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Socio-economic and Cultural Determinants of Health Care Services Utilization in Ghana

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SOCIO-ECONOMIC AND CULTURAL DETERMINANTS OF HEALTH CARE
SERVICES UTILIZATION IN GHANA.

By

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Bachelor of Science in Health Care Administration
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A thesis submitted in partial fulfillment of the requirements for the

Master of Health Care Administration

Department of Health Care Administration and Policy
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We recommend the thesis prepared under
our supervision by

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ABSTRACT

Socio-Economic and Cultural Determinants of Health Care Services Utilization in Ghana

by

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Under the Supervision of Professors:

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The study examines the relationship between socio-economic and cultural determinants of health care service utilization in Ghana using Ghana Demographic and Health Survey (GDHS) 2008 data collected by Ghana Statistical Service (GSS) in which a two-stage sample design was used. The first stage involved a systematic sampling, with probability proportional to size, of 412 clusters using the 2000 Ghana Population and Housing Census as the sampling frame. At the second stage, systematic samples of 30 households from each cluster were selected, making a total of 12,360 sampled households. According to the GSS, data were not collected in some of the selected households due to security reasons, resulting in a final sample of 12,323 selected households. This study uses the individual dataset in which data on individual household members between the ages of 15 and 49 are compiled. These filters result in a sample of

4,913 individuals who reported sick as the sample for this study. The older people are known to be the usual utilizers of health care services; therefore the study concentrates on younger group...

Binary logistic regression model was used with healthcare utilization as the dependent variable. Health care service utilization was measured as a binary variable among those who fell sick in the past three months. The socio-economic and cultural factors that determine health care service utilization were identified based on Andersen (1968). The results indicated that age, sex, social status, marital status, education, ethnicity, religion, and family size, employment, and type of occupation were statistically significant in determining health care service utilization in Ghana. Based on these findings, there is the need for creation of more job opportunities to address the unemployment problem in Ghana. This will improve people's social status and there improve their health care utilization. Also the labor law of Ghana should make provision for employees to be able to utilize health care services when they get sick since those working are less likely to utilize health care services.

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DEDICATION

To my husband and best friend Simon; thank you for the support, care, and guidance, and also for believing in me. And to my lovely daughters: Sena and Sitsope.

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CHAPTER ONE INTRODUCTION

1.1 BACKGROUND

A nation's development depends on the health status of its people and health is a basic human right of everybody everywhere (Mugilva et al, 2005). Accessibility to health care has a large socio-economic benefit whereas ill health has a grave effect on productivity (Mugilva et al, 2005). In many developing countries, such as Ghana, access to basic health care services is poor despite initiatives to increase access to health, such as the introduction of the National health Insurance and Community Health Planning and Services (CHPS) in rural areas.

Ghana, with a population of 24,233,431, has life expectancy of 62.2 years for males and 64.2 years females. It has an infant mortality rate of 38.52 deaths per 1,000 live births and a maternal mortality rate of 48.5 deaths per 1,000 live births. Ghana is currently a Lower Middle Income Country (LMIC) with an average per capita income of \$2,500 as at 2013. It is located on the Gulf of Guinea in the south of the West Africa sub-region. It has a total land area of 238,537 square km. It is bordered by Togo on the East, Burkina Faso on the North and Northwest, and Ivory Coast on the West. Cultural heterogeneity is seen across tribes, but there is homogeneity within the eight major tribes.

In Ghana, cultural practices affect utilization of health care services. For example certain religious groups or tribes may believe that the cause of sickness is spiritual as opposed to being biological or environmental and will therefore seek the services of a pastor, a malam (a Muslim spiritual leader), or a traditional religious leader.

There are ten administrative regions in Ghana with Ashanti region having the greatest population of 4,780,380 followed by Greater Accra region with population of 4,010,051 and Upper West region is the smallest with a population of 702,110. Each region is subdivided into districts with a total 170 districts across the country. The country is also divided by three ecological zones: the coastal, forest and savannah zones.

Ghana's economic structure since independence in 1957 from the British colonial rule has not changed much, with the primary sector being the leading area of economic activity (Agriculture, mining, and forestry), services and industry. Agriculture accounts for about 51 percent of the gross domestic product and about 34 percent of the labor force. (GSS, 2008), the social structure remains predominantly traditional, rural, and informal, with close family ties. The service sector has a growth rate of 10 percent and it is the fastest growing sector of the economy and contributes one-third of the country's GDP. The industrial sector contributes a little over one-quarter (26 percent) to the country's GDP. The construction sub-sector has the greatest impact on the sector's contribution to GDP, as well as the sector's growth. (GSS, 2008)

1.2 OVERVIEW OF GHANA'S HEALTH CARE SYSTEM

The Ministry of Health (MOH) is a critical sector in the economy of Ghana. It is responsible for improvement of the health status of all Ghanaians. The MOH is involved in the provision of public health services, management of the healthcare industry, building Ghana's hospitals, medical education systems, and improving the health status of all people living in Ghana. It does this through the promotion of proactive policies, such as delivering universal access to basic health services, provision of high quality and affordable health services, in a efficient and effective manner by well trained, highly

motivated, and client oriented personnel with stakeholder's involvement. (Ghana Health Services (Directorate)

There are three health care delivery systems in Ghana including the public health care system, the private health care system, and the traditional health care system. Currently, the largest provider of health care is the government, and then private practitioners. (Van den Bloom et al,)

Public Health care system

The public health system consists of the teaching hospitals and Ghana Health Service. The Ghana health service is a public service body established under Acts 525 of the 1992 constitution of Ghana. Ghana health service is an autonomous Executive Agency which is responsible for the implementation of national policy under the minister of health's control through its governing Council (The Ghana health service Council). Ghana health service continues to receive public funds and remains within the public sector.

Ghana health service is organized into five (5) levels. These are National, Regional, District, Sub-district and Community levels. At the national level include; the National Cardiothoracic Center which is a center of excellence in West Africa. It was started in collaboration with Germany and commissioned in 1992 and the National Plastic and Reconstructive and Burns Center unit was created in Ghana, West Africa in partnership with Ghana's Ministry of Health and Scottish charity in 1993.

