety of interrelated elements that contribute to health in homes, schools, workplaces, and communities, through the health and other related sectors. It includes selfcare and all healthcare workers and facilities, up to and including the hospital at the first referral level and the appropriate laboratory, other diagnostic, and logistic support services.'

According to Vaughan *et al.* (1984), planning for PHC has often been a 'top-down process' carried out by Ministries of Health and reinforced by the actions of aid agencies working through central governments. However, PHC is meant to be most active close to where people live. Planning is thus intended to include a 'bottom-up process', starting with the needs and demands of villagers and urban dwellers. The district may be the most appropriate level for the top-down and bottom-up processes to meet, and for more formal planning to be carried out than hitherto.

It is against this recommendation that this model has been adopted for the study of accessibility and utilisation of PHC facilities in the Dangme West District. Issues such as the level of decentralisation of planning for PHC to the Dangme West District Health Management Team (DHMT) as well as how well all institutions providing health care in the district interrelate in the provision of health services.

### 1.5 Objectives of this Study

The main objective of this study is to critically examine the impact and coverage of the PHC services in the district with the onset of the year 2000.

The specific objectives are as follows:

a) To determine how best the present distribution of PHC facilities could be placed to achieve the 80% coverage of health services envisaged by Ghana's health planners.

b) To assess the coverage of the immunisation programmes of the PHC units.

c) To evaluate the impact of distance on the use of the health facilities in the Dangme West District.

d) To examine the means of transport used by patients to get to their health posts and health centres in a bid to assess the most frequently used mode of transport.

e) To examine how appropriate the services of the PHC facilities are to the community. These would include the suitability of their working hours, availability of the requisite manpower and medicaments.

### 1.6 Hypotheses

From the objectives stated above, the following propositions have been put forward for testing:

a) Regularity of use of PHC facilities is inversely related to distance patients have to travel.
b) Utilisation of PHC facilities is directly related to the level of education of the patients.
c) Men travel over longer distances to the PHC centres than women do.

### 1.7 Justification of Study

Developing countries face the problem of improving their health care delivery systems, but lack the necessary resources. Health facilities are often geographically inaccessible to the majority of the rural population (Freund, 1986; Lasker, 1981; McEvers, 1980; Stock, 1985). Women and children, in particular, face the difficulty of reaching a source of care (Phillips, 1990), but the explosion of health care costs makes it increasingly difficult to improve geographical accessibility to services. Attempts to extend care are frequently hampered by lack of financial resources and human expertise, and other barriers.

According to Phillips (1990), accessibility may be considered a slippery notion; meaning, in general terms that something is 'get-at-able'. It is useful to distinguish between locational accessibility (a measure of proximity) and effective accessibility, dependent on having the ability, mobility, and time to reach a service. In health care terms, the provision of a facility of a given type within a specified distance of an intended user population is frequently considered to give more or less equal access to all 'potential' users, hence, the derivation of the concept of 'potential' accessibility. However, research over several years has emphasised that some variables other than physical availability may intervene to prevent or distort utilisation.

Prominent among these is the recognised need to use a facility, closely followed by the financial ability to use it (charges, transport costs, etc), the physical ability to attend, and the socio-psychological readiness to utilise it.

### 1.8 Conclusion

The influence of these and other variables on accessibility and utilisation of PHC facilities in the Dangme West District will be the main thrust of this study. In the next chapter, the

study area is examined on its physical and socio-economic profiles. This is to assess how the aforementioned variables are influencing accessibility and utilisation of health facilities in the district. The research methodology is also discussed.

# CHAPTER TWO

## BACKGROUND TO THE STUDY AREA AND RESEARCH METHODOLOGY

### 2.1 Background to the Study Area

The Dangme-West District is one of 45 districts created in 1988 as a result of a government redemarcation exercise carried out in response to decentralisation reforms. With a land size of 1,442 km2, the district is the largest in the Greater Accra Region accounting for about 41.5% of the region's land area. Its capital is Dodowa. The district, in spite of its proximity to the national capital, is basically rural with a poor state of socio-economic and infrastructural development. Apart from a few large settlements, the majority of the population live in small, scattered villages of less than 2000 people with poor road access. Pipe borne water is only available in a few large settlements.

#### 2.1.1 Location

The district shares boundaries with the Yilo Krobo District on the Northwest, Akwapem North District on the West, Tema District on the Southwest, and Dangme-East District on the East. The north-eastern and the southern portions of the district are fringed by the Volta River and the Atlantic ocean, respectively. It has a coastline stretching over 37 km (See Figure 2.1).

#### 2.1.2 Population Change And Distribution

According to the 1960, 1970, and 1984 population census reports, the population of the Dangme West District has increased from 42,837 (in 1960) through 63,125 in 1970 to 70,369 in 1984. This shows a population growth rate of 2.1% for the periods 1960 to 1970 and also 1970 to 1984. The population is not dense, with an estimated 1998 mid-year population of 106,307 (ARDWDA, 1998). The intercensal growth rate for 1970 to 1984 is below the national average estimated for the same period as 2.6%, underlying the fact that the district is losing its historical importance as a commercial district and thus becoming less attractive, and so out-migration is quite high (See Table 2.1 and Figure 2.2).

Fig. 2.1 The Dangme West District

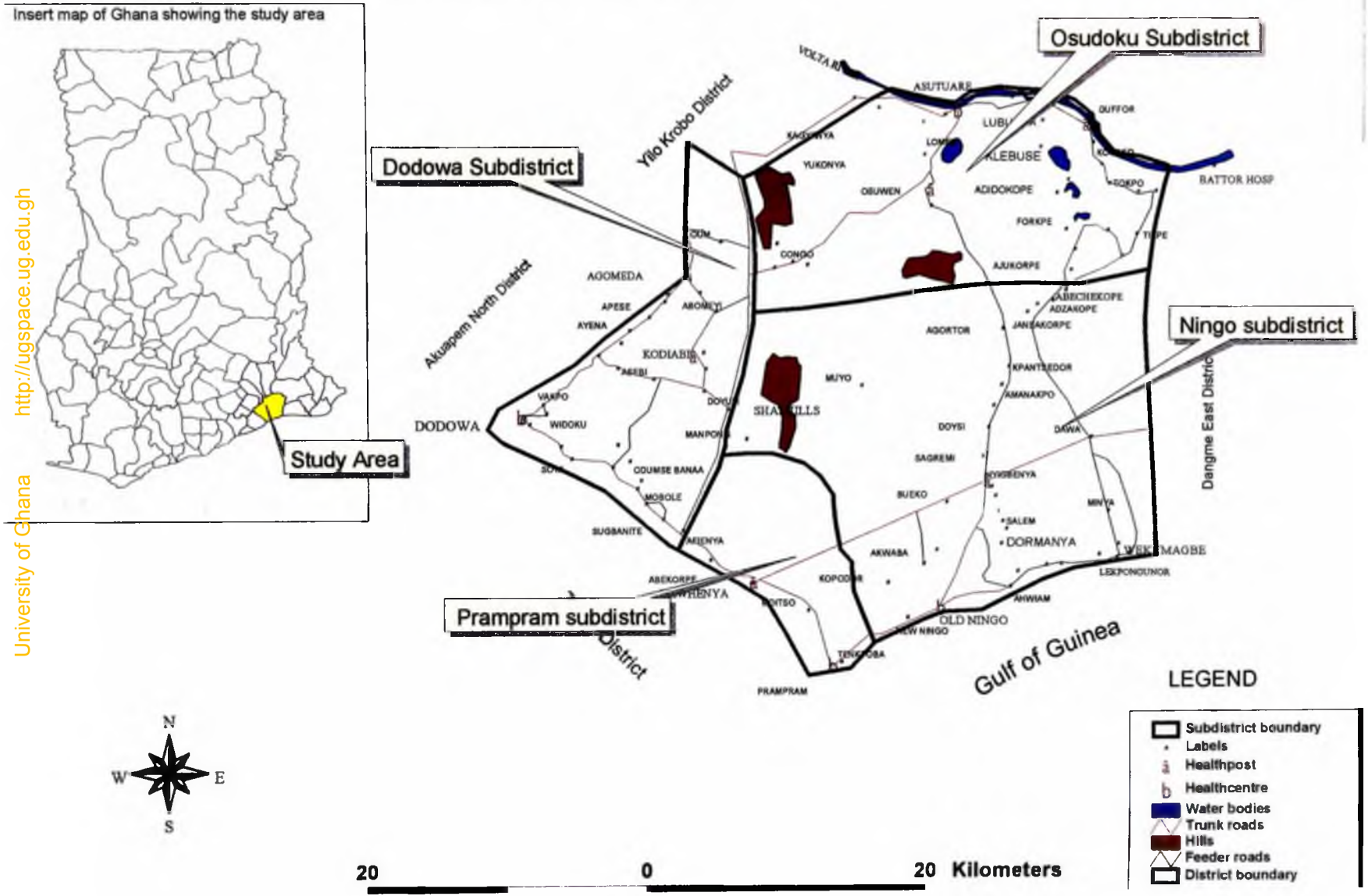


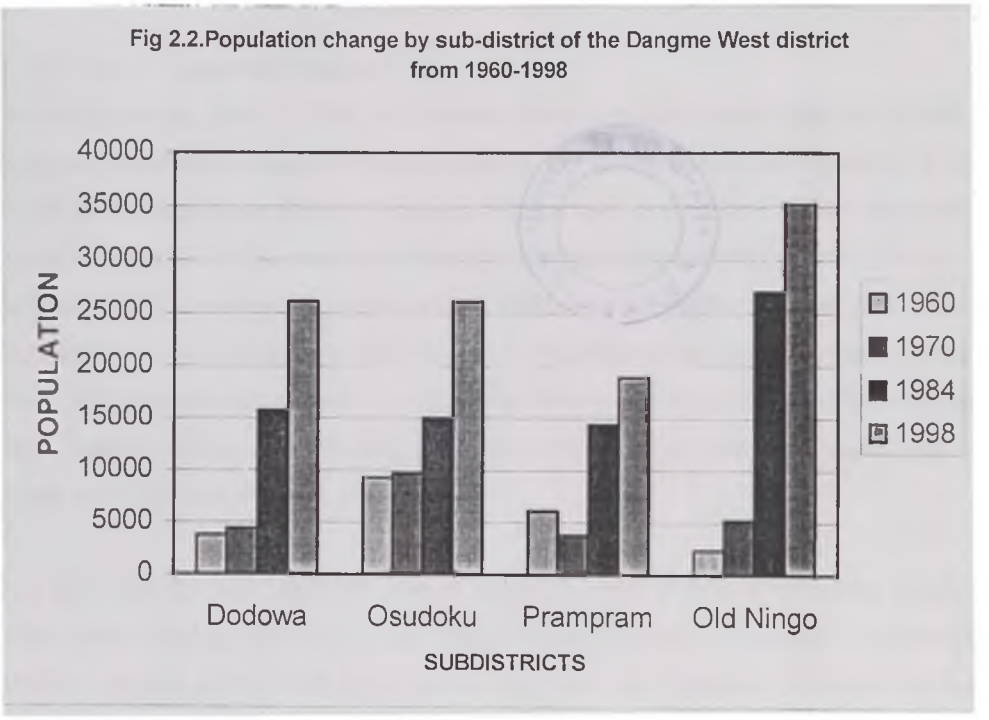
Table 2.1: **Population Change from 1960 to 1998 by Sub-District in the Dangme West District**

| YEARS | 1960 | 1970 | 1984 | 1998* |
|---|---|---|---|---|
| **Population** | **42,837** | **63,125** | **70,369** | **106,307** |
| Dodowa | 3689 | 4412 | 15,743 | 26,086 |
| Osudoku | 9259 | 9709 | 14984 | 26,086 |
| Prampram | 6055 | 3729 | 14,413 | 18,930 |
| Great Ningo | 2332 | 5166 | 27,021 | 35,204 |

Sources: 1960,1970, and 1984 national population reports

*Population projection by Dangme West district Assembly

Fig 2.2.Population change by sub-district of the Dangme West district from 1960-1998




In terms of the distribution of population, the 1984 population census report shows that the district has a slightly lower population density than the average for the country (55.3 persons per sq.km as against the national average of 63 persons per sq.km). The population is concentrated along the coast especially in the bigger settlements like Prampram, Great Ningo, and Lekpongunor. Other areas of concentration of population are Dodowa in the west and Asutsuare in the north of the district. A significant feature of the district is that the central area is virtually empty with hardly any settlements in it. The bulk of the population is scattered in relatively small settlements with populations under a thousand.

2.1.3 Social Organisation

The people of the Dangme West District are predominantly Ga-Dangmes.

The Ga-Dangmes constitute about 9% of the country's total population and are mostly found in the Greater Accra Region. As the name suggests, there are two principal linguistic groups, the Ga and the Dangme. The indigenous people of the district are organised in the following 4 traditional areas:

- Shai Traditional Area with headquarters at Kordiabe.
- Osudoku Traditional Area with the seat at Osuwem.
- Prampram Traditional Area with the paramountcy at Prampram.
- Great Ningo Traditional Area with the seat at Great Ningo.

2.1.4 Cultural Values and Practices

According to the (DPCU, 1996), it is evident from historical studies that the Ga and the Dangme had similar political and social systems. For example, both had theocratic systems based on the importance of river or lagoon fetishes such as the Laloe in Prampram and the Korle in Accra (Ga). They also shared similar circumcision and child-naming rites as well as festivals. Circumcision is limited to male children only. Puberty rites are performed for boys and girls. When the boys reach manhood, their fathers buy guns and marry wives for them. They are also given land to cultivate or fishing gear to go fishing. This practice of early marriage has a direct bearing on fertility rates and its attendant consequences on infant morbidity and mortality rates.

The girls undergo the 'Dipo' rite, which originally, was a home craft course lasting for three years. During this period they were taught personal cleanliness, housekeeping, cookery, laundry, sewing with thread and needle, weaving of baskets, childcare, and decent manners. Today, the length of the 'Dipo' initiation rites has been reduced considerably to one month or less, which is very significant as this may increase morbidity and fertility patterns. This is because the 'Dipo' rite was supposed to initiate girls into womanhood, and during that time, they were not supposed to be eligible for marriage. The long period of the 'Dipo', therefore, helped to control teenage pregnancy and the spread of STD's.

2.1.5 Economic Profile

Poverty has been identified as a factor which hinders the utilisation of health services. Berman *et al* (1987), showed that the utilisation of all types of care, except traditional care, increases with the level of income. Gish *et al* (1988) showed that in Indonesia, the insured

population used services about four times more frequently than did the rest of the population. Dutton (1986) also found out that, overall, low economic status of patients was the most significant obstacle to the use of health services. The preparation of the pilot health insurance scheme for the Dangme West District is meant to have a positive impact on utilisation of health facilities in the district.

It is with reference to the aforementioned factors that the economic profile of the inhabitants of this district is being studied to identify the role income might play in the patterns of utilisation of PHC facilities in the district. According to Agyepong (1999), the population in the district is generally poor, with the main income-generating activities being subsistence farming and fishing along the coast and the Volta River. The predominance of rural population reflects in the occupational distribution in the district. Agriculture dominates the occupations in the district. Table 2.2, prepared from a baseline survey by the Dangme West District Assembly in 1990, shows the pattern of occupational distribution for both the primary and secondary sectors in the district. The baseline survey shows that agriculture (crop farming, livestock and fisheries) is the major activity in the district, employing 58.6% of the people. Trading is the next largest employer, engaging 22.1% of the working population. Agriculture still dominates as a primary activity.

According to the DPCU (1996), fishing should have been another big employer in the district given the presence of the Volta River. However, it employs only 6.4% of the labour force. This may be due to the labour intensive nature of the fishing industry which is not yet well appreciated by the people. The low employment figure for industry, 4.5%, shows the general absence of industries in the district. Industry as a full-time occupation in the district is rare. The most important industrial activities are those related to quarrying that make use of the several inselbergs and rock outcrops that abound in the district. The other major industries, which are the sugar factory at Asutsuare and the brick and tile factories at Prampram and Afienya, have all folded up. Small-scale industries abound in the district. In a study done by the DPCU (1996), 360 small-scale industries were identified in the district. Table 2.2 shows their type and number.

Workers engaged in the formal sector of the economy, such as teachers, constitute only 8.4% of the workforce. This emphasises the rural character of the district's economy, which is based on primary production and significantly lacking in tertiary services. The incomes of the farmers would be dependent on their crop yields and the availability of

marketing avenues for them. This would, in turn, affect their ability to spend on hospital bills and medicaments.

**Table 2.2 Distribution of Small-Scale Industries in the Dangme West District by their Type and Number.**

| KIND OF INDUSTRY | TOTAL NUMBER | PERCENTAGE |
|---|---|---|
| AGRO-BASED<br>Bakery, gari processing, Milling, Fish smoking, Distillation | 207 | 57.5 |
| CLOTHING<br>Dressmaking, Textile, Mart weaving | 35 | 9.7 |
| WOODBASED<br>Carpentry, Charcoal burning<br>Boat building | 29 | 8.1 |
| METAL<br>Blacksmithing, Fitting | 14 | 3.9 |
| OTHERS<br>Basketry, Blockmaking, Pottery | 75 | 20.8 |

Source: DPCU 1996

2.1.6 Distribution of Settlements in the Dangme West District

The Dangme West district has 7 area/town councils. These are Dodowa, Ayikuma, Asutuare, Osuwem, Dawa, Great Ningo and Prampram area councils.

There are about 124 settlements in the Dangme West district. Their distribution pattern is largely linear with most of the townships mainly distributed along the major roads.

According to the DPCU (1996), the underlying objective of the classification of a hierarchical settlement structure is for investments to be concentrated in key locations to make their impact greater than when they are dispersed. The consequent creation of job opportunities also reduces the migration of labour to major towns and allows for the development of medium-sized service centres in rural areas. This hierarchical classification of settlements could have an influence on accessibility and utilisation patterns of PHC facilities in the district. This is because some patients might think that the PHC facilities in the bigger towns are more likely to be better equipped than those in the smaller towns and

might, therefore, tend to bypass those in the smaller towns for the bigger towns. This would be at variance with Walter Christaller's Central Place theory, which states that for a good or service of the 'convenience' type that is represented by the health practitioner, the most conveniently located outlet of the service, would be used to minimise the cost and effort expended to obtain such a service. This theory might not necessarily hold in this situation where perceptions of quality and efficacy of care might be important factors in the patient's decision-making process.

The hierarchy of settlements in the district has been determined with reference to the following: population size and functional classification.

From the analysis of the DPCU (1996), Dodowa had the highest number of functions in the district. Thus its centrality index was used as a common denominator. The results of the analysis indicated four levels of hierarchy of settlements (Table 2.3).

**Table 2.3: Levels of Hierarchy of Settlements in the Dangme West District**

| LEVEL | SETTLEMENT |
|---|---|
| 1st level | Dodowa |
| 2nd level | Asutsuare, Prampram |
| 3rd level | Afienya, Great Ningo, Lekpongunor, Dawhenya |
| 4th level | (33 other settlements) |

Source: DPCU 1996

The analysis also showed that the district is characterised by the predominance of low order settlements. These settlements are relatively functionally deficient in infrastructure. They, thus, limit the development of manufacturing enterprises. The distribution of the higher order settlements with Dodowa to the west, Asutsuare to the north, and Prampram along the coastal south presents a good spatial arrangement in terms of their relative locations. This arrangement, according to the DPCU (1996), shows that the more economically active higher order centres can support the lower order places seeking town-based facilities and services. The lower order places can tap town-based services and facilities in their respective vicinities rather than spending their incomes outside the district.

### 2.1.7 Road Network

The availability of a good road network plays a significant role in accessibility and utilisation of public facilities. Bad roads might impose spatial constraints on the use of facilities in several ways including the increase in travel time, the absence of transport, and impassability of the roads during the rainy season which might seriously affect movement. The importance of a good road network has been emphasised in the annual report of the Dangme West District Assembly (1998) which states that immunisation coverage against the six childhood killer diseases is uneven in the district. This, it notes, is partly due to the constraints of poor roads coupled with inadequate transportation.

There are about 252 km of roads in the Dangme West District, comprising national trunk roads, local arterial roads, and feeder roads. The spatial road network in the district is semi-concentric. It links the major centres of the population and economic activities in the district with each other and with neighbouring districts. The road surface of the national trunk road in the district is good, especially with the rehabilitation of the 49.5 km Adenta-Dodowa trunk road. However local arterials such as the Dodowa-Afienya road and the Doryumu-Agomeda road need urgent improvement.

