EQUITY ASPECTS OF THE NATIONAL HEALTH INSURANCE SCHEME IN GHANA: A COMPARISON OF THE QUALITY OF HEALTHCARE PROVIDED IN THE EJISU-JUABEN MUNICIPALITY.

BY

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DECLARATION

I hereby declare that this submission is my own work towards the Master of Arts degree and that, to the best of my knowledge it contains no materials previously published by another person nor material which has been presented for the award of any degree of the University, expect where due acknowledgement has been made in text.

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ABSTRACT

Equity is perceived as an important or even the most important goal in healthcare. Indeed it is even seen by some as a human right; but Ghana has struggled for years to provide equitable and adequate healthcare services for all her citizens. The National Health Insurance Scheme was however implemented to provide a more equitable and uniform healthcare service for Ghanaians. This study was undertaken to measure equity in terms of the quality of healthcare provided by NHIS accredited health facilities and was organized into five chapters. In addition to reviewing various works that have researched on the NHIS, quality of health services and equity in health/healthcare, it was concluded that NHIS accredited health facilities in urban areas provided a higher quality of healthcare than their counterparts in rural areas. Also, NHIS accredited private health facilities provided the highest quality of healthcare; followed by faith based (mission) health facilities with public health facilities providing the least quality of care among the three types of facilities. The analytical framework presented by the research in chapter four also revealed that, the location of the health facility that a patient attended did affect the quality of healthcare they received.

The study will therefore help policy makers especially management of health facilities to pay particular attention to the quality of healthcare they provide in other to improve upon it.

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ACRONYMS

DMHIS	District Mutual Health Insurance Scheme
GNA	Ghana News Agency
GHS	Ghana Health Service
IMF	International Monetary Fund
KNUST	Kwame Nkrumah University of Science and Technology
LDC	Less Developed Country
MoH	Ministry of Health
NHIS	Nation Health Insurance Scheme
NHIC	National Health Insurance Council
NHIA	National Health Insurance Authority
NGO	Non Governmental Agency
PMS	Private Mutual Scheme
PCHIS	Private Commercial Health Insurance Scheme
SSNIT	Social Security and National Insurance Trust
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.0 Background to the study

Equity is perceived as an important or even the most important goal in healthcare (Cuyler and Wagstaff 1993, Gwatkin *et al* 2001,; Scott *et al*, 2001). Indeed it is even seen by some as a human right (Faden and Shebaya, 2010). The commitment to the concept of equity is important, considering that ill health is a particular concern for people living in poverty as they are more likely to get sick, to remain sick for longer, to live shorter lives, and to lose out on productive activities through illness (WHO, 2000).

Equity means fairness or justice (Whitehead 1992; Braveman *et al*, 2003). Because these terms are open to interpretation, an operational definition is needed to guide measurement in diverse settings. In operational terms, pursuing equity in health can be defined as striving to eliminate disparities in health between more and less-advantaged social groups, i.e. groups that occupy different positions in a social hierarchy (Braveman *et al*, 2003). Therefore health inequities are disparities in health or its social determinants that favour the social groups that were already more advantaged.

Inequity does not refer generically to just any inequalities between any population groups, but very specifically to disparities between groups of people categorized *a priori* according to some important features of their underlying social position.

For example, individuals may be grouped by their income or material possessions, or by characteristics of their occupations, education, or geographic location, or by their gender, race/ethnicity, or religious group (Braveman *et al*, 2003).

Research on equity in health and/or healthcare has taken many different forms. Some examples include: equity in health and health services (Starfield, 2008), equity in provision of healthcare (Yazbeck, 2009), equity in coverage of health insurance (Jehu-Appiah *et al*, 2010) and equity in financing and delivery of healthcare (Van Doorslaer, 1999).

According to Evans *et al*, (2001) equity in quality of care is achieved when all patients are assured the same quality of care, regardless of ability to pay or any other independent variable. At first glance, high-quality health services may appear to be a luxury beyond the budgetary limits of most LDC health systems. However, improving quality often does not cost, it pays. Attention to quality is also very essential to the success of healthcare financing reforms, a fact that health managers and all stakeholders cannot afford to ignore. This is because while these reforms clearly affect medical prices and expenditures, they also lead to heightened concerns about the quality of medical care.

This situation holds for Ghana as there have been many healthcare financing reforms or programmes implemented in the country over the years; each affected medical prices and expenditure in a way but all had their major quality concern.

The issue of healthcare financing in Ghana has travelled a long and winding road from colonial times through the first republic to the current administration.

Prior to independence, financial access to modern healthcare was predominantly through out-of-pocket payments at point of service use. Following the country's independence in 1957, all Ghanaians could seek medical attention in any government hospital or health center and pharmacy at no financial cost to the individual. However, hospital fees were re-introduced in 1969 and continued in some variety until the introduction of the "cash and carry" system in 1985 (Kutzin *et al,* 1999).

Under this new healthcare policy, patients paid for the cost of their care and medication. The rationale behind this was to generate internal revenue to improve the quality of care, rather than depending on external help, which constantly instruct where aid should go.

However, the benefits of user fees were extensively challenged with respect to equity in access of healthcare especially for the poor (Nyonator & Kutzin, 1999; Waddington & Enyimayew, 1989). People went to the hospital only when they were really sick and had money to readily pay for their stipulated expenditures. Assensoh-Okyere and Dzator (1997) observed that the cost of medicine during the cash and carry era alone accounted for over 60% of treatment of malaria, one of the commonest illnesses in Ghana.

Therefore, in an effort to increase economic accessibility to healthcare and to reduce the excessive financial burden on patients and the state, the government in 2003 passed the National Health Insurance Act. The act established the NHIS which was finally implemented in 2005, with the aim to provide universal health coverage to all Ghanaian citizens, regardless of their ability to pay (Sulzbach, Garshong & Owusu-Banahene, 2005).

The mission statement of the NHIS is "To provide financial risk protection against the cost of quality basic healthcare for all residents in Ghana, and to delight our subscribers and stakeholders with an enthusiastic, motivated and empathetic professional staff who share the values of honesty and accountability in partnership with all stakeholders" (NHIS, 2011).

The health services covered by the NHIS are laid out in the minimum basic benefits package. The list is fairly extensive and purports to cover 95% of all health problems reported in Ghanaian healthcare facilities. The benefit package covers a wide range of outpatient services with associated drugs and laboratory tests, inpatient care, basic oral health services, eye care, surgical operation such as hernia repair, physiotherapy, accommodation in the general ward, feeding (where available) and all emergency conditions. There is also notable emphasis on female reproductive health in the benefits package with benefits including: antenatal care, delivery, caesarean sections, and postnatal care for up to six months after birth (NHIS, 2011).

Treatment for breast and cervical cancer are also included in the package, although treatments for other cancers are not. Other healthcare services excluded from the NHIS benefit package were made known at a presentation by Dr. Sam Akor a former Executive Secretary of the NHIC; "the scheme would not cover conditions such as heart and brain surgeries, chronic renal failure, provision of antiretroviral drugs and treatment for opportunistic infections." He also disclosed that the primary goal of the scheme is to provide equity in the health sector and to provide affordable healthcare for the poor (GNA, 2005).

The story of the NHIS so far is that it has come to be accepted by Ghanaians as one of the best social intervention program to be introduced in the country. In general, financial access which the NHIS is supposed to provide is enhanced. However, the standard and quality of healthcare delivery is still a challenge. Health inputs are unequally distributed across the country and continually, there is inadequate supply of essential equipment in most health facilities. Agyepong *et al,* (2004) asserted that the inadequate supply of equipment in health facilities includes relatively inexpensive tools such as dustbins, brooms, disinfectant, sterilizers, gloves, soap, mops, bed sheets, pens, pencils, rulers, etc. As a result, health professionals are unable to administer proper care and quality health services to patients.

1.1 Problem statement

According to Ghana's Ministry of Health, equity in healthcare implies that all residents of Ghana must have access to a minimum benefit package of healthcare regardless of their socio-economic background; but Ghana has struggled for years to provide equitable and adequate healthcare services for all her citizens (Osei-Kwabena, 2003).

The NHIS was however implemented to provide a more uniform healthcare delivery method (NHIS, 2011); but its implementation has led to significant increases in facility attendance by clients without a corresponding improvement in health infrastructure and equipment as well as human resource. The immediate effect of this is overburdened, impatient and frustrated healthcare workers especially in rural areas, which eventually leads to inadequate or inappropriate care administered to patients (Mensah *et al*, 2005).

The poor quality of care that NHIS subscribers have to endure include: long waiting time, impolite hospital staff, low likelihood of being seen by a doctor and of receiving all drugs prescribed. A study by SEND (2010) also showed that some accredited healthcare facilities perceive the NHIS to have a negative effect on the quality of healthcare delivery while others regarded the scheme to be discriminatory in favour of higher level health facilities.

It must however be noted that the ultimate vision of the government for instituting the health insurance scheme in the country was to assure equitable and universal access for all residents of Ghana to an acceptable quality package of essential healthcare (MOH, 2004); but the question still remains whether the millions of Ghanaian registered with the scheme including the poor and the marginalized in society receive equal benefits and quality healthcare irrespective of where they live or which health facility they visit.

1.2 Objectives

The main objective of the study was to find out if the NHIS is equitable in terms of the quality of healthcare provided.

The specific objectives are;

- To compare the quality of health services provided by the different types of NHIS accredited health facilities (private, public and faith based).
- To compare the quality of health services provided by NHIS accredited health facilities in urban and rural areas.

- To assess factors that affects the quality of healthcare received by patients.

1.3 Methodology

1.3.1 Data type and sources

The research employed the use of primary data. Primary data sources (i.e field data collection) was carried out through the design and administration of research questionnaire to appropriate quarters in six health facilities in the Ejisu-Juabeng municipality. The questionnaire gathered relevant information about the quality of healthcare services at these health facilities.

1.3.2 Empirical Models

The study employed the use of the SERVQUAL gap model and an ordered probit regression model. The SERVQUAL gap model was used to determine the quality gaps in healthcare delivery in the Ejisu-Juaben municipality while the ordered probit model was used to assess factors that affected the quality of healthcare received by patients.

1.4 Hypotheses

1. The location of a health facility does not affect the quality of healthcare received by patients.
2. Educated patients do not receive a higher quality of healthcare.

1.5 Significance of the study

Despite the importance of healthcare quality to date, there have been few sustained Quality Assurance efforts in developing countries. Many evaluations have focused on measuring changes in mortality and morbidity, or on measuring coverage rates. Few have emphasized on the quality of services or the process of service delivery.

Furthermore, hospitals cater for the health needs of the society as a whole. This pinpoints the importance of hospitals and the role they play in the economies of countries. For this reason the quality of healthcare provided by health facilities must be taken very serious.

Also, the NHIS has an in-built equity in financing mechanism were subscriber's contributions are based on their ability to pay. If this is the case then the quality of healthcare received by subscribers should also be equal and all subscribers should get value for their money and not just some. This accession is backed by the duty of the NHIC which is; to ensure that healthcare providers put in place programmes that secure quality assurance, utilization review and technology assessment to ensure that: the healthcare delivered is of reasonably good quality and standard; and basic healthcare services are of standards that are uniform throughout the country (NHIS, 2011).

This research will also increase knowledge and add to the literature in this academic field. Also, the analysis of this study will provide vital information that will be useful to government's policy concerns.

Specifically, it will be most useful to the MoH, which is directly responsible for the provision of public health services delivery (in terms of policy formulation, monitoring and evaluation, resource mobilization and regulation of the health services delivery).

1.6 Scope of the study

The sample population of the study was limited to the inhabitants of the Ejisu-Juaben municipality in the Ashanti Region. The choice of the municipality was due to proximity of the study area, resource constraint and the researcher's familiarity with the district. The questionnaires were administered to a 360 sample population.

1.7 Organization of the study

The study was organized into five chapters. Chapter one, which is the introduction, presents the background information of the research topic, defined the statement of the research's concern and highlights on the significance of the study. Chapter two was dedicated to the review of literature in the field. Chapter three discussed the methodology used in gathering data for the study. It also provided justification for the approaches used in gathering data. Furthermore, chapter four was an analysis and discussion of the findings of the study. Finally, chapter five contained the summary of findings, conclusions and recommendations for further study and for policy development by government and all stakeholders.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter identified published theoretical and empirical research findings related to the trend of healthcare financing, equity, quality of healthcare and the NHIS. It covered basically the perspective of some writers and researchers, whose findings where believed could give a significant guide and background to this study.

2.1 Healthcare

Healthcare is the diagnosis, treatment, and prevention of disease, illness, injury and other physical and mental impairments in humans (WHO, undated). Healthcare is delivered by practitioners in medicine, chiropractic, dentistry, nursing, pharmacy, allied health and other care providers. It refers to the work done in providing primary care, secondary care and tertiary care, as well as in public health.

Healthcare is conventionally regarded as an important determinant in promoting the general health and wellbeing of people around the world. An example of this was the worldwide eradication of smallpox in 1980 - declared by the WHO as the first disease in human history to be completely eliminated by deliberate healthcare interventions (WHO, 2010).