At the Regional level, we have the ten regional hospitals, which serve as the main referral center for all medical conditions that requires specialist attention. At the district level, we have these facilities for clinical care. District hospitals are the first referral hospital and forms integral part of the district health system. The district hospitals provide preventive

and curative care services and health promotion of the people. They also provide quality care by a more skilled and competent staff than those at the polyclinics and health centers. They provide surgical procedures, laboratory and other diagnostic techniques appropriate to medical, surgical and outpatient activities. (GHS) At the districts and sub-district levels, we have the polyclinic and the health centers which provide primary health care services to the people at the various districts and sub-districts.

Primary Health Care (PHC) in Ghana serves to provide health care to the rural and urban population. Primary health care (PHC) is often the first experience with the formal health care system and this makes it the first point of contact with the formal health care system for many individuals. The service handles a wide range of basic health conditions and reaches out to the under deprived groups. Services provided include; childhood immunization, maternity care, family planning, treatment of childhood diseases, and prevention and treatment of malaria.

The polyclinics are the urban version of the rural health centers. They are usually larger, offer more comprehensive array of services and are manned by physicians and can offer complicated surgical services. They are mainly in the metropolitan areas.

Health centers in Ghana are the first point of contact between the formal health care delivery system and the client. It is headed by Medical Assistant and staffed with program heads of various areas such as; midwifery, public health, laboratory services, environmental and nutrition. Each health center serves a population of about 20,000. They provide basic curative and preventive medicine for adult and children as well as reproductive health services and also perform minor surgical services such as incision

and drainage and refer severe and complicated conditions to appropriate levels. (Ghana Health Services)

At the community level, we have the Community Health Planning and Service (CHPS). The Community health planning and services is a system designed to improve access to health care to bridge the inequality gap in accessing quality health care services and to remove the non-financial constraint to health care delivery. CHPS provides basic preventive and curative services for minor ailment. Since the rural areas are the most deprived of health care services, the population council in partnership with Ministry Of Health Ghana IN 1993 launched the Community Health Planning and Services (CHPS) to determine the demographic and health impact by deploying health service nurses and volunteers to rural locations. In 2002, the council consolidated its two regional offices in Accra into a single office for sub-Saharan Africa located in Accra. (Population Council) The average distance to health center or clinic is about 1.6 km to 5 km.

There are three teaching hospitals in Ghana: Korle Bu teaching hospital, Komfo Anokye Teaching hospital, and Tamale teaching hospital. These serve as last referral point for patients who need specialist attention that cannot be rendered at the Regional hospitals. These teaching hospitals are funded by the government of Ghana through consolidated funds including taxes and 2.5% health insurance levy added to VAT, and donor funds. (GSS, 2008)

1.2.1 Private Health Care System

The Ghana health system consists of private for-profit and private not-for-profit. The private for-profit are owned by private companies and privately funded through payment

for medical services by patients, insurers, or foreign embassies. (GSS, 2008) The private health care system is made up of private hospitals, maternity homes, and private medical and dental practitioners. This type of health system sees patients from private organizations, companies and those who can afford to pay for their services.

1.2.2 Traditional health system

The traditional system refers to medication therapies that involve the use of herbs, animal parts, and minerals. It also includes acupuncture, manual therapies, and spiritual medicine without the use of medication. Traditional medicine plays a very important role in the delivery of healthcare in the regions. It is available in all regions, districts, and sub-districts, and are made up of traditional medicine providers. A traditional medicine provider is someone who provides treatment to people by using plants, herbs and non-orthodox means of treatment, such as: faith healers, traditional and alternative medicine, and traditional birth attendance. This type of health system refers to health practice, knowledge, and beliefs that incorporate the use of plants, mineral based medicine, and spiritual therapies (GSS, population and housing census, 2010)

1.3 HEALTH CARE FINANCING IN GHANA

Until 1985, when the Legislative Instrument L.I 1313 was passed, there was no law regarding the financing of health in Ghana. L.I 1313, Hospital Fess Regulations, as shown in the appendix, is a regulation that lays out the fees payable under the Hospital Fees Act 1971 (Act 387). In the mid 1970's and 1980's, most third world countries like Ghana experienced serious economic crisis due to oil shortage and this marked the era of the cost recovery program (cash and carry). In this program, patients are required to pay 10% of the total cost of health care. This was reviewed in 1995, ten years after the (L.I)

was passed. Unfortunately, the cost recovery program did not work out due to technical difficulties encountered by the program. In the same year, there was a concept called Bamako Initiative. This concept was to explore how best governments could cushion the problem with a cost recovery program and develop seed capital, where drugs were given out freely. This was done on a pilot basis, but after three years, the Bamako Initiative encountered some operational difficulties and was abolished.

In 2003 the government established the National Health Insurance Scheme to replace the Bamako initiative. It was seen as a better alternative strategy to the cost recovery program in the Country's public health sector. It covered both inpatients and outpatients medical care. In this plan, patients provide an initial contribution of GH 7.2 (about \$4 U.S dollars) and become eligible to obtain health care treatment without further out of pocket costs. This premium has been revised to Gh 20, which is \$11, and this cuts across all districts. Unfortunately, not everyone can afford the minimum contribution, making it worst for the poor. Currently, the government contributes about 80% of the health care cost and the remaining 20% is borne by the patient. (GLSS 2008).

Health care in Ghana is financed through various mechanisms: Government funds from consolidated funds which include income tax and 2.5% health insurance levy added to Value Added Tax (VAT); formal sector contributions and member premium between Gh 7.2 to Gh 48 annually (about \$ 4) . Investments are made by the National Health Insurance Contribution, and funds are allocated to the scheme by the government of Ghana, donor funds including earmark funds, the central exemption funds, formally used to provide exemptions from user fees for those classified as very poor, and internal generated funds which include user fees and proceeds from commercial ventures.

1.4 PROBLEM STATEMENT

There are 5,863,526 people currently working in the primary sector . The primary sector is made up of: Agriculture, Mining, and forestry, 4,379,914 people working in the service sector, and 1,561,495 people working in the industry sector. (Ghana Population and housing census, 2010).