Most of the feeder roads that give access to the more rural centres are unsurfaced and need regular resurfacing, especially after the rainy season. Tracks and footpaths also link villages. The road network appears to have a good spatial distribution. Apart from the central area of the district which is devoid of roads, the rest of the district is fairly linked up. Public transport movement of goods and passengers is, however, inadequate. The DPCU (1996), estimates that there is an average passenger waiting time of about 2 hours on non-market days and 1 hour on market days for people travelling between the larger centres of Prampram to Accra/Tema or Dodowa to Accra/Tema. The DPCU(1996), notes that the combination of the inadequacy of vehicles using these roads and the poor maintenance of both vehicular stock and the road network has led to poor integration of the settlements within the district. These adversely affect the marketing of goods and the spread of innovation, and this would adversely affect access to the health centres which are beyond walking distances in the neighbourhood of these roads.

## 2.2 Research Methodology

With reference to the study area and the objectives of this work, a methodology was adopted for the collection and analysis of data.

### 2.2.1 Sources and Types of Data

Data for this work were collected from secondary and primary sources. The types of data collected at the secondary level were patient attendance rates at the community clinics, health centres, and other private medical institutions in the district. The data sought would include information on gender, residence, age, and type of ailment reported. These helped in determining the effective catchment areas of these clinics and supplemented the primary data collected.

Other sources of secondary data were the various health research institutions like the Health Research Unit of the Ministry of Health (MOH), the Medical School Library at Korle-Bu, the School of Public Health, the District Health Management Team (DHMT) of the Dangme West District, and the University of Ghana, among others. The types of data from these sources included the review of existing literature to guide the direction of this research. The primary sources of data were stratified to accommodate the various sectors involved in the delivery of PHC. Information was collected at four levels. Table 2.4 shows the type of information collected and the units of data collection.

**Table 2.4: Sources of Various Primary Data, Unit of Data Collection, Type of Data and Method of Collection**

| Source Of Data | Unit Of Data Collection | Type Of Data | Method Of Data Collection |
|---|---|---|---|
| District Level | District Director Of Health Services | Qualitative | Interview Guide |
| Health Personnel Level | Nurses In Charge Of The Health Centres | Qualitative & Quantitative | Interview Guide |
| Community Leaders | Assembly Persons | Qualitative | Interview Guide |
| Patients | Patients | Quantitative | Questionnaire |

The primary data collected were qualitative and quantitative, with most of the quantitative data collected from patients at the health institutions.

### 2.2.2 Research Instruments

There were three research instruments each for community leaders, health personnel and patients. The instruments used to collect the data included questionnaires and personal interviews. The interview guides for the health personnel were designed to collect information on issues like availability of logistics, i.e. vehicles and equipment, medicaments, manpower levels and working relationship among the community clinics, health centres, and the district health administration. The questionnaires were administered to patients at the various health centres. The target group of patients was nursing mothers and adults (18 years and above).

The type of information collected from nursing mothers included the number of times they visited antenatal clinic during pregnancy, where they lived and how they assessed the services they were offered in terms of quality and waiting time, among others.

### 2.2.3 Sampling Design

Because it was not feasible to interview each and every sick person and health officer in the district, a sample procedure to select the sample that represents the sample population was adopted. Since the primary research focus of this work was to study accessibility and utilisation patterns of PHC institutions in the Dangme West District, patients constituted the largest component of the sample frame. Table 2.5 shows the distribution of the health centres and the number of patients interviewed from each.

**Table 2.5: Distribution and Type of Health Units in the District and the Number of Patients to be Sampled from Each Health Unit**

| Sub-district | Type of health institution | Location | Number | No of patients interviewed |
|---|---|---|---|---|
| Dodowa | Health Centre | Dodowa | 1 | 20 |
| | Community clinics | Kordiabe | 1 | 15 |
| | | Agomeda | 1 | 15 |
| Prampram | Health Centre | Prampram | 1 | 20 |
| | Community clinics | Dawenya | 1 | 15 |
| Osudoku | MCH/FP centres | Asutuare | 2 | 40 |
| | Community clinics | Duffor | 1 | 15 |
| Great Ningo | Health Centre | Great Ningo | 1 | 20 |
| | Community clinics | Tsopoli | 1 | 15 |
| TOTAL | | | 11 | 190 |

Source: Field Reconnaissance

2.2.4 Target Population For Sampling

*2.2.4.1 District Level*

These data aimed at reviewing and assessing the effectiveness of organising and managing the PHC at the district level. An important function of this exercise was to verify the information collected at the national level. For instance, the delegation of authority might, in practice, be more limited than was planned; personnel and supplies supposed to be in a particular place might not be there. For example, vehicles that have been assigned may not be functioning. The district medical officer was asked to highlight logistic difficulties peculiar to the district which were adversely affecting the coverage of health services. For example, size of district: whether it was too large for efficient management by the health staff provided, or that the district system of communication and transport was inadequate for health supervision and referral. A part of this source of information was to find out about under-served areas and population groups, and to study if facilities could be more fully used. Information was sought about the numbers, types, and distribution of private and NGO facilities in the district, and whether they were supplementing the coverage of the public sector.

*2.2.4.2 Health Personnel Level*

The aim was to assess the organisation of the health system in the area served by the health centre, with special focus on the role of the health centre itself in implementing the PHC. Part of the focus was to assess the knowledge of the local health workers on the geographical and other characteristics of their areas of operation. Issues such as the location of the various units related to the health centre, and the social and health profile of the population, especially that of various target and vulnerable groups, were examined.

Some of the critical issues examined were as follows:

Do all communities have access to essential basic health care as well as referral service when necessary? Is the health centre adequately equipped, in terms of physical facilities, staffing, supplies and transport, to provide supervision support and supplies, and to accept referrals? Does the health centre meet the health needs of the local population?

Active community involvement in health is an important component of the PHC strategy. Such involvement depends, in part, on the ability of the staff of the health centre to cultivate community interests and participation in health. It would be of interest to find out the strategies and methods that have been adopted by the staff of the health centre to

promote community involvement. For example, do staff of the health centre attend community committee meetings, participate in community group meetings, develop and maintain outreach work in communities, train CHWs and TBAs' or make home visits? Which community groups are actually operating in the area, and have any of them assumed responsibility for some of the PHC activities like dissemination of health information. Has any progress been made in strengthening community involvement over the previous years. These were some of the questions for medical assistants and the nurses at the health centres and posts.

*2.2.4.3 Community Leaders*

The community leader selected was the assemblyman, since he is an elected opinion leader of the people in the community. The purpose of this interview was to determine what he perceived as priority health problems, what they were doing about these problems, and to what extent the community was supporting and contributing to PHC and other health activities.

*2.2.4.4 Patients*

In this part of the survey, information was collected from patients at the various health posts and health centres. According to El Bindari-Hammad & Smith (1992), in PHC evaluations and other studies, household surveys are often a reliable way to get crucial data for the population as a whole, such as indicators of health status, coverage of health services and essential PHC elements (e.g., immunisation, sanitation, water supply), use of health facilities, and some of the global health-for-all indicators. However, since the objectives of this work are more concerned with accessibility and utilisation of PHC facilities, an approach advocated by Phillips (1990) was adopted. According to Phillips (1990), a complementary approach to investigating health care accessibility and the catchment areas of specific facilities is by mapping samples of attendees. This type of research into revealed accessibility (by attendance at a given facility) may be of considerable use in estimatingof the extents of the catchment area, the efficiency of referrals, and whether any other facilities or locations are being bypassed.

2.2.5 Rationale for Sample Size

According to Polgar & Thomas (1992), the relationship between sample size and sampling error is that, mathematically, not much is gained above a sample size of over 250, for example. Yet the cost of the sampling and data collection can be very high with large

numbers, such as 400, for relatively little gain in reducing sampling error. From the above, it was decided to choose a sample size of 200 persons.

2.2.6 Methods of Data Analysis and Presentation

One tool for data analysis was the use of bivariate analysis like cross-tabulations between variables of interest to determine which of them have more influence on accessibility and utilisation of PHC services in the district. These were also used to test some of the hypotheses. Indicators like Cramer's V and contingency coefficient were used in the cross-tabulations. Cramer's V and the contingency coefficient indicate whether there is a relationship between two variables. The nominal symmetric measures indicate the strength and significance of the relationship between the row and column variables of a cross-tabulation. The nominal symmetric measures are appropriate when both variables are nominal, categorical variables. The value of each statistic can range from 0 to 1. Phi is only appropriate for 2 x 2 tables. Low significance values for Cramer's V and the contingency coefficient indicate that there is a relationship between the two variables. But low values for the test statistics indicate that the relationship between the two variables is a fairly weak one.

The ordinal symmetric measures indicate the significance, strength and direction of the relationship between the row and column variables of a cross-tabulation. The ordinal symmetric measures are appropriate when both variables are ordinal, categorical variables. A categorical variable contains data values recorded in a limited number of distinct categories (e.g., marital status, and gender). A low significance value (typically less than 0.05) indicates that there is a relationship between the two variables. The values of the test statistics can range from –1 to 1. Negative values indicate a negative relationship, and positive values indicate a positive relationship. But low values for the test statistics indicate that the relationship between the two variables is a fairly weak one (SPSS software Online Help Ver.10 1999).

A second tool for the analysis and presentation of the data was the use of ArcView software to geometrically show the areas of coverage of the health centres. ArcView is a geographical information system (GIS) tool that uses the power of the computer to pose and answer geographic questions by arranging and displaying data about places in a variety of ways, such as maps, charts, and tables (ESRI, 1995). ArcView is a desktop GIS system for storing, modifying, querying, analysing, and displaying information that brings the

power of interactive mapping and analysis to research. This software was used in this research to map out the spheres of influence of the government health facilities in the Dangme West District, using a buffer radius of 8 km recommended by the MOH. The software was also used to determine the population residing in the spheres of influence, as well as the number of settlements in each zone demarcated. This analysis helped in estimating the level of physical coverage of PHC facilities in the sub-districts and the district as a whole.

A third tool used for the testing of the hypothesis was the chi-square, a nonparametric statistical test tool which is used to establish whether or not two variables are independent. For example, when population variables are qualitative characteristics (such as marital status, political affiliation, sex, state of health, type of treatment etc), the presence or absence of independence between the variables can be used to draw important conclusions. A doctor who knows that preventive measures (vaccinated, unvaccinated) and resistance (diseased, not diseased) are dependent can conclude whether a vaccine is effective (Lapin, 1982).

**2.3 Conclusion**

In summary, this is the background of the Dangme West District in terms of its socio-economic and geographical profiles. These profiles helped in determining the sampling design. Chapter Three reviews PHC in Ghana in general as well as PHC in the Dangme West district in particular. Also, strategies for implementing PHC in the district are closely examined.

# CHAPTER THREE

# THE PRIMARY HEALTH CARE SYSTEM IN GHANA AND THE DANGME WEST DISTRICT

## 3.1 PHC in Ghana

### 3.1.1 Definition of PHC

PHC is defined as basic health care which uses local experiences and material in the provision of total care to users in a community. These objectives are incorporated in the definition of PHC as follows:

> Essential health care made universally accessible to individuals and families in the community by means acceptable to them, through their full participation and at a cost that the community and country can afford. It forms an integral part of the country's health system, of which it is the nucleus, and of the overall social and economic development in the community (WHO, 1978).

According to WHO (1978), the following six priority programmes form the main service delivery programmes under the PHC.

- MCH and family planning;
- immunization of children under five years;
- control of endemic diseases like malaria;
- control of diarrhoeal diseases;
- sanitation and water supply; and
- nutrition education and weaning food development from local resources.

Within the context of the PHC programme, some attention is given to the retraining of traditional healers, especially traditional birth attendants and herbalists in the hope that they would be able to improve health delivery. This is a more accommodating aspect of the PHC programme unlike conventional modern medical practice, which had no place for traditional medicine. According to WHO (1978), the management training being given personnel at the health centre and district level includes in-service training sessions. The management training is based on an integrated approach to the delivery of the above-listed PHC programmes at the health centres and community levels (Twumasi, 1986).

### 3.1.2 Selective Primary Health Care (SPHC)

The comprehensive PHC strategy endorsed by the countries attending the 1978 Alma Ata conference has not necessarily been fully implemented, nor is it universally viewed as the most effective means of moving towards 'health for all'. According to Asthana (1994), the

PHC approach to health care was launched at a time of deepening recession and growing Third World debt. The 1980s saw the widespread implementation of economic adjustment policies aimed at transforming less developed countries into more market-oriented economies. This forced many Third World governments to make cuts in their public expenditure, and this new economic and political climate led health policy makers to reassess the comprehensive PHC strategy. Many concluded that it was too idealistic and that, given financial and practical constraints, governments would be better advised to select and target diseases by prevalence, morbidity, mortality, and feasibility of control. This approach is known as *selective primary health care (SPHC).*

Phillips (1990) and Asthana (1994) noted that selective PHC typically focuses on paediatric conditions such as measles, whooping cough, neonatal tetanus, and diarrhoeal diseases. A lower priority is usually accorded to conditions such as polio, typhoid, respiratory infections, meningitis, and malnutrition. The lowest priorities in SPHC terms would be accorded to diseases such as dengue, filariasis and amoebiasis, as their control is difficult, largely socio-environmental, and hence costly and needing continued efforts.

However a major weakness of SPHC as a system is its selectivity. Whilst its critics do not deny the seriousness of the conditions addressed by SPHC, the major criticism is of the attack on individual illnesses without upgrading the community conditions as a whole. As a result, Fendall (1985) called the SPHC a thinly disguised euphemism for the disease approach. Berman (1982) saw it as too technologically and cost oriented, whilst Unger & Killingsworth (1986) criticised it for ignoring the many chronic, non-communicable complaints that affect adults and which can compromise their ability to support their dependants.

Selective PHC, like primary medical care, is nevertheless an inherent part of PHC but is not whole of it. The diseases tackled by SPHC would feature highly on any list of health problems in most low-income countries because they are usually the major combatable causes of mortality. A major shortcoming of a selective interventionist approach is that patients cured of infectious conditions return to environments where they are re-infected. However, in a comprehensive PHC package, they would be approached in a wider and community-oriented manner and controlled in the context of overall community upgrading.

Arguably, it can be said that it is due to the shortcomings of the SPHC that the government of Ghana and other developing countries are embracing the concept of PHC. This is because PHC, unlike the SPHC, provides a total approach to the combat of diseases notwithstanding the increased burden it would put on the country's financial resources.

### 3.1.3 Introduction of PHC in Ghana

The pre-colonial health system in Ghana was largely curative and urban focused. The main shortcoming of this system was that the bulk of the people of Ghana were not benefiting from this curative approach. According to Twumasi (1986), it was the Busia government that set-up a committee to look into the health conditions of the rural people in Ghana. This committee, known as the Easmon Committee, was set-up in 1972 and it was tasked, among other things, to look into the health conditions of the rural people of Ghana and to make recommendations regarding effective practical ways to redress the situation.

Among others, the Committee was asked to pay particular attention to rural poverty, ignorance and superstitious beliefs, and how to eradicate them. During this period, the bulk of government allocation to the health sector was given to the curative sector to maintain regional and district hospitals, and to pay salaries of health workers in this field. Only a small proportion of the government budgetary allocation was given to the preventive sector.

Easmon's report catalogued several things left undone. The report noted that the rural areas had been neglected, and that the preventive emphasis on health had not been taken seriously. According to the report, malaria, hookworm, guineaworm, and other parasitic and communicable diseases accounted for many of the early deaths of rural children. Sanitation was poor, good water supply was scarce, housing was also neglected, and waste disposal was generally crude and dangerous to community health (Twumasi, 1986). Twumasi (1986), notes that the Easmon report had a tremendous impact on health planning in the country. Since the early seventies, a National Health Planning Committee for the Ministry of Health was established to see to the overall health planning of the country with special reference to rural areas. This led to a collaborative work between the University of Ghana Medical School and the University of California School of Public Health. The objective of this collaborative work was to design and implement an experimental rural health programme known as the Danfa Project (Twumasi, 1986).

The report from this collaborative work was submitted to the Government through the Ministry of Health. This report asked the government to tackle rural health problems and to shift emphasis from narrow definitions of health care to comprehensive health care which embraces curative, promotional and preventive health care. The Government of Ghana adopted the report and in 1974 accepted the PHC system.

According to Adibo (in an unpublished and undated paper), the Danfa Comprehensive Health Care and Family Planning Project (1970-1979), and the Brong Ahafo Rural Integrated Development Programme (BARIDEP), (1975-1978), gave Ghana some experience of PHC. These two projects were funded by the United States Agency for International Development (USAID) and WHO, respectively. Adibo opined that both projects, provided integrated, comprehensive community-based health services in which community members were actively involved. The main purpose of the programme was to try out the feasibility of the PHC approach. The findings from the projects showed that the PHC concept could work in the country. The government accepted, in 1974, the role of developing a primary health care for the country. It was through this system that most rural people could receive health care. A National Health Planning Unit was made responsible for the implementation of PHC programmes.

Adibo notes that PHC is a tool for integrated community development. For the success of the PHC programme, there should be certain basic facilities such as good housing, potable water, increased food production, as well as adequate food and nutrition. It is, therefore, important for all institutions which provide these services to work together with the MOH in planning and implementing PHC. For example, the provision of potable water in adequate quantities to all communities is one of the main components of PHC. According to Adibo, many of the diseases found in communities are related to the provision of unsafe drinking water. Diseases such as diarrhoea, guinea worm, and bilharzia are basically due to lack of adequate supply of potable water. Similarly, roads and transport play a critical role in access to and use of health facilities in general.

### 3.1.4 Levels of PHC

Primary health care is based on a three-tier delivery system. Ten districts were selected to implement the PHC strategy in 1978 on a pilot basis. There are now district health management teams (DHMTs) in all the 110 districts in Ghana, but Level B and Level A teams are limited to a few areas.

*3.1.4.1 Community Level (Level A)*

There are three types of community health workers at this level: a traditional birth attendant, a community health worker for basic curative services, and a village development worker. The second and third types are usually combined as a community clinic attendant. An important prerequisite for these health workers is that they must be selected and compensated by the community, although the Ministry of Health trains them.

It is anticipated that there will be one such team covering 12 km², and that there will be 300-500 in each district. Their main functions include preventive and promotional services, simple curative measures, pregnancy management, environment protection, and mobilisation for health-related community projects. Their first contact with the national health system is at Level B.

*3.1.4.2 Health Institution Level (Level B)*

This is the first referral level for the community health workers. A team comprises a medical assistant, a community health nurse/midwife, a health inspection assistant, and a senior field technician for communicable disease control. These officers undergo retraining to supervise the activities of the villages, and to undertake all routine immunizations and care of patients referred from Level A. It is estimated that one health institution will cover 8 km² as its catchment area.

*3.1.4.3 District Level (Level C)*

This is the management level of the entire system and serves an estimated population of 100,000 to 200,000 people. A DHMT comprises a district medical officer with postgraduate training in community health, a district public health nurse, a district technical officer for communicable disease control, a senior medical officer responsible for the district hospital, and a district health inspector. The team works directly with the district council to facilitate an integrated approach to total community development. It is responsible for the planning, implementation and evaluation of health services for the entire district. The DHMT is expected to liaise with personnel of other ministries such as Agriculture, Social Welfare, Education, Community Development, and the Ghana Water Company Ltd.

### 3.1.5 Development of PHC in the 1980s

According to Anyinam (1989), by 1980, some progress had been made in getting a functioning PHC system started. The health status of the country had not seen a significant change since the colonial period. Service coverage for water supply and sanitation remained poor. For rural Ghana, the proportion of the population with access to safe water increased from 14% in 1970 to 39% in 1983. The urban population served with safe drinking water decreased from 86% in 1970 to 72% in 1983. Also, the population served with sanitation facilities had declined from 40% in 1970 to 16% by 1983. Such a situation, he noted, has a serious consequence for health development in Ghana because unsafe drinking water, contaminated food, poor faecal disposal facilities, and poor drainage, among others, cause several diseases.

Mahadev & Thangamani (1984) have noted that in many Third World countries, not only are resources inadequate (especially for rural provision), but they are also non-optimally located with respect to accessibility. Health facilities are often geographically inaccessible to most rural dwellers. Fosu (1986) pointed to surveys of health centre utilisation in Ghana, for example, in which 70% of attendants came from within a 3-mile radius, although the residents of this area comprised only 23% of the health centre's catchment population. Only 27% of attendants had come from beyond 4 miles, but 73% of the health centre's catchment population lived at that distance. This implies that, to be used, a facility must be accessible and, conversely, that nearby residents derive disproportionate benefit from facilities. For the rural dweller, in particular, this will usually mean a maximum travel threshold and, once this is exceeded, utilisation may tail off considerably. This means most medical services have a relatively limited range, and it is important for planners to be able to identify this range in order that they can locate services so that distance does not prove to be a significant deterrent.