2.2 Healthcare Systems

Healthcare systems are organizations established to meet the health needs of target populations. Their exact configuration varies from country to country. In some countries, healthcare planning is distributed among market participants, where as in others planning is made more central among governments or other coordinated bodies (Glied, 2008). In all cases, according to the WHO, a functioning healthcare system requires a robust financing mechanism; a well-trained and adequately paid workforce; reliable information on which to base decisions and polices; and a well maintained facilities and logistics to deliver quality medicine and technologies (WHO, 2000).

The goals for health systems are good health, responsiveness to the expectations of the population and fair financial contributions. Progress towards them depends on how systems carry out four vital functions: provision of healthcare services, resource generation, financing and stewardship (WHO, 2000). Other dimensions for the evaluation of healthcare systems include quality, efficiency, acceptability, and equity.

2.3 Healthcare Financing

According to the US National Library of Medicine, healthcare financing involves methods of gaining, and the sources of revenue in health services. Modes of financing healthcare include third-party payers, public grants, contracts with managed care, government contracts, direct public or government payment for service, philanthropic grants and payments for service, loans, bonds and self-pay.

The purposes of healthcare financing are: to mobilize resources for the health system, to set the right financial incentives for providers and to ensure that all individuals have access to effective healthcare (WHO, 2000).

The methods of financing healthcare consist of ways in which financial resources are mobilized and how they are utilized. It is multi-faceted as it relates to different factors including: the approach to mobilize financial resources; the institutional and organizational delivery structure; the allocation of resources; the remuneration and incentive method for health providers (Drouin, 2007).

The principal choices for financing a healthcare system are: general revenue, out-of-pocket payment and health insurance. The choice of financing healthcare affects the efficiency with which the healthcare system produces and supplies healthcare services. Secondly, it has redistributive implications within the health sector and finally, the choice of how to collect funds cannot be disentangled from the functioning of the social service sector and the economy as a whole in that, they have implications for the general efficiency and equity of society broadly (Glied, 2008).

Drouin (2007) also noted that the choice of method of financing healthcare may be governed by the extent to which it is desirable to allow the influence of the government, social partners and other interest groups to play a role in the implementation and on-going business of the national health system.

2.3.1 Health Insurance

Given that illness is unpredictable and that everyone's future health status is uncertain, demand for healthcare is also uncertain. The institutional response to this uncertainty is the development of insurance mechanisms whereby covered individuals make regular payments to some risk-pooling agency in return for guarantees of some form of reimbursement in the event of illness. This agency might be a public body or a private firm, the payments might be premiums or taxes, and the benefits might be indemnities (fixed cash payments) varying across illness events, reimbursement of all or part of actual healthcare expenditure, or direct provision (public or private) of services as needed" (Evans, 1984).

Health insurance is therefore defined as insurance against the risk of incurring medical expenses among individuals (Claxton, undated). Amartey-Vondee (2007), also defines health insurance as a method for financing or paying for the cost of healthcare that entails the spreading of the risk of incurring healthcare cost over a group of individuals. The larger the number of people involved, the lower the risk. The advantage of health insurance is that, the individuals' access to healthcare is independent of his ability to pay out of his pocket at the time of illness (Amartey-Vondee, 2007).

The types of health insurance available include:

Social health insurance, which refers to insurance schemes whereby a premium consists of a combined contribution of an individual subscriber and the government. The individual is in turn entitled to certain benefits. This type of health insurance is based around the principle of solidarity which means that everyone in the society contributes financially for the benefits of the health of the whole society (Boadu, 2008).

Drouin (2007) also refers to a social health insurance plan as one whose basis for contribution is the payroll. The contributor pays a percentage of his payroll earnings into a fund, with an extra percentage coming from the employer or even the government. It is a not-for-profit scheme and contributions are based on ability to pay, and access to health services depends on need (Drouin, 2007).

According to the United Nations System of National Accounts, (1993) an insurance programme is designated as a social insurance programme if at least one of the following three conditions are met:

- Participation in the programme is compulsory either by law or by the conditions of employment.
- The programme is operated on behalf of a group and restricted to group members;
- An employer makes a contribution to the programme on behalf of an employee.

The success of social health insurance schemes depends on the generation of stable resources, the often strong support of the population, the provision of a broad package of services, the involvement of social partners and the redistribution between risk and income groups. However, administratively schemes are complex and governance and accountability can be problematic. Furthermore, if coverage is not universal, social health insurance might have an impact on equity in countries with important informal economies (Glied, 2008).

Mutual Health Insurance plans are also a form of health insurance which is not-for-profit. The schemes have a strong community focus and ownership. Contributions to the scheme are community-rated and the risk is shared across the pool of individuals (Drouin, 2007).

Private Health Insurance is also another form of health insurance. It may be individual (although this is rare except in highly regulated contexts) or operate through employers or other purchasing organizations. Except in highly regulated contexts or in employer-sponsored groups, the price of coverage is related to expected health expenditures in that older, sicker people pay more for coverage and premiums rise as health expenditures rise.

Under private coverage, people choose both how much to purchase and by extension, how much to pay as a share of their income. Virtually all observed private health insurance contracts are of short duration – almost always only one year. This makes it difficult to pre-fund care, except through savings mechanisms outside the health system (Glied, 2008).

2.4 The National Health Insurance Scheme (NHIS) in Ghana

In the context of Ghana's national health policy, health insurance is one option to obtaining additional resources for affordable healthcare. It is worth noting that health insurance does not abolish cost recovery but it replaces direct out-of-pocket payment at the point of service. The health insurance scheme is aimed at making the health goal of the government within the context of the Ghana Poverty Reduction Strategy (GPRS) achievable and also to accomplish the targets set in the Health Sector's Five-Year Programme of Work, 2002-2006 (MOH, 2004).

The Government of Ghana passed the National Health Insurance Act (HI Act) in August 2003, establishing Ghana's NHIS. The primary goal of the act is to improve access to and quality of basic healthcare services in Ghana through the establishment of district-wide insurance schemes.

The law requires all residents of Ghana to join one of three health insurance schemes namely, District Mutual Insurance Scheme (DMIS), Private Mutual Scheme (PMS), and Private Commercial Health Insurance Scheme (PCHIS).

The NHIA is the national governing body of the NHIS; its mandate is "to secure the implementation of a national health insurance policy that ensures basic healthcare services to all residents" (Act 650, Section 2 (1)). Section 3 of the Act establishes the governing body of the Authority, known as the NHIC, which administers the National Health Insurance Fund.

The regulatory body (NHIC) must see to it that healthcare providers put in place programmes that secure quality assurance, utilization review and technology assessment to ensure that:

- The healthcare delivered is of reasonably good quality and standard;
- Basic healthcare services are of standards that are uniform throughout the country;
- The use of medical technology and equipment are consistent with actual need and standards of medical practice and ethics; and
- Drugs and medication used for the provision of healthcare in the country are those included in the National Health Insurance Drug List of the Ministry of Health.

The organizational framework of the NHIS is that, the NHIC and its secretariat grants accreditation to healthcare providers and promotes health education in the country, manage the national health insurance fund, determine premiums, register, license and regulate DMHIS (Wahab, 2008).

2.4.1 Policy Goal, Objective and Vision of the NHIS

- The goal of the NHIS is to address the problem of financial barriers to healthcare access within the context of the Ghana Poverty Reduction Strategy (GPRS).
- The policy objective is to institute a National Health Insurance Scheme (NHIS) which will ensure that, "within five years"; every resident of Ghana will belong to a health insurance scheme that adequately covers him or her against the need to pay out-of-pocket at the point of service use in order to obtain access to a defined package of acceptable, quality health services. (Government of Ghana, 2004)
- The ultimate vision of government for instituting the health insurance scheme in the country is to assure equitable and universal access for all residents of Ghana to an acceptable quality package of essential healthcare (MOH, 2004).

2.4.2 Contributions of Members to the Scheme

For the **Formal Sector**, employees contribute to the scheme through their SSNIT contributions. Children under 18 years whose guardians are in the formal sector are exempt from paying contributions (MOH, 2004).

Informal Sector Contributors have however been categorized into the following social groups:

- Unemployed adults with no identifiable source of income and cannot support themselves financially. They are referred to as the Core Poor and are exempted from paying any contribution.

- Unemployed adults with identifiable and regular financial support from a low income source. They are said to be Very Poor and are required to pay GH¢ 7.20 annually as their contribution.
- Employed adults who receive low returns and are thus unable to meet their basic needs. They are referred to as the Poor and are supposed to pay GH¢ 7.20 annually as their contribution (MOH, 2004).
- Adults who are employed and receive incomes just enough to meet their basic needs. They are described as people within the Middle Income Bracket. This category pays GH¢ 18.00 annually.
- Adults who are able to meet their basic needs and some wants. This group of people are said to be Rich and are required to pay GH¢ 48.00 a year.
- Adults who are able to meet their basic needs and most of their wants. These people are considered to be Very Rich. They pay GH¢ 48.00 a year.

These contributions however are subject to review depending on the average healthcare cost and the percentage subscription (MOH, 2004).

2.4.3 Benefits of the NHIS in Ghana

The NHIC developed the benefit package, which is intended to cover basic healthcare services, including outpatient consultations, inpatient care and shared accommodation, maternity care (normal and caesarean delivery), eye care, dental care, and emergency care (USAID, 2008).

Other benefits the scheme offers include admission treatment (surgery and medical) cost including feeding, full payment for medicine if within the approved list; payments for referrals (gatekeeper system) provided it is within inclusive list (HEPNET, 2007).

Certain public health services considered a public good, such as family planning and immunizations, are excluded from the benefit package, as it is assumed these services would continue to be provided for free at public health facilities.

However some services deemed either unnecessary or too expensive are excluded from coverage. These include cosmetic surgery, drugs not listed on the NHIS drugs list (including HIV/AIDS antiretroviral drugs), assisted reproduction, organ transplantation and private inpatient accommodation. Others are appliance, prostheses, rehabilitation, dentures, heart and brain surgery other than accidents; diagnosis and treatment abroad, dialysis for chronic renal failure and cancers (HEPNET, 2007).

In order to provide the basic benefit package of services, the NHIS covers both public and private healthcare providers at all levels of the health system, subject to their accreditation by the NHIA (GHS, 2007). As of December 2009, 966 private providers, 1,368 public providers, and 163 Christian Health Association of Ghana (CHAG) providers were enrolled in NHIS.

2.5 Equity

There are many definitions for equity in health. For instance; The International Society for Equity in health defined 'equity' as: "the absence of potentially remediable, systemic differences in one or more aspects of health across socio-economically, demographically or geographically defined population groups or subgroups" (International Society for Equity in Health, 2000). Panigrahi (2009) also defines equity in health as the absence of systemic disparities in health or in major social determinants of health.

However the most widely cited definition of equity in health was proposed by Margaret Whitehead (1992) as "differences in health that are not only unnecessary and avoidable but, in addition, are considered unfair and unjust," assumes that "unfairness" and "unjustness" can be measured.

Equity can be divided into horizontal and vertical equity. Horizontal equity means to treat like cases alike, while vertical equity means to give appropriate unequal treatment to unequals (Cuyler and Wagstaff, 1993).

Technical literature also differentiates between *equity in health* and *equity in healthcare* were *equity in health* is achieved when major health status indicators and morbidity and mortality trends are comparable across groups that differ in terms of socioeconomic, ethnic, racial, gender, geographic, or other variables. *Equity in healthcare* however primarily concerns the provision (including access), financing, and quality of health services.

In terms of service delivery equity describes a situation in which individuals with equal needs receive equal treatment. When equity is present, the amount and type of treatment that patients receive are determined only by their health needs and not by other factors such as income, ethnicity, or class (Evans *et al*, 2001).

In terms of healthcare financing, equity exists when the healthcare system receives income-proportionate or equal financial contributions from everyone. In other words, equity demands that those with higher income make higher contributions while those with lower income make lower contributions (Van Doorslaer, 1993). In recent years to improve equity in the provision of healthcare and provide risk protection to poor households, low-income countries are increasingly moving away from "user fees" to pooling arrangements due to the adverse equity impact of user fees (Yazbeck, 2009). For those who seek healthcare when they are ill, the direct costs of obtaining such care can account for a substantial proportion of total households' income.

A study by Makinen *et al*, (2000) found that payments for health services and medicines accounted for an average of 4-5% of household incomes in African countries (Makinen *et al*, 2000). When other direct costs associated with obtaining care (such as transport costs) are included, some studies have found that total direct costs can be as high as 10% of household income (Lucas and Nuwagaba, 1999).

The experience in countries that have removed fees was that there were rapid and large utilisation increases, especially for the poor. For example in Uganda, an extensive study using the first and second Ugandan National Household Surveys (conducted in 1999/2000 and 2002/03 respectively) and data from the Health Management Information System highlighted that the poor had particularly benefited from the removal of fees (Deininger and Mpuga, 2004).

A key finding of this study was that although there were substantial differences in use of health services when ill between the rich and the poor while fees were in place, these differences were completely eliminated in the case of children after the removal of fees (although inequities in service use continue for adults).