It has been observed that people in developing countries who suffer from malaria or minor illness continue to work and do not consult health care practitioner or may not even report their illness (Mugilva et al, 2005), This could be because they do not perceive impairment in body function as illness or they have other reasons.(Mugilva et al, 2005), Results from Ghana Living Standard Survey round five (GLSS V) indicates that illness is a major reason why people consult a health care practitioner, but about 38.7 percent of the people who reported ill or injured consulted a doctor, 12.7 percent consulted a nurse, 32.1 percent consulted drug/chemical seller, and 3.5 percent consulted a traditional health provider or spiritualist. It is not clear what influence people's decision to utilize health care services in Ghana.

1.5 OBJECTIVES OF THE STUDY

The overall objective of this study is to analyze factors that are associated with health care service utilization in Ghana and to help provide appropriate measures that can be taken to improve utilization of health care services.

The specific objectives of the study are:

- To determine the extent of association between certain socio-economic and cultural factors that influence health care utilization.

- To make policy recommendations based on the outcome of the study to improve health care outcomes in Ghana.

1.6 SIGNIFICANCE OF THE STUDY

This study will contribute to the existing global literature on determinants of health care services utilization. This is timely, as the government has introduced National Health Insurance Scheme , which has come to replace the cash and carry system in 2003.

CHAPTER TWO LITERATURE REVIEW

2.1 THEORETICAL LITERATURE

Andersen (1968) developed a three-stage model to study families' use of health services. Andersen's model consists of three components: predisposing, enabling and need. Each components of the model has subcomponents. The predisposing component includes: family composition, social structure and health beliefs. The enabling component consist of family and community resources and the need component consist of illness and response. Base on this model; Age, sex, family size, marital status, race, social status, and ethnicity fall under predisposing factor. Family income, employment, occupation, education, and health insurance are enabling components and symptoms, disability, and health level are need factor, and these are variables that determine health care utilization.

2.2 EMPIRICAL LITERATURE

López- Cevallos et al (2009) used Anderson's behavioral model of health care utilization to examine socio-economic determinants and inequalities of health care utilization and found that there was negative significant relationship between household economic status and utilization pattern of preventive and curative services. In the same way, Blackwell et al, (2009) building on Anderson's model, examined factors associated with utilization of physician and hospital service among adults in Canada and the United States, focusing on socio-economic status. Result shows that several measures of socio-economic status such as having regular medical doctor, education, income and insurance coverage in United States are associated with consultation with a doctor in both countries along with need and various predisposing factors but these same measures were not associated with hospitalization in both countries.

Travassos C, et al (2002) investigated the pattern of utilization of health care services in Brazil by gender, family characteristics, and social status. The results showed that women use more health services than men and family income and social status of the individual plays a vital role in utilization of health care services. Cisse, (2011) examined health care utilization in Côte D'Ivoire. The result of the analysis showed that household income, education level of household heads, price of medicine and distance to health care provider are determinants for the choice of a specific health care provider.

Katung P.Y, (2001) examined socio-economic factors responsible for poor utilization of public health care services in rural community in Nigeria. Katung found that high cost of drugs and services charged, easy access to traditional healers and difficulty in getting transportation to a health care facility were factors responsible for poor utilization of public health care services. Fatima Z et al (2002) examined demographic, socio-economic and environmental determinants of utilization of antenatal care in rural setting of Sindh, Pakistan. The findings show that, social status and economic condition of a woman is an important determinant in the utilization of antenatal care.

Celik et al (2000) investigated individual household and community level factors that affected a woman's use of maternal health care service in Turkey. The results of the study showed that parity level, health insurance coverage, ethnicity, household wealth, educational attainment and regions are statistically significant determinants in the use of maternal service.

Zhang .J (2007) used a cross sectional survey and a self-administered mailed survey to find the relationship between socioeconomic position and utilization of preventive health services in relation to cardiovascular disease and diabetes in Australia. The results

of the study showed that people with lower economic status are less likely than people with high socioeconomic structures to utilize preventive health services for cardiovascular disease and diabetes. Birmeta et al (2013) also used cross-sectional study to assess the determinants of maternal health care utilization among women in Ethiopia. The study showed that demographic, socio-economic and health related factors influence antenatal and delivery care.

Using data from the third round of Indian counterpart of Demographic and Health Survey to examine factors believed to be associated with utilization of maternal health care services among married adolescent women in rural India, Singh et al, (2012) shows that several socio-economic and cultural factors affect utilization of maternal healthcare services among rural adolescent women in India. Muchabaiwa et al (2012) used logistic model and data from 2005 /2006 Zimbabwe Demographic and Health survey to investigate socio-economic and cultural factors of maternal healthcare services used in Zimbabwe. Findings from the study determined that determinants of utilization influence uptake of different maternal health care services differently. Sari K. (2009) used bivariate and multivariate analysis to investigate socio-economic and demographic determinants of maternal health care use in Indonesia. The result showed a statistical significant relationship between all the three forms of maternal health care service utilizations used in the study.

In assessing the determinants of antenatal care utilization and skilled assistant at birth, De Allegri et al (2011) used two independent logit models and the result showed that there was positive association between 5 km distance from the home and the facility, while religion, ethnicity, and household wealth had a negative association with antenatal

care utilization. Using cross-sectional and prospective study, Chakraborty1 et al (2003) examined factors that influence the use of maternal health care services in rural Bangladesh. The result indicates that there is a high level of association between certain predisposing and enabling factors and maternal health service utilization. McNamara et al (2013) used a prospective study to examine the relationship between age and other possible drivers of the intensity of service utilization in hospital, primary community and social care services in Ireland. The result shows that older people use more services than younger people, but age itself is not seen as a strong driver of the medical care use. Using logistic regression model to estimate the effect of socio-demographic variables on maternal health services utilization in Ethiopia, Dagne E. (2010) found that certain social and demographic factors such as education, household wealth, place of residence, and birth of a child were found to be significantly related to the use of maternal health care. Shaikh et al (2004) investigated factors that influence people behavior in utilizing health services in Pakistan and found that utilization of health care system depends on socio-demographic factors, social factors, and cultural beliefs.