### 3.1.6 Recent MOH and WHO Reviews of PHC in Ghana

The MOH, in collaboration with WHO, did several reviews of the PHC system in Ghana in 1987, 1991, and 1994.

The basic objectives of the reviews were as follows:

i) To assess the progress, management and level of the PHC implementation strategy towards Health for All by the year 2000 since 1984.

ii) To determine the extent of government and non-governmental support and the level of intersectoral co-operation.

iii) To determine the extent of community mobilisation and participation in PHC activities.

On immunization coverage, the 1987 report noted that only 10% of the population were fully immunized against tuberculosis, diphtheria, polio, tetanus, and measles. On pregnancy management, 88% of the mothers were examined by a trained health worker during pregnancy. On the availability of health care services, it was realised that 64% of the population had access to healthcare/first aid service within one hour's travel.

Others issues observed during the 1987 review included the following:
That in 53% of cases, members of the family had visited some health facilities in the last two months, but only 11% had been visited by a qualified health worker in the last two months. Also, 83% of the villages had no trained CHW, whilst 13% had trained CHW. Another group of 42% of the villages had no trained TBAs whilst 29% had trained TBAs.

On water supply and sanitation, the 1991 report noted an unsatisfactory situation. According to the report, available data as at 1987 showed that 93% of the urban population had potable water whilst only 40% of the rural population had adequate safe water supply. This is in comparison to 1984 where only 57% of urban and 40.3% of rural people had access to portable water supply. The report noted some problems facing the provision of adequate safe water and sanitation facilities in the country. Notable among these were the following:

i) The intermittent pipe water service with sometimes long interruptions.
ii) Lack of village level operation and maintenance of hand pumps.
iii) Lack of effective monitoring programmes operational at the district level.
iv) For sanitation, the increasing material cost, for example, in toilet construction and sinking of boreholes and associated facilities.

It was recommended in the review that, for greater coverage of service provision, the community must participate in all project inception, planning, implementation, operation, and maintenance. Also, government and donor agencies must assist with the local production of materials. On immunization coverage, the 1991 review also noted an increase from 4% in 1984 to 32% in 1988 to 56% for 1990. It attributes the major increases in the coverage to the introduction of the immunization campaigns, especially between 1988 and 1990. This was because since 1976, after WHO feasibility studies in Ghana, the coverage had been rather low up to 1984.

The 1994 WHO report noted, among others, that immunization coverage had improved tremendously over 1984: health service coverage was as high as 74%, with essential drugs available in over 90% of the institutions. The use of antenatal and postnatal services continued to rise whilst family planning showed a modest increase. It can be concluded from the reviews done by WHO and the MOH that the PHC system has been making a study impact on the rural populace of the population.

The findings of this study show that, Ghana, being a developing country, is faced with several problems in the health sector such as location, accessibility, and utilisation of health care facilities. Others include manpower shortages and lack of requisite logistics. A study by Oppong & Hodgson (1994) on the location and accessibility of the PHC facilities in the Suhum district of the Eastern Region of Ghana showed that the level of accessibility to the PHC facilities could be improved if they are optimally located with respect to the population distribution.

Agyepong (1999) did some studies in the Dangme West District on the health situation including the PHC system. She focused on the delivery of health services, and trends in utilisation and coverage. She noted that the use of health services in the district was not uniform. In certain parts of the district like Prampram, utilisation rates per capita were on the downward trend whilst in other parts like Dodowa and Great Ningo, the reverse was true. Also noted was the importance of the human factor on the part of the health service providers as one of the causes of this pattern. For the coverage of the Expanded Programme on Immunization (EPI), she noted that in years where support from the donor community and the central Ministry of Health (MOH) was adequate, backed by mass campaigns, EPI coverage was 80% for the district. This underlies the importance of adequate logistics and outreach services in helping to achieve the goals of the PHC system.

In a study carried out by Bosu *et al* (1998) on factors affecting attendance at immunization sessions in the Komenda-Edina-Eguafo-Abrem District of Ghana, they discovered that attendance was adversely affected by factors such as poor knowledge about immunization, lack of suitable venues and furniture at outreach clinics, financial difficulties, long waiting times, transport difficulties, poorly motivated service providers, and weak intersectoral collaboration.

## 3.2 PHC in the Dangme West District

The essence of this sub theme is to analyse the distribution of PHC clinics in the district with reference to their impact on accessibility and utilisation of health services in the district. This would be looked at together with staffing levels of these clinics, the availability of logistics as well as the referral system in place to ensure adequate health delivery.

### 3.2.1 Disease Patterns in the District

The coverage of immunisation against the six childhood killer diseases is uneven in the district. Prampram and Dodowa sub-districts have higher coverage than Osudoku and Great Ningo sub-districts where the constraints of poor roads, inadequate transportation, inadequate health facility and staff accommodation are more accentuated.

Malaria, diarrhoea, anaemia and upper respiratory tract infections are the most prevalent diseases in the district. In the riverine communities, schistosomiasis is a major problem. However, among the most prevalent diseases in the district are malaria, abscesses, bilharzia, and guinea worm. The prevalence of water-borne diseases clearly indicates the lack of potable water in most parts of the district.

According to the DPCU (1996), only a few sections of the district have regular supply of pipe-borne water. The supply of potable water does not meet the demand in the district. Out of the 124 settlements, only 20 (9.35%) have access to pipe-borne water. Most inhabitants depend on untreated water from sources such as surface ponds, rivers, and shallow wells. They are thus exposed to water-borne diseases such as typhoid, cholera and other diarrhoeal diseases. In the areas with pipe-borne water supply, communities often experience water shortages which compels them to resort to the use of river or stream water.

For sanitation, the district lacks a proper sewerage disposal system, and individuals are obliged to construct their own drainage system under the supervision of the district's sanitation department. Sanitation management in the urban area is poor. There are no designated areas for sewerage and refuse disposal in the district. Only 26% of the houses have toilet facilities.

According to El Bindari-Hammad & Smith(1992), in carrying out health studies in any area, an attempt should be made to determine the activities in other sectors that have an impact on the health of the people. While these activities may be implemented by individual sectors without explicit health objectives, they may, nevertheless, produce positive or negative effects on health. Examples of such sectors that may be of interest for review include agriculture, industry, commerce, public works (including water works and road network), and housing. Others would include cultural values and practises. The rest of the review of the district would, therefore, include some of these factors and others which might have an impact on the health of the people.

### 3.2.2 Distribution of PHC Clinics

For administrative purposes, and to facilitate health service delivery, the district has been subdivided into four health districts which coincide broadly with the traditional areas, namely: Dodowa, Prampram, Great Ningo, and Osudoku sub-districts. A Medical Assistant heads each sub-district.

As Table 3.1 shows, the district has ten PHC clinics. These comprise four health centres, one in each sub-district, and six health posts distributed in the district. Figure 3.1 shows that the health posts are not uniformly distributed in the district. The Dodowa sub-district with a land area of 2428 sq. km has two health posts, Prampram with a land area of 1272 sq. km has one health post, Great Ningo covering an area of 5846 sq. km has one health post, whilst Osudoku covering an area of 3707 sq. km has two health posts. This analysis shows that no relationship exists between the size of a sub-district and the number of health facilities established in it. Instead, other factors like the distribution and density of population may have a role to play in the location of the health posts.

Fig. 3.1 Spatial distribution of PHC facilities in the Dangme West district.

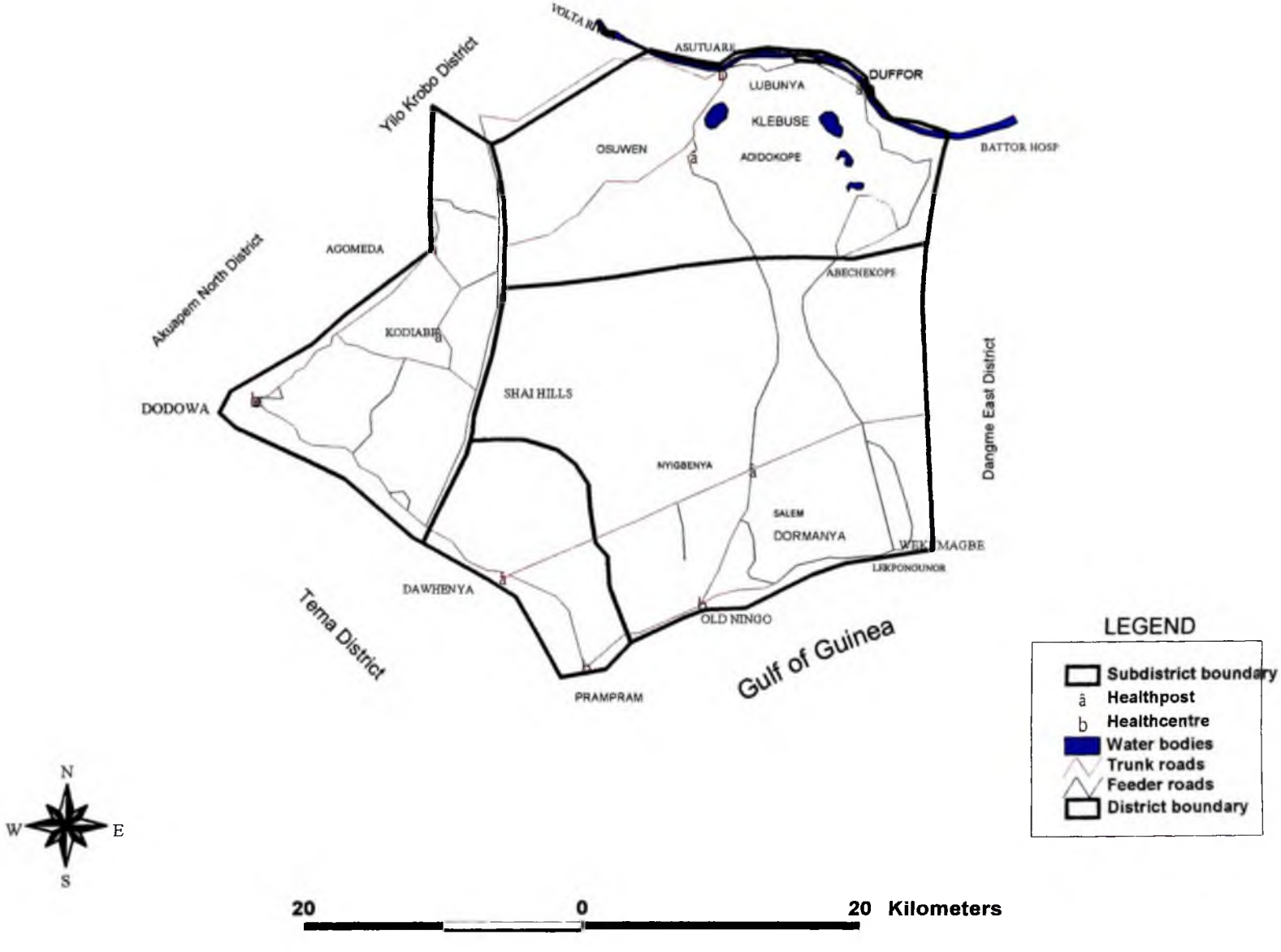


**Table 3.1 Distribution and Type of Health Units in the Dangme West District**

| Sub-district | Type of health institution | Location |
|---|---|---|
| Dodowa | Health Centre<br>Community clinics | Dodowa<br>Kordiabe,Agomeda, Osuwem |
| Prampram | Health Centre<br>Community clinics | Prampram<br>Dawenya |
| Osudoku | MCH/FP centres<br>Community clinics | Asutuare<br>Duffor |
| Great Ningo | Health Centre<br>Community clinics | Great Ningo<br>Tsopoli |

Source: Field Reconnaissance

3.2.3 Staffing Level and Distribution

The initial concept of PHC envisages a hierarchical organization of health care at three levels, with each level being staffed by a calibre of personnel. However, the manpower cadre positions at each of the three levels in the district have been modified.

Level A is supposed to be managed by a TBA, a community health worker for basic curative services, and a village development worker; the penultimate and the last are to be selected and compensated by the community in which they work. This, however, is not so on the ground. The staff at the Level A are now community health nurses who are three in some cases, usually comprising two Senior Community Health Nurses (SCHN) with one being a Midwife, as well as a Community Health Nurse (CHN).

Level B is supposed to be staffed by a Medical Assistant, a CHN/Midwife, a Health Inspection Assistant, and a Senior Field Technician for communicable disease control. However, the Level B health institutions are staffed with the following cadre of personnel: Medical Assistants, Nutritionists, Health Statisticians, Dispensary Assistants and Attendants, Nursing Officers (General and Psychiatric), and Public Health Nurses (PHN), Community Health Nurses (CHN), Births and Deaths, and Disease Control Officers. The total staff complement can be as high as 30 or more. Level C is not yet operational, so no comparisons can be made with its staffing level.

In terms of the distribution of health personnel, one can state that all the health posts have at least two CHNS, and a few have CHN/Midwives as well. Personnel at the health post level are, therefore, uniformly distributed. The health centers are also staffed quite uniformly.

### 3.2.4 Availability of Logistics

The assortment of logistics at a health centre varies with its functions and its level in the PHC hierarchy. But all the health posts in the districts have motorcycles which nurses use for outreach activities. This is in addition to vehicles which support the health posts during immunization campaigns. A number of the health posts also have fridges for the storage of vaccines and other medicaments. What some of the health posts lack are specialised containers and other equipment for the delivery and washing of newborn babies. The health centres are equipped with logistics to discharge duties at their level of operation in the districts. Each of the health centres in the district has a four-wheel drive vehicle though these vehicles are in various conditions of roadworthiness.

### 3.2.5 Referral System

The referral system in the primary health delivery system is very important. No PHC worker can possibly provide all of the medical or social care which a patient may require. Therefore the PHC worker must know how and where to obtain the facilities each particular patient requires. The health worker must know where and how to investigate patients and above all, when and where to refer a patient to a relevant specialist when the occasion demands (Fry, 1980). The referral system in the district is well organised. Health posts refer all cases beyond their level of competence to the health centres in their sub-districts. The health centres, on the other hand, refer cases beyond their competence to the hospitals in the neighbouring districts, including Battor Mission Hospital, Tema General Hospital, and the Akuse Government Hospital. This is because the District hospital which is supposed to handle cases referred from the health centres is not functional yet.

## 3.3 Strategies for the Implementation of PHC in Dangme West

The successful implementation of the PHC programme depends on the successful planning of strategies which would ensure that implementing agencies optimise the human and material resources put at their disposal. This requires the drawing up of policy frameworks and plans of action. The discussion under this sub-theme examines some of the plans and policies put in place to ensure that the PHC programme is implemented smoothly at the

national level and in the Dangme West district.

### 3.3.1 Government Policy on PHC and its Implementation in the District

The Bamako Initiative was established by AFRO resolution AFR/RC 37/R6 at Bamako, Mali, in September 1987 and the UNICEF Executive Board Recommendation E/ICEF/1988/P/L.40. Since these resolutions were passed, the heads of state and government of the Organization of African Unity (OAU) endorsed the initiative in Addis Ababa, Ethiopia, in May 1988. The resolution called on UNICEF and WHO to help accelerate PHC implementation at the district level, giving priority to women and children (Adjei *et al.*, undated). According to the District Medical Officer of the Dangme West District, no single document contains any policy governing the various aspects of the implementation of PHC. Rather, various components of the programme can be found in various documents within the MOH. According to Adjei et al., (undated), the MOH has adopted a national health policy whose goal is to ensure that all the people of Ghana, regardless of their age, sex, origin, ethnic group, religion, political belief, or economic standing, shall enjoy the best possible level of health that the resources permit. Among others, the policy states that every Ghanaian shall have access to essential health care with a system of prompt referral to backup district and regional hospitals. Full and organized community involvement and the eventual informed self-reliance of individuals, families and communities assuming more responsibility for their own health, at a cost they can afford, is being pursued.

According to Adjei et al., (undated), the PHC strategy which provides services at the three Levels A, B, and C, is the basis for organizing the services. PHC has already taken a firm grounding in the Dangme West District. The only component left is the Level C which is not operational yet .

### 3.3.2 The Role of the District Health Management Team (DHMT)

In pursuance of the government's overall policy on decentralization (PNDC LAW 207,1987), virtually all the 110 districts now have DHMTs. The Ghana Health Service is an executing agency responsible for running a decentralized health service with the aim of providing access to basic services to all Ghanaians as close as possible to where they live and work (MOH, 1996). DHMTs are responsible for implementing and managing health programmes at the district level. The teams are usually composed of the following personnel: District Director of Health Services, Senior Medical Officer, Principal Nursing

Officer, Principal Technical Officer, Community Disease Control officer, Pharmacist, Accountant, District Health Education Officer, and the various heads of all the health centers in the district.

3.3.3 Intersectoral Cooperation in the Implementation of PHC

The objectives of the PHC as outlined at Alma Atta in 1978 are all embracing and intersectoral collaboration is a key element (Ebrahim & Ranken, 1988). It involves combined health and community development, and its success depends on task-oriented activity (for example, focusing on the health problems of the community) and process-oriented movement (involving education, improving economic and social conditions, food availability, etc). To Phillips (1990), involving all related sectors of the economy such as agriculture, animal husbandry, education, housing, public works and communications in health may prove extremely difficult to implement in many third world countries. Because lack of intersectoral co-ordination and co-operation as well as lack of resources, are often fundamental problems. The roles of the other agencies, both governmental and non-governmental in the realising the objectives of the PHC are discussed below.

*3.3.3.1 Agriculture*

The District Agriculture Directorate Unit (DADU) in the Dangme West District is active in the PHC programme. Abundance of food is one objective of PHC. The unit has 28 extension agents who go out to farmers to impact efficient farming technologies to them to boost food production in the district. This role is very important, since the district is predominantly rural, with the main occupation of the inhabitants being farming. Farmers are also encouraged to eat what they grow and grow what they eat. This is to minimize the problem of farmers focusing their energies on cash crop cultivation which would give them only income and leave them starving during the lean season.

Besides the Women in Agriculture Development (WIAD) unit of the Ministry of Food and Agriculture (MoFA) is actively promoting the cultivation and consumption of soyabeans as a good source of protein. The unit has been demonstrating how soyabeans can be processed into oil, gari, and milk. The only drawback is the difficulty in processing soyabeans into the various brands of food extracts. The WIAD are trying to educate farmers on effective ways of solving this problem.

The DADU has also been educating farmers and the community at large about the advantages in using smokeless stoves instead of woodfuel. This is meant to reduce the exposure of users of these cooking facilities, especially women and children, to pollution from these sources of fuel energy.

The farmers are further exposed to a method of farming known as Integrated Crop Management (ICPM) to minimize the use of harmful chemicals in farming. The use of organic fertilizers and manure is encouraged. The application of chemicals like weedicides and others that are used to kill insects in farming is also being discouraged because of their harmful side effects on the farmers and the consuming public.

Other health programmes organized by DADU include educating farmers to drain their homes of waste water from their kitchens into pits dug and filled with stones in the form of soak-away pits. This is to minimize the breeding of mosquitoes in stagnant pools of water in the home. The farmers are also taught water harvesting as alternate means of obtaining clean water during the rainy season. Other personal hygiene methods taught farmers include constructing toilets modeled along the lines of the KVIP and managing water from their bathhouses. To effectively introduce these ideas of home management to the farmers, a Farmers' Demonstration House has been put up at Oyibi. This is a model home with simple but effective facilities which rural people can afford and which can help make life comfortable for farmers. The farmers are occasionally taken on demonstration trips to this home.

*3.3.3.2 Local Government*

The Environmental Health Unit (EHU) of the district assembly, which is under the Ministry of Local Government, carries out health educational programmes. Personnel from the EHU meet regularly with market women and traditional caterers and educate them on the need to procure their food items from recognized vendors. This is to ensure that only wholesome food items are used in preparing food for the public. Butchers are also educated on the need to maintain hygienic conditions in the slaughterhouses to minimize meat contamination.

Lectures are also organized for communities occasionally about refuse disposal practices such as burning instead of indiscriminate dumping. Others include the importance of not burying the dead at home to forestall any outbreak of epidemics. The effectiveness of these

talks is based on the fact that the inspectors have the power to prosecute persons who do not comply with their advice.

Assemblymen and chiefs have an important role to play in realizing the objectives of Alma Ata declaration and Ghana's Vision 2020 development plan. The Mankrado of Wedekum, a village located about 500 metres South-East of Dodowa, has been actively providing leadership to his people in providing communal labour for executing development projects in his locality. He also liaises with the DHMT and provides the necessary logistics that the health educators may need to effectively carry out health programmes in his locality.