Pooling arrangement or health insurance also has its equity problems especially with coverage. A study by Jehu-Appiah *et al*, (2010) on the equity aspects of the NHIS in terms of enrollment in Ghana gave compelling evidence that there is generally low enrollment from the poorest socio-economic quintiles than the rich.

2.5.1 Equity in the Ghanaian Health Sector

The health sector in Ghana is confronted with several equity challenges ranging from financial and geographical access, resource allocation, funding of health services, access to basic services, service quality, utilization, human resources and community involvement. For geographical access, about 40% of the population lives more than 15 kilometres from a health facility (Gyapong *et al*, 2007), this clearly falls short of the Alma Ata Declaration of 1978 which is to ensuring that all people live a maximum of 8 kilometres from a health facility.

Health facilities and inputs are also unevenly distributed in the country; evidently there are more beds and other health facilities in proportional terms in Ashanti, Eastern, Volta, Western and the Greater Accra Regions than the rest of the country (Gyapong *et al*, 2007).

Personnel shortages and the increasing outflow of medical personnel has worsened the already precarious human resource situation and created a human resource gap in the health sector. While the government is showing signs of reform, the health industry is losing personnel to higher income countries. Reports continue to show a high influx of Ghanaian health workers into western countries (MEDACT, 2005). Health professionals are also moving from rural areas to urban areas because of lack of basic amenities like water, electricity, decent accommodation and good quality schools for their children.

This does not auger well for equitable access and sustainability of the health system and also negates economic growth and poverty reduction since wealth is linked to health. The provision of human resources in adequate quantity, and with appropriate competence to provide healthcare services is critical in improving equity in access to healthcare services (GHS, 2007).

2.6 Quality Concept

According to Hardie & Walsh, (1993); Sower and Fair, (2005); Wicks & Roethlein, (2009), quality has many different definitions and there is no universally acceptable definition of quality. They claim it is because of the elusive nature of the concept from different perspectives and orientations and the measures applied in a particular context by the person defining it. This therefore means the definition of quality varies between the manufacturing and service industries and also between academicians and practitioners.

These variations are caused by the intangible nature of its components since it makes it very difficult to evaluate quality which cannot be assessed physically and it implies other ways must be outlined in order to measure this quality.

Quality has been considered as being an attribute of an entity (as in property and character), a peculiar and essential character of a product or a person (as in nature and capacity), a degree of excellence (as in grade) and as a social status (as in rank and aristocracy) and in order to control and improve its dimensions it must first be defined and measured (Ghylin *et al*, 2008).

Bateson and Hoffman (2001) said "quality is generally considered an attribute in consumer choices". The Oxford English Dictionary also defines quality as the degree or grade of excellence etc. possessed by a thing".

From the above discussion, two forms of quality can be highlighted; product quality and service quality. Since this study deals with healthcare quality the study will concentrate on service quality.

Quality in services is judged according to perceived satisfaction. According to Grönroos (1984), perceived quality is determined "by the gap between expected quality and experienced quality". Satisfying the clients' immediate and explicit expectations should be sought in the short term. However, in the mid and long term, it is important to develop competences to achieve their real needs, even those that are not explicit or are unconscious. According to the same author, quality is only measured at the end of the process, that is, when the service has been concluded, and there is no way to change client perception regarding the service received.

2.6.1 Customers' Expectations and Perceptions of Service Quality

Gronroos, (1984); Parasuraman *et al*, (1985) have proposed that customer's perception of service quality is based on the comparison of their expectations (what they feel service providers should offer) with their perceptions of the performance of the service provider. If what is perceived is below expectation, consumers judge quality as low and if what is perceived meets or exceeds expectation then consumers see quality to be high.

The customer's total perception of a service is based on his/her perception of the outcome and the process; the outcome is either value added or quality and the process is the role undertaken by the customer (Edvardsson, 1998). It is important to understand and measure customer's expectations in order to identify any gaps in service delivery so as to ensure satisfaction (Negi, 2009).

2.6.2 Quality in the Healthcare Industry

Many efforts have been made in trying to develop the thorough and generally applicable definition of healthcare service quality. The most commonly accepted definition of healthcare quality was proposed by the Institute of Medicine (IOM) in 1990, where quality of care was defined as "the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge" (IOM, 1990). This definition discloses well the complexity of the concept of quality and quality evaluation.

Healthcare services can be broken down into two quality dimensions, that is, technical quality and functional quality (Gronroos, 1984). While technical quality in the healthcare sector is defined primarily on the basis of the technical accuracy of the medical diagnoses and procedures or the conformance to professional specifications, functional quality refers to the manner in which the healthcare service is delivered to the patients (Lam, 1997). In other words, technical quality is about what the patient gets, and functional quality is about how they get it.

According to McGlynn (1997), patients, service providers and other parties involved in the healthcare system, define quality differently which leads to the use of different methods of quality evaluation. Most patients define quality as efforts of physicians to do everything possible for a patient. However, it is important to note that patients do not always fully understand their health service needs and cannot adequately assess technical competence (Brown, 1992). Thus, patients base their evaluation of quality on interpersonal and environmental factors, which health providers usually regard as not important (Ware and Snyder, 1975).

Healthcare professionals (physicians) on the other hand tend to define quality in terms of the attributes and results of care, and this definition emphasizes the technical excellence with which care is provided and the characteristics of interactions between provider and patient. Healthcare providers' focus is providing the appropriate treatment to their patients. They believe that this actually is the focus of the patients as well (Bopp, 1990).

2.6.3 Service Quality Measurement Models

Measuring service quality has been one of the most recurrent topics in management literature (Parasuraman *et al,* (1988); Gronroos, (1984); Cronin *et al,* (1992). This is because of the need to develop valid instruments for the systematic evaluation of firms' performance from the customer's point of view; and the association between perceived service quality and other key organizational outcomes (Cronin *et al,* 2010); which has led to the development of models for measuring service quality.

Gronroos (1984) developed the first model to measure service quality. He identified three components of service quality; technical quality which is concerned with what is delivered (outcome), functional quality which deals with the process of service delivery (how it is delivered) and the image quality which is identified as corporate image of company resulting from both technical and functional qualities of service components. The model basically states that quality is a function of expectations, outcome and image. It is applicable to different types of services but it must be noted that this model has no mathematical representation.

Parasuraman *et al,* (1988), developed the SERVQUAL model which is a multi-item scale developed to assess customer perceptions of service quality in service and retail businesses. The scale decomposes the notion of service quality into five dimensions. These dimensions are:

- *Reliability:* is the company reliable in providing the service? Does it provide as promised? Reliability reflects a company's consistency and certainty in terms of performance. Reliability is the most important dimension for the consumer of services;

- *Tangibility:* how are the service provider's physical installations, equipment, people and communication material? Since there is no physical element to be assessed in services, clients often trust the tangible evidence that surrounds it when making their assessment;
- *Responsibility:* are company employees helpful and capable of providing fast service? It is responsible for measuring company and employee receptiveness towards clients; and
- *Empathy:* this is the capacity a person has to experience another's feelings. Does the service company provide careful and personalized attention?
- *Assurance:* knowledge and courtesy of employees and their ability to inspire trust and confidence.

These dimensions mainly focus on the human aspects of service delivery (responsiveness, reliability, assurance, and empathy) and the tangibles of service. The developers of the scale contend that, while each service industry is unique in some aspects, these five dimensions of service quality that are applicable to service-providing organizations in general.

This measurement of service quality is based on how consumers evaluate the service delivery process and the outcome of the service (Parasuraman *et al*, 1985). A good service quality is considered as one which meets or exceeds consumer's expectation of the service (Parasuraman *et al*, 1985).

The SERVPERF model developed by Cronin & Taylor (1992) was derived from the SERVQUAL model by dropping the expectations and measured service quality perceptions just by evaluating customer's overall feeling towards the service.

Implicitly the SERVPERF model assesses customers experience based on the same attributes as the SERVQUAL and conforms more closely on the implications of satisfaction and attitude literature (Cronin *et al*, 1992). This model is good to measure service quality but does not provide information on how customers will prefer service to be in order for service providers to make improvements.

Teas (1993) developed the Evaluated Performance model which measures the gap between perceived performance and the ideal amount of a dimension of service quality, rather than the customer's expectation. This was to solve some of the criticism of some previous models. The model measures the gap between perceived performance and the ideal amount of a feature, not customer's expectations. He argues that an examination indicates that the P-E (perception – expectation) framework is of questionable validity because of conceptual and definitional problems involving the conceptual definition of expectations, theoretical justification of the expectations component of the P-E framework, and measurement validity of the expectation. He then revised expectation measures specified in the published service quality literature to ideal amounts of the service attributes (Teas, 1993)

Brady & Croning (2001), proposed a multidimensional and hierarchical construct, in which service quality is explained by three primary dimensions; interaction quality, physical environment quality and outcome quality. Each of these dimensions consists of three corresponding sub-dimensions. Interaction quality is made up of attitude, behavior and expertise; physical environment quality consisting of ambient conditions, design and social factors while the outcome quality consists of waiting time, tangibles and valence.

According to these authors, hierarchical and multidimensional model improves the understanding of three basic issues about service quality: (1) what defines service quality perceptions; (2) how service quality perceptions are formed; and (3) how important is where the service experience takes place (Brady & Croning, 2001).

Mittal and Lassar's SERVQUAL-P model reduced the original five dimensions down to four; Reliability, Responsiveness, Personalization and Tangibles. Importantly, SERVQUAL-P includes the Personalization dimension, which refers to the social content of interaction between service employees and their customers (Bougoure & Lee, 2009).

2.6.4 Application of the SERVQUAL Model in the Healthcare Industry

Yesilada and Direkor, (2010) used the SERVQUAL model to compare the quality of healthcare between public and private hospitals in Northern Cyprus. Their study found that, there were three critical quality dimensions; reliability–confidence, empathy and tangibles. Their study also observed that both public and private hospitals fail to offer the expected service quality but public hospitals provided a lower quality of care private hospitals.

They ended up with the recommendation that, for both public and private hospitals, further investigations should be made to find out the underlying causes of the gaps identified within the organizations and suggest solutions to managers to close the gaps and provide high quality services to their customers.

Curry *et al*, (2002) in an attempt to assess the quality of physiotherapy services used the SERVQUAL model in three physiotherapy services in Dundee, Scotland. They considered the ten original criteria for evaluation and combined them into five; tangibles, reliability, responsiveness, assurance (including competence, courtesy, credibility, and security) and empathy (including access, communication, and understanding).

They found out that the services were highly appreciated by customers even though they realised that the perception gaps were slightly negative and services could be improved. Their study proved that assurance and empathy were very important.

Reidenback and Sondifer-Smallwood (1990) employed a modified SERVQUAL approach to understand the relationship among patients' perceptions of inpatient, outpatient and emergency room services and their overall perceptions of service quality satisfaction with their care and willingness to recommend the hospital's services to others. Seven dimensions were identified and differential impacts of these dimensions were found in the three hospital settings. "Patient confidence" was found to affect patient satisfaction in all three settings in addition to influencing perceptions of service quality in both the inpatient and the outpatient settings.

Youssef (1996) investigated patients' satisfaction with National Health Service (NSH) hospitals in the UK using SERVQUAL. The findings showed that reliability was the most important of the five dimensions in influencing patients' overall quality perceptions. Empathy was the second important dimension, closely followed by responsiveness and assurance. Tangibility was found to be the least important of the five SERVQUAL dimensions.

Lam (1997) examined the validity, reliability and predictive validity of SERVQUAL and analyzed its applicability to the healthcare sector in Hong Kong. Study results show that SERVQUAL is a consistent and reliable scale to measure healthcare service quality

Angelopoulou *et al*, (1988) investigated service quality provided in public and private hospitals in Greece. They found that patients in public hospitals were satisfied about the competence of physicians and nurses. Their findings on private hospitals show that patients are more satisfied with physical facilities, waiting times and admission procedures compared to the public hospitals' patients.

Jabnoun and Chaker (2003) compared public and private hospitals in the United Arab Emirate. Factor analysis resulted in five dimensions; empathy, tangibles, reliability, administrative responsiveness and supporting skills. They found significant differences between private and public hospitals in terms of overall service quality in empathy, tangibles, reliability and administrative responsiveness dimensions. Their findings indicated that public hospitals were perceived to be better than private hospitals on service quality.

2.6.5 Quality of Healthcare Services in Ghana

A number of people perceive the quality of health services in Ghana as poor and therefore choose alternative treatment sources. Confidence is undermined by frequent shortages of drugs and medical supplies, long queues, the absence of emergency services and poor staff behaviour. This has resulted in low utilization of health services despite substantial investment aimed at improving access to health services (Gyapong *et al*, 2007).

Gradually the MoH/GHS is fostering collaboration with community and NGOs to deliver high quality services, however, healthcare planning and delivery has been a top-down process, in which client satisfaction has been a low priority. An external assessment for the MoH revealed that "procurement systems are well established in the sector but there is a general absence of basic equipment to allow for daily quality service delivery in health centres and hospitals (weighing scales, delivery kits, resuscitation equipment, thermometers, blood pressure apparatus etc) (MOH, 2004).