2.3 HYPOTHESES

The hypotheses presented are derived from Andersen's behavioral model that is stated in terms of predisposing and enabling components. Using this model age, sex, family size, education, social status, occupation, marital status, education, employment, and culture included are variables that determine health care use. Below are the actual hypotheses.

H_{a2} : As compared to groups with better predisposing factors such as : social status and marital status, groups with worse predisposing factors are less likely to utilize health services

H_{a1} : As compared to groups with better enabling factors such as: employment and education, groups with worse enabling factors are less likely to utilize health services.

CHAPTER THREE METHODOLOGY

3.1 STUDY DESIGN AND DATA SOURCES

The data used for the analysis is the fifth round of the Ghana Demographic and Health Survey (GDHS) data obtained from Ghana Statistical Service (GSS). The GDHS is conducted every five years beginning from 1998.

The Ghana Statistical Service (GSS) and the Ghana Health Service (GHS) carried out the 2008 GDHS. Funding for the survey came from the United States Agency for International Development (USAID), through its office in Ghana, and the Government of Ghana, with support from the United Nations Population Fund (UNFPA), the United Nations Children's Fund (UNICEF), the Ghana AIDS Commission (GAC), and the Danish Development Agency (DANIDA)" (2008). Other demographic data are extracted from the 2000 Population and Housing Census published by Ghana Statistical Service (GSS, 2008).

In order to ensure comparability of the DHS data between countries, variables from the questionnaires were recoded into a standardized format. The DHS approach to creating standardized individual recode data files for each country is part of the DHS policy to make the data accessible, providing the analyst with the data in the most convenient form for analysis. (Measure DHS, 2008)

3.2 SAMPLE DESIGN

The type of sampling used by the Ghana Statistical Service (GSS) for the 2008 GDHS was a two-stage sample design of households selected nationwide. The sampling was done to ensure that separate estimates of key indicators for each of the 10 regions in Ghana, as well as for urban and rural areas, were possible.

The first stage involved using systematic sampling with probability proportional to size to select 412 clusters from the 2000 Ghana Population and Housing Census. Listing of all households in the selected clusters was from June to July 2008, which provided a sampling frame for the second stage selection of households. At the second stage, systematic samples of 30 households from each cluster were selected, making a sample of 12,360 households. According to the GSS, data were not collected in some of the selected households due to security reasons, resulting in a final sample of 12,323 selected households. Every individual in the selected households were interviewed during the data collection, therefore there is both household datasets and individual datasets on all the variables used in this study. This study uses the individual dataset in which data on individual household members between the ages of 15 and 49 are compiled. These filters result in a sample of 4,913 individuals who reported being sick as the sample for this study. The older people are known to be the usual utilizers of health care services; therefore the study concentrates on younger group.

3.3 MEASUREMENT OF THE VARIABLES

3.3.1 The dependent variable

The dependent variable, utilization (*util*), is derived from the questions asking whether the individual in the household fell sick and visited a health facility in the three months preceding the interview. The responses to this question “Yes” or “No” are coded 1 and 0 respectively. This variable is used to measure health care services utilization in this project, with the code 1 representing utilization and 0 representing non-utilization.

3.3.2 The independent variables

Age (age) is the age of the individuals in completed number of years at the time of the survey and Sex (sex) is the sex of the respondent coded as 1 for male and 2 for female.

Marital status (mstatus) is the marital status of the respondent coded from as 0 to 5 in the following order: never married, married, living together, widowed, divorced, and not living together.

Family size (fsize) is measured as household size in the DHS. By definition a household is a group of people living together, have the same cooking arrangements and recognize one person as the head of the household coded as 0 to 3 in the following order: family size of 1-2, 3-5, 6-10, and 11+.

Social status (sstat) is proxied by the wealth index that is constructed from the asset ownership of a household which is coded as 0 to 4 as follows: poorest, poor, middle class, richer, and richest. This variable also proxies for family income since the survey did not capture income. This variable is a weighted average of all assets owned by household members that were interviewed. This weighted average then gives an index for all the household members.

Religion (rel) is the religious affiliation of the respondent. This is coded as 0 to 4 as follows: traditional/ Apostolic (Catholic, Anglican, Methodist, and Presbyterian), Pentecostal/Charismatic, Moslem, Spiritualist, and No religion

Ethnicity (ethn) is the categorization of the country by the major ethnic groups coded as 0 to 8 as follows: Akan, Ga/Dangme, Ewe, Guan, Mole-Dagbani, Grussi, Gruma, Mande, Other.

Employment (emp) variable is from a question that asks whether a respondent is currently working with “yes” or “no” response

Occupation (occ) is coded 0 – 4 as follows: Unemployed, formal employment (Professional/technical/managerial, Clerical, and Sales) Agricultural - self-employed, Skilled manual, and Unskilled manual.

Education (Edu) is a measure of the highest level of education attained by the respondent. This variable is coded 0 to 3 in the following order: no education, primary education, secondary education, and higher education..

Type of residence of the respondent coded as 0 for rural and 1 for urban.

3.4 MODEL SPECIFICATION

3.4.1 The model

From Andersen (1968), the determinants of health care service utilization considered in this paper are age, sex, family size, marital status, education, social status, employment, and occupation. Other determinants are religion, ethnicity, and type of residence. Given that previous studies were concentrated on developed countries in which culture is much more homogeneous, this study augments the previous studies by adding culture to the determinants. To measure the effect of culture on health care service utilization, religion and ethnicity are included as explanatory variables in the model. Muchabaiwa et al (2012) Also, where people live may determine their decision to access healthcare or not, so type of place of residence (urban and rural) is also included.