Assemblymen have also been mobilizing the communities to undertake clean up exercises and also to talk to them about ways of preventing infections. Basic techniques taught include boiling of drinking water and using mosquito nets. The assemblymen are actively involved in mobilizing the communities to carry out self-help projects. They also liaise with the DHMT and organize the communities for the health education programmes organized by the DHMT occasionally. The 'self-help' spirit which the assemblymen are trying to impact to the communities is very important for the PHC concept since it makes them less dependent on external assistance which cannot be guaranteed.

The assemblymen are facing the problem of lack of logistics like digging equipment, wheelbarrows, and rakes to facilitate communal labour. The other problem is attitudinal. Some communities are reluctant to change their old ways of doing things. A case in point is the refusal of members of some communities without potable drinking water to boil their drinking water. These people claim that their ancestors did not boil their drinking water, and yet lived long and fruitful lives. They, therefore, do not see the reason why they should bother to boil their drinking water.

*3.3.3.3 Education*

The District Girl Child Education Officer (DGCEO) responsible for the School Health Education Programme carries out health educational campaigns from the district education office. The DGCEO visits pre-school facilities in the district and examines their feeding facilities and the quality of food they offer the children and advises on how best the nutritional component of their food could be improved in a cost-effective way. The officer occasionally organizes workshops to demonstrate how to prepare some of the meals, and

also gives lectures on basic first aid and peer group reproductive health education to promote health among school kids.

Communities are also educated on health issues pertaining to adults and children. Educational programmes involve the need to educate the girl-child to empower her in future and also to empower the community as a whole. Members of the community are also educated on the need to maintain personal hygiene and to keep their environment clean.

*3.3.3.4 Water and Sanitation*

The community water and sanitation unit of the district assembly, which is also known as the district water and sanitation team (DWST), is in charge of the provision of potable water in the community. It is made up of a team of 5 members: a Town and Country Planning Officer who is the team leader, a Community Development Officer, an Environmental Development Officer, an Engineer, and a co-opted member. This unit performs educational and coordination activities.

In its educational role, the DWST carries out community animation functions. The team creates awareness in a community on the importance of potable water and sanitation. One problem the team has identified in the district, which they are trying to check, is the indiscriminate defecation into water bodies and the surrounding environment which could be harmful to the communities.

On water supply, the DWST has been liaising with donor organizations such as DANIDA and JICA to provide boreholes for the communities. It does this by administering questionnaires to the communities, and indicators are used to rank them in terms of the need for the provision of water. The communities are made to contribute one percent of the cost of a borehole which is estimated at 28 million cedis.

For sanitation, DWST is directly involved in the provision of Ventilated Improved Pit (VIP) latrines for use in private homes. They are provided on the basis of a cost-sharing approach where the applicants bear 50% of the cost of the toilets and the donor organizations bear the other half. Communities which have benefited from this project include Volivo, Asebi, and Nyigbenya. The provision of Kumasi Ventilated Improved Pit (KVIP) latrines is now limited to institutions like clinics and schools and no more to the communities.

### 3.3.4 Role of NGOs

NGOs have been very helpful in promoting the PHC programme in the district, and the DHMT has been working closely with them. They include Cefriend, ORT, Ghana Environmental and Conservation Ambassadors (GECA), and World Vision International (WVI) as the most active. The WVI has been participating in the health programmes of the DHMT by offering financial and logistical support during their immunization campaigns and other programmes. The activities of the WVI can be categorized into three: the school level, the health centre level, and the community level. At the school level, the WVI selects villages, which have day care centres, and helps to take care of their health needs. They do this by taking the weight and height of the nursery children once a year. They also supply fortified gari (gari mixed with soyabean powder) to the selected nurseries in the selected communities daily. Their school health programme is being run in 21 villages.

At the health centre level, the WVI liaises with the DHMT and sponsors programmes like the EPI. It does this by providing vehicles with fuel and staff to support the immunization campaigns. The 1999 mini-mass campaign in the district was sponsored by WVI. It also gives health education lectures in communities and schools to supplement that of the DHMT. At the community level, the WVI offers loan facilities to organized groups of people to undertake income-generating activities. They have recently offered a loan package to a women's group at Odumase to produce gari.

## 3.4 Conclusion

This chapter reviewed the PHC system in Ghana as well as in the Dangme West District. Also strategies for implementing the PHC programme in the district were examined. This included the role of the DHMT as well as intersectoral collaboration in promoting PHC. Chapter four examines the levels of utilisation of PHC services in the district.

# CHAPTER FOUR

## LEVELS OF UTILISATION OF PHC SERVICES

### 4.1 District and Sub-District Levels of Utilisation

Utilisation of specific services, or actual coverage, is expressed as the proportion of people in need of a service who actually receive it in a given period, usually a year. Examples are the proportion of children at risk who are immunised, the proportion of pregnant women who receive prenatal care or have their deliveries supervised by a trained attendant, or the proportion of people needing medical treatment who actually go to the health facilities (El Bindari-Hammad & Smith 1992). In analysing the levels of utilisation of health services in the district, routine health management information data for the previous 3 years, 1997-1999, were used. Sectors of the health delivery system to be examined are Out-patient Department (OPD) utilisation levels, Maternal and Child Health (MCH) services like Antenatal Care (ANC), Postnatal Care (PNC), and Expanded Programme of Immunisation (EPI). The other sector would be the distribution of health facilities.

#### 4.1.1 Out-patient Department (OPD)

Tables 4.1 to 4.4 show trends in OPD utilisation levels in the four sub-districts of the Dangme West District for the period 1997-1999. The tables contain utilisation by age and sex.

**Table 4.1 Trends in OPD Attendance for Dodowa Sub-district for 1997-1999**

| | Year/Sex | | Year/Sex | | Year/Sex | |
|---|---|---|---|---|---|---|
| | 1997 | | 1998 | | 1999 | |
| Age | M | F | M | F | M | F |
| Under 15 | 959 | 1007 | 971 | 922 | 1449 | 1477 |
| 15-44 | 867 | 1208 | 974 | 1347 | 974 | 1422 |
| 45-59 | 172 | 250 | 186 | 231 | 176 | 295 |
| 60+ | 145 | 222 | 123 | 216 | - | - |

Source: Extract from ARDWD 1997-1999

The trends depicted for the Dangme West District over the 3 successive years (1997-1999) have shown an upward trend for utilisation levels. The first pattern is the low but consistent levels of utilisation of the health facilities for the elderly persons (above 45 years of age) for all the four sub-districts. The second is the generally higher levels of utilisation of the PHC facilities by females for almost all the age groups except the under 15-year-olds where the males outnumber the females for all the sub-districts over the 3 year period. No clear reason can be assigned for the higher rates at which male children use the PHC facilities.

**Table 4.2 Trends in OPD Attendance for Prampram Sub-district for 1997-1999**

| | Year/Sex | | Year/Sex | | Year/Sex | |
|---|---|---|---|---|---|---|
| | 1997 | | 1998 | | 1999 | |
| Age | M | F | M | F | M | F |
| Under 15 | 657 | 649 | 461 | 430 | 461 | 430 |
| 15-44 | 410 | 512 | 436 | 475 | 436 | 475 |
| 45-59 | 125 | 187 | 96 | 109 | 96 | 109 |
| 60+ | 82 | 189 | 38 | 164 | 38 | 164 |

Source: Extract from ARDWD 1997-1999

The levels of utilisation of PHC facilities in the Dodowa Sub-district showed a trend upwards between 1997 and 1999 (Table 4.1). The Prampram Sub-district showed an upward trend, except for the under 15 and 15-44 age groups which experienced a decline in 1998 before experiencing an increase in 1999 (Table 4.2).

**Table 4.3 Trends in OPD Attendance for Great Ningo Sub-district for 1997-1999**

| | Year/Sex | | Year/Sex | | Year/Sex | |
|---|---|---|---|---|---|---|
| | 1997 | | 1998 | | 1999 | |
| Age | M | F | M | F | M | F |
| Under 15 | 811 | 774 | 561 | 484 | 794 | 627 |
| 15-44 | 438 | 603 | 390 | 504 | 477 | 518 |
| 45-59 | 92 | 139 | 88 | 104 | 84 | 100 |
| 60+ | 62 | 104 | 50 | 78 | 56 | 84 |

Source: Extract from ARDWD 1997-1999

The levels of utilisation of the health facilities in the Great Ningo Sub-district were high for all age groups (Table 4.3). There was a decline in the level of utilisation in 1998 for the under 15 and 15-44 age groups before an increase in 1999. This pattern is similar for the Osudoku Sub-district (Table 4.4).

**Table 4.4 Trends in OPD Attendance for Osudoku Sub-district for 1997-1999**

| | Year/Sex | | Year/Sex | | Year/Sex | |
|---|---|---|---|---|---|---|
| | 1997 | | 1998 | | 1999 | |
| Age | M | F | M | F | M | F |
| Under 15 | 605 | 578 | 271 | 268 | 639 | 597 |
| 15-44 | 552 | 690 | 315 | 274 | 318 | 363 |
| 45-59 | 95 | 153 | 75 | 89 | 62 | 81 |
| 60+ | 56 | 83 | 39 | 45 | 39 | 89 |

Source: Extract from ARDWD 1997-1999

The DHMT notes that OPD utilisation levels are relatively low, though there have been slight increases over the years.

### 4.1.2 Antenatal Coverage (ANC) and Postnatal coverage (PNC)

**Table 4.5 Trends in MCH Coverage for Dodowa Sub-district for 1997-1999**

| DODOWA | MCH Services | 1997 | 1998 | 1999 |
|---|---|---|---|---|
| DELIVERY | No. of deliveries(MOH+private) | 263 | 433 | 498 |
| | No. of expected deliveries | 1013 | 1043 | 1075 |
| ANC | No. registrants | 1012 | 995 | 1134 |
| | No. of expected pregnancies | 1013 | 1043 | 1075 |
| PNC | No. first postnatal visits | 364 | 348 | 524 |
| | No. of expected deliveries | 1013 | 1043 | 1075 |
| TBA | No. of deliveries | 73 | 70 | 199 |
| | No. of expected deliveries | 1013 | 1043 | 1075 |

Source: Extract from ARDWD 1997-1999

Among the four indicators (Table 4.5), delivery coverage and TBA services had the lowest level of utilisation for the Dodowa Sub-district. For example, the number of deliveries by the MOH and private maternity homes as a percentage of expected deliveries was 26% for 1997, 41.5% for 1998, and 46% for 1999. This shows a steady rate of increase over the 3-year period. PNC had 36% for 1997, 33% for 1998, and 48.7% for 1999. This trend is similar to the delivery coverage. The number of registrants as a percentage of the expected pregnancies was 99.9% in 1997, 95.4% in 1998, and 105% in 1999. TBA coverage was 7% in 1997, 6.7% in 1998 and 18.5% in 1999 (Table 4.5). The implication of this pattern is that 57% of deliveries in 1997, 60% in 1998, and 35.5% in 1999 were done by unapproved persons.

**Table 4.6 Trends in MCH Coverage for Prampram Sub-district for 1997-1999**

| PRAMPRAM | MCH Services | 1997 | 1998 | 1999 |
|---|---|---|---|---|
| DELIVERY | No. of deliveries(MOH+private) | 441 | 455 | 560 |
| | No. of expected deliveries | 735 | 757 | 780 |
| ANC | No. registrants | 927 | 957 | 1059 |
| | No. of expected pregnancies | 735 | 757 | 780 |
| PNC | No. first postnatal visits | 409 | 379 | 526 |
| | No. of expected deliveries | 735 | 757 | 780 |
| TBA | No. of deliveries | 138 | 114 | 164 |
| | No. of expected deliveries | 735 | 757 | 780 |

Source: Extract from ARDWD 1997-1999

Prampram Sub-district showed a higher coverage pattern than the Dodowa Sub-district in the MCH coverage indicators (Table 4.6). Delivery coverage was 60% in 1997, 60% in 1998, and 72% in 1999. Postnatal coverage was 56% in 1997, 50% in 1998, and 67% in 1999. TBA coverage was 18.7% in 1997, 15.5% in 1998, and 21% in 1999. This shows

that unapproved persons did only 21% of deliveries in 1997, 24.5% of deliveries in 1998, and 7% of it in 1999.

**Table 4.7 Trends in MCH Coverage for Great Ningo Sub-district for 1997-1999**

| GREAT NINGO | MCH Services | 1997 | 1998 | 1999 |
|---|---|---|---|---|
| DELIVERY | No. of deliveries(MOH+private) | 451 | 380 | 438 |
| | No. of expected deliveries | 1367 | 1408 | 1450 |
| ANC | No. registrants | 1031 | 786 | 807 |
| | No. of expected pregnancies | 1367 | 1408 | 1450 |
| PNC | No. first postnatal visits | 356 | 184 | 52 |
| | No. of expected deliveries | 1367 | 1408 | 1450 |
| TBA | No. of deliveries | 172 | 174 | 52 |
| | No. of expected deliveries | 1367 | 1408 | 1450 |

Source: Extract from ARDWD 1997-1999

For the Great Ningo sub-district (Table 4.7), the combined delivery coverage for the MOH and private maternity homes was 33% for 1997, 30% for 1998, and 30% for 1999. Postnatal coverage was 26% in 1997, 13% in 1998, and 3.5% in 1999, whilst TBA coverage was 12.6% in 1997, 12.3% in 1998, and 3.5% in 1999. Postnatal coverage declined from a level of 26% in 1997, to only 3.5% in 1999. TBA coverage also declined from a level of 12.6% in 1997 to 3.5% in 1999. The cause of the decline in most of the indicators must be identified and checked otherwise it appears the unapproved deliveries, which are more than 50% of the total number of deliveries, would continue to dominate to the detriment of the formal health sector in the coming years.

**Table 4.8 Trends in MCH Coverage for Osudoku Sub-district for 1997-1999**

| OSUDOKU | MCH Services | 1997 | 1998 | 1999 |
|---|---|---|---|---|
| DELIVERY | No. of deliveries(MOH+private) | 217 | 208 | 197 |
| | No. of expected deliveries | 1013 | 1043 | 1075 |
| ANC | No. registrants | 436 | 366 | 523 |
| | No. of expected pregnancies | 1013 | 1043 | 1075 |
| PNC | No. first postnatal visits | 217 | 179 | 248 |
| | No. of expected deliveries | 1013 | 1043 | 1075 |
| TBA | No. of deliveries | 180 | 145 | 217 |
| | No. of expected deliveries | 1013 | 1043 | 1075 |

Source: Extract from ARDWD 1997-1999

The trends for the Osudoku Sub-district were not too encouraging. Delivery coverage for the MOH and private maternity homes was 21.4% for 1997, 20% for 1998, and 18.3% for 1999. Postnatal coverage was 21.4% in 1997, 17% in 1998, and 23% in 1999, whilst TBA coverage was 7.9% in 1997, 13.9% in 1998, and 20.2% in 1999 (Table 4.8). The pattern here was similar to that of Great Ningo. There was a decline in the coverage levels of the

MOH and private maternity homes in this district, the only increase was that of the TBAs whose coverage has seen some modest increases over the past 3 years. The unapproved methods of delivery increased in this district, with over 50% of the share of total deliveries over the 3-year period. The DHMT for the Dangme West District maintained that the apparently low levels of coverage for the Osudoku Sub-district were because the population figures for this district were inaccurate. But it is necessary in the face of the decline in the MCH coverage by the formal health sector, for the reasons for the decline to be identified and solutions found to change the generally negative trend to a positive one.

Figure 4.1 depicts bar graphs of the combined delivery coverage of the MOH, TBA, and private midwives, as a percentage of the target levels of coverage over the 3 successive years (1997-1999) for the four sub-districts. There was a systematic rise for the Dodowa and Prampram Sub-districts. The Great Ningo and Osudoku Sub-districts showed a different pattern. The Great Ningo Sub-district showed a decline in delivery coverage over the years under review, whilst Osudoku also showed an inconsistent trend.

The trends for antenatal coverage for the Dodowa district for the period 1997-1999 were 82%, 73% and 80%, whilst the trends for delivery coverage for the same period were 36%, 35% and 39% respectively. A notable trend was that whilst expectant mothers utilise the PHC facilities, about half of them delivered elsewhere.

### 4.1.3 EPI coverage

The Expanded Programme of Immunisation (EPI) is a programme launched by the government to immunise all eligible children against the six childhood killer diseases.
The principal aim of this programme is to achieve 80% coverage in immunisation levels by the year 2000 as part of its drive of health for all Ghanaians by the year 2000. The levels of coverage for the immunisation campaign by each of the sub-districts are examined with the DPT3 antigen, the last antigen usually administered.

FIG.4.1 PERCENTAGE BAR GRAPHS OF THE COMBINED DELIVERY COVERAGE OF MOH, TBA, & PRIVATE MIDWIVES AGAINST TARGET LEVELS FOR 1997-1999

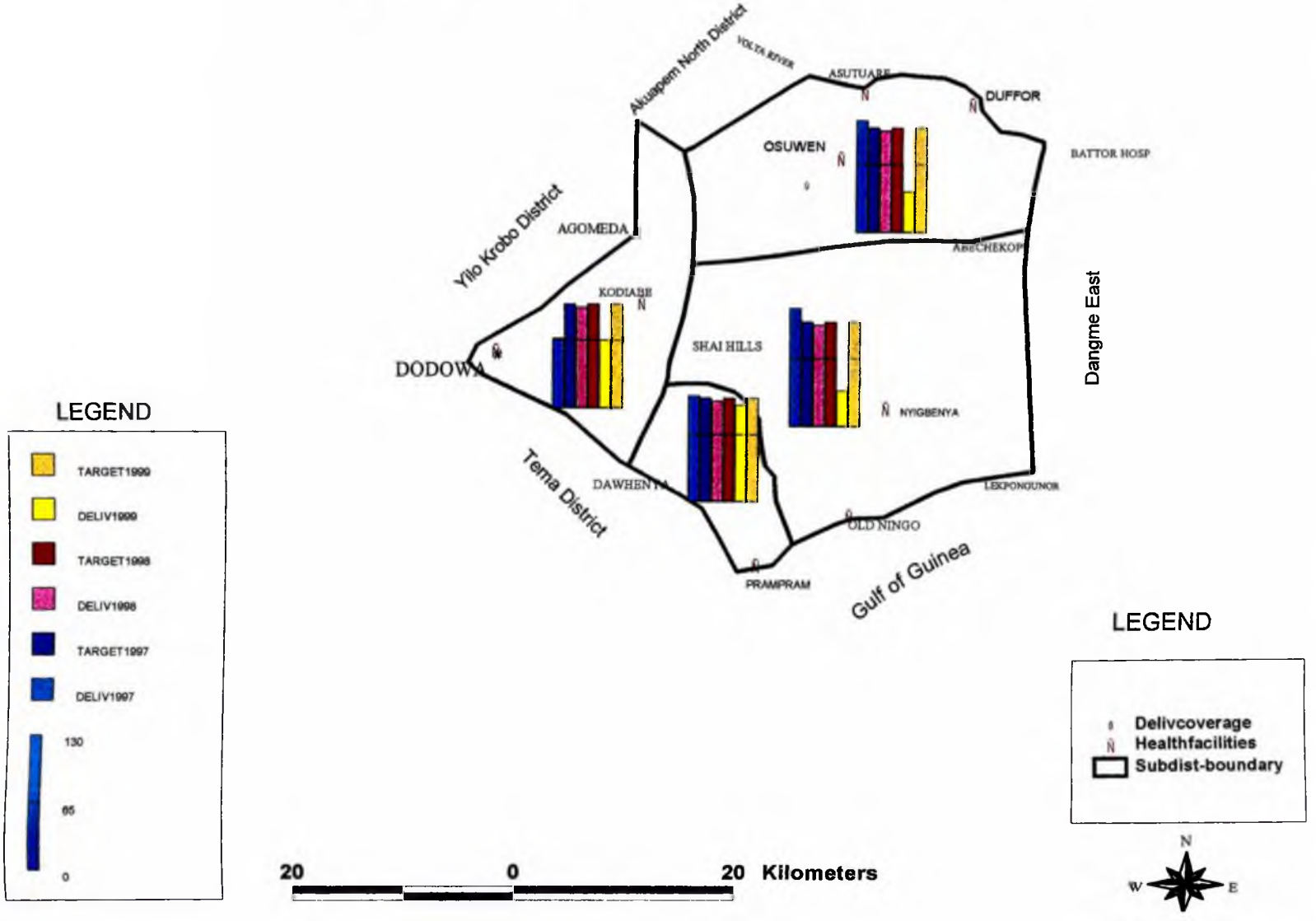


Table 4.9 Trends in Immunisation Coverage for Dangme West District for 1997-1999

| YEAR | 1997 | 1998 | 1999 |
|---|---|---|---|
| **DODOWA** | | | |
| No. Administered | 929 | 938 | 98 |
| Total 0-11Months | 1013 | 1043 | 107 |
| **PRAMPRAM** | | | |
| No. Administered | 688 | 675 | 70 |
| Total 0-11Months | 735 | 757 | 78 |
| **OLD NINGO** | | | |
| No. Administered | 1088 | 1196 | 110 |
| Total 0-11Months | 1367 | 1408 | 145 |
| **OSUDOKU** | | | |
| No. Administered | 287 | 369 | 38 |
| Total 0-11Months | 1013 | 1043 | 107 |