Even with the implementation of the NHIS which was implemented to provide quality healthcare, there has been little improvement in the delivery of healthcare in the country. In a study by SEND (2010) which assessed the quality if healthcare under the NHIS between 2004-2008 found that more than three quarters of accredited healthcare facilities (about 76%) covered in their study perceived the NHIS to have a negative effect on quality healthcare delivery.

The study also found that more than half of NHIS accredited facilities (about 63%) indicated that the NHIS impacts negatively on attention health professionals provide for clients. Out of this number, nearly 79% pointed out that NHIS subscribers spent longer waiting time due to the cumbersome documentation and large patient attendance. The remaining 21% stated that most NHIS clients were not given inpatient attention due to huge attendance coupled with delayed payment arrangement.

However, there are others who perceive the quality of healthcare in Ghana to be high. In a study by Turkon (2009) which looked at the quality of healthcare delivery in a rural district of Ghana found out that generally the quality of healthcare delivery was perceived to be high for most of the indicators used. 90% of the respondents were satisfied or very satisfied with the care given during their visit to the health facility. The participants however perceived poor attitude of some health workers, long waiting times, high cost of services, inadequate staff, policy of payment for health services, frequent referrals to hospitals, and lack of ambulances at facilities as being detrimental to effective delivery of quality healthcare.

The literature review above has shown that there has been a lot of research undertaken on quality of healthcare delivery, patient's expectations and perceptions of healthcare quality and equity in health/healthcare. However there is still a research gap in equity in terms of the quality of healthcare provided especially in Ghana and this void was what this study sort to fill.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents the methodology adopted for the study. It looked at the population and sampling, research design, research instruments, data collection procedures and data analysis.

3.1 Study Area

Ejisu-Juaben Municipal is one of the 26 administrative and political districts in the Ashanti Region of Ghana. The municipality stretches over an area of 637.2 km^2 constituting about 10% of the entire Ashanti Region and with Ejisu as its capital. The municipal has the dominant sex to be males constituting about 50.2 percent of the population whilst the females represent about 49.8 percent of the total population. The age structure is basically youthful thus indicating that the working age is more than those in the dependant age. The municipal is basically rural with only 5 out of the 84 settlements being urban. These 5 towns account for 30.18% of the total population with the capital covering 9.2%.

The municipality was chosen for the study because of its mixture of both rural and urban settlements; also there many diverse forms of healthcare facilities. The municipality boast of 8 public facilities, 14 private for profit facilities, 7 private non-profit facilities (CHAG) and 1 private non-profit facility; all making up a total of 30 healthcare facilities (Ghana districts, 2011).

3.2 Sampling procedure

Primary data was used for the study. A purposive sampling technique was employed to select NHIS subscribers seeking malaria treatment in the study areas. Only patients who had visited the health facilities at least twice in the last 12 months were interviewed.

Six healthcare facilities were selected for the study namely Divine Hospital Limited (Urban, Private), Supercare Hospital (Urban, Private), Ejisu Government Hospital (Urban, Public), Apromase Government Clinic (Rural, Public), Global Evangelical Mission Hospital (Rural, CHAG), Church of God Clinic (Rural, CHAG).

Three out of the six healthcare facilities were located in urban communities while the other three were located in rural communities. Also, two of the health facilities were public (government) hospitals, two were private hospitals while the last two were faith based (mission) hospitals. The rational for the selection procedure was to get a good representation of all accredited healthcare facilities in the municipality. It was also to aid in a purposeful comparison.

All healthcare facilities selected for the study were NHIS accredited.

3.3 Sample Size

A sample size of 360 NHIS subscribers (60 for each healthcare facility) was selected purposively and interviewed for the study.

3.4 Method of Data Collection

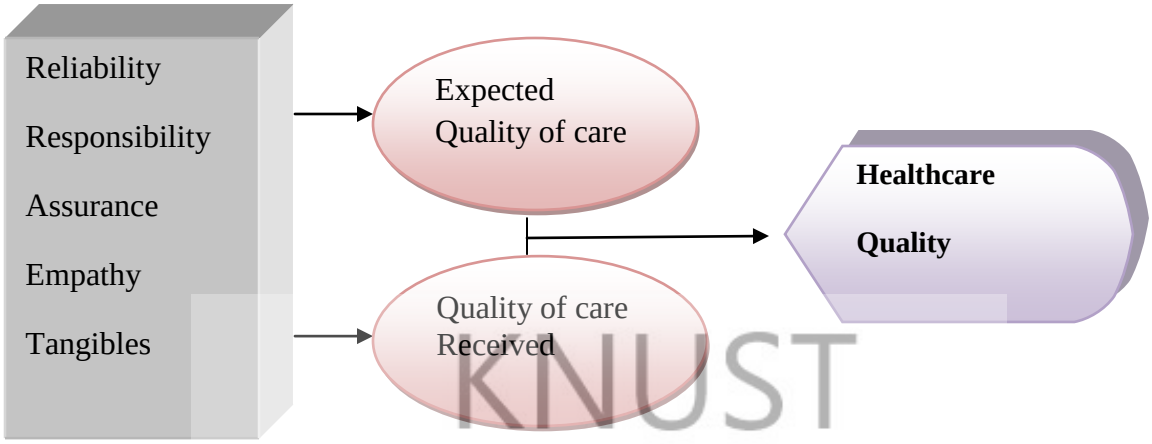
Data collection was carried out through the design and administration of research questionnaire in the six health facilities in the Ejisu-Juabeng municipality. Personal interviews were conducted to encourage high response rate completion of questionnaires and to obtain first hand information and other relevant information. This was also to allow the respondents the opportunity to ask for further information if they wished.

3.5 Conceptual Framework

The conceptual framework explains the underlying process which is applied to guide this study. After defining the concept of service quality, researchers needed a tool for measuring the quality level of services. The tool was expected to key out the attributes that require improvement in order to enhance quality, identify the degree or amount of improvement required and identify how the impact of service quality improvement efforts can be assessed. With these concerns, Parasuraman *et al*, (1988) developed SERVQUAL.

The SERVQUAL instrument for assessing service quality is based on customer's perceptions, which is, the difference between the customer's perceived quality and his/her expectation. The perceived quality is assessed based on service quality dimensions that correspond to the criteria used by consumers when assessing service quality. These dimensions are: reliability, responsiveness, assurance, empathy and tangibles.

Figure 3.1: Conceptual Framework



The SERVQUAL scale (questionnaire) has two sections: one to map client expectations in relation to a service segment and the other to map their perceptions. The results of the two sections (perceptions and expectations) are compared to reach a parameter (gap) for each of the questions. A negative result indicates the perceptions are below expectations, revealing the service failures that generate an unsatisfactory result for the client. A positive score indicates the service provider is offering a better than expected service.

Parasuraman *et al,* (1988) have claimed that the SERVQUAL framework provide a basic skeleton through its expectations/perceptions format and when necessary, the skeleton can be adopted or supplemented to fit the characteristics or specific research needs of a particular organization.

3.6 Empirical Models

3.6.1 SERVQUAL (Service Quality) Gap Model

The main purpose of this study was to find out if the NHIS is equitable in terms of the quality of healthcare provided. For this study equity was determined by comparing the quality of healthcare provided by the various healthcare facilities.

The SERVQUAL model was used to measure the quality of health services. As Nyeck *et al*, (2002) observed the SERVQUAL measuring tool "remains the most complete attempt to conceptualize and measure service quality".

To determine the service quality gaps for each hospital under consideration, the generally accepted formula was used:

$$gap_i = p_i - e_i$$

Where:

gap_i: Gap score of the ith service quality dimension

p_i: Perception score of the ith service quality dimension

e_i: Expectation score of the ith service quality dimension

After determining the gap scores for each hospital on all quality dimensions, an ordered probit regression analysis was conducted to identify how factors such as age, gender, marital status, access to NHIS drugs, educational status and location of the health facilities affected the quality of healthcare received by patients.

3.6.2 Ordered Probit Model Specification

Patients were asked to characterise the quality of care received using an ordered categorical variable ranging from "very poor" to "excellent" quality of care. Patients had to choose one of the five categories. It was believed this subjective measure of the quality of care received could complement the analysis using the process variables just mentioned.

Due to the ordinal nature of dependent variable the conventional Ordinary Least Square (OLS) method will not be appropriate since the errors will be heteroscedastic and not normal, thus violating the assumptions of OLS. The ordered probit model is thus suitable for modeling with an ordinal dependent variable.

Ordered probit is especially appropriate because it identifies statistically significant relationships between the explanatory variables and the dependent variable (Mckelvey and Zavoina, 1975). It also discerns unequal differences between ordinal categories in the dependent variable.

The ordered probit model was expressed as:

$y_i = j$ if $\mu_{j-1} < y_i^* \mu_j$, $j=1,.....m$ (1)

Where,

$y_i^* = x_i\beta + \varepsilon_i$, $\varepsilon_i \sim N(0, 1)$, $i = 1, ...n$ (2)

and $\mu_0 = -\infty$, $\mu_j \leq \mu_{j+1}$, $\mu_m = \infty$.

Given the assumption that the error term is normally distributed, the probability of observing a particular value of y is,

$P_{ij} = P(y_i = j) = \Phi(\mu_j - x_i\beta) - \Phi(\mu_{j-1} - x_i\beta), j = 1 \ldots m$ (3)

Where y_i^* is a continuous latent measure observed in discrete form through a censoring mechanism. y = j is the observed discrete outcome. β is the vector of estimated parameters and x is the vector of explanatory variables. ε is the error term which is assumed to be normally distributed (zero mean and constant variance) with the standard normal distribution function denoted by Φ (•). μ_j are the estimated threshold parameters which show the range of the normal distribution associated with the specific values of the response variable.. n is the number of observations. To preserve the positive signs of all the probabilities, $\mu_j > \mu_{j-1}$ (Greene and Hensher, 2008).

The equation to be estimated was therefore given as:

$$y^* = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots (4)$$

y^* = ordered dependent variable (quality of healthcare received by patients) coded 1, 2, 3, 4, 5 (very poor, poor, good, very good and excellent respectively).

X_1 = Age of patient in years

X_2 = Dummy variable (X_1 = 1 if patient is female, X_1 = 0 if male)

X_3 = Dummy variable (X_3 = 1 if patient has basic education, X_3 = otherwise)

X_4 = Dummy variable (X_4= 1 if patient has secondary education, X_4= 0 if otherwise)

X_5 = Dummy variable (X_5= 1 if patient has tertiary education, X_6= 0 if otherwise)

X_6 = Dummy variable (X_6= 1 if the facility is located in an urban area, X_6= 0 if rural)

X_7 = Dummy variable (X_7= 1 if patient has difficulty acquiring NHIS drugs, X_7= 0 if otherwise)

X_8 = Dummy variable (X_8 = 1 if patient is married, X_8 =0 if otherwise)

X_9 = Dummy variable (X_9= 1 if patient is single, X_9= 0 if otherwise)

X_{10} = Dummy variable (X_{10}= 1 if patient is divorced, X_{10}= 0 if otherwise)

ε_i = Stochastic error term.

3.7 Design of Questionnaire

The questionnaire for the survey comprised of three sections; the first section of the questionnaire was the demographic part where the respondents are asked about their gender, age, educational status, marital status and the location of the health facility they visited.

The second section of the questionnaire contained a modified SERVQUAL scale, with 15 statements relating to patients' expectations on the quality of service that health facilities should offer and 15 corresponding statements relating to their perceptions of the quality of service actually received. This simultaneous administration of expectations and perceptions statements is consistent with the methodology employed by the developers of SERVQUAL.

Decisions to modify the SERVQUAL instrument were based on the relevancy of the questions to hospital services and on the ability of patients to respond to the questions without experiencing confusion or undue frustration. A pretesting also conducted with ten patients at the KNUST hospital helped in modifying the scale. The pretesting indicated that respondents perceived some of the items included in the scale to be redundant. Because this redundancy led to frustration and low response rates, the researcher with input from the supervisor agreed to reduce the number of items.

The last part of the instrument contained a question about patients' overall quality of healthcare received, and a question about whether or not they had any difficulty acquiring NHIS approved drugs. The “overall quality of healthcare received” question was measured on a five-point Likert scale with end points labeled "excellent" and "very poor."

Finally, a five-point Likert response format (ranging from "strongly agree = 5" to "strongly disagree = 1") was adopted for the SERVQUAL scale instead of the original seven-point scale format.

This modification was based on the experience of previous surveys, which indicated that the five-point format reduced the frustration level of the respondent and increased the response rate.

All the questions were multiple-choice and close-ended questions. Because of being closed-ended and multiple-choice in nature, the results of the questions were easy to compare, tabulate and analyze.

3.8 Data Analysis

The information from the questionnaires was imputed into an electronic spreadsheet to organize the data for analysis. Data analysis in this study included the use of descriptive statistics and inferential analysis. The descriptive statistics included the use of percentages, minimum and maximum values based on the level of measurement of the variable under consideration. The SPSS package was employed for data entry, tabulations, frequencies and charts to attain a good visual impression regarding the presentation of results and findings Reliability analysis will also be conducted using SPSS.

Finally, the STATA software was used in estimating the ordered probit model.