Ghana is not a multi-racial country; therefore race is not included in this model. Also, certain variables in the existing models are not captured in the DHS and are also dropped for the empirical model for this project. The full empirical model, therefore,

expresses health care services utilization (*util*) as a function of those variables discussed above where the variables are discussed in section 3.5:

Util
 = f (predisposing components: family composition, social structure, and health belief, and enabling components include family and community resources)

util = f(Predisposing components include: age, sex, marital status, Religion, ethnicity , family size, social status, and residence. enabling components include: employment, occupation, and education)

3.4.2 Analytical techniques

Health care service utilization was measured as a binary variable among those who fell sick in the past three months. It is measured as 0 for those who fell sick but did not use health care service and 1 for those who fell sick and use health care services, that is,

$$util = \begin{cases} 1, & \text{fell sick and used health care service} \\ 0, & \text{fell sick but did not use health care service} \end{cases}$$

The analytical method is first descriptive. These descriptive analyses are supported by chi-square tests to test the relationship between health care service utilization and various socio-economic and cultural determinants of health care. Contingency tables are constructed with health care utilization and all the socio-economic determinants as shown in table below.

Table 1: Contingency tables for testing relationship between health care service utilization and its determinants.

Health care services utilization	Socio-economic determinant		
	1	...	n
Yes	O ₁₁	O _{1j}	O _{1n}
No	O ₂₁	O _{2j}	O _{2n}

χ^2 -statistics is used to test the significance of the relationship between health care services utilization and all the socio-economic and cultural determinants. The χ^2 statistics is computed as

$$\chi^2 = \sum_{i=1}^n \sum_{j=1}^m \left(\frac{o_{ij} - e_{ij}}{o_{ij}} \right)^2$$

Where n is the number of columns of the contingency table and m is the number of row of this table. O_{ij} is the observed frequency in the i^{th} row of j^{th} column and e_{ij} is the expected frequency in the i^{th} row of j^{th} column

The second model is to use a regression model in which all the socio-economic determinants are the explanatory variables of healthcare utilization as the dependent variable. With the dependent variable measured as a binary variable, Ordinary Least Squares (OLS) estimation of the model will yield inefficient results; therefore logistic regression model is used.

Let p_i be the probability that individual i with a set specific set of determinants utilizes health care when sick, the odds of i utilizing health care is $y_i = \frac{p_i}{1-p_i}$

Then the logistic model can be specified as

$$y_i = X\beta + \varepsilon$$

Where X is a vector of all the determinants and β is a vector of how each of the determinants that influence the odds and ε is the error term. This model will be estimated and analyzed to draw conclusions about health care utilization in Ghana.

CHAPTER FOUR EMPEICAL RESULTS

4.1 CHI-SQUARE RESULTS

Table 2 is a cross tabulation of all the variables in the model with the dependent variable, utilization of health care services. It shows the differences in socio-economic and cultural information regarding the dependent and independent variables in the study. The table presents the percentages of the categories of each of the dependent variables that utilize or does not utilize health care service when fell sick. The actual counts are presented in this work in table 3. Variables with asterisks are shown to be statistically significant in terms of their association with utilization of health services. The chi-square tests in Table 4 show that all the variables are individually strongly correlated with utilization of health cares services in Ghana.

4.2 LOGISTICS REGRESSION RESULTS

Table 5 gives the result of the logistic regression coefficient beta which, if exponentiated, becomes the odds ratio in relation to the reference category. S.E. is the standard error use in the analysis, Wald; the Wald chi-square statistics test the unique contributions of the predictors in the variable.

The result indicates that all the variables: age, sex, marital status, family size, education, social status, ethnicity and religion are statistically significant in determining health care service utilization. The odds ratio (exp B) for age shows that for every age older, one is 20 percent more likely to utilize health care services when sick than a 15-year old. The age square result indicates that with each additional year, as compared to the age result, one is 99 percent less likely to have utilized health care service in the past year. The odds ratio for sex shows that females are 20 percent more likely to utilize

health care services than males. As compared to those never married, married people are and those living together are more likely to utilize health care services, the widowed are 3 times more likely, and divorced and those not living together are also 2 times more likely, respectively, to utilize health care services when they fall sick.

With the family size, compared to those living with family sizes 1 to 2, those living with 3 to 5 families and those with a family of 6 to 10 are 50 percent more likely to utilize health care services respectively, and those living with family size more than 11 are 98 percent more likely to utilize health care services when they are sick. The odds ratio for education shows that compared with illiterates (people with no education), those with primary school education are 10 percent more likely to utilize health care services when sick while those with secondary education are 30 percent more likely to utilize health care services. People with tertiary education are 2 times more likely than illiterates to use health care services when sick. The odds ratio for social status indicates that as compared to the poorest, the poorer are 30 percent more likely to utilize health services, the middle class are 60 percent more likely, the richer are 70 percent more likely, and the richest are 80 percent more likely to utilize health care services. Those who are currently working are 40 percent more likely to use health care services than those who are not currently working. Occupation did not show to have any significance on utilization of health care services after adjustment for all variables except those in manual labor.

With the introduction of culture as part of the determinants in this study, the odds ratio for religion shows that people with all religions are about equally likely to utilize health care service when they are sick, compared to Orthodox Christians, while those with other religion that are not classified are 10 percent more likely to utilize health

services when sick. The odds ratio for major ethnic group shows that as compared to Akan, which is the seen as the largest ethnic group, the Ga/ Dangmes and Grussis are 10 percent more likely to utilize health services, the Guans and Mole-Dagbani are 20 percent more likely to utilize health care services, and the Mandes and others are equally likely to utilize health care services when sick.

CHAPTER FIVE SUMMARY AND CONCLUSION

The study uses the Ghana Demographic and Health Survey (GDHS), 2008 to analyze factors that determine health care service utilization in Ghana.

Overall, the result of this study indicates that socio-economic factors such as age, sex, marital status, family size, education, and social status are statistically significant determinants of health care service utilization. This finding agrees with the result of Blackwell et al, (2009) who built on Anderson's behavioral model for utilization of health care services and examined factors associated with utilization of physician and hospital services among adults in Canada and the United States, focusing on socio-economic status. The results show that several measures of socio-economic status in the United States are associated with consultation with a doctor in both countries along with need and various predisposed factors.