Source: Extract from ARDWD 1997-1999

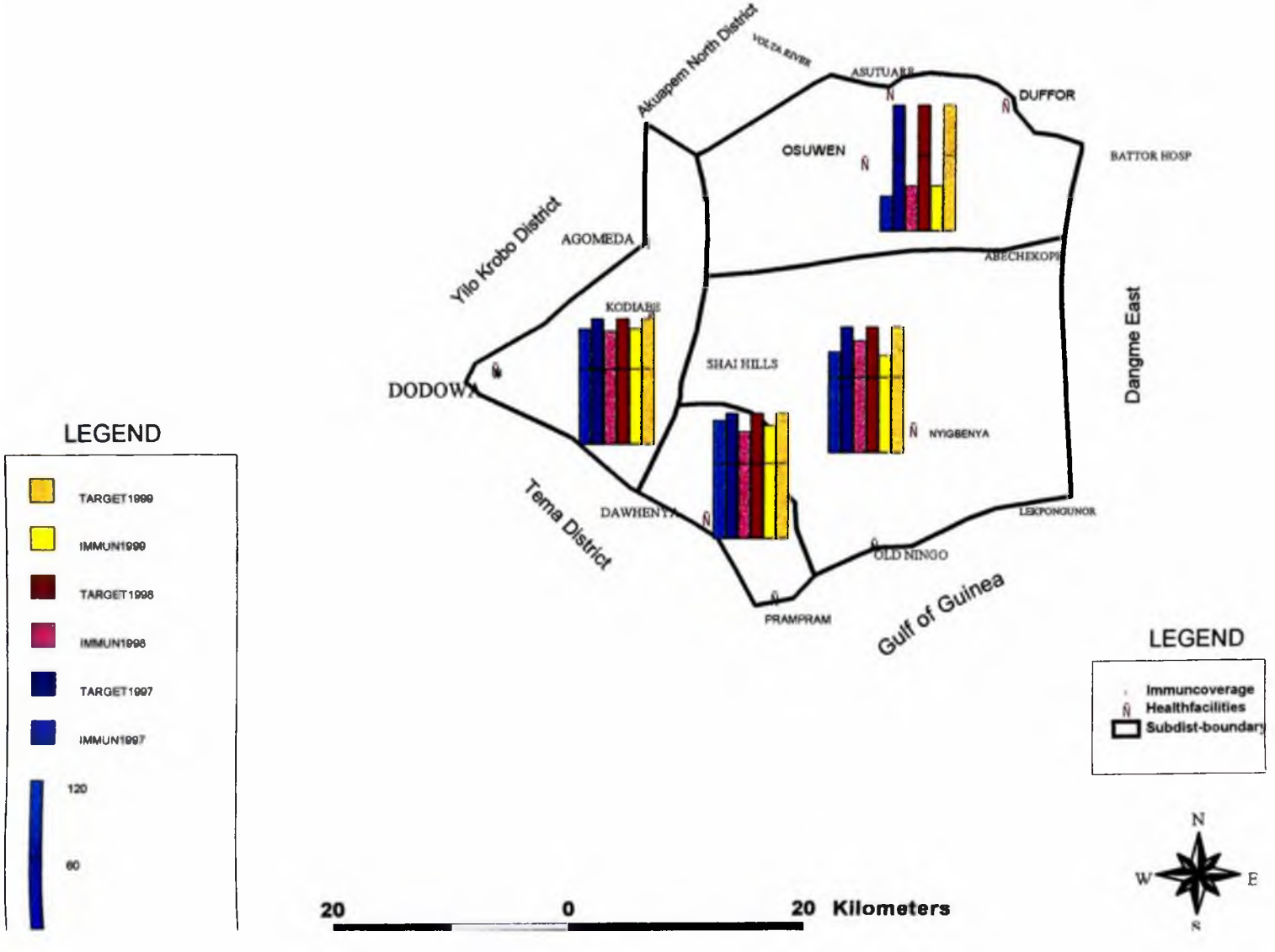
The Dodowa Sub-district had 91.7% coverage in 1997, 89.9% in 1998, and 91.6% in 1999 (Table 4.9). This pattern showed a high and consistent trend over the past 3 years, and therefore this level of coverage might be maintained for the future.

The Prampram Sub-district had a high level of immunisation coverage. The sub-district had 93.6% coverage in 1997, 89.1% in 1998, and 90.3% in 1999. This pattern had been quite consistent, and may continue that way into the future (Table 4.9).

Great Ningo had a coverage level of 79.6% in 1997, 84.9% in 1998, and 76.4% in 1999 in the levels of immunisation for the 3 years under review. This was lower than the levels for Dodowa and Prampram analysed earlier (Table 4.9). However, Great Ningo also showed quite a consistent trend and with the educational programmes being undertaken by the DHMT, the level of immunisation coverage might rise in future.

The trends depicted in Table 4.9 were unfavourable for the Osudoku Sub-district in the extent of coverage in immunisation. The district had 28.3% coverage in 1997, 35.4% in 1998, and 35.5% in 1999. The figures were very low and nowhere near the 80% target set by the Ministry of Health. One noticeable pattern, however, was that the figures did not vary from each other significantly just as the other sub-districts. Figure 4.2 shows bar graphs depicting trends in immunisation coverage for each of the four sub-districts for 1997-1999. The bar graphs depict how seriously the Osudoku Sub-district trails behind the others.

FIG. 4.2 PERCENTAGE BAR GRAPHS OF TRENDS IN IMMUNIZATION COVERAGE FOR EACH OF THE FOUR SUBDISTRICTS AGAINST TARGET LEVELS FOR 1997-1999



EPI coverage for the district as a whole for 1997, 1998,and 1999 was 64, 75, and 73% respectively. These figures were quite high for the years under review. But the low levels of coverage in the Osudoku Sub-district reduced the overall level of coverage for the district.

## 4.2 Distribution of Health Facilities and Physical Coverage

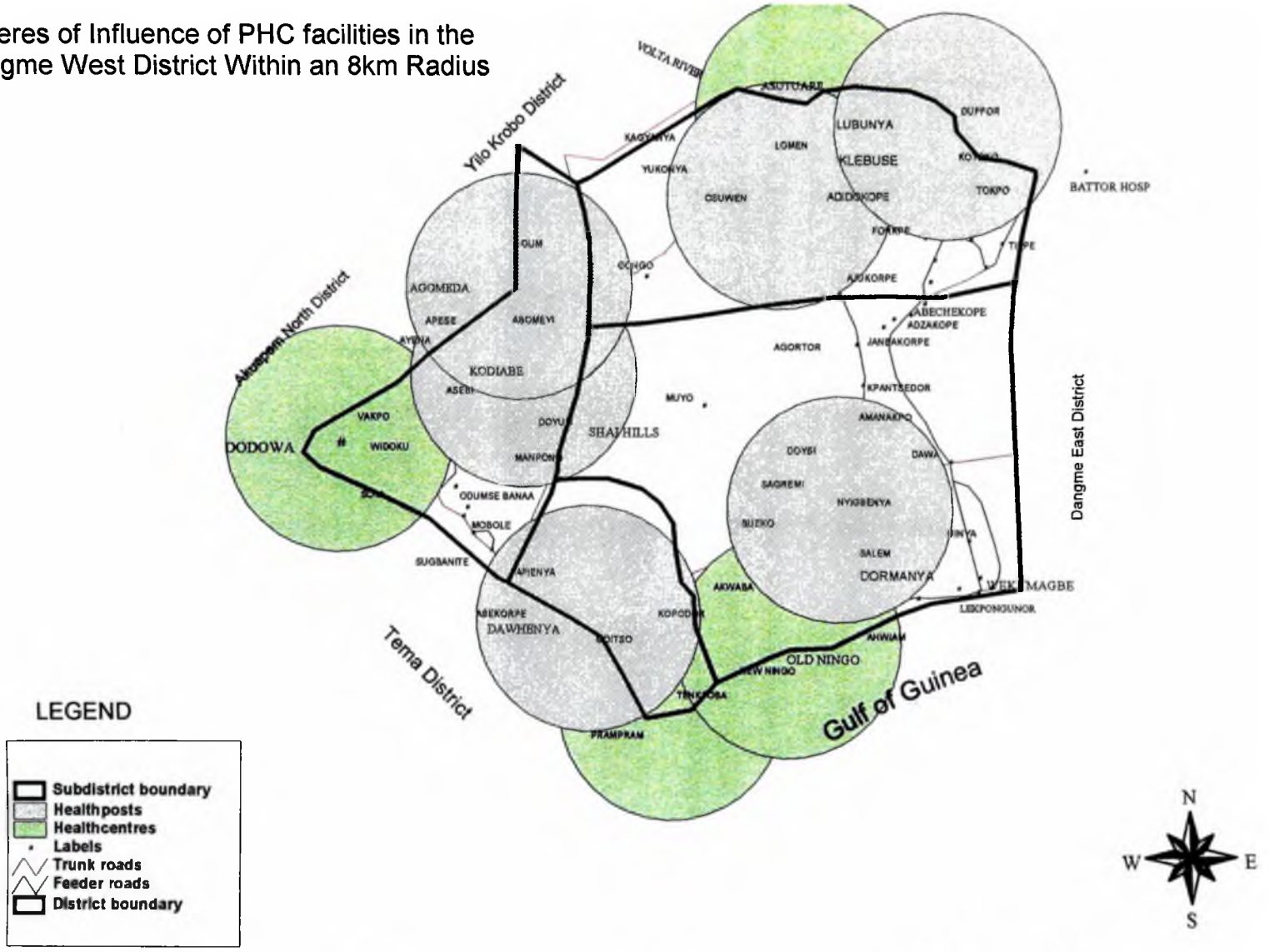
Figure 4.3 shows the distribution of PHC facilities in the district with their areas of coverage depicted by buffers. According to Adjei (1989), Level A PHC centres are supposed to cover an 8-km radius whilst the level B facilities, which supervise the Level A centres, are to cover an 8-km radius as well. These radii have been used to generate buffers demarcating the spheres of influence of the health facilities in the Dangme West District.

Health planners have long recognised the importance of the optimal placement and adequacy of health facilities. According to Meade *et al.* (1988), studies have shown that physical proximity is important in the accessibility and utilisation of health care resources. Closeness to a particular doctor or facility has been identified as one of the main reasons for using that resource. The other aspect of this problem of optimal siting of health facilities is to locate health facilities where most people live, since they are likely to use them most.

In studying the distribution of health centres, reference has been made to the settlement hierarchy developed for the communities by the Dangme West District assembly. The hierarchy of the communities has been developed from the following factors: population size, functional characteristics of settlements, the extent to which settlements serve populations living outside their boundaries, and determination of threshold values needed to support a service facility.

Based on these factors, a hierarchy was developed with Dodowa at the top or 1$^{st}$ Level (Table 2.3). Four levels were identified, with the 4$^{th}$ Level made up of minor settlements with populations less than 1000 persons. All the health facilities in the district are located within the first three levels of the hierarchy, made up of 7 of the 143 settlements in the district. From the buffers generated for the health centres and health posts in the district, it is apparent that physical coverage of health facilities in the district (Fig. 4.3) is adequate. This is because the spheres of influence of the various health centres and health posts overlap with each other in most cases, using a radii of 8 km recommended by the MOH for

Fig. 4.3 Spheres of Influence of PHC facilities in the Dangme West District Within an 8km Radius




Source : Compiled from DHMT & CERGIS

the delivery of PHC services.

**Table 4.10 GIS Coverage of PHC Services in the Dangme West District**

| Type of Health Facility | No of Health facilities | No. Of Settlements covered | Percentage Of Settlements in District | No. Of Persons Covered | % Of Population in sub-district | % Of Total Population In District |
|---|---|---|---|---|---|---|
| Health centres & Health posts in Dodowa sub-district | 3 | 28 | 28.57% | 26939 | 100% | 25.34% |
| Health centres & Health posts in Prampram sub-district | 2 | 9 | 9.18% | 25622 | 131% | 24.10% |
| Health centres & Health posts in Great Ningo sub-district | 2 | 19 | 19.39% | 12139 | 33% | 11.42% |
| Health centres & Health posts in Osudoku sub-district | 3 | 20 | 20.41% | 13478 | 50% | 12.68% |
| Health Centres in District | 4 | 29 | 27.9% | 56568 | | 53.2% |
| Health Posts in District | 6 | 58 | 55.8% | 34430 | | 32.4% |
| Health Centres & Health Posts in District | **10** | **87** | **83.7%** | **90998** | - | **85.28%** |

Source: Figure 4.3 and ARDWDA 1999

It is evident that, overall, coverage of PHC services in the district is adequate, 83.7% of settlements and 85.7% of the population are covered (Table 4.10). This is consistent with the MOH's aim of achieving at least 80% coverage of health services by the year 2000. From Table 4.10 and Figure 4.3, it can be concluded that though the overall level of coverage compares favourably with the MOH's standard of 80%, it would be necessary to find out means of increasing the level of physical coverage of PHC in the Osudoku and the Great Ningo sub-districts. The large extent of coverage for the Dodowa and Prampram Sub-districts is due to their areas of influence getting into the adjoining sub-districts, and thus taking up some of their populations (Fig. 4.3).

### 4.3 The Linkage Between PHC Facilities and the District and Regional Hospitals

The linkage between all PHC facilities anywhere is hierarchical. As stated earlier PHC is based on three levels. Level A is the lowest and Level C is the highest, which is a district hospital. Level C has not been completed in the district and so Level B health centres are the highest referral facilities in the district. A district health hospital is being constructed and it is about 40% complete, according to the DHMT. A clear line of linkage exists

between the PHC facilities and other district and regional hospitals. Cases are easily referred to health facilities in the adjoining districts such as the Akuse Government Hospital in the Yilo Krobo District, the Battor Catholic Hospital in the North Tongu District, and the Tema General Hospital in the Tema District. There is also a collaborative network, and the DHMT is able to collect routine health information from hospitals in the adjoining districts about patients from the Dangme West District seeking medical attention from them. This is very useful for health planning and evaluation. For example, the Battor, Akuse and Atua Hospitals give out data on the number of residents of the Dangme West District reporting to them with HIV/AIDS cases. The prevalence of HIV/AIDS disease in the country has gradually become a major health problem today.

### 4.4 Conclusion

As part of the priorities set by the DHMT for 1999, an effort has been made to strengthen the linkages with other sectors providing health care in the district like private clinics, NGOs, the District Assemblies, and decentralised departments.

The levels of health care discussed in this chapter are those recorded for 3 years (1997-1999), and are routine health management information collected from the PHC facilities in the Dangme West District. Data were not collected from any private health institution and traditional practitioners because they did not submit regular returns to the DHMT. Factors which account for the levels of use of the PHC services in the district are discussed in Chapter Five.

# CHAPTER FIVE

# FACTORS FOR ACCESSIBILITY AND UTILISATION OF PHC SERVICES IN THE DANGME WEST DISTRICT

## 5.1 Factors for Accessibility and Utilisation of PHC services

As has been noted in the previous chapters, utilization of health services is the result of a complex interaction between different explanatory variables and the health status of the population. Kroeger (1983) notes that the interaction is even more complex in developing countries because of the change in the concept of illness and health behaviour amongst people. Quite a number of issues are related to accessibility to health services, and to Phillips (1990), a discussion of accessibility to health services should begin with several distinctions, one of them being between physical (potential) accessibility and (revealed accessibility) utilization.

The provision of a facility of a given type within a specified distance is frequently considered to give more or less equal access to all potential users. However, researches over the years have shown that many variables other than physical availability may intervene to distort or prevent utilization (Moseley, 1979). Prominent among these is the existence of a recognized need to use a facility followed by the financial ability to use it, the physical ability to attend, and the socio-psychological readiness to use it. Other factors that influence utilization include time-space variables; facility opening hours or days of provision have to coincide with the times when individuals can reach a service point and must, therefore, consider other commitments and availability of transport. These constraints may be particularly crucial in influencing utilization of health care services, especially those of a more voluntary or elective nature such as preventive and promotive services like immunization and family planning (FP). In many rural Third World countries, one of the greatest challenges to health care planning is the extension of utilization (effective accessibility).

In this chapter, the factors influencing accessibility and utilization have been analysed under three broad themes namely:

a) Socio-demographic and economic characteristics:
b) Characteristics of the health delivery system.
c) Community-wide factors.

## 5.2 Socio-demographic Characteristics of Patients

Socio-demographic characteristics examined here are occupation, gender, education, and age.

### 5.2.1 Occupation

Occupation is a variable which has been identified as influencing utilization of health facilities. This is due to its relationship with income and educational level of patients, which influence levels of utilization of health facilities. Therefore, occupation and income levels would be linked in this review. Berman *et al.* (1987) showed that the utilization of all types of care except traditional care increased with income level. However Gosh & Mukhejee (1989), after investigating health service coverage of a PHC facility in West Bengal, India, found that the higher income group used the services less than the lower income group. It, therefore, appears that occupation and income *per se* do not have a uniform effect on utilization of health facilities, but depending on the country involved, other factors seem to have an influence.

In the Dangme West District, trading and farming were the two most dominant professions. Thirty-two and 34 percent of those engaged in farming and trading respectively, were among the respondents. Since farming and trading also constituted the main occupations in the district, due to its rural nature, those engaged in the two professions were likely to have the resources to use on health care. The next occupation was service providers who included dressmakers, hairdressers, and chop bar operators. In the next significant category were housewives who depended on the incomes of their husbands, and therefore benefited directly from the profits their husbands made in their ventures. They constituted 9.4% of the sample (Table 5.1).

**Table 5.1 Occupations of Patients Utilising PHC Facilities in the District**

| Occupation | Frequency | Percent |
|---|---|---|
| Farming | 55 | 32.4 |
| Cattle Ranching | 2 | 1.2 |
| Driver | 2 | 1.2 |
| Service Provider | 17 | 10.0 |
| Pastor | 1 | .6 |
| Teacher | 4 | 2.4 |
| Trader | 58 | 34.1 |
| Housewife | 16 | 9.4 |
| Unemployed | 1 | .6 |
| Manual | 4 | 2.4 |
| Artisan | 4 | 2.4 |
| Student | 2 | 1.2 |
| Fishing | 4 | 2.4 |
| Total | 170 | 100.0 |

Source: Field Data

**Table 5.2 Occupation and Regularity of Attendance**

| Occupation | Not Regular | Fist Time | Regular | Total |
|---|---|---|---|---|
| Farming | 6 | 11 | 38 | 55 |
| Cattle Ranching | | | 2 | 2 |
| Driver | | 1 | 1 | 2 |
| Service Provider | 5 | 2 | 10 | 17 |
| Pastor | | | 1 | 1 |
| Teacher | | | 4 | 4 |
| Trader | 7 | 13 | 38 | 58 |
| Housewife | 2 | 4 | 10 | 16 |
| Unemployed | | | 1 | 1 |
| Manual | | | 4 | 4 |
| Artisan | | | 4 | 4 |
| Student | | 1 | 1 | 2 |
| Fishing | | | 4 | 4 |
| Total | 20 | 32 | 118 | 170 |

Source: Field Data

**Table 5.3 Symmetric Measures of Occupation and Regularity of Attendance**

| Nominal by Nominal | Value | Approx. Sig. |
|---|---|---|
| Cramer's V | .229 | .811 |
| Contingency Coefficient | .308 | .811 |
| N of Valid Cases | 170 | |
| a Not assuming the null hypothesis. | | |
| b Using the asymptotic standard error assuming the null hypothesis. | | |

Derived from SPSS software based on field data.

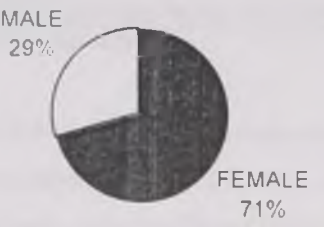
Examining Table 5.2, it appears the pattern between occupation and levels of utilization in the district is not clear. As depicted in Table 5.3, the high significance of 0.81 and the low contingency coefficient of 0.31 clearly shows lack of any meaningful association between the test statistics (occupation and regularity of utilization). One reason for this could be because the relatively lowly educated class mostly practices the occupations listed above.

Phillips (1990) argues that education as a variable has strong links with income and socio-economic status. Since there is an inverse relationship between education and utilization of health facilities in the district, Ghosh & Mukajee (1989) observation that the higher income group utilizes the PHC facilities least appears to hold in the district.