CHAPTER FOUR

EMPIRICAL RESULTS, ANALYSIS AND DISCUSSION

4.0 Introduction

The objective of the analysis of primary data collected from survey as presented in the previous chapter was to answer the research questions of the study which included finding out the difference in service quality provided by NHIS accredited health facilities in the Ejisu-Juaben municipality and assessing factors that affected the quality of healthcare received by patients.

Data analysis for this study was done in two steps, the preliminary analysis and the main analysis. The preliminary analysis involved mainly descriptive statistics to summarize the data and demographic characteristics of the respondents. The main analysis included reliability analysis of the SERVQUAL model, calculation of quality gap scores for the various healthcare facilities and a presentation of estimates of the parameters of the ordered probit regression results.

4.1 Descriptive Statistics

Table 4.1: Descriptive statistics of respondents

Characteristics		Percentage (%)	Frequency
Gender	Male	27.78	100
	Female	72.22	260
Education Level	Not educated	10.28	37
	Basic	35.00	126
	Secondary	35.83	129
	Tertiary	18.89	68
Marital Status	Single	31.94	115
	Married	52.50	189
	Divorced	6.61	25
	Widow/Widower	8.61	31
Drug Access	Yes	30.28	109
	No	69.72	251

4.1.1 Personal Profile of Respondents

A total of 360 NHIS subscribers were interviewed for the study. Females made up majority of the respondents represented 72.22% while males represented 27.78%. The youngest person interviewed for the study was 16 years while the oldest was 82 years. 10.28% of the patients were not educated while 35%, 35.83% and 18.89% had basic, secondary and tertiary educations respectively.

Most of the respondents were married making up 52.50%, followed by those who were single representing 31.94% of the respondents. Widows/widowers and divorcees made up the rest representing 8.61% and 6.61% respectively.

Respondents were asked if they had any difficulty acquiring NHIS approved drugs; a majority of the patients (69.72%) answered no with the remaining 30.28% answering yes. This result showed that on the whole, most people had access to NHIS approved drugs in the Ejisu-Juaben municipality.

4.2 SERVQUAL Gap Analysis

The adequacy of the SERVQUAL scale for assessing service quality received by patients in the hospital environment was examined in accordance with the recommendations provided in the recent measurement literature (e.g., Anderson and Gerbing, 1988; Bagozzi and Yi, 1988; Churchill 1979). Therefore, the analyses conducted related to the scale's reliability. Reliability assessments were based on the internal consistency of the items (using cronbach's alpha) representing the same dimension of service quality as well as the overall scale.

4.2.1 Reliability Coefficient Discussion

The internal consistency of the SERVQUAL items was assessed by computing the total reliability scale. The total reliability scale for the study was 0.867, indicating an overall reliability factor a bit lower than that of Parasuraman *et al,* (1988) study which was 0.92. This value was however substantial considering the fact that the highest reliability value that could be obtained is 1. This indicated that the items of the five dimensions of the SERVQUAL model were acceptable for analysis.

Reliability analyses were then conducted for expectations and perceptions separately. Table B1 and B2 in the appendix shows the reliability scale for expectations and perceptions respectively. It also shows the reliability scale when an item was deleted from the dimension in order to see if the deleted item was genuine or not. In case cronbach's alpha increases when an item was deleted, it meant that the item was not genuine. From Table B1 and B2, it was realized that all the items showed a lower value of reliability when deleted. These drops in alphas indicated that all 30 items were useful and contributed to the overall reliability of the data.

Corrected item-to-total correlations were also examined; that is, the scores for an item and the summated score of the rest of the items comprising a subscale (e.g., the subscale measuring the tangibles dimension of service quality). Of the individual expectation items, none of the items had a correlation with the total scores that was lower than the 0.30 cut-off value suggested by de Vaus (2004) or the 0.35 cut-off value suggested by Saxe and Weitz (1982). The item-to-total correlations for the expectations scale ranged from 0.411 to 0.584. The cronbach's alpha values for the expectations subscales were 0.549, 0.647, 0.467, 0.504, and 0.474 for tangibles, reliability, responsiveness, assurance, and empathy respectively.

Cronbach's alpha values for the perceptions subscales were 0.712, 0.793, 0.793, 0.708, and 0.786 for tangibles, reliability, responsiveness, assurance, and empathy respectively. All the coefficients were higher than 0.7 meaning that, these dimensions comprising of various items showed a true measure of service quality (Chingang, 2010). None of the item-to-total correlations for the perception items were less than the 0.30 or 0.35 cut-off value; the values ranged from 0.472 to 0.691.

Reliabilities for linear combinations of the five subscales were also computed to assess the overall internal consistency of the expectations and perceptions measures. The overall cronbach's alpha values were 0.859 and 0.911 for expectations and perceptions respectively. These values suggested that both measures exhibited desirable levels of internal consistency at the aggregate level.

4.2.2 Patient's Expectations, Perceptions (quality received) and Gap Scores (quality provided) for Private, Public and Faith Based Health Facilities.

Table 4.2: (Perceptions – Expectations) Scores

Faith Based Health Facilities			
Dimension	**Expectation Score**	**Perception Score**	**Gap Score**
Reliability	4.6028	2.6611	-1.9417
Responsibility	4.5056	2.4028	-2.1028
Assurance	4.5389	2.8917	-1.6472
Empathy	4.5528	2.9889	-1.5639
Tangibles	4.5139	2.7833	-1.7306
Private Health Facilities			
Dimension	**Expectation Score**	**Perception Score**	**Gap Score**
Reliability	4.5222	3.2111	-1.3111
Responsibility	4.4528	3.1611	-1.2917
Assurance	4.4333	3.0056	-1.4278
Empathy	4.4500	3.0833	-1.3667
Tangibles	4.5639	3.3750	-1.1888

Public Health Facilities			
Dimension	**Expectation Score**	**Perception Score**	**Gap Score**
Reliability	4.5999	2.0472	-2.5528
Responsibility	4.5305	1.9889	-2.5416
Assurance	4.4556	2.3472	-2.1667
Empathy	4.5417	2.2611	-2.2806
Tangibles	4.5944	2.3222	-2.2722

Expectations and perceptions were both measured using a 5-point likert scale (ranging from strongly disagree – strongly agree) whereby higher numbers indicated higher a level of expectation or quality received. The results from Table 4.2 showed that, in general patient's expectations exceeded the level of quality received. This resulted in negative gap scores (Perception – Expectation). According to Parasuraman *et al,* (1988) it is however common for patient's expectation to exceed the actual level of quality received and this signifies that there is always the need for improvement.

The reliability dimension which comprised of questions such as "excellent hospitals provide a service at the time they promised to do and doctors and nurses showed sincere interest in helping patients" had the highest expectation scores for both public and faith based health facilities. The scores were 4.5999 and 4.6028 respectively while the tangible dimension had the highest expectation score (4.5639) for private health facilities. However, these scores were not very different from the scores of the other dimensions and it generally implied that, patients expected a high quality of care from all the health facilities.

Perception scores were generally lower than expectation scores for all the three types of NHIS accredited facilities. Private health facilities had the highest perception scores for all quality

dimensions with the highest being the tangible dimension (3.3750). Faith based health facilities had the second highest perception scores followed by public health facilities, which performed poorly across all quality dimensions with the lowest perception score going to the responsibility dimension (1.9889).

The gap scores are the differences between the perceptions and expectations scores and these scores measured healthcare service quality. The more perceptions were closer to expectations, the higher the level of quality provided. All gap scores for the three types of NHIS accredited facilities were negative. This meant that, the health facilities provided a lesser quality of care than patients expected.

4.2.3 Comparison of the Quality of Healthcare provided by Private, Public and Faith Based Health Facilities.

Table 4.3: **SERVQUAL Gap Scores (Quality Provided)**

Dimension	**Private Health Facilities**	**Public Health Facilities**	**Faith Based Health Facilities**
Reliability	-1.3111	-2.5528	-1.9417
Responsibility	-1.2917	-2.5416	-2.1028
Assurance	-1.4278	-2.1667	-1.6472
Empathy	-1.3667	-2.2806	-1.5639
Tangibles	-1.1888	-2.2722	-1.7306
Overall Quality	**-1.3172**	**-2.3628**	**-1.7972**

The gap scores were calculated based on the difference between the patients' perceptions and expectations of services offered by healthcare facilities in Ejisu-Juaben municipality.

Comparing the quality of care provided, the results showed that private health facilities offered the highest quality of healthcare on all five dimensions (reliability, responsibility, assurance, empathy and tangible); followed by faith based then the public health facilities.

Private health facilities performed very well on the tangible dimension (-1.1888) which meant that, their clients were most satisfied with their physical installation, equipment, cleanliness of the premises and the appearance of the employees. The responsibility dimension was second with a gap score of (-1.2917); this dimension dealt with issues such as health workers always being available for the patient's needs and the time it took for patient's to receive care. Private facilities were thus prompter in providing services than the faith based and public health facilities. Reliability (-1.3111) and empathy (-1.3667) dimensions followed in that order. The assurance dimension (-1.4278) which constituted issues such as hospital employees being knowledgeable and treating patients with respect had the largest gap score. This meant that private health facilities performed poorly on this quality dimension; however in comparison with public and faith based facilities, they actually performed well.

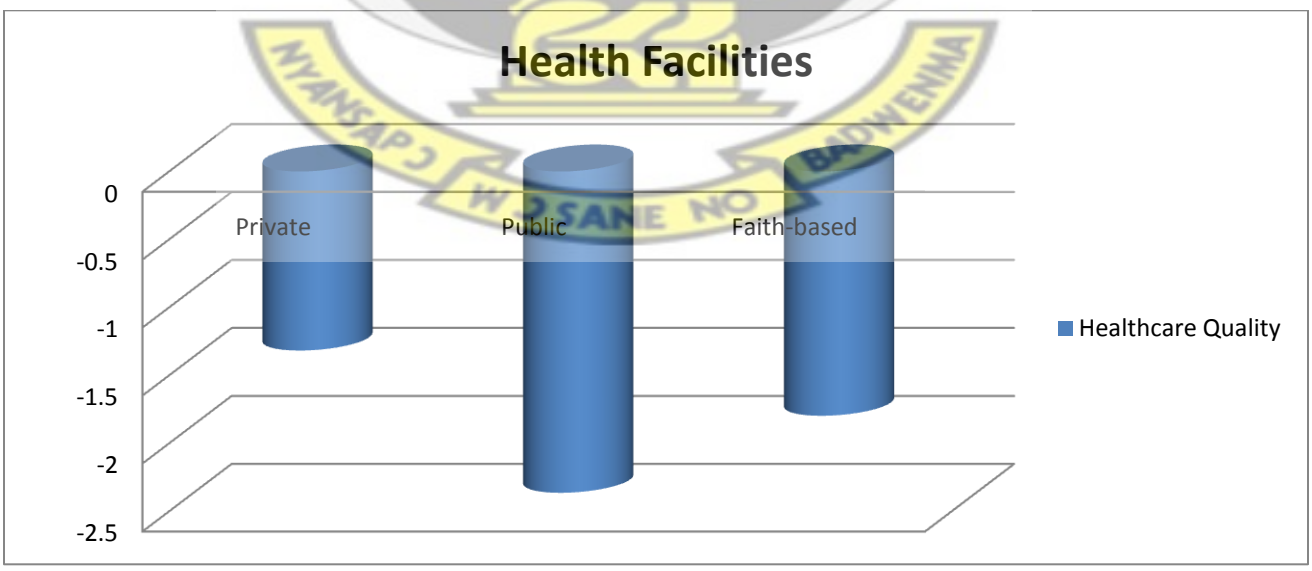
Faith based health facilities came in second. Their quality dimensions in order of how well they performed were; empathy (-1.5639), assurance (-1.6472), tangibles (1.7306), reliability (-1.9415) and responsibility (-2.1028). The facilities performed very well on the empathy dimension, which was about understanding the specific needs of patients and giving them individual attention. This result was no surprise as most the patients interviewed in faith based health facilities commended the facilities on the personal attention given to them.

Faith based health facilities however, performed poorly on the responsibility dimension, which meant they were not providing prompt services.

Public health facilities had the largest gap scores for all five quality dimensions when compared to faith based and private health facilities. The largest gap score existed in the reliability dimension (-2.5528) which constituted issues such as if employees of the hospital showed sincere interest in helping patients. Special attention must be given to this aspect of service quality since reliability is the most important quality dimension to the patient (Bateson and Hoffman, 2001) and if this was the quality dimension that patients were least satisfied with then there is a serious problem with the quality of care provided by public facilities and there is the need for improvement. However public health facilities performed well on the assurance dimension (-2.1667); the low assurance gap score was consistent with patient's responses when asked why they chose to visit a public facility. Most patients responded that, they had confidence in the public healthcare system than the private.

4.2.4 Overall Healthcare Quality

Figure 4.1



According to Parasuraman *et al*, (1988), overall service quality is measured by obtaining an average gap score of the SERVQUAL dimensions. In this regard, overall healthcare quality was calculated as received by patients.

Fig 4.1 showed that all patients expected more from healthcare facilities in Ejisu-Juaben than they were actually offered. This was evident from the overall negative gap scores. Among the three types of facilities; the private (-1.3172) provided the highest healthcare quality, followed by the faith based (-1.7972) with the public (-2.3638) providing the least quality of care.