Cultural factors in Ghana such, as religion and ethnicity are significant determinants of health care service utilization. This result corresponds with the findings of Muchabaiwa et al (2012) who used logistic model and data from 2005 /2006 Zimbabwe Demographic and Health survey to investigate socio-economic and cultural factors of maternal healthcare services used in Zimbabwe. Findings from the study determined that determinants of utilization influence uptake of different maternal health care services differently.

In conclusion, given the result of the analysis on the socio-economic and cultural determinants of health care service utilization in Ghana, it is in my view that as the study indicates, all the predisposing components used in this study, play a major role in

determining health care service use in Ghana. This leads to the acceptance of the alternate hypothesis that group with worse predisposing components are less likely to utilize health services. The result of the study on enabling components also leads to acceptance of the alternate hypothesis that groups with worse enabling components are less likely to utilize health services.

5.1 RECOMMENDATIONS

Social status and employment are seen as significant determinants of this study, with this in mind and given the fact that those who are financially deprived are in greater majority, there is the need for the ministry of manpower and employment to create employment opportunity for its people. In addition, government should embark on economic and public policies that benefit the poor. These will empower the poor population to utilize health care services when they get sick.

In terms of cultural influence in utilization of health care services, the study found that cultural factors influence people decision in utilizing health care services. There is a need for health education on the effect culture has on health. There is the need for further studies to be done in this area to ascertain why the other religions that are in minority are rather more likely to utilize health care than the regular religions. And also whether the type of health care services used influence groups based on ethnicity and religion.

5.2 LIMITATIONS OF THE STUDY

The study is based on secondary data obtained from Ghana Demographic and Health Survey (GDHS). The use of this data imposes inherent limitations on the study. The fact that there is not enough data regarding the type of health care service utilized:

public, private, or traditional health care system, and whether that affected health care services utilized. Rather, these systems were discussed under reproductive health, which is not what this study seeks to look at. It also did not ask participants the type of health facility they use when sick. Another limitation could be that the study cannot be strictly interpreted as regular use of health care services. There is also selection bias in choosing the households participants in the survey. Finally, age is a major limitation to this study, as the survey did not include the age group 0 to 14 years and 50 years+, which exclude the extremes of life that are seen as major determinants of health care.

APPENDIX A: LEGISLATIVE INSTRUMENT (L.I.) 1313: HOSPITAL
FEES REGULATIONS, 1985

In exercise of the powers conferred on the Secretary responsible for Health by section 11 of the Hospital Fees Act, 1971 (Act 387), and with the approval of the Provisional National Defence Council, these regulations are made this 19 day of July, 1985

1. Subject to the provisions of the Hospital Fees Act, 1971 (*Fees payable*) (Act 387) and these regulation, the basic fees specified in the First Schedule to these Regulations shall be payable in respect of services rendered in a hospital and specified in the First Schedule to these Regulations shall be payable in respect of services rendered in a hospital and specified in relation to those fees.

2. (2) Patients suffering from Leprosy or Tuberculosis are exempted from payment of all fees.

3. (2) No fees other than cost of prescribed drugs shall be paid in respect of services rendered in a hospital to any person suffering from:-

- Meningitis
- Chicken-pox
- Cholera Diphtheria
- Malnutrition (Protein – Calorie – Malnutrition and Marasmus)
- Measles
- Onchocerciasis
- Poliomyelitis (acute)
- Relapsing fever Schistosomiasis
- Smallpox
- Tetanus
- Trachoma
- Trypanosomiasis
- Typhus
- Veneral disease
- Whooping-cough
- Yaws
- Yellow fever
- Sickle cell disease
- Viral hepatitis
- Haemorrhagic fevers
- Rabies

(3) No fees other than hospital accommodation and catering services shall be paid in any

Government hospital or clinic in respect of –

Ante-natal and post-natal services; Treatment at Child Welfare Clinics

(4) No fees shall be paid for any immunization against any disease except for vaccination certificates for international travel.

4. No fees (other than fees for special amenities) shall be paid in respect of services rendered in a hospital to any health services personnel including trainees.

(1) The person liable to pay for the cold storage of a dead body shall be the person requesting the service.

(2) No fees shall be paid for the cold storage of a dead body at the request of any department of state.

(3) The Medical Officer concerned may in his discretion waive the fees payable for cold storage of a dead body where there is delay in releasing the body of relatives due to post-mortem examination, the coroner's report of difficulty in tracing the relatives of the dead person.

5. The Hospital Fees Regulations, 1983 (L. I. 1277) are hereby revoked.

6. These Regulations shall be deemed to have come into force on the 1 day of June, 1985.

APPENDIX B: TABLES

Table 2: Descriptive statistics of relationship between dependent and independent variables in the study

		Visited health facility last 12 months			
		No		Yes	
		Row N %	Column N %	Row N %	Column N %
Age 5-year groups	15-19	72.60%	29.30%	27.40%	11.80%
	20-24	48.60%	16.80%	*51.40%	19.00%
	25-29	41.70%	13.70%	*58.30%	20.40%
	30-34	35.90%	9.10%	*64.10%	17.30%
	35-39	47.50%	11.90%	*52.50%	14.10%
	40-44	51.20%	9.50%	48.80%	9.60%
	45-49	57.50%	9.70%	42.50%	7.70%
	Total		51.70%	100.00%	48.30%
Type of place of residence	Urban	48.50%	45.60%	*51.50%	51.60%
	Rural	54.60%	54.40%	45.40%	48.40%
	Total	51.70%	100.00%	48.30%	100.00%
Highest educational level	No education	52.50%	21.50%	47.50%	20.80%
	Primary	52.70%	20.50%	47.30%	19.70%
	Secondary	52.00%	55.10%	48.00%	54.50%
	Higher	38.10%	2.90%	*61.90%	5.00%
	Total	51.70%	100.00%	48.30%	100.00%
Religion recoded	Orthodox Christian	49.60%	22.20%	*50.40%	24.10%
	Pentecostal/Charismatic	53.30%	41.70%	46.70%	39.00%
	Other	50.80%	12.00%	49.20%	12.40%
	Moslem	46.90%	14.80%	*53.10%	17.90%
	Traditional/spiritualist	58.30%	5.10%	41.70%	3.90%
	No religion	62.40%	4.10%	37.60%	2.60%
	Total	51.60%	100.00%	48.40%	100.00%
Ethnicity	Akan	51.60%	50.70%	48.40%	50.80%
	Ga/Dangme	50.30%	6.80%	49.70%	7.10%
	Ewe	53.10%	13.20%	46.90%	12.50%
	Guan	52.30%	2.50%	47.70%	2.50%
	Mole-Dagbani	49.30%	15.40%	*50.70%	16.90%
	Grussi	52.90%	2.50%	47.10%	2.30%
	Gruma	60.40%	4.40%	39.60%	3.10%
	Mande	46.90%	0.50%	*53.10%	0.60%
	Other	51.20%	4.00%	48.80%	4.10%
Total	51.70%	100.00%	48.30%	100.00%	