### 5.2.2 Sex

Studies have shown that the influence of sex on utilization facilities differs from place to place. Akin *et al.*(1985) state that many cultures practise sexual discrimination against women. Gilson (1988), however, indicates that the utilisation of health services by women is influenced by low allocation of household resources to them, so that the impact of hospital fees on utilisation may lead to a higher decline in utilisation amongst women than men. The findings of Koutis *et al.* (1991) indicate that PHC was used more by females than males. This, according to Fosu (1981), might be because women deal with the diseases in the households more than men, resulting in closer contact with the health facilities and better knowledge about them. This observation holds true in the utilisation of PHC facilities in the Dangme West District (Fig. 5.1, Tables 4.1 to 4.4).

Figure 5.1 Pie Graph of Sex Composition of the Respondents




Source: Field Data

The reason for the high proportion of women could be due partly to women's sensitivity to health, and also to the fact that most of the programmes organized at the PHC units are geared largely towards women and children, for example, child welfare clinics, antenatal, FP, food and nutrition, and immunization programmes. The guidelines for implementing the Bamako Initiative, compiled for the MOH by Sam Adjei *et al.* (undated), state that the Bamako Initiative is designed to encourage maximum community involvement in PHC for improving quality of life for women and children. There is also an association between distance and sex. Though the largest number of both sexes travel within the threshold of

4 km, women tend to travel beyond this up to a distance of 20 km, as compared to 12 km being the furthest traveled by the male respondents in the sample (Table 5.4) This depicts how far women would want to travel to seek health care as compared to the men. The cross-tabulation of sex with distance results in a contingency coefficient of 0.4, with a significance level of zero (Table 5.5). The degree of association between sex and distance in influencing the level of utilization of PHC facilities is, therefore, strong in the district. The null hypothesis that men travel longer distances than women to the PHC centres is, therefore, rejected.

**Table 5.4 Sex and Distance of Home from Health Institution in KM**

| Sex/Distance | 1 | 2 | 3 | 4 | 5 | 10 | 12 | 14 | 15 | 20 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Female | 77 | 18 | 4 | 11 | 1 | 1 | | 2 | 1 | 4 | 119 |
| Male | 12 | 13 | 3 | 18 | 1 | 1 | 2 | | | | 50 |
| Total | 89 | 31 | 7 | 29 | 2 | 2 | 2 | 2 | 1 | 4 | 169 |

Source: Field Data

**Table 5.5 Symmetric Measures of Sex and Distance**

| Nominal by Nominal | Value | Approx. Sig. |
|---|---|---|
| Cramer's V | .469 | .000 |
| Contingency Coefficient | .424 | .000 |
| N of Valid Cases | 169 | |
| a Not assuming the null hypothesis. | | |
| b Using the asymptotic standard error assuming the null hypothesis. | | |

Derived from SPSS software based on field data.

An association was also recorded between sex and regularity of use of PHC facilities in the district. Out of 120 female respondents, 20 (16.7%) were not regular whilst all of the 41 male respondents were regular users of the facilities (Table 5.6). This pattern of utilization could be due to several factors. Firstly, women have to visit the health centres more routinely than the men because of the programmes and services offered by the PHC centres.

**Table 5.6 Sex and Regularity of Attendance**

| | Regularity of Attendance | | | |
|---|---|---|---|---|
| Sex | Not Regular | Fist Time | Regular | Total |
| Female | 20 | 23 | 77 | 120 |
| Male | | 9 | 41 | 50 |
| Total | 20 | 32 | 118 | 170 |

Source: Field Data

Table 5.7 Symmetric Measures of Sex & Regularity of Attendance

| Nominal by Nominal | Value | Approx. Sig. |
|---|---|---|
| Cramer's V | .242 | .007 |
| Contingency Coefficient | .235 | .007 |
| N of Valid Cases | 170 | |
| a Not assuming the null hypothesis. | | |
| b Using the asymptotic standard error assuming the null hypothesis. | | |

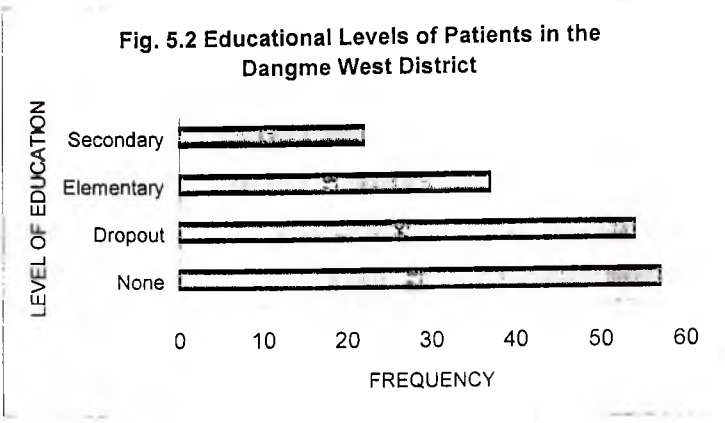
Derived from SPSS software based on field data.

For example, women have to attend antenatal clinic as a matter of course when they are pregnant, whether they are ill or not, until they give birth. Thereafter, they are supposed to attend postnatal clinic sessions with their children for weighing, among others. They also have their children immunized as well as get involved in FP and outreach programmes of the PHC centres. These are some of the commitments they have to meet, alongside their household chores and vocations. This is likely to impose a great burden on them and, therefore, most likely to result in attendance fatigue. The men scarcely participate in any of the above programmes. They only visit the health centres as and when they are ill, and so are unlikely to get attendance fatigue. Table 5.7 shows a low level of significance and contingency coefficient of 0.24. This does not show a strong relationship between the test variables in regularity of utilisation of PHC facilities. This is likely to be due to the few males involved.

### 5.2.3 Education

Several studies have shown that a relationship exists between the level of education and the use of health services. Ghosh & Mukherjee (1989) reported in one of the states of India that the utilization of health services was lower among people with low educational level. Osei (1990) and Bhattacharya & Tando (1991) also made similar findings in their works in Ghana and India, respectively, that the degree of utilization of maternal care services was higher among women with formal education than those who had never been to school. However, Ellencweig *et al.* (1990) realized, in contrast, that under-utilization of antenatal care was frequent among women with higher education in Jerusalem, Israel. She concluded, therefore, that other factors combine with education to affect utilization. For OPD utilization levels in the Dangme West District, there was an inverse relationship between the level of education and levels of utilization of health facilities in the district. It is noteworthy that patients with no formal education top the list of clients, followed closely by dropouts and elementary school graduates. It is significant to note that those who had never had any formal education outnumbered the dropouts, thus suggesting that the level of

education of clients does not have a significant impact on the levels of utilization of health facilities in this district (Fig. 5.2).




Source: Field Data

**Table 5.8 Level of Education and Regularity of Attendance**

| Level of Education | Not Regular | Fist Time | Regular | Total |
|---|---|---|---|---|
| None | 6 | 13 | 38 | 57 |
| Dropout | 7 | 10 | 37 | 54 |
| Elementary | 4 | 8 | 25 | 37 |
| Secondary | 3 | 1 | 18 | 22 |
| Total | 20 | 32 | 118 | 170 |

Source: Field Data

**Table 5.9 Symmetric Measures Of Level Of Education and Regularity of Attendance**

| Nominal by Nominal | Value | Approx. Sig. |
|---|---|---|
| Cramer's V | .106 | .700 |
| Contingency Coefficient | .148 | .700 |
| N of Valid Cases | 170 | |
| a Not assuming the null hypothesis. | | |
| b Using the asymptotic standard error assuming the null hypothesis. | | |

Derived from SPSS software based on field data.

There is an almost uniform distribution in terms of regularity of attendance by level of formal education (Table 5.8). The contingency coefficient of 0.15 and very high level of significance of 0.70 portray a lack of association between the test statistics (Table 5.9). The hypothesis that the regularity of use of PHC facilities is directly related to the level of education of the patients is therefore rejected. On the other hand, for utilisation levels of antenatal facilities, no clear relationship exists between the level of education of the respondents and the frequency of use of the antenatal facilities (Table 5.10).

**Table 5.10 Level of Education and Frequency of Visit to Antenatal Clinic**

| Level Of Education | Frequency of Visit To Antenatal Clinic | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| None | 2 | | 8 | 6 | 6 | 2 | | 1 | 2 | 27 |
| Dropout | 2 | 3 | 5 | 5 | 4 | 1 | | | 1 | 21 |
| Elementary | 1 | 4 | 13 | 5 | 2 | 2 | | | | 27 |
| Secondary | 2 | | 2 | 3 | 2 | 1 | 1 | | 1 | 12 |
| **Total** | **7** | **7** | **28** | **19** | **14** | **6** | **1** | **1** | **4** | **87** |

Derived from SPSS software based on field data.

This is depicted by the chi square test which has a high level of significance of 0.460, which indicates that there is no relationship between one's level of education and the frequency of use of the antenatal facilities (Table 5.11). This pattern of utilisation of antenatal facilities appears to support Ellencweig's (1990) findings in Jerusalem that there may be factors other than education which influence the level of utilisation of antenatal services.

**Table 5.11 Chi-Square Tests of Level of Education and Frequency of Visit to Antenatal Clinic**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 24.032(a) | 24 | .460 |
| Likelihood Ratio | 25.710 | 24 | .368 |
| Linear-by-Linear Association | .954 | 1 | .329 |
| N of Valid Cases | 87 | | |
| A 31 cells (84.2%) have expected count less than 5. The minimum expected count is .14. | | | |

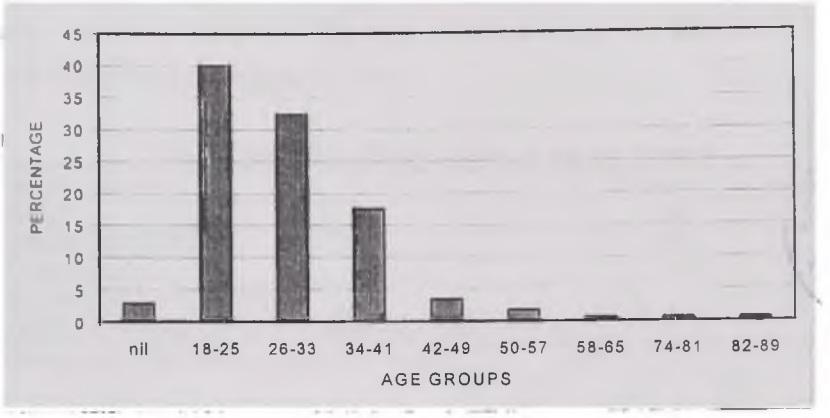
Derived from SPSS software based on field data.

### 5.2.4 Age

Age is an important variable that has been identified as influencing rates of utilization and types of health services used. However, it appears that the effect of this variable is usually not as expected. For example, it might be reasonably expected that elderly people would be high users of medical services, but research has often suggested that the elderly population contains high proportions of non-attenders and infrequent attenders. This could be because they are in a state of health which does not demand health care related to occupation, family planning, or childbirth. By a household survey in rural Ghana Belcher (1976), showed that health care declined with age. He also found that the parents had the feeling that their children would be most effectively treated with modern methods. Fosu (1981), in a household survey in Ghana, found that the younger age groups used the health facilities more than older age groups (30 years or more). He argued that the younger age groups perceived the cause of disease more as natural. The pattern is not too different in the

Dangme West District where the utilisation of health facilities shows a sharp fall with increase in age (Fig. 5.3). Tables 4.1 to 4.4, which represent OPD utilisation levels over the period 1997-1999, depict this pattern. A possible explanation could be that since most of the users of PHC facilities in the district have to walk to the health posts, this would discourage the elderly who may be unable to make the journey on foot.

**Figure 5.3 Graph of Age Groups and Frequency of Utilisation of PHC Facilities.**




Source: Field data

There is very little relationship between distance from the health centre and the age of the users (Table 5.12). Generally, it can be seen that whilst those under 50 years are willing to travel up to 10 km, those above 50 years are not too keen to travel beyond that distance. The implication is that the elderly may be at a disadvantage when it comes to the utilisation of health facilities sited over 10 km away from them.

**Table 5.12 Age Groups and Distance of Home from Health Institution in Km**

| | Distance Of Home From Health Institution In Km | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Age Groups | 1 | 2 | 3 | 4 | 5 | 10 | 12 | 14 | 15 | 20 | Total |
| NIL | 3 | | | 1 | | | | | 1 | | 5 |
| 18-25 | 36 | 15 | 2 | 10 | | | 2 | | | 2 | 67 |
| 26-33 | 25 | 10 | 3 | 12 | 2 | 1 | | 1 | | 1 | 55 |
| 34-41 | 17 | 5 | 2 | 4 | | | | 1 | | 1 | 30 |
| 42-49 | 2 | 1 | | 2 | | 1 | | | | | 6 |
| 50-57 | 3 | | | | | | | | | | 3 |
| 58-65 | 1 | | | | | | | | | | 1 |
| 74-81 | 1 | | | | | | | | | | 1 |
| 82-89 | 1 | | | | | | | | | | 1 |
| Total | 89 | 31 | 7 | 29 | 2 | 2 | 2 | 2 | 1 | 4 | 169 |

Source: Field Data

As the contingency coefficient shows in Table 5.13, there is not much level of association between the two variables, age and distance. The rather high level of significance (0.62) indicates that the predictive power of the effect of age on distance travelled to the health centres might be insignificant. This is because about 50% of respondents aged less than 50 years travel within a kilometre and most of the rest travel less than 5 km. This does not establish a strong pattern between age and utilisation of the PHC facilities, because the elderly and the youth travel short distances. The only difference being that the elderly do not usually travel beyond a kilometre often.

**Table 5.13 Symmetric Measures Between Age and Distance**

| Nominal by Nominal | Value | Approx. Sig. |
|---|---|---|
| Cramer's V | .224 | .620 |
| Contingency Coefficient | .535 | .620 |
| N of Valid Cases | 169 | |
| a Not assuming the null hypothesis. | | |
| b Using the asymptotic standard error assuming the null hypothesis. | | |

Derived from SPSS software based on field data.

No clear pattern was established between the age of respondents and regularity of utilisation of PHC facilities in the district. The age group of respondents who were the regular users of the PHC facilities in the district also had the largest frequency of non-regular users as compared to the age group above 42 years (Table 5.14). As Table 5.15 depicts, the contingency coefficient of 0.302, with a high level of significance of 0.381, does not establish any meaningful pattern.

**5.14 Age Groups and Regularity of Attendance**

| Age Groups | Not Regular | Fist Time | Regular | Total |
|---|---|---|---|---|
| Nil | | | 5 | 5 |
| 18-25 | 7 | 14 | 47 | 68 |
| 26-33 | 4 | 10 | 41 | 55 |
| 34-41 | 8 | 6 | 16 | 30 |
| 42-49 | 1 | 1 | 4 | 6 |
| 50-57 | | | 3 | 3 |
| 58-65 | | | 1 | 1 |
| 74-81 | | 1 | | 1 |
| 82-89 | | | 1 | 1 |
| Total | 20 | 32 | 118 | 170 |

Source: Field Data

**Table 5.15 Symmetric Measures of Age Groups and Regularity Of Attendance**

| Nominal by Nominal | Value | Approx. Sig. |
|---|---|---|
| Cramer's V | .224 | .381 |
| Contingency Coefficient | .302 | .381 |
| N of Valid Cases | 170 | |
| a Not assuming the null hypothesis. | | |
| b Using the asymptotic standard error assuming the null hypothesis. | | |

Derived from SPSS software based on field data.

## 5.3 Economic Factors

### 5.3.1 User Fees

According to Phillips (1990), the cost of any treatment prescribed may also be important in deciding to use a service and which facility to attend. Dutton (1986) showed that the poor responded to higher medical costs by cutting back on preventive care and postponing visits. Biritwum (1994) also established, after investigating rural health care in Ghana, that people respond to the rise of cost of medical care by reducing their visits to the health facilities. Perhaps they select traditional medicine, chemical sellers, or itinerant drug vendors as an alternative. In the Dangme West District, 95% of the respondents did not see user charges as a deterrent.

Though this is the global picture, it was still worthwhile investigating how user fees impact on the various segments of the user population of the PHC facilities in the district. User fees may affect utilisation of health facilities, depending on the profession of the patient. This is so when profession is taken as a surrogate for level of income.

**Table 5.16 Occupation and User Fees as a Deterrent to Use of PHC Services**

| PROFESSION | NO | YES | Total |
|---|---|---|---|
| Farming | 54 | 1 | 55 |
| Cattle Ranching | 1 | 1 | 2 |
| Driver | 2 | | 2 |
| Service Provider | 16 | 1 | 17 |
| Pastor | 1 | | 1 |
| Teacher | 4 | | 4 |
| Trader | 56 | 2 | 58 |
| Housewife | 16 | | 16 |
| Unemployed | 1 | | 1 |
| Manual | 2 | 2 | 4 |
| Artisan | 4 | | 4 |
| Student | 2 | | 2 |
| Fishing | 3 | 1 | 4 |
| Total | 162 | 8 | 170 |

Source: Field Data

**Table 5.17 Symmetric Measures of Occupation and User Fees**

| Nominal by Nominal | Value | Approx. Sig. |
|---|---|---|
| Cramer's V | .446 | .001 |
| Contingency Coefficient | .408 | .001 |
| N of Valid Cases | 170 | |
| a Not assuming the null hypothesis. | | |
| b Using the asymptotic standard error assuming the null hypothesis. | | |

Derived from SPSS software based on field data.

An examination of this factor indicates that there is no significant difference between the various professions in friction of payment of user fees at the PHC centres (Table 5.16). A cross-tabulation between user fees and occupation (Table 5.17) shows that user fees do not serve as a deterrent to utilisation to any category of the professions. However, the high contingency coefficient and the low level of significance show a strong association between the two sets of variables. This high level of association, however, can be attributed to the predominance of a few professions like farming, trading, service providers, and housewives who, together, constitute 83.5% of the sample.

The difference between the level of education and the degree of affordability of PHC services in the district (Table 5.18) is also not significant. The contingency coefficient is very low (at 0.052), with a high level of significance at 0.93 (Table 5.19). This pattern shows no association between the variables.

**Table 5.18 Level of Education and User Charges as a Deterrent to Use of PHC Services**

| Level of Education | No | Yes | Total |
|---|---|---|---|
| None | 54 | 3 | 57 |
| Dropout | 51 | 3 | 54 |
| Elementary | 36 | 1 | 37 |
| Secondary | 21 | 1 | 22 |
| Total | 162 | 8 | 170 |

Source: Field Data

**Table 5.19 Symmetric Measures of Level of Education and User Charges**

| Nominal by Nominal | Value | Approx. Sig. |
|---|---|---|
| Cramer's V | .052 | .928 |
| Contingency Coefficient | .052 | .928 |
| N of Valid Cases | 170 | |
| A Not assuming the null hypothesis. | | |
| B Using the asymptotic standard error assuming the null hypothesis. | | |

Derived from SPSS software based on field data.

This pattern of association could be attributed to the rural nature of the district economy. The rural nature of the district makes it enabling for the formally and informally educated to engage in income-earning activities like trading, farming, and fishing, with those

educated only having a slight advantage.

Furthermore, there is little relationship between user fees and regularity of attendance of the PHC facilities. As Table 5.20 depicts, none of the eight respondents who indicated that user fees were a barrier to their use of the PHC facilities were irregular users whilst 20 (12.3%) of those who found user fees to be reasonable were not regular users. This, therefore, does not show any clear pattern between user fees and regularity of use of PHC facilities in the district. The contingency coefficient is therefore very low with a high level of significance (Table 5.21).

**Table 5.20 User Charges As A Deterrent to Use of PHC Services and Regularity of Attendance**

| User Charges as a Deterrent To Use Of PHC Services | Not Regular | Fist Time | Regular | Total |
|---|---|---|---|---|
| No | 20 | 31 | 111 | 162 |
| Yes | | 1 | 7 | 8 |
| Total | 20 | 32 | 118 | 170 |

Source: Field Data

**Table 5.21 Symmetric Measures of User Charges and Regularity of Attendance**

| Nominal by Nominal | Value | Approx. Sig. |
|---|---|---|
| Cramer's V | .096 | .458 |
| Contingency Coefficient | .095 | .458 |
| N of Valid Cases | 170 | |
| a Not assuming the null hypothesis. | | |
| b Using the asymptotic standard error assuming the null hypothesis. | | |

Derived from SPSS software based on field data.