These findings have some important implications, especially for public health facilities, as their gap scores were much larger for all dimensions when compared to the private and faith based facilities.

The huge gaps imply mismanagement in public health facilities. The nonprofit nature of these facilities might also be one of the causes of this problem, since they are funded by the government (Yesilanda and Direkor, 2010).

Private health facilities on the other hand, were much better service providers. The small gap scores can be explained by their incentive structure. Unlike public facilities which have no profit concerns, private facilities are profit organizations that have to raise their own funds, use their resources efficiently as they are not guaranteed by the taxpayer. Besides, private healthcare facilities compete among each other and with the other health facilities in the region.

Faith based health facilities also provided a higher quality of healthcare than the public facilities but fell short to the private facilities. This high quality exhibited by faith based facilities could be a result of their religious background and the fact that these facilities were established to provide quality healthcare for members of the society.

The high quality of private healthcare relative to public healthcare is consistent with other studies such as (Walker *et al*. 2001; Aljunid, 1995; Yesilanda and Direkor, 2010) who demonstrated that, private health providers can deliver adequate health services than the public sector. Nketiah-Amponsah (2009) and Agha & Do (2009) also concluded that private facilities were superior to public sector facilities regarding physical infrastructure and availability of services.

The relatively low level of consumer satisfaction of public health care vis-à-vis private health care might be attributable to the general job dissatisfaction and lack of motivation among public sector healthcare providers. Agyepong *et al*, (2004) highlighted the workplace obstacles that caused dissatisfaction and de-motivated staff in Ghana's public health sector. Among the obstacles the authors mentioned in order of importance were low remuneration; lack of essential equipment and tools to work with; delayed promotion; difficulties and inconveniences with transportation to work; staff shortages and housing. The authors concluded that given the workplace obstacles that de-motivate staff and negatively influence their performance, the public sector can hardly provide high quality care.

4.2.4 Patient's Expectations, Perceptions (received quality) and Gap Scores in Rural and Urban Health Facilities

Table 4.4: (Perception-Expectation) Scores

Rural Health Facilities			
Dimension	**Expectation Score**	**Perception Score**	**Gap Score**
Reliability	4.6113	2.4704	-2.1407
Responsibility	4.5074	2.2352	-2.2722
Assurance	4.5111	2.7722	-1.7388
Empathy	4.5463	2.8019	-1.7444
Tangibles	4.5407	2.6093	-1.9315

Urban Health Facilities			
Dimension	**Expectation Score**	**Perception Score**	**Gap Score**
Reliability	4.5500	2.8093	-1.7407
Responsibility	4.4852	2.7889	-1.6962
Assurance	4.4407	2.7240	-1.7167
Empathy	4.5130	2.7537	-1.7593
Tangibles	4.5741	3.0445	-1.5296

The results from Table 4.4 were not that different from the results from Table 4.2 which compared the quality of healthcare provided by private, public and faith based health facilities. Expectation scores were generally high while perception scores were generally low for both rural and urban NHIS accredited health facilities. The highest expectation score for rural health facilities existed in the reliability dimension (4.6113) while the lowest score was in the responsibility dimension (4.5072).

For urban facilities, the highest expectation score existed in the tangibles dimension (4.5741) which is normal since most people expect urban facilities to have a good physical appeal. However, the lowest expectation score existed in the assurance dimension (4.2207).

Perception scores for rural health facilities were lower than those for urban facilities in all quality dimensions except the empathy dimension. The lowest perception score for rural health facilities existed in the responsibility dimension (2.2352) while that for urban facilities was the assurance dimension (2.7240). Also, the highest expectation score for urban health facilities existed in the tangible dimension (3.0445) which is understandable since most urban health facilities have better and cleaner physical infrastructure.

4.2.5 Comparison of the Quality of Healthcare provided NHIS Accredited Health Facilities in Rural and Urban Areas.

Table 4.5: SERVQUAL Gap Scores (Quality Provided)

Dimension	Rural Health Facilities	Urban Health Facilities
Reliability	-2.1407	-1.7407
Responsibility	-2.2722	-1.6962
Assurance	-1.7388	-1.7167
Empathy	-1.7444	- 1.7593
Tangibles	-1.9315	-1.5296
Overall Quality	**-1.9655**	**-1.6885**

The second objective of the study was to compare the service quality offered by NHIS accredited facilities in rural and urban areas. Gap scores showed that in all five dimensions, received quality fell behind patient's expectations, which meant that both urban and rural health facilities failed to offer the expected quality of care.

Gap scores for all quality dimensions were larger with rural facilities than the urban except with the empathy dimension (1.7444) where rural facilities out performed those in urban areas (-1.7593). The reason for this could be that, most rural health facilities are smaller in size and are likely to have a smaller client base than their counterparts in urban areas. This would enable rural facilities to know their patients personally and thus be more sympathetic to their needs.

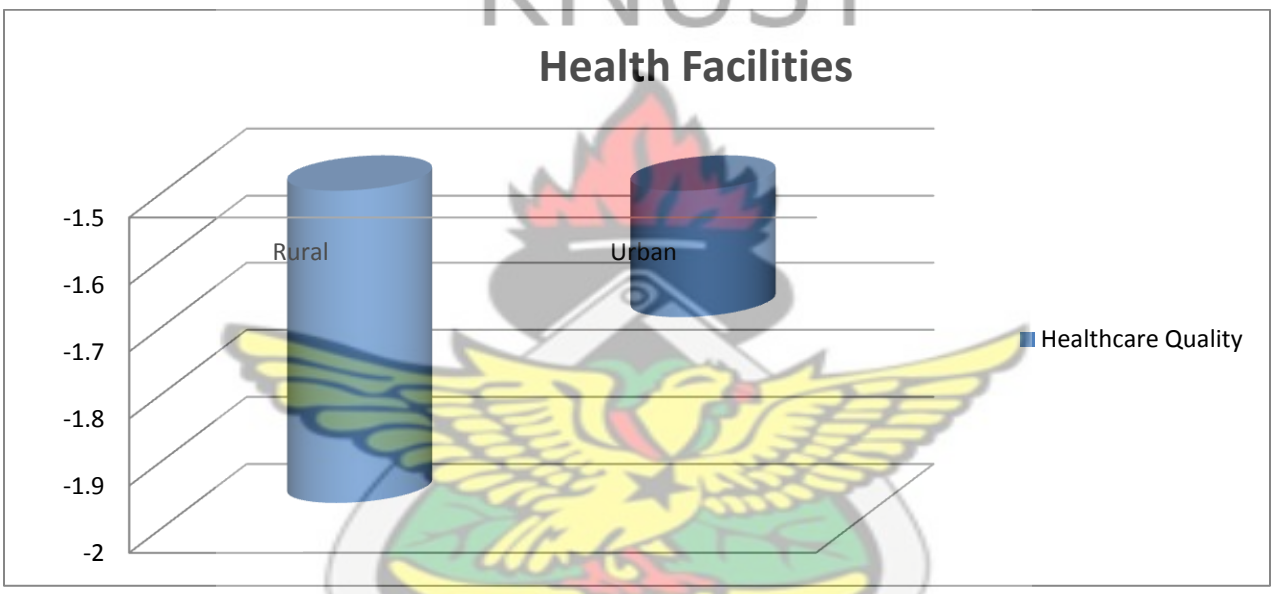
However, rural health facilities performed poorly on the responsibility dimension (-2.2722) which meant that, they were not prompt in providing services and it took longer for patients to see a doctor or receive care. It also meant that here were not enough doctors and nurses to serve the needs of clients.

For urban health facilities, they performed very well on the tangibility dimension (-1.5296) which meant that, they had better equipment, cleaner premises, neater staff and visually appealing facilities. They however performed poorly on the empathy dimension. This could be as a result of the large number of patients they attend to.

It must be noted that the gap scores between the facilities in the two areas were wide, especially for quality dimensions such as reliability, responsibility and tangibles. These wide gaps implied that urban health facilities were superior in providing quality healthcare.

4.2.6 Overall Healthcare Quality

Figure 4.2



The overall quality gap score for urban health facilities was (-1.6885) while that for rural health facilities was (-1.9655). This result clearly showed that NHIS accredited health facilities in urban areas provided a higher quality of healthcare than those in rural areas.

The quality gap between urban and rural health facilities was wide and as such measures need to be put in place to bridge this gap. This would ensure the NHIS subscriber so get equal quality of care irrespective of where they live and which health facility they visit.

4.3 Results of the Estimated Ordered Probit Regression

Table 4.6

Dependent variable: Received Quality				
Regressor	Coefficient	Standard Error	Z	P-Values
age	0.0207727	0.0042004	4.95	0.000
Gender				
female	-0.1310059	0.1323363	-0.99	0.322
Facility Location				
urban	0.4492901	0.1212843	3.70	0.000
Educational Status				
basic	-0.1092201	0.2078275	-0.53	0.599
secondary	-0.1308352	0.2248918	-0.58	0.561
tertiary	0.0031016	0.1236496	0.01	0.99
Access to NHIS Drugs				
drug_access	-0.2041735	0.2503001	-1.65	0.099
Cut1	-0.6170829	0.3211229		
Cut2	0.3650023	0.3198108		
Cut3	1.340238	0.3251808		
Cut4	2.16833	0.333276		
LR $CHI^2(7)$ = 53.14		Prob > chi^2 = 0.0000		N = 360
Pseudo R^2 = 0.0493		Log likelihood = -511.93312		

Table 4.6 presented the ordered probit regression results of factors that affected the quality of healthcare received by patients.

This model takes into consideration the ordinal nature of the quality variable and estimated the probability that a patient would rate the quality of healthcare received based on personal and provider characteristics. The control variables in the empirical estimation which encompassed socio-demographic factors were chosen with recourse to general empirical literature. Based on the data collected from patients in the Ejisu-Juaben municipality the ordered probit model was estimated using the STATA statistical package.

Table 4.6 showed estimates for the five-category measure of healthcare quality received. The dependent variable was coded 1 for very poor quality, 2 for poor quality, 3 for good quality, 4 for very good quality and 5 for excellent quality received. The likelihood ratio chi-square was 53.14 with a p-value of 0.0000 showed that the model as a whole was statistically significant.

Table 4.6 included the coefficients, their standard errors and z-ratios. It also included estimates of the threshold parameters or the cutpoints (the default in Stata is to exclude the constant term in order to identify the model). These were shown as cut1, cut2, cut3 and cut4 and implied that patients that had a value of the latent variable less than –0.6171 corresponded to a very poor quality of care received, a value between –0.6171 and 0.3650 corresponded to a poor quality of care received, a value between 0.3650 and 1.3402 corresponded to a good quality of healthcare received, a value between 1.3402 and 2.1683 corresponded to a very good quality of healthcare received, and a value above 2.1683 corresponded to an excellent quality of care received. It should be noted that the predicted value of quality received by a patient, where all of the explanatory variables equal zero, is zero. If the value lies between 1.340 and 2.1683 than the patient would be predicted to report a very good quality of healthcare received.

The results also showed the estimated parameters of each independent variable and their significance level. The signs for the parameters of the independent variables reflect the variables' effect on the quality of care received by patients. A positive sign meant that an increase of the value of the variable will increase the probability of patients receiving a higher quality of healthcare and decrease the probability of receiving a lower quality of care.

Of the five independent variables, two (age and location) variables were statistically significant with educational status, gender and drug access not being statistically significant.

The positive value for age suggested that older patients were more likely to receive a higher quality of healthcare than young patients. The reason for this result could be that, society is more concern about the health needs the aged than the young since they have a higher health depreciation rate. Also, the Ghanaian culture demands that people be more polite and sympathetic to older people.

The positive value for facility location meant that, patients who attended urban health facilities as compared to those who attended rural facilities tend to receive a higher quality of healthcare. This result was consistent with the SERVQUAL analysis above, which actually proved that NHIS subscribers who attended urban health facilities received a higher quality of care.

In chapter one it was hypothesized that the location of a health facility does not affect the quality of healthcare received by patients. This regression results showed that since the p-value of location was less was than 0.05, the null hypothesis was rejected and it was concluded that the location of a health facility does affect the quality of healthcare received by patients.

Having established a significant positive influence of age and facility location on the quality of healthcare received by patients; marital status was added to the explanatory variables to examine the influence of the former on the latter. Hence the ordered probit regression results below.