*Chi-Square Statistically significant $p \leq 0.05$

Table 2 (contd): Descriptive statistics of relationship between dependent and independent variables in the study

		Visited health facility last 12 months			
		No		Yes	
		Row N %	Column N %	Row N %	Column N %
Educational attainment	No education	52.50%	21.50%	47.50%	20.80%
	Incomplete primary	53.00%	14.90%	47.00%	14.20%
	Complete primary	52.10%	5.60%	47.90%	5.50%
	Incomplete secondary	53.00%	45.80%	47.00%	43.50%
	Complete secondary	47.40%	9.20%	*52.60	11.00%
	Higher	38.10%	2.90%	*61.90	5.00%
	Total	51.70%	100.00%	48.30%	100.00%
Sex	Male	50.40%	59.60%	49.60%	62.70%
	Female	53.70%	40.40%	46.30%	37.30%
	Total	51.70%	100.00%	48.30%	100.00%
Wealth index	Poorest	58.60%	18.00%	41.40%	13.60%
	Poorer	56.10%	19.90%	43.90%	16.70%
	Middle	50.50%	19.50%	49.50%	20.40%
	Richer	49.00%	21.60%	*51.00	24.00%
	Richest	47.00%	21.00%	*53.00	25.30%
	Total	51.70%	100.00%	48.30%	100.00%
Current marital status	Never married	68.40%	42.90%	31.60%	21.20%
	Married	42.10%	37.00%	*57.90	54.40%
	Living together	41.90%	10.60%	*58.10	15.80%
	Widowed	55.00%	2.20%	45.00%	1.90%
	Divorced	53.80%	3.30%	46.20%	3.00%
	Not living together	53.40%	4.00%	46.60%	3.70%
	Total	51.70%	100.00%	48.30%	100.00%
Occupation recoded	Not working	63.90%	27.90%	36.10%	16.80%
	Formal employment	43.60%	4.30%	*56.40	5.90%
	Sales	45.60%	27.70%	*54.40	35.20%
	Agriculture	52.30%	23.80%	47.70%	23.10%
	Services	52.10%	9.10%	47.90%	8.90%
	Manual worker	42.90%	7.10%	*57.10	10.10%
	Total	51.50%	100.00%	48.50%	100.00%
Family size recoded	1 – 2	55.40%	15.80%	44.60%	13.60%
	3 – 5	48.90%	45.80%	*51.10	51.20%
	6 – 10	54.30%	34.30%	45.70%	30.90%
	11+	50.60%	4.10%	49.40%	4.30%
	Total	51.70%	100.00%	48.30%	100.00%

Table 3: Descriptive statistics of relationship between dependent and independent variables in the study (counts)

		Visited health facility last 12 months		
		No	Yes	Total
		Count	Count	Count
Age 5-year groups	15-19	752	285	1037
	20-24	412	457	869
	25-29	331	486	817
	30-34	237	398	635
	35-39	296	340	636
	40-44	249	235	484
	45-49	260	175	435
	Total	2537	2376	4913
Type of place of residence	Urban	1036	1125	2161
	Rural	1501	1251	2752
	Total	2537	2376	4913
Highest educational level	No education	641	601	1242
	Primary	532	467	999
	Secondary	1295	1192	2487
	Higher	69	112	181
	Total	2537	2372	4909
Religion	Orthodox Christian	552	557	1109
	Pentecostal/Charismatic	906	789	1695
	Other	253	232	485
	Moslem	384	447	831
	Traditional/spiritualist	154	112	266
	No religion	112	66	178
	Total	2361	2203	4564
Ethnicity	Akan	1110	1026	2136
	Ga/Dangme	152	155	307
	Ewe	343	294	637
	Guan	62	55	117
	Mole-Dagbani	523	547	1070
	Grussi	105	121	226
	Gruma	131	71	202
	Mande	13	15	28
	Other	97	91	188
	Total	2536	2375	4911

Table 3 (contd): Descriptive statistics of relationship between dependent and independent variables in the study (counts)

		Visited health facility last 12 months		
		No	Yes	Total
		Count	Count	Count
Educational attainment	No education	641	601	1242
	Incomplete primary	390	348	738
	Complete primary	142	119	261
	Incomplete secondary	1084	948	2032
	Complete secondary	211	244	455
	Higher	69	112	181
	Total	2537	2372	4909
Sex	Male	1588	1543	3131
	Female	949	833	1782
	Total	2537	2376	4913
Wealth index	Poorest	632	455	1087
	Poorer	505	416	921
	Middle	447	450	897
	Richer	495	529	1024
	Richest	458	526	984
	Total	2537	2376	4913
	Current marital status	Never married	1058	488
Married		996	1363	2359
Living together		254	335	589
Widowed		59	45	104
Divorced		77	65	142
Not living together		93	80	173
Total		2537	2376	4913
Respondent's occupation recorded	Not working	705	403	1108
	Formal employment	100	129	229
	Sales	633	765	1398
	Agriculture	668	630	1298
	Services	200	199	399
	Manual worker	200	231	431
	Total	2506	2357	4863
Family size recorded	1 - 2	372	289	661
	3 - 5	1119	1169	2288
	6 - 10	915	798	1713
	11+	131	120	251
	Total	2537	2376	4913

Table 4: Pearson Chi-square test

	Visited health facility last 12 months		
	Chi-square	df	Sig.
Age 5-year groups	2.90E+08	6	.000*
Type of place of residence	1.80E+07	1	.000*
Highest educational level	1.48E+07	3	.000*
Religion recoded	2.12E+07	5	.000*
Ethnicity	8439964.638	8	.000*
Educational attainment	1.99E+07	5	.000*
Sex	5010500.169	1	.000*
Wealth index	3.55E+07	4	.000*
Current marital status	2.85E+08	5	.000*
Respondent's occupation recoded	1.08E+08	5	.000*

*. The Chi-square statistic is significant at the 0.05 level.