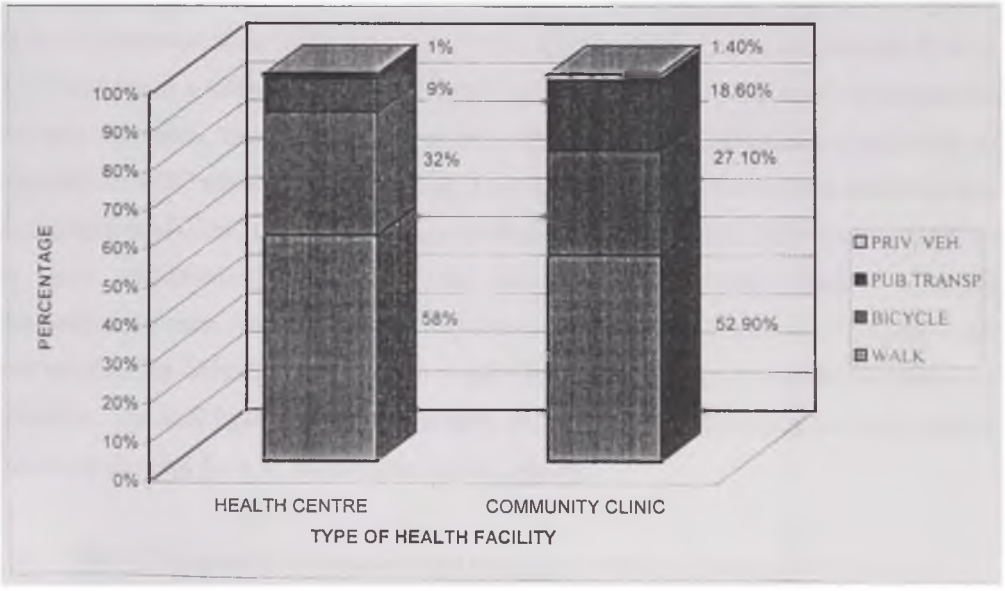
### 5.3.2 Transport Costs

Direct medical charges in many Third World countries are, as a rule, cheap relative to costs in the developed countries. However, for residents of most developing countries, direct health care costs are regarded as expensive. In addition, transport costs are regarded as a major cost component. In a Ugandan district hospital use study, 75% of total outpatient cash outlays were for transport. Although walking is the most frequently cited mode, this involves a loss of time, and therefore earnings. In the Dangme West District, this situation holds true, as the user fees have been accepted by the patients as reasonable whilst their mode of transport is walking. This mode of transport involves both a loss of time and a disincentive to expectant mothers to attend antenatal sessions. More than 56% of the respondents walk to the health centres and only 30% go by public transport.

Furthermore, an examination of the categories of transport used to the Levels A and B facilities also reveals a pattern. As the cumulative frequency bar graph shows (Fig. 5.4), a greater percentage of respondents walk to the health centres as compared to the health posts, whilst a slightly higher percentage use bicycles to the health posts in comparison to the health centres.

The impact of transport on attendance at ANC sessions is more pronounced in the Osudoku Sub-district where attendance of the ANC sessions is less than 50% of registrants (Table 4.8). This sub-district happens to be the most remote in the district and has more transport problems than the others. Attendance at PNC sessions also declines to less than 50% in three of the four sub-districts, except Prampram. This reason could largely be attributed to scarcity and relatively high cost of public transport which might deter nursing mothers. The only exception is the Prampram health centre which offers free meals to children patronising its PNC services, and thereby attracts nursing mothers.

**Figure 5.4 Stacked Bar Graphs Showing Percentages of Patients Using Various Means of Transport to the PHC Facilities.**




5.3.3 Distance

Habib & Vaughan (1986), after a household survey in southern Iraq, showed that consultation rates declined sharply with increasing distance travelled. The decline was sharper for utilisation of local health centres than for all sources. Many authors have

reported the decrease in the level of health care utilisation with the increase in distance. (Belcher *et al.*, 1976; Gupta & Walia, 1981; & Attah, 1986).

Agyepong (1990), in a study in Adenta near Accra, showed that the location of a health facility was the main factor considered when a decision was taken whether to use or not to use a health facility. Twene (1990), also reported that the most cited reason for using medical treatment was the proximity of the hospital or clinic, followed by fees charged and quality of services. It appears, therefore, that distance plays a central role in accessibility and utilisation of health facilities. It can be surmised, therefore, that the further away people live from a health facility, the less they utilise it. This impact of distance on age and levels of utilisation was discussed earlier (Table 5.12).

It is expected that the regularity of use of the PHC facilities in the district would decline with distance. However, as Table 5.22 shows, 17 of the 20 respondents (85%) who indicated that they were not regular users of the health facilities were less than a kilometre away from the health facilities. Even though most respondents who were regular users (51%) were also a kilometre from the nearest health centre, other regular users were spread out over a distance of up to 20 km. First time users were also spread out, though 37% of them lived about a kilometre from the nearest health centre. A strong level of association does not, therefore, emerge from this pattern of the impact of distance on regularity of utilisation of PHC services in the district. This could be gathered from the relatively low contingency coefficient 0.31 and the high level of significance 0.45, which is too high for any good predictions (Table 5.23). This also shows that though there is a strong relationship between distance and general levels of utilization (Table 5.14), there is no such relationship between distance and regularity of use, which is another dimension of utilization. The null hypothesis that regularity of use of PHC facilities is inversely related to distance patients have to travel is, therefore, rejected.

**Table 5.22 Regularity of Attendance and Distance of Home from Health Institution in km**

| Regularity Of Attendance | Distance of home from health institution in Km | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 10 | 12 | 14 | 15 | 20 | Total |
| Not Regular | 17 | 2 | | 1 | | | | | | | 20 |
| Fist Time | 12 | 7 | 1 | 8 | 1 | 1 | 1 | 1 | | | 32 |
| Regular | 60 | 22 | 6 | 20 | 1 | 1 | 1 | 1 | 1 | 4 | 117 |
| Total | 89 | 31 | 7 | 29 | 2 | 2 | 2 | 2 | 1 | 4 | 169 |

Source: Field data

**Table 5.23 Symmetric Measures of Regularity of Attendance and Distance of Home from Health Institution**

| Nominal by Nominal | Value | Approx. Sig. |
|---|---|---|
| Cramer's V | .232 | .447 |
| Contingency Coefficient | .311 | .447 |
| N of Valid Cases | 169 | |

Derived from SPSS software based on field data.

## 5.4 Community-wide Factors

The factors examined here which do not fall within the control of the provider of the health service or the user include the road network, the transport system, and the general state of the country's economy. The road network in the Dangme West District is generally not dense (Fig. 2.1). The result is that quite a significant number of the communities are distant from the few roads whilst others are reachable only by motorbikes. A few are not reachable at all by any form of motorized transport. Of the few tarred roads traversing the district, only one, the Accra-Dodowa-Somanya road, can be classified as first class and motorable all year round. The feeder roads are in various states of deterioration, except the Prampram feeder road which has been recently reconstructed. Other roads are untarred, muddy, and slippery during the rainy season and could only be used during this period, to some extent, by vehicles specially fitted with reinforced suspensions and traction systems like the four wheel drive cross country vehicles. The deplorable condition of some of the roads deters most transport owners from plying their vehicles on them. The few, who take the risk, capitalize on the situation to charge high fares. This is particularly so in the Osudoku Sub-district where passengers travelling from Asutuare to Duffor and surrounding communities like Volivo and Kotoko have to pay fares for Battor, a more distant town, where the vehicles ply. This problem makes the use of public transport a last resort to users of the health post at Duffor.

## 5.5 Characteristics of the PHC System

The factors to be considered are availability of drugs, distribution of health centres, quality of services, outcome of care, personal characteristics of the provider, efficiency of personnel, provision of information to clients, costs, opening hours and waiting time.

### 5.5.1 Availability of Drugs

Availability of drugs at health centres is a factor which has been identified by researchers as influencing levels of utilization of health services. Agyepong (1999) noted that the ready availability of drugs at health centres was a factor which impacted on the patterns of

utilisation of health facilities in the district. She noted the continued problem of patients being asked to buy some of their drugs outside the health institutions. This causes inconvenience and a financial strain on the people, since it may entail travel outside the community. She noted that some patients even suspected collusion between health workers and private chemical sellers to exploit them. It was realized during the study that this problem did exist in the district and it affected the Level A centres most. Some assemblymen who expressed their opinions about the health problems in their electoral areas raised the issue of non-availability of some drugs at the health posts which compelled patients to travel long distances to the larger communities to buy their prescriptions. This could be tiring, especially in areas were public transport is not readily available like Duffor, Agbekotsekpo and surrounding communities. This problem has obliged some of the patients to ignore these health posts and go to hospitals and health centres where they feel they could get complete treatment, even if that is more expensive. Two of the health posts that were affected, as gathered from some of the respondents and the assemblymen, were Duffor which lost some of its clients to the Battor Mission and the Akuse Government Hospitals, and Nyigbenya which lost some of its clients to the Battor Mission and the Tema General Hospitals.

### 5.5.2 Distribution of Health Centres

The distribution of health centres has been established to have a significant impact on the accessibility and utilization of health facilities. Studies have often determined that physical proximity is an important factor in accessibility and utilization of health facilities though that does not necessarily guarantee use (Meade *et al.*,1988; Malison *et al.*, 1987). Closeness to a particular doctor or facility may be one of the main reasons for using that facility. The provider-consumer link, however, weakens as distance increases, following a distance decay curve (Phillips, 1990). Distance decay or friction of distance is useful in determining central place hierarchies and functional regionalisation. If the friction of distance is high for certain level of health care services, then this service should be decentralized and made locally accessible. This usually applies to low order services such as first aid. High order services like heart transplants are not so sensitive to distance. Meade *et al.*,(1988) note that a distance decay curve shows that people in low-income countries will normally walk up to 3 km to a PHC facility. Level A centres beyond this point have limited usefulness. Fosu (1986) also points to surveys of health centre utilization in Ghana, for example, in which 70% of attenders came from within a 3-mile radius, although the residents of this area comprised only 23% of the health centre's

catchment population. Only 27% of attenders came from beyond 4 miles, but 73% of the health centre's catchment population lived at that distance. This implies that, to be used, a facility must be accessible. For the rural dweller, this would usually mean a maximum travel threshold and, once this is exceeded, utilization may tail off considerably. In the Dangme West District, this threshold appears to be about 4 km (Table 5.24), which is half the recommended threshold of 8 km.

**Table 5.24 Distances Patients Travel to get to the Health Posts and Health Centres**

| Distances in Km | Frequency | Percent | Valid Percent |
|---|---|---|---|
| 1 | 89 | 52.4 | 52.7 |
| 2 | 31 | 18.2 | 18.3 |
| 3 | 7 | 4.1 | 4.1 |
| 4 | 29 | 17.1 | 17.2 |
| 5 | 2 | 1.2 | 1.2 |
| 10 | 2 | 1.2 | 1.2 |
| 12 | 2 | 1.2 | 1.2 |
| 14 | 2 | 1.2 | 1.2 |
| 15 | 1 | .6 | .6 |
| 20 | 4 | 2.4 | 2.4 |
| Total | 169 | 99.4 | 100.0 |

Source: Field Data

The findings of the researchers above hold true in the Dangme West District. It was observed during the survey that 80% of the respondents indicated that the major reason for using health posts was their proximity to their homes (Table 5.25). This could be because 56% of the respondents indicated that they walked to the health centres.

**Table 5.25 Various Reasons for the Utilisation of the Health Posts and Health Centres**

| Reasons | Frequency | Percent |
|---|---|---|
| Near to House | 135 | 79.4 |
| Satisfaction with Service | 25 | 14.7 |
| All the above | 9 | 5.3 |
| Referred | 1 | .6 |
| Total | 170 | 100.0 |

Source: Field Data

### 5.5.3 Quality of Services and Outcome of Care

Another factor identified as influencing utilization of health services is the perceived competence of the health workers. Agyepong (1999) observes that clients want to see health workers who are able to diagnose and give the appropriate therapy that achieves prompt recovery without complications. This, to the clients, can be achieved with some diagnostic equipment like X-ray machines. An example of client perceptions of quality and how it affected utilization levels of health facilities in the Dangme West District was the

Village Health Worker programme (VHW). Under this project, volunteers were trained by the DHMT and were allowed to provide basic curative care with a restricted number of drugs, but were not allowed to administer injections. An internal evaluation carried out by Agyepong & Marfo (1992) showed that some of the clinics managed by the VHWs were collapsing due to the extremely low levels of utilization. Clinics which were doing well were those where the VHWs were undertaking additional curative care activities for which they had not been trained. This desire on the part of patients to see some sophistication may partly account for the by-passing of the Level A centres by patients who could afford to travel to the more distant hospitals like Battor and Tema for what they consider to be proper treatment.

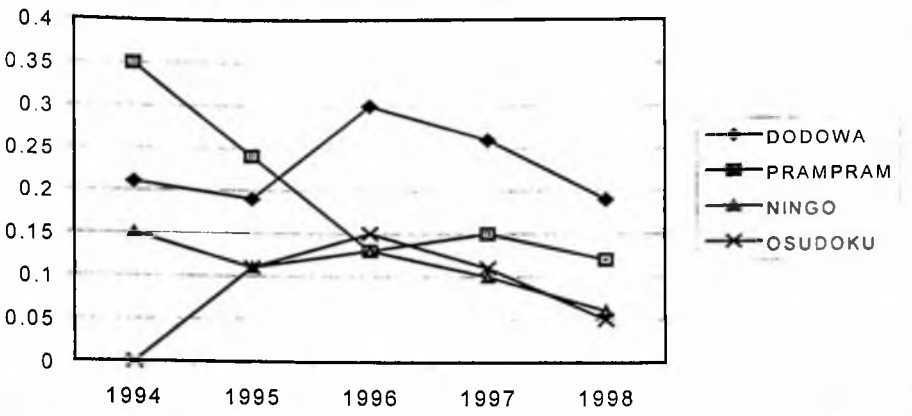
Closely related to efficiency of personnel is the level of priority accorded a particular programme. Agyepong (1999) observed that antenatal and supervised delivery coverage remained largely static. This, she noted, was partly because these areas had not received the same concentrated attention from the DHMT and the sub-district health management teams as immunization campaigns. Whilst EPI received a lot of attention from the central MOH and external donors in the 1990s to achieve 80% coverage, antenatal and delivery services were not given the same level of attention.

### 5.5.4 Personal Characteristics of the Provider

The personal characteristics of the health care worker play an important part in the utilization of health services. In a study conducted in Zaire, it was observed that 'a drop in utilization follows the appointment of a nurse who is competent but whose conduct is highly offensive', and 'the appointment of a relatively competent nurse whose strength lies in interpersonal relationships has a positive influence on the activity of a centre'. A few examples of this phenomenon can be cited in the district to support the aforementioned findings.

Figure 5.5 shows OPD utilization per sub-district from 1994 to 1998. An examination of the line graphs shows a sharp and sustained decline of the health facility in the Prampram Sub-district which hitherto was the highest performer in utilization. The DHMT found out that the decline was due to the transfer of a popular Medical Assistant who was replaced by one with personal problems which severely affected his relationship with his patients. The DHMT noted that the levels of utilization of this health facility began to rise this officer was changed.

Figure 5.5. Trends in Attendance Per Capita – Dangme West 1994-1998




Source: Annual Report of Dangme West district 1998

Closely related to the impact of the bedside manners of the health workers on utilization is the ability of health workers to work as a team. If any brigade of health workers have internal differences amongst them, this would severely affect their ability to meet their objectives in health delivery. In the Dangme West District, the DHMT noted in its 1997 annual report that, in one of the sub-districts, coverage of health services continued to be low despite the efforts put in in-terms of human and material resources. They observed that this was partly due to staff discontent and disunity which continued to plague this sub-district and which affected the quality of work as well as service integration.

### 5.5.5 Efficiency of Personnel Available

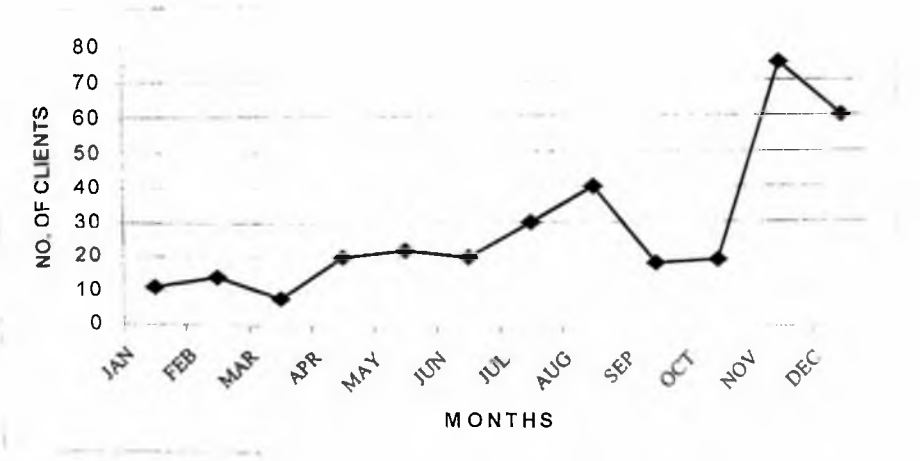
The public's perception of the efficacy of care they receive from health facilities may be subjective, barring any technical training on their part. They, therefore, use indicators like the presence of a laboratory, affective behavior of personnel and their level of training, among others. This question of how the perceived competence of the health worker affects utilization has been investigated for prenatal care in Cebu, in the Philippines. Wong *et al.* (1987) focused on the number of visits made to the nearest public facility, the quality of care being measured by the ability to see a physician and/or nurse rather than a midwife. It was observed that in urban areas, if the professional providing care was a midwife, this tended to reduce the number of visits. By contrast, in rural areas, the availability of a midwife seemed to signify good quality care and had a significant effect on the number of visits. This pattern was identified during this fieldwork.

At the Duffor Health Post, the Senior Community Health Nurse temporarily managing the facility indicated that utilization rates had dwindled significantly due to the absence of the substantive midwife who had proceeded on leave.

Asibuo & Odoi (1993), after focus group discussions with women groups and community leaders of rural communities in Ghana, revealed that the harsh attitude of some of the health workers towards patients and mothers distracted people from using health facilities available at health centres and health posts. They also showed that some people did not patronize health programmes because they had no confidence in the health personnel, especially those running health centres and health posts. Besides they showed that some people preferred to travel to places where hospitals had the necessary facilities and competent health personnel.

The Nyigbenya health post is currently experiencing low utilization levels. The clinic is staffed with two CHNs. The DHMT is, therefore, thinking of adding an enrolled nurse to the staff in a bid to win the confidence of potential clients and boost levels of utilization. This particular health post had this problem a few years back which led to the secondment of a Community Psychiatric Nurse to it. As Figure 5.6 shows, utilization levels increased significantly during his one-year sojourn at the place. According to the DHMT Annual Report for 1997, this was achieved through the nurse's publicity about the provision of curative care by a 'proper nurse' at the clinic.

**Figure 5.6. Rate of Utilisation of the Nyigbenya PHC Facility in 1997**




Source: Annual Report of Dangme West District 1997

### 5.5.6 Provision of Information to Clients

Information dissemination about a project helps in adequately informing members of the public about it so that their support and co-operation can be won. This is equally so for public health services which need massive public support for their success. Examples are the occasional immunisation programmes whose success depend on a lot of public education. Public education campaigns about health education and services offered by the health centres are actively carried out at the district and sub-district levels in the Dangme West District. The impact of public education in influencing patterns of utilisation of health facilities in the district was clearly shown for the Nyigbenya health post cited earlier. Another example is the source of nursing mother's information on immunisation programmes. About 79% of them indicated that they got their information directly from health workers, whilst the remaining 21% got it from other sources like posters (Table 5.26). This pattern also suggests that because of the high level of the illiteracy rate among the patients, modes of dissemination information like posters, which require the ability to read, may not be effective tools for disseminating health information. According to the Dangme West DHMT, years during which mass campaigns were orgainsed led to sudden rises in EPI coverage, whilst pauses by staff to catch their breath after previous strenuous campaigns led to declines. This factor accounts for some of the fluctuations in EPI coverage in the district.