Table 4.7

Dependent variable: Received Quality				
Regressor	Coefficient	Standard Error	Z	P-Values
age	0 .0087798	0.0062986	1.39	0.163
Gender				
female	-0.2044517	0.1346621	-1.52	0.129
Facility Location				
urban	0.5210567	0.1231974	4.23	0.000
Marital Status				
married	-0.5958551	0.2710838	-2.20	0.028
single	-0.934286	0.3406278	-2.74	0.006
divorced	-0.6392083	0.3012498	-2.12	0.034
Educational Status				
basic	-0.0804913	0.2122227	-0.38	0.704
secondary	-0.1094804	0.2279271	-0.48	0.631
tertiary	0.0061069	0.2548277	0.02	0.981
Access to NHIS Drugs				
drug_access	-0.2233899	0.1241005	-1.80	0.072
Cut1	-1.748656	0.5248136		
Cut2	-0.7488151	0.52102		
Cut3	0.2390868	0.5222243		
Cut4	1.081862	0.52336		

LR $CHI^2(10) = 64.30$	Prob > $chi^2 = 0.0000$	N = 360
Pseudo $R^2 = 0.0597$	Log likelihood = -506.35606	

The likelihood ratio chi-square was 64.30 with a p-value of 0.0000 showed that the model as a whole was statistically significant. The estimates of the threshold parameters or the cutpoints were shown in table 4.7 as cut1, cut2, cut3 and cut4 and they imply that patients that had a value of the latent variable less than -1.7487 corresponded to a very poor quality of care received, a value between -1.7487 and -0.7488 corresponded to a poor quality of care received, a value between -0.7488 and 0.2391 corresponded to a good quality of healthcare received, a value between 0.2391 and 1.0819 corresponded to a very good quality of healthcare received, and a value above 1.0819 corresponded to an excellent quality of care received.

The estimated coefficients for marital status were negative. This result indicated that compared to widows or widowers; married, single and divorced patients were less likely to receive a higher quality of healthcare.

The two models estimated produced very interesting results since in the first model the age of patients was statistically significant however, in the second model with the inclusion of marital status, age became statistically insignificant.

This could be as a result of marital status being correlated with age. To find out if that was the case, the study sort to investigate the degree of correlation between the variables in the model using Pearson correlation coefficients.

4.4 Correlation Analysis

Table 4.8: Correlation Matrix

	quality	age	marstat	edulevel	location	drug access	gender
Quality	1						
age	0.2852	1					
marstat	0.1180	0.3723	1				
edulevel	-0.0063	-0.3691	-0.2171	1			
location	-0.2057	0.0332	0.0092	-0.3447	1		
drug access	0.1039	0.0580	-0.0253	0.0538	-0.0431	1	
gender	-0.0879	-0.0100	0.0312	-0.2999	0.0924	-0.1387	1

Table 4.8 depicts the correlation matrix of the variables.

Generally the correlation coefficients between the variables were quite low. However the highest correlation coefficient existed between age and marital status though this was a weak positive correlation. This result showed that age and marital status were correlated but the correlation was weak.

The results also indicated that, there existed a very weak positive correlation between age, marital status, access to drugs and the quality of healthcare received. There was also a very weak almost negligible negative correlation between educational status, gender and the quality of healthcare received. This result meant that a patient's educational status and gender was not correlated with the quality of healthcare they received.

4.5 Equity Discussion

According to Evans *et al,* (2001) equity in quality of care is achieved when all patients are assured the same quality of care, regardless of ability to pay or to any other independent variable. However, the results above showed that all patients were not assured the same quality of care under the NHIS. Patients who attended private health facilities received a higher quality of healthcare than those who attended faith based and public facilities. The results were the same for patients who attended NHIS accredited facilities in urban areas as compared to those attended in rural areas; as urban health facilities provide higher quality of care.

It must be noted that, it is the duty the NHIC which is the regulatory body of the NHIS to ensure that: the healthcare delivered is of reasonably good quality and standard; and basic healthcare services are of standards that are uniform throughout the country (NHIS, 2011). However, the huge quality gaps between accredited facilities in urban and rural areas clearly showed that the NHIC is not performing this duty adequately and policies must be put in place to correct this social injustice.

CHAPTER FIVE

SUMMARY OF FINGINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Summary of Empirical Findings

From the analysis carried out in order to answer the research questions and hence fulfill the purpose of the study which included; finding out if the SERVQUAL model was reliable in measuring healthcare quality in the Ejisu-Juaben health sector and empirically finding out factors that affect the quality of care received by NHIS clients.

The SERVQUAL model provided a satisfactory level of overall reliability (0.867). This result meant that the items of the five dimensions of the SERVQUAL model were acceptable for analysis and thus they were reliable or a true measure of healthcare quality.

From the gap analysis scores carried out, it was found that in general, patient's expectations of healthcare quality exceeded the actual level of quality received. This resulted in all gap scores for all quality dimensions in all healthcare facilities being negative. This meant that all patients expected more from healthcare facilities than they were actually offered.

Comparing the quality of care provided, the results showed that private health facilities offered the highest quality of healthcare on all quality dimensions (reliability, responsibility, assurance, empathy and tangible); followed by the faith (mission) based then the public facilities which performed poorly across all quality dimensions. This confirmed the notion in Ghana and elsewhere that private health delivery is synonymous with quality care (Boller *et al*. 2003; Jofre-Bonet, 2000; Walker *et al*. 2001; Aljunid, 1995).

Furthermore, the study found that private health facilities performed very well on the tangibility dimension but performed poorly on the assurance dimension, while the faith based performed very well on the empathy quality dimension but performed poorly on the responsibility dimension. Public health facilities on the other hand performed well on the assurance dimension but performed very poor on the reliability dimension.

Comparing the service quality offered by NHIS accredited facilities in rural and urban areas, the gap scores showed again that in all quality dimensions, received quality fell behind expected quality but in general, health facilities in urban areas provided a higher quality of healthcare than those in rural areas. Considering the individual dimensions; except on the empathy dimension where rural facilities did very well, urban health facilities outperformed the rural with them performing very well on the tangibility dimension. The study also showed that the most important quality dimensions to patients were the reliability and tangibility dimensions.

The study also found that the location of the health facility that a patient attended did affect the quality of healthcare they received. The positive value for location of the health facility meant that patients who attended urban health facilities tend to receive a higher quality of healthcare than patients who attended rural health facilities. This result was consistent with the results of the SERVQUAL analysis as the quality of healthcare provided by NHIS accredited healthcare facilities in urban areas was higher than that in rural areas.

A positive value was also attained for age which suggested that older patients tend to receive a higher quality of care than young patients. The study later showed that compared to widows or widowers; married, single and divorced patients were more likely to receive a lower quality of healthcare.

The study also showed from a correlation matrix that, marital status and age were positively correlated but the correlation was weak.

5.1 Conclusion

In this study efforts have been made to measure and compare the quality of healthcare provided by the different types of NHIS accredited facilities, as well as the quality between urban and rural health facilities. By employing the SERVQUAL model this study found that there is inequality in the provision of healthcare quality to NHIS subscribers. The study also found that SERVQUAL is a standard instrument for measuring functional service quality and it is reliable in the hospital environment.

The study also employed the ordered probit method and found that, the location of the health facility that the patient attended did affect the quality of healthcare they received.

In summary, this study has shown that healthcare provision in Ejisu-Juaben was not uniform and that some NHIS subscribers were benefiting more than others. This social injustice needs to be addressed hence the following recommendations below.

5.2 Recommendations

With regard to policy recommendations, the empirical results provided essential information for policy formulation and implementation. It must be admitted however that, the task of improving the quality of healthcare is by no means an easy one.

The findings of this study have important practical implications to management of healthcare facilities. The attributes of reliability and tangibility were identified by respondents to be the most important dimensions of service quality. Therefore health facilities in Ejisu-Juaben should conduct more research and find ways of improving their reliability and tangibility dimension.

Public health facilities in particular performed very poorly on the reliability dimension. Since this was one of the dimensions that was most important to patients; an improvement made on the reliability dimension would lead to a significant progress in the service quality and improve patient's satisfaction.

Thus, if these facilities are interested in improving on the quality of healthcare they provide, they should concentrate on issues like informing the patients about the exact time of service provision and providing the service at the promised time, showing sincere interest and willingness in understanding and solving the problems of patients and being courteous.

Management of faith based and rural health facilities should also put measures in place to improve on their responsibility dimension. They could start by improving on staff training, especially to train their staff to be more professional, time conscious and courteous when dealing with patients.

In general, the best way to address the quality concerns is for the management and stakeholders of the various health facilities to look at improving on aspects such as physical facilities, training of staff and communicating precise information on all activities to patients. They should also setup Quality Assurance Departments that constantly monitor the quality of healthcare they provide in order to quickly response to areas of quality shortfalls.

Furthermore, given the importance of quality health service provision and the need to provide uniform health services to the growth of the NHIS, there is the need for the MoH, in collaboration with the GHS and other stakeholders, to shift significant amount of resources towards rural areas and investment in healthcare delivery in order to bridge the quality gap between rural and urban health facilities.

Finally, it should be pointed out that SERVQUAL is designed to measure functional quality only (defined as the manner in which the healthcare service is delivered to the patient). However, functional quality in a healthcare setting cannot be sustained without accurate diagnoses and procedures. For the long-run success of the healthcare organization, both functional and technical quality needs to be monitored and managed effectively to ensure an improvement in the quality of care provided in Ghanaian health facilities.

5.3 Limitation of the Study

There were some limitations associated with this study that needed to be discussed. Firstly, the results obtained from this study cannot be generalised to a wide range of similar situations concerning health facilities because of the non-probability sampling technique used even though the methodology used in this study could be applied to these similar situations.

Also, the survey relied upon respondents' self-assessment of quality received. The reliance on self-recall of quality received can be somewhat problematic due to the fact that they could be influenced by factors outside healthcare delivery such as a patient having a personal grudge with one of the healthcare providers. This could affect the credibility of the results.

Attention must also be brought to the fact that ordered probit regressions are sensitive to larger sample sizes; so with a lager sample size, variables such as educational status, gender and drug access could have been statistically significant and thus improve the results of the study, but this was not possible due to time and resource constraint.

However, the above limitations are less significant compared to the importance of carrying out this type of study. Such a study should be carried out frequently in order to monitor healthcare quality and hence make necessary adjustments in case of any weaknesses or strengths.

5.4 Suggestions for further research

Further research should be carried out in order to enhance the understanding of the concepts of service quality in the hospital environment and how they are measured. A similar study could be conducted with a larger sample size so that results could be generalised to a larger population. This study can also be carried out in other districts and municipalities in order to find out the applicability of the SERVQUAL model in other healthcare facilities.

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APPENDIX A

QUESTIONAIRE

Dear Participants,

I am a MA Economics student of the Kwame Nkrumah University of Science and Technology and conducting a survey on the equity of the National Health Insurance Scheme in terms of quality received. Your responses will be treated confidentially and used for academic purpose only. Your participation in the study will be greatly appreciated. Thank you very much for your time and assistance.

1. Sex : Male ☐ Female ☐
2. Age …….
3. Marital Status : Married ☐ Single ☐ Divorced ☐ Widow/Widower ☐
4. Are You Educated? : Yes ☐ No ☐
5. If Yes Your Level Of Education

   Basic ☐ Secondary ☐ Tertiary ☐

6. Location of the Health Facility: Urban ☐ Rural ☐

The questions below are in two sections. The first section asks you to rank all hospitals according to your expectations i.e. what you expect all hospitals to provide. The second section asks you to rank the hospital you have visited or visiting according to your experiences and perceptions.

EXPECTATION QUESTIONS

This survey deals with your opinions on hospitals. Please show the extent to which you think hospital should posses the following features. What we are interested in here is a number that best shows your expectations about hospitals.

You should rank each statement as follows:

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
(1)	**(2)**	**(3)**	**(4)**	**(5)**

Questionnaire Items	1	2	3	4	5
R1: Excellent hospitals will provide a service at the time they promise to do so					
R2: Excellent hospitals are effective in treating malaria.					
R3: Doctors and Nurses show a sincere interest in helping patients in an excellent hospital.					
Res4: Employees of an excellent hospital will give prompt service to patients.					
Res5: It takes a short time before being seen by a doctor at an excellent hospital					
Res6: Doctors and Nurses are always available to serve the needs of patients in an excellent hospital.					
A7: Employees of an excellent hospital have the knowledge to answer questions of patients.					
A8: Employees of an excellent hospital treat patients with respect.					
A9: The behavior of employees of an excellent hospital instills confidence in patients					
E10: Excellent hospitals will have employees who give patients personal attention.					
E11: Doctors and Nurses are sympathetic to patients needs in excellent hospitals.					
E12: Excellent hospitals have operating hours convenient to all its patients.					
T13: The physical facilities at excellent hospitals will be visually appealing.					
T14: The premises of excellent hospitals are always clean and neat.					
T15: Employees of excellent hospitals are well dressed and clean.					

PERCEPTION QUESTIONS

The following statements relate to your experiences at XYZ Hospital. Please show the extent to which you believe XYZ Hospital has the features described in the statements below. Here, we are interested in a number from 1 to 5 that shows your perceptions about the Hospital.

You should rank each statement as follows:

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
(1)	**(2)**	**(3)**	**(4)**	**(5)**

Questionnaire Items	1	2	3	4	5
R1: XYZ Hospital provides a service at the time they promise to do so					
R2: XYZ Hospital is effective in treating malaria.					
R3: Doctors and Nurses show a sincere interest in helping you at XYZ Hospital.					
Res4: Employees of XYZ Hospital give you prompt services.					
Res5: It takes a short time before being seen by a doctor at XYZ Hospital.					
Res6: Doctors and Nurses are always available to serve your needs at XYZ Hospital.					
A7: Employees of XYZ Hospital have the knowledge to answer your questions.					
A8: Employees of XYZ Hospital treat you with respect.					
A9: The behavior of employees of XYZ Hospital instills confidence in you.					
E10: XYZ Hospital employees give you personal attention.					
E11: Doctors and Nurses at XYZ Hospital are sympathetic to your needs.					
E12: The operating hours of XYZ Hospital is convenient for you.					
T13: The physical facilities at the XYZ Hospital are visually appealing.					
T14: The premises of XYZ Hospital are always clean and neat.					
T15: Employees of XYZ Hospital are well dressed and clean.					