Table 5: Logistic Regression Result

	B	S.E.	Wald	df	Sig.	Exp(B)
Age	0.168	0	3.24E+07	1	0.000	1.183
Age squared	-0.003	0	4.29E+07	1	0.000	0.997
Sex	0.178	0	5075651.755	1	0.000	1.195
Marital status(Ref=never married)			1.31E+08	5	0.000	
Married	1.258	0	1.09E+08	1	0.000	3.519
Living together	1.282	0	1.01E+08	1	0.000	3.603
Widowed	0.954	0	1.46E+07	1	0.000	2.597
Divorced	0.824	0	1.55E+07	1	0.000	2.279
Not living together	0.717	0	1.49E+07	1	0.000	2.048
Family size(Ref=1-2)			1.93E+07	3	0.000	
3-5	0.382	0	1.44E+07	1	0.000	1.466
6-10	0.396	0	1.29E+07	1	0.000	1.485
11+	0.685	0	1.29E+07	1	0.000	1.984
Education (Ref= No education)			1.18E+07	3	0.000	
Primary	0.066	0	381680.117	1	0.000	1.068
Secondary	0.278	0	6966609.743	1	0.000	1.321
Highest	0.584	0	6594478.704	1	0.000	1.793
Social status (Ref= Poorest)			1.95E+07	4	0.000	
Poorer	0.232	0	3858543.437	1	0.000	1.261
Middle class	0.497	0	1.44E+07	1	0.000	1.643
Richer	0.549	0	1.49E+07	1	0.000	1.731
Richest	0.618	0	1.57E+07	1	0.000	1.856

Table 5 (contd): Logistic Regression Result

	B	S.E.	Wald	df	Sig.	Exp(B)
Employment (Ref= Yes)	0.38	0	3461179.294	1	0.000	1.463
Occupation(Ref= Not working)			1.07E+07	5	0.000	
Formal employment	-0.164	0	392777.168	1	0.000	0.849
Sales	-0.286	0	1670726.438	1	0.000	0.751
Agriculture	-0.258	0	1261102.426	1	0.000	0.773
Services	-0.441	0	3478739.418	1	0.000	0.644
Manual worker	0.011	0	2256.496	1	0.000	1.011
Religion (Ref= Catholic)			1.33E+07	5	0.000	
Orthodox	-0.208	0	5985383.215	1	0.000	0.812
Pentecostal/ Charismatic	-0.123	0	1174768.088	1	0.000	0.884
Other	0.075	0	385820.655	1	0.000	1.078
Moslem	-0.14	0	621135.647	1	0.000	0.87
Traditional/Spiritualist	-0.484	0	6389550.173	1	0.000	0.616
Ethnicity (Ref= Akan)			4864435.333	8	0.000	
Ga / Dangme	0.125	0	863930.535	1	0.000	1.133
Ewe	-0.029	0	79606.431	1	0.000	0.971
Guan	0.245	0	1261976.23	1	0.000	1.278
Mole- Dagbani	0.174	0	2187873.707	1	0.000	1.19
Grussi	0.055	0	63662.829	1	0.000	1.057
Gruma	-0.08	0	176970.628	1	0.000	0.923
Mande	0.035	0	7250.978	1	0.000	1.036
Other	0.024	0	18509.13	1	0.000	1.025
Place of residence (Ref= Rural)	-0.098	0	1218432.858	1	0.000	0.906
Constant	-4.031	0	7.91E+07	1	0.000	0.018

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RESUME

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Objective

To obtain a position in a health care institution that fosters teamwork and support ongoing professional development.

WORK EXPERIENCE

Sunrise Hospital and Medical Center 03/03/2014 - 05/08/2014

As an intern worked in a job description of monitoring early warning signs [MEWS] which involved monitoring early changes in clients' vital signs and acting promptly to prevent deterioration in client health status.

University of Nevada, Las Vegas. GPSA Commons 05/25 2012-02/2014

Student worker

Responsible for assisting in computer laboratory work at student help desk, light computer duties such as Microsoft word, excel, and PowerPoint, and other administrative duties in absence of manager.

Korle-bu Teaching Hospital. Ghana

Health Services Administrator 09/2008 – 12/2009

Responsible for Planning, directing, coordinating and supervising the delivery of Health care activities on the department and also day-to-day administration of the department in consultation with the head of the department. Also responsible for providing management and administrative support for the department, providing periodic report such as half yearly report of the department.

Collaborating with non-medical staff both internally and externally for acquisition of office and medical equipment, participating in multidisciplinary rounds, and working with support personnel.

Korle-bu Teaching Hospital, Ghana.

Staff Nurse 05/2002 – 08/2008

Responsible for Planning, directing, and monitoring nursing activities on the ward, supervising new and student nurses in performing regular nursing duties, ensuring standard of cleanliness and timely availability of equipment, and also ensuring nursing documentation are complete and entered into appropriate books. Also responsible for conducting client care teaching and discharge planning, assisting client with personal hygiene, nutrition, and daily activities. Also updating job knowledge by participating in educational opportunities.

EDUCATION

University of Nevada Las Vegas Masters in Health Care Administration	Las Vegas, NV Aug, 2011 to now
University of Ghana, Legon Bachelor's Degree in Health Services Administration	Ghana June, 2008
Nurses Training College, Korle-bu Certificate in State Registered Nursing [RN]	Ghana Feb, 2001
Osu Salem Secondary [High School] Ordinary Level Certificate	Ghana 1992

REFEENCE

Rebecca Boulton
Business Manager
Graduate & Professional Student Association
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Unit Manager, E 400

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