**Table 5.26 Sources of Information about Immunization Programmes**

| Sources Of Information | Frequency | Percent |
|---|---|---|
| Through Posters On Walls | 4 | 2.4 |
| On Radio | 10 | 5.9 |
| From Health Personnel | 94 | 55.3 |
| Various Sources | 11 | 6.5 |
| Have No Child | 51 | 30.0 |
| Total | 170 | 100.0 |

Source: Field Data

### 5.5.7 Opening Hours and Waiting Time

Dutton (1986) showed that opening hours (no night or weekend services) were a barrier to utilization. Agyepong (1990), in a study at Adenta, a suburb of Accra, indicated that the time taken to be seen did not influence the type of health services chosen. In the Dangme West District, it was realized that opening hours and waiting times did not negatively influence levels of utilization. It was realized that almost all the health posts operated on 24 hours-7 days a week schedule. This schedule of work is facilitated because the health workers live in the community and are on call at any time. This unlimited availability of

### 5.5.6 Provision of Information to Clients

Information dissemination about a project helps in adequately informing members of the public about it so that their support and co-operation can be won. This is equally so for public health services which need massive public support for their success. Examples are the occasional immunisation programmes whose success depend on a lot of public education. Public education campaigns about health education and services offered by the health centres are actively carried out at the district and sub-district levels in the Dangme West District. The impact of public education in influencing patterns of utilisation of health facilities in the district was clearly shown for the Nyigbenya health post cited earlier. Another example is the source of nursing mother's information on immunisation programmes. About 79% of them indicated that they got their information directly from health workers, whilst the remaining 21% got it from other sources like posters (Table 5.26). This pattern also suggests that because of the high level of the illiteracy rate among the patients, modes of dissemination information like posters, which require the ability to read, may not be effective tools for disseminating health information. According to the Dangme West DHMT, years during which mass campaigns were orgainsed led to sudden rises in EPI coverage, whilst pauses by staff to catch their breath after previous strenuous campaigns led to declines. This factor accounts for some of the fluctuations in EPI coverage in the district.

**Table 5.26 Sources of Information about Immunization Programmes**

| Sources Of Information | Frequency | Percent |
|---|---|---|
| Through Posters On Walls | 4 | 2.4 |
| On Radio | 10 | 5.9 |
| From Health Personnel | 94 | 55.3 |
| Various Sources | 11 | 6.5 |
| Have No Child | 51 | 30.0 |
| Total | 170 | 100.0 |

Source: Field Data

### 5.5.7 Opening Hours and Waiting Time

Dutton (1986) showed that opening hours (no night or weekend services) were a barrier to utilization. Agyepong (1990), in a study at Adenta, a suburb of Accra, indicated that the time taken to be seen did not influence the type of health services chosen. In the Dangme West District, it was realized that opening hours and waiting times did not negatively influence levels of utilization. It was realized that almost all the health posts operated on 24 hours-7 days a week schedule. This schedule of work is facilitated because the health workers live in the community and are on call at any time. This unlimited availability of

the nurses to the community could engender some stress in them especially when it seems that their privacy is being disturbed. One nurse stated that she was sometimes called in the middle of a church service to attend to patients, and also called upon at midnight. It was observed at some of the health centres that were visited during this study that waiting times could be up to an hour and a half on days when antenatal cases were being attended to, but this did not serve as a deterrent since it was not a regular feature.

Some researchers have indicated a relationship between waiting time at health facilities and utilization patterns. However, these patterns are noticeable in the developed countries where clients have a choice between medical facilities. It was earlier on shown in this work that, generally, there is no meaningful relationship between waiting time and utilization of health facilities in the district. However, an analysis done shows that there is a difference in the degree of association between waiting time and regularity of attendance between the Level A and the Level B facilities (Table 5.27). This is confirmed by the contingency coefficients for both facilities. The contingency coefficient for the Level A facilities is 0.45, with a significance value of 0.08, whilst the Level B facilities have a contingency coefficient of 0.49 with a significance value of 0.16.

**Table 5.27 Waiting Time at Health Institution and Regularity of Attendance**

| Waiting Time At Health Institution | Not Regular | | Fist Time | | Regular | | Total | |
|---|---|---|---|---|---|---|---|---|
| | A | B | A | B | A | B | A | B |
| <5 | | 12 | 12 | 5 | 19 | 28 | **31** | **45** |
| 6-10 | | 5 | 2 | 1 | 12 | 16 | **14** | **22** |
| 11-20 | | 3 | 2 | 4 | 9 | 7 | **11** | **14** |
| 21-30 | | | 1 | 2 | 9 | 10 | 10 | 12 |
| 31-45 | | | | 1 | 9 | 2 | 9 | 3 |
| 45-60 | | | | 1 | 2 | 2 | 2 | 3 |
| 61+ | | | | | 2 | | 2 | |
| Total | | **20** | **17** | **14** | **53** | **65** | 70 | 99 |

Source: Field Data

The significance value for Level B is twice that for Level A. The above statisticsindicate that the Level A centres have some association, albeit weak, between the test statistics than the Level B facilities. This might be because the Level B centres in the district are relatively fewer than the Level A centres. Clients, therefore, may not have too many options, unlike the Level A and may be compelled to utilize them with time of waiting not being a major factor.

### 5.5.8 Inducements

The role of gifts and other forms of inducements cannot be underestimated in attracting clients to the clinics for various activities. The staff of the National Blood Bank have since time immemorial, have always found it necessary to offer beverages and other provisions like tins of milk as inducements to potential blood donors. The role of such inducements in increasing utilisation to postnatal services is very significant in the Prampram Sub-district.

The number of deliveries by the MOH and private maternity homes as a percentage of expected deliveries for the Dodowa Sub-district was 30% for 1997, 41.5% for 1998, and 46% for 1999. This shows a steady rate of increase over the three-year period. PNC achieved 36% for 1997, 33% for 1998, and 48.7% for 1999 (Table 4.5). The Prampram Sub-district showed a higher coverage pattern than the Dodowa Sub-district in the MCH coverage indicators. Delivery coverage was 60% in 1997, 60% in 1998, and 72% in 1999. Postnatal coverage was 56% in 1997, 50% in 1998, and 67% in 1999 (Table 4.6). The trends for the Great Ningo Sub-district do not compare favourably with those for the Prampram Sub-district. Combined delivery coverage for the MOH and private maternity homes was 33% for 1997, 30% for 1998, and 30% for 1999. Postnatal coverage was 26% in 1997, 13% in 1998, and 3.5% in 1999 (Table 4.7). The trends for the Osudoku Sub-district were not too encouraging. Delivery coverage for the MOH and private maternity homes was 21.4% for 1997, 20% for 1998, and 18.3% for 1999. Postnatal coverage was 21.4% in 1997, 17% in 1998, and 23% in 1999 (Table 4.8).

The high antenatal and postnatal coverage for the Prampram Sub-district were acknowledged by the DHMT of the Dangme West District in their 1999 annual report. They attributed the relatively high level of utilisation of the health centre at Prampram largely to the free demonstration meals prepared daily for mothers who utilise the services of that centre. Unfortunately, these free demonstration meals are not available at the other health centres, and thus the attraction to use their antenatal and postnatal services is not much.

## 5.6 Conclusion

It has been shown that the impact of the factors for accessibility and levels of utilisation of health services vary from one country to the other, and also within the same country, from one community to the other. It is also clear that it is difficult to isolate individual factors like age, education and user fees, because they are closely related and their relationship is

complex. Nonetheless, they do impact on accessibility and utilisation of PHC services in this district in various degrees which have been identified.

# CHAPTER SIX

## SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

### 6.1 Summary

The thrust of this study was to identify the factors which influence accessibility and utilization of health facilities in the Dangme West District. This study was necessitated by the growing importance of PHC in the delivery of basic health care to every Ghanaian by the year 2000. The influence of socio-demographic as well as system factors on accessibility and utilisation of health services in the district were examined individually and in concert with each other, with particular reference to their impact on accessibility and utilisation of health services in the district.

The study indicated that a factor such as quality of health care was important in the utilisation of health facilities in the district. This affected the health posts and health centres equally. The impact of this was in the shunning of PHC facilities for hospitals in adjoining districts like the Yilo Krobo, North Tongu, and the Tema districts. The Duffor Health Post was a typical example. This phenomenon was also reflected in the generally low levels of utilisation of certain health posts in the district.

User fees did not play any significant part in the utilization of health facilities in the district. For example, over 95% of the respondents did not view user fees as a barrier to the utilization of health facilities. User fees did not show any pattern when cross tabulated with other indicators at the health posts and health centres. This implies that any policy to strengthen PHC services in the district should be directed more to quality of health care.

Distance, however, showed a significant impact on patterns of accessibility and utilization of health facilities. Over 50% of the respondents travelled just about a kilometre to the health facilities. The difference between the health posts and health centres was not significant in the impact of distance on utilization. Distance was, however, important in the mode of transport used by patients to the PHC facilities. Though respondents used public transport, it became the mode of transport for distances above 4 km. Another significant discovery was that distance did not influence regularity of use of the health facilities.

A significant pattern was recognised between age and the level of utilization of health facilities in the district. For example, 93% of all users of the health facilities were aged 41 years and below. However, the difference between age and regularity of use of the health

facilities was not significant. This pattern was the same for the health posts and health centres.

There are some differences in utilization of health services by sex in the district. About 70% of the respondents were female and 30% were male. This is consistent with the objectives of the Alma Ata declaration which particularly encourages more women and children to utilise the PHC services. In sex and distance, it was realized that more women travelled longer distances than men did to seek medical care at the health facilities. On the other hand, men used the health facilities more regularly than the women. This pattern was limited to the health centres and not the health posts which did not show any significant differences by sex and regularity.

This study showed that farmers, traders, housewives, and service providers like chopbar operators, hairdressers and dressmakers constituted over 50% of the respondents. However, the relationship between occupation and regularity of use of the health facilities was not significant at the health posts and health centres. There was also little association between user fees and occupation in influencing utilisation of the health facilities. This pattern was the same for the health posts and health centres.

Education and level of utilization of health facilities showed little association. This was due to the lack of significant differences in the levels of education of the respondents, and therefore their income levels, which could impact on their response to seek medicare when ill.

The mode of transport to the health facilities, in order of importance was walking, followed by the use of bicycles, public transport, and lastly private vehicles. This is consistent with the rural nature of the district. However, more people travelled by public transport to the health posts than to the health centres.

Waiting time and regularity of use of the health facilities showed some association. However, a negative relationship was identified between waiting time and regularity of use of the health posts than the health centres. This may because unlike the health posts, the limited number of health centres made it difficult for clients to move from one health centre to another, which meant travelling from one sub-district to another.

Variations in the utilisation of health services by sub-districts were significant. It was evident that some sub-districts were performing better than others in certain aspects of the health delivery programme, due to several factors like easy accessibility and perceived efficiency of staff and quality of health care services offered. For example, health posts and health centres in the Dodowa and Prampram Sub-districts recorded higher levels of utilisation of services than their counterparts in the Great Ningo and the Osudoku Sub-districts.

Another significant finding during the fieldwork was lack of adequate database of health information like levels of utilisation of various health services over time at health posts and health centres. This certainly would make it difficult for individual health centres and health posts to monitor their own performance over time.

Co-operation between the DHMT and most NGOs operating in the health sector in the district is not very strong. Only a few like the World Vision International have been liasing with the DHMT to plan their support programmes for the district. This is not in line with the spirit of PHC which is perceived as a tool for integrated community development. For PHC to be successful, there is the need for good housing, clean water, and adequate food and nutrition, among others. This implies that all institutions, which provide these services, must work together with the DHMTs, as a matter of policy, at the district level to plan and implement PHC. It was realised that there was no networking between the DHMT and other government agencies in the district whose activities involved substantial health components. Notable among them were agencies operating in the agriculture and local government sectors.

### 6.2 Conclusions

This study concludes that factors identified as influencing accessibility and utilization of health facilities do not have the same level of influence in every community. Key socio-demographic factors, which play an important role in accessibility and utilization of the PHC facilities in the district, are age and sex. Institutional factors which are significant are distance from the health centres, inducements offered to patients at the child welfare clinics, quality of care, and personal characteristics of the health care providers. The most important community-wide factor is the poor road network which makes public transport hardly available to patients.

## 6.3 Recommendations and Policy Implications

Considering the importance of accessibility and utilisation of PHC services in the Dangme West District in achieving health for all Ghanaians, and the findings of this study, the following recommendations are made.

Firstly, greater autonomy must be given to the DHMTs to hire competent staff and dismiss those whose activities may be detrimental to health service delivery. The DHMT recognises that the delivery of a basic package of health services requires well-distributed and trained staff based at the community level who have an integrated rather than a divisional or programme perspective and not an oversupply of specialised staff. Staffing of health centres needs to be trimmed down to a few slightly more specialised staff to deal with referrals from the community level to provide support and supervise service delivery, and for reporting and feedback to and from the community level.

Secondly, community clinics must be adequately equipped and stocked with appropriate medicaments. It was realized that the absence of essential drugs at some health facilities was disliked by patients, and this contributed to the shunning of some of the facilities for others in the adjoining districts like the Tema and the North Tongu Districts. This situation was more predominant at the health posts than at the health centres. As depicted by Figure 4.7 and Table 5.13, the physical distribution of the PHC facilities showed that 83% of settlements and 85% of the district population were within their spheres of influence. It can, therefore, be conjectured that the absence of PHC facilities was not the main cause of the low levels of utilisation of certain PHC facilities in the district, but the quality of care which was provided.

Thirdly, measures should be adopted to minimize the waiting time of expectant mothers at the PHC clinics. This delay is likely to contribute to the relatively low level of coverage of antenatal services, unlike the OPD services where very little time is spent waiting to receive treatment.

Another area of importance for efficient PHC is the strengthening of the Health Management Information Systems (HMIS) in the districts. This would enhance accurate data collection, analysis, and use in evaluation and planning. With this, it would be possible for programme managers to obtain the information they need without resorting to developing special strategies which sometimes disrupt the development of a strong basic

health management system. In this regard, it can be suggested that the development of a Geographical Information System (GIS) as part of the districts' HMIS would go a long way to enrich and strengthen the database management capacity of the DHMTs.

It is further recommended that an all embracing intersectoral co-operation and collaboration between the DHMT and other agencies involved in health care should be encouraged in the district. These include NGOs and government agencies in the agricultural, local government, and education sectors. This is very necessary for an effective delivery of PHC in the district, since it minimises waste of scarce resources and unnecessary duplication of roles. For example, the health education campaigns done by the district education office and the school health programmes carried by the PHC centres for basic schools can be harmonised and presented on a common platform for a greater impact. NGOs working in the health sector in the district also need to be educated on the need to streamline their programmes with those of the DHMT.

To strengthen the effectiveness of PHC, and to achieve the objectives outlined in the Bamako Initiative such as the reduction of infant, child and maternal morbidity and mortality, and addressing constraints in accessibility and utilisation of PHC services, it is recommended that a comparative study of the PHC system in other districts would help in highlighting other weaknesses it might have. The findings from such a study can help in reshaping PHC policy to make it more efficient in the delivery of basic health care, with specific measures to ensure equity of access to PHC services and the promotion of the rational use of basic essential drugs as outlined in the National Health Policy (MOH, 1997).

It is believed that when these recommendations are implemented, the quality of PHC in the district would be greatly enhanced and the objectives of the Alma Ata declaration of 1977 would be close to full realization.

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## INTERVIEW GUIDE FOR THE DISTRICT DIRECTOR OF HEALTH SERVICES

The main objective of this part of the questionnaire is to determine the extent to which district officials, especially the Director of District Health Services (DDHS), is familiar with the operations as well as the appropriateness of the district health system. She may, therefore, be expected to highlight geographical and logistic difficulties peculiar to her district, which adversely affect health service coverage, utilization, and management.

Coordination between sectors:
On this issue, information would be sought on

- Mechanism by which different sectors, including Non Governmental Organisations(NGOs), and private groups, carry out joint planning of their programmes?
- Coordination between the public health facilities and other facilities.
- District management team's awareness of the various health programmes of these institutions and whether their activities are complimenting health management in the district or distorting it.
- Location and operation of NGOs in the health sector.

Synergistic Effects of other Sectors on health:
Synergistic effects of other sectors like the educational system, agriculture, industry, trading, and waterworks on health.

- Education, the provision of school lunches in pre-school facilities and primary schools.
- Quality of food .
- Literacy campaign, (does it focus on remote and underserved areas where the general health status of the mothers and children is poor).

- Agriculture, promotion of cash and food crops in the district.
- Effects of this on the availability of food during times of low prices when farmers are unable to sell their produce.
- Promotion of nutritious food crops in the district as a whole.

- Water, irrigation schemes, like ponds and dams, which might bring better access to water, and for that matter, boost food production.
- The effects of these water schemes, if available, on health by way of being vectors for water borne diseases etc.

- Lastly, organisation of educational activities for the traders on the need to maintain personal hygiene, the cleanliness of their wares and to keep their market environment clean.

## INTERVIEW GUIDE FOR HEALTH PERSONNEL

The questions in this section will be focused on the following:

- Health centre and its activities, and particularly on its relation to the peripheral levels.
- Assessment of the organisation of the health system in the area served by the health centre with emphasis on the role of the health centre in the implimentation of the PHC.
- Number of community clinics under the Health centre, TBAs, NGO health facilities and private health facilities
- Interaction between the various health units providing health care, including NGO and private clinics.
- Adequacy of equipment in terms of physical facilities, staffing, supplies, and transport, to provide supervision to the community clinics, and to accept referrals?
- Manpower requirements.

## INTERVIEW GUIDE FOR COMMUNITY LEADERS

The purpose of this interview will be to determine what he perceives as priority health problems, what they are doing about these problems, and to what extent the community is supporting and contributing to primary health care and other health activities.

The questions in this section will be focused on the following:

- Perception of health problems needing priority attention in his community
- What he is doing to promote PHC in his community
- The role he expects the health administrators to play to improve the health situation in his community.
- Factors militating against health in his community

**QUESTIONNAIRE FOR PHC FACILITY ACCESSIBILITY UTILISATION AND IMMUNIZATION COVERAGE TO BE ADMINISTERED AT HEALTH CENTRES & MCH/FP CLINICS**

RESPONDENT NUMBER.....

**INFORMATION ON HEALTH UNIT**

1) SUBDISTRICT (1)Dodowa (2)Great Ningo (3)Osudoku (4)Prampram

2) NAME OF VILLAGE.....

3) CATEGORY (1) Health centre (2)Health post/community clinic (3)MCH/FP clinic

4) NAME OF HEALTH INSTITUTION.....

**PERSONAL DATA ABOUT RESPONDENT**

5) AGE.....

6) SEX (1)MALE (2)FEMALE

7) OCCUPATION (1)FARMING (2)TEACHER (3)TRADER (4)HOUSEWIFE

(5) OTHER SPECIFY.....

9) LEVEL OF EDUCATION: (1) ELEMENTARY (2)SECONDARY (3)TERTIARY

(4)NONE (5)OTHER (SPECIFY).....

10) RELIGION (1)CHRISTIAN (2)MOSLEM (3)TRADITIONAL

(4)ATHEIST (5)OTHER (SPECIFY).....

11) SIZE OF YOUR HOUSEHOLD.....

**ACCESSIBILITY AND UTILISATION OF PHC SERVICES**

12) How far is the health centre from your house? (1) <1km (2)2km (3)3km (4)4km (5)other(specify).....

13) How long did it take you to travel to the health centre
(specify).....

14) By what means of transport did you get to it? (1)walking (2)public transport (3)bicycle (4)private vehicle

15) How long did it take you to see the health officer/nurse
(specify).....

16) Why did you choose this health centre ?
(1)near to house (2)satisfaction with service (3)low cost of services

17) Is this your first time of attending this health centre ? If no go to question 18.
If yes go to question 19

18)Do you attend this health centre any time you are ill or your child is ill? If No go to next question 19. If yes go to question 20

19) Which other health facilities do you attend? 1)private clinic 2)Traditional services
3)Self medication d)NGO health posts e)Other(specify).....

20) Do you find the user charges affordable? (1) Yes (2) No

21) If No Why?.....

22) Do the Charges deter you from coming to seek medical care at times?

(1) Yes (2) No

**INFORMATION ON IMMUNIZATION COVERAGE AND PATRONAGE OF MCH/FP SERVICES.**

23) How many children have you.....

24) Have all of them being immunized? (1) Yes (2) No If No go to question 26. Yes go to question 25

25) Against which diseases have they been immunized against?
1) Diphtheria 2) Whooping cough 3) Polio 4) Measles 5) Tetanus 6) Tuberclosis

26) Why have some of them not been immunized?
(1) Did not find it necessary (2) Was not aware of the immunization programme
(3) Place of immunization too far (4) Other (Specify).....

27) Do you like the manner the staff who do the immunization go about their work?
(1) Yes (2) No If No go to question 28

28) What are the things you would want to see introduced to make immunization sessions attractive?
1) Increasing the number of immunization centres to make them more accessible
2) Providing adequate furniture to make it easier to wait
3) Staff should be friendly to attendants
4) Other(Specify).....

29) How do you get information about immunization programmes?
(1) through posters on walls (2)On the radio (3)from the health personnel through outreach activities
Other(Specify.....

30) Do you attend this antenatal clinic any time you are pregnant? If No go question 32.
If yes go to question 31

31) How often do you do so ?