7. How would you rate the overall quality of health services received at the XYZ Hospital?

Excellent ☐ Very Good ☐ Good ☐ Bad ☐ Very Bad ☐

8. Do you have any difficulty in acquiring NHIS approved drugs?

Yes ☐ No ☐

PS: During the actual administering of the questionnaires 'XYZ hospital' in the perception part was replaced with the name of the health facility where the data was being collected.

APPENDIX B

Table B1 Items, Corrected Item-Total Correlation, Cronbach's Alpha if Item Deleted. Dimension's Cronbach's Alpha for expectations

Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Dimension's Cronbach's Alpha
Er1	0.572	0.846	
Er2	0.584	0.846	0.657
Er3	0.483	0.851	
Eres4	0.432	0.854	
Eres5	0.529	0.849	0.467
Eres6	0.499	0.850	
Ea7	0.521	0.849	
Ea8	0.476	0.851	0.504
Ea9	0.411	0.855	
Ee10	0.517	0.849	
Ee11	0.433	0.854	0.474
Ee12	0.469	0.852	
Et13	0.489	0.851	
Et14	0.483	0.851	0.549
Et15	0.536	0.848	
Cronbach's Alpha for expectations = 0.859			

Table B2 Items, Corrected Item-Total Correlation, Cronbach's Alpha if Item Deleted. Dimension's Cronbach's Alpha for perceptions

Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Dimension's Cronbach's Alpha
Pr1	0.682	0.903	
Pr2	0.681	0.903	0.793
Pr3	0.691	0.902	
Pres4	0.648	0.904	
Pres5	0.599	0.906	0.793
Pres6	0.601	0.905	
Pa7	0.512	0.908	
Pa8	0.608	0.905	0.708
Pa9	0.562	0.907	

Pe10	0.602	0.906	
Pe11	0.571	0.907	0.768
Pe12	0.610	0.905	
Pt13	0.636	0.904	
Pt14	0.621	0.905	0.712
Pt15	0.472	0.910	
	Cronbach's Alpha for Perceptions = 0.911		

Table B3 {Perception- Expectations} scores for Faith Based Hospitals

		Expectations						Perceptions						
		Frequency of responses						Frequency of responses						
		1	2	3	4	5	Average	1	2	3	4	5	Average	**(P-E)**
Rel	1	2	0	2	32	84	4.6333	60	18	23	18	1	2.0167	**-2.6163**
	2	0	3	1	35	81	4.6167	8	40	36	32	4	2.8667	**-1.7500**
	3	0	0	5	43	72	4.5583	13	25	28	45	9	3.1000	**-1.4583**
													Average Reliability = -1.9415	
Res	4	0	0	10	47	63	4.4417	33	40	25	20	2	2.3167	**-2.1250**
	5	0	1	5	47	67	4.5000	32	36	34	18	0	2.3167	**-2.1833**
	6	0	1	3	42	74	4.5750	29	40	15	31	5	2.5750	**-2.0000**
													Average Responsibility = -2.1028	
Asu	7	0	0	7	43	70	4.5250	10	44	54	11	1	2.5750	**-1.9500**
	8	0	2	3	42	73	4.5500	10	23	29	46	12	3.2250	**-1.3250**
	9	0	0	7	41	72	4.5417	11	32	43	29	5	2.8750	**-1.6667**
													Average Assurance = -1.6472	
Emp	10	1	0	4	36	79	4.6000	16	27	25	44	8	3.0083	**-1.5917**
	11	0	1	5	39	75	4.5667	16	25	26	38	15	3.0917	**-1.4750**
	12	0	0	12	37	71	4.4917	14	32	34	36	4	2.8667	**-1.6250**
													Average Empathy = -1.5639	
Tan	13	0	1	3	48	68	4.5250	33	36	18	29	4	2.4583	**-2.0667**
	14	0	2	12	31	75	4.4917	30	35	20	28	7	2.5583	**-1.9334**
	15	2	0	6	37	75	4.5250	8	20	27	54	11	3.3333	**-1.1917**
													Average Tangibility = -1.7306	
	Overall Average= -1.7972													

Table B4 {Perception- Expectations} scores for Private Hospitals

		Expectations						Perceptions						
		Frequency of responses						Frequency of responses						
		1	2	3	4	5	Average	1	2	3	4	5	Average	(P-E)
Rel	1	0	0	5	47	68	4.5250	7	31	23	55	4	3.1500	**-1.3750**
	2	0	0	5	45	70	4.5417	1	29	34	53	3	3.2333	**-1.3084**
	3	0	0	7	40	73	4.5000	10	18	33	50	9	3.2500	**-1.2500**
	Average Reliability = -1.3111													
Res	4	0	0	6	49	65	4.4917	6	26	37	40	11	3.2000	**-1.2917**
	5	0	0	7	52	61	4.4500	7	29	34	41	9	3.1333	**-1.3167**
	6	0	0	8	54	58	4.4167	7	21	44	43	5	3.1500	**-1.2667**
	Average Responsibility = -1.2917													
Asu	7	0	1	9	49	61	4.4167	11	34	46	23	6	2.8250	**-1.5917**
	8	0	0	5	59	56	4.4250	9	26	29	44	12	3.2000	**-1.2250**
	9	0	0	5	55	60	4.4583	9	31	40	32	8	2.9917	**-1.4666**
	Average Assurance = -1.4278													
Emp	10	0	0	6	55	59	4.4417	13	27	25	49	6	3.0667	**-1.3750**
	11	0	0	4	58	58	4.4500	15	24	38	37	6	2.9583	**-1.4917**
	12	0	0	6	53	61	4.4583	6	28	31	43	12	3.2250	**-1.2333**
	Average Empathy = -1.3667													
Tan	13	0	0	8	40	72	4.5333	9	21	31	49	10	3.2500	**-1.2833**
	14	0	0	5	46	69	4.5333	5	23	30	46	16	3.3750	**-1.1583**
	15	0	0	5	35	80	4.6250	6	13	34	49	18	3.5000	**-1.1250**
	Average Tangibility = -1.1888													
	Overall Average= -1.3172													

Table B5 {Perception- Expectations} scores for Public Hospitals

		Expectations						Perceptions						
		Frequency of responses						Frequency of responses						
		1	2	3	4	5	Average	1	2	3	4	5	Average	(P-E)
Rel	1	0	1	3	32	84	4.6583	72	28	8	12	0	1.6667	**-2.9916**
	2	0	0	5	32	83	4.6500	16	28	8	12	0	2.2417	**-2.4083**
	3	0	0	4	53	63	4.4917	25	55	27	13	0	2.2333	**-2.2584**
	Average Reliability = -2.5528													
Res	4	0	1	3	42	74	4.5750	41	54	16	9	0	1.9417	**-2.6333**
	5	0	0	6	44	70	4.5333	39	52	20	9	0	1.9917	**-2.5416**
	6	0	0	7	48	65	4.4833	32	58	24	6	0	2.0333	**-2.4500**
	Average Responsibility = -2.5416													
Asu	7	0	0	8	52	60	4.4333	22	51	31	16	0	2.3417	**-2.2666**
	8	0	0	8	45	67	4.4917	25	53	21	19	2	2.3333	**-2.1584**
	9	0	0	3	61	56	4.4417	28	36	41	14	1	2.3667	**-2.0750**
	Average Assurance = -2.1667													
Emp	10	0	0	5	45	70	4.5417	35	51	14	19	1	2.1667	**-2.3750**
	11	0	0	6	51	63	4.4750	19	63	23	15	0	2.2833	**-2.1917**
	12	0	0	5	37	78	4.6083	23	48	38	8	3	2.3333	**-2.2750**
	Average Empathy = -2.2806													

Tan	13	0	0	6	44	70	4.5333	45	48	18	9	0	1.9250	**-2.6083**
	14	0	0	4	38	78	4.6167	27	58	23	12	2	2.1667	**-2.4500**
	15	0	0	3	38	79	4.6333	6	34	51	27	2	2.8750	**-1.7583**
	Average Tangibility = -2.2722													
	Overall Average= -2.3628													

Table B6 {Perception- Expectations} scores for Rural Hospitals

		Expectations						**Perceptions**						
		Frequency of responses						Frequency of responses						
		1	2	3	4	5	Average	1	2	3	4	5	Average	**(P-E)**
Rel	1	2	0	3	49	126	4.6500	100	27	27	25	1	1.8889	**-2.7611**
	2	0	3	4	52	121	4.6167	15	75	46	4 0	4	2.6833	**-1.9334**
	3	0	0	7	64	109	4.5667	25	51	41	54	9	2.8389	**-1.7278**
	Average Reliability = -2.1407													
Res	4	0	1	11	69	99	4.4778	56	67	29	26	2	2.1722	**-2.3056**
	5	0	1	8	72	99	4.4944	50	66	43	21	0	2.1944	**-2.3000**
	6	0	1	7	64	108	4.5500	49	66	25	35	5	2.3389	**-2.2111**
	Average Responsibility = -2.2722													
Asu	7	0	0	13	65	102	4.4944	19	69	69	22	1	2.5389	**-1.9555**
	8	0	2	9	62	107	4.5222	23	41	40	62	14	3.0167	**-1.5055**
	9	0	0	8	71	101	4.5167	21	52	62	39	6	2.7611	**-1.7556**
	Average Assurance = -1.7388													
Emp	10	1	0	5	60	114	4.5889	32	50	28	61	9	2.8056	**-1.7833**
	11	0	1	8	64	107	4.5389	22	57	36	50	15	2.8833	**-1.6556**
	12	0	0	15	58	107	4.5111	30	48	5.2	43	7	2.7167	**-1.7944**
	Average Empathy = -1.7444													
Tan	13	0	1	7	66	106	4.5389	58	59	26	33	4	2.2556	**-2.2833**
	14	0	2	14	52	112	4.5222	49	65	27	32	7	2.3500	**-2.1722**
	15	2	0	7	57	114	4.5611	12	35	47	73	13	3.2222	**-1.3389**
	Average Tangibility = -1.9315													
	Overall Average= -1.9655													

Table B7 {Perception- Expectations} scores for Urban Hospitals

		Expectations						Perceptions						
		Frequency of responses						Frequency of responses						
		1	2	3	4	5	Average	1	2	3	4	5	Average	**(P-E)**
Rel	1	0	1	7	62	110	4.5611	39	50	27	60	4	2.6667	**-1.8944**
	2	0	0	7	60	113	4.5889	10	64	47	56	3	2.8778	**-1.7111**
	3	0	0	9	72	99	4.5000	23	47	47	54	9	2.8833	**-1.6167**
	Average Reliability = -1.7407													
Res	4	0	0	8	69	103	4.5278	24	53	49	43	11	2.8000	**-1.7278**
	5	0	0	10	71	99	4.4944	28	51	45	47	9	2.7667	**-1.7277**
	6	0	0	11	80	89	4.4333	19	53	58	45	5	2.8000	**-1.6333**
	Average Responsibility = -1.6962													
Asu	7	0	1	11	79	89	4.4222	24	60	62	28	6	2.6222	**-1.8000**
	8	0	0	7	84	89	4.4556	21	61	39	47	12	2.8222	**-1.6334**
	9	0	0	7	86	87	4.4444	27	47	62	36	8	2.7278	**-1.7166**
	Average Assurance = -1.7167													
Emp	10	0	0	10	60	110	4.5556	32	55	36	51	6	2.6889	**-1.7778**
	11	0	0	7	84	89	4.4556	28	55	51	40	6	2.6722	**-1.7834**
	12	0	0	8	69	103	4.5278	13	60	51	44	12	2.9000	**-1.6278**
	Average Empathy = -1.7297													
Tan	13	0	0	10	66	104	4.5222	29	46	41	54	10	2.8333	**-1.6889**
	14	0	0	7	63	110	4.5722	13	51	46	54	16	3.0500	**-1.5222**
	15	0	0	7	53	120	4.6278	8	32	65	57	18	3.2500	**-1.3778**
	Average Tangibility = -1.5296													
	Overall Average= -1.6826													

Table B8 Summary statistics of variables used in the empirical models

Variable	Obs	Mean	Std. Dev.	Min	Max
rating	360	2.891667	1.118065	1	5
age	360	36.80556	15.11869	16	82
urban	360	0.430557	0.495843	0	1
female	360	0 .722222	0.448527	0	1
married	360	0.525000	0.500070	0	1
single	360	0.319444	0.466910	0	1
divorced	360	0.069444	0.254562	0	1
basic	360	0.350000	0.477633	0	1
secondary	360	0.358333	0.480178	0	1
tertiary	360	0.188889	0.391965	0	1
drug_access	360	0.302778	0.460099	0	1