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THE INFLUENCING FACTORS OF QUALITY HEALTH CARE DELIVERY AND NHIS ACCESSIBILITY: A FRESH EMPIRICAL EVIDENCE FROM THE GREATER ACCRA METROPOLIS, GHANA

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ABSTRACT

In low-income economy such as Ghana, most citizens have poor access to quality health delivery (QHD). Healthcare system in Ghana suffers from numerous challenges that affect people accessibility to quality health care. This research investigates the comprehensive dynamics influencing the quality of healthcare in Ghana, focusing on the interplay between government funding (GF), human resource management (HRM), demoralization of health workers (DHW), healthcare infrastructure (HCI), and work attitude and ethics (WAE). Anchored in Andersen's Health Behavior Model and the WHO Health System Framework, the study aims to discern the intricate relationships among these variables. The research objectives involve assessing the individual and collective impacts of GF, HRM, DHW, HCI, and WAE on the quality of healthcare. The research further explored the moderation effect of health care professional behavior on the connection between WAE and QHD in Ghana. A sample size of 300 respondents is surveyed using the Partial Least Squares Structural Equation Model (PLS-SEM) method, allowing for a robust examination of the complex relationships within the proposed model. The outcome of the study indicated that all the variables were reliable and valid. The main findings of the present study indicated government funding, human resource management, demoralization of health workers, health care infrastructure and work attitude and ethics have a significant influence on QHD in Ghana. In addition, the study empirical outcome revealed that health workers professional behavior moderates the interaction between work attitude and ethics and QHD. Furthermore, this study provides valuable insights for policymakers, healthcare practitioners, and researchers alike, offering a holistic understanding of the factors shaping the healthcare landscape in Ghana and providing a foundation for informed interventions and policy development.

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INTRODUCTION

Everybody deserves a healthy and long life, but unfortunately, sections of the globe's population have been denied gaining access to quality healthcare. This populace is saddled with several forms of diseases that claim their lives in the shortest possible time (Mokdad *et al*., 2019). The World Health Organization (WHO) and the World Bank frequently constitute programs and measures to guide and support countries. Especially those who are deprived to systematically measure their challenges and improve upon the delivery of public health services to preserve lives and limit the mortality rate in their countries (Hailemariam *et al*., 2016). Among such programs is the Global Strategy for Health (Global Strategy 2030), which was initiated by WHO to address issues of health understaffing, fair distribution of health infrastructure, and staff who are quick, competent, inspired, and productive. This was done to promote Universal Health Coverage (UHC) and the achievement of the United Nations' Sustainable Development Goals (SDGs). These programs and policies were constituted to address issues of demands for public healthcare services and the supply for public healthcare amenities. Once the orders are met, needs have been satisfied (Wemos & Achest, 2019).Accordingly, many countries in the world including developing countries like Ghana constantly find innovative ways to improve on their healthcare delivery system in order to provide quality healthcare service to the populace and to maintain a healthy citizens and residents. The government of Ghana without exception has over the past one and a half decade intensified its quest to achieve universal

health coverage. Consequently, Ghana implemented a National Health Insurance Scheme (NHIS) in 2005 as the first of its kind in sub-Saharan Africa. The scheme obligates all Ghanaian citizens and residents of Ghana to subscribe to a health insurance scheme as enshrined in the NHIS amended Act 852 (2012). The National Health Insurance Scheme (NHIS) was established in August 2003 to promote access to equitable and quality healthcare for all citizens, irrespective of the individual's socioeconomic features. The National Health Insurance Authority (NHIA) governs the scheme.

The National Health Insurance Fund (NHIF), as stipulated in Act 650 of 2003, was set up to fund the healthcare of Ghanaian. The NHIF generates its cash inflow from five sources including 2.5% of the 17.5% Value-Added Tax (VAT), 2.5% of the 17.5% Social Security and National Insurance Trust (SSNIT) from formal sector employees, dividends of investments made by the NHIA, donations, and premiums paid by scheme subscribers. The scheme provides premium exemptions for the elderly (70 years and above), SSNIT pensioners, children below 18 years, pregnant women, and the beneficiaries of the Livelihood Empowerment Against Poverty (LEAP) a pro-poor social intervention carried out by the central government. The insurance scheme covers 95% of the burden of diseases in Ghana. Services covered by the scheme include out-patient services, in-patient services, maternity care, eye care, and oral healthcare services. Moreso, in terms of service or benefits coverage, the NHIS does not pay for all conditions treated at NHIS accredited health facilities. Nevertheless, it covers about 95% of the disease burden of Ghana. Yet, cancer and renal (kidney) diseases which could plunge households into catastrophic health expenditures due to the high cost of treatment are not covered by the scheme. User fees continued until the National Health Insurance System (NHIS) was fully implemented across the country in 2005 (Paim *et al*. 2011). The legislative foundation, Act 650, which was passed in 2003 and has subsequently been replaced by Act 852 of 2012, served as a prelude to this roll-out. Also, the NHIS was a direct social reaction to the negative effects of the over 68 percent of the population at the time not being able to afford health care services. The National Health Insurance Authority (NHIA), which oversees 159 District Mutual Health Insurance Schemes (DMHISs) and has ten regional offices, was established by Act 650 as the NHIS's implementer (Mensah et. al., 2010).

Several factors pose a threat to obtaining quality healthcare in many places around the globe. These factors are deemed challenges or dangers that stifle public healthcare services in many countries and deny people access to quality and affordable healthcare. These challenges sometimes emanate from within the country or internationally (Chassin & Loeb, 2013). These challenges range from insufficient funds for healthcare programs, inadequate labour (health professionals or workers), efficient and viable laid down health policy documents, unsustainable health programs, and corruption in the public healthcare sector. This has resulted in inaccessibility to quality healthcare service, which is necessary for the entire population of a country (Chassin & Loeb, 2013; Harris *et al*., 2011). According to Paim *et al*. (2011), the Brazilian healthcare services were saddled with educational inequalities, demographic and epidemiological characteristics of the population, and socioeconomic disparities. Even though nations in sub-Saharan Africa have made efforts to improve their public healthcare services, there seems to be a long way to get where countries in these regions could provide reliable, efficient, and quality healthcare services to the citizens Kiberu *et al*., (2017). The study mentions challenges such as shortage of health workers, lack of political will, civil unrest, the political instability that mostly destroys health facilities, unstable provision of power, and low income to fund health infrastructure and programs. These challenges hamper the quest to provide better healthcare to people in the sub-region, invariably resulting in inaccessibility to quality healthcare.

According to the World Health & Organization (2017), the Ghanaian public healthcare services challenges are enormous and visible. The report indicates that it has a severe impact on how people in the country have equal access to quality public healthcare. Notably, among the challenges includes the migration of trained and qualified health professionals in the country; inadequate health infrastructure due to the sharp rise in the country's population; insufficient health professions at the various health facilities, among others. The 2020 strategic report from the Ministry of Health in Ghana to improve health service conveyance based on the presidential directives enumerates several challenges such as corruption, absenteeism, lack of medical equipment, inadequate budget, and planning, theft of medicines, negligence of duty, poor service delivery, a massive deficit in health infrastructure, diversion of funds to private clinics, inadequate supervision of the system, among others (Ministry of Health, Ghana 2020). Furthermore, political disruptions coupled with bad governance and poor economic performance from the times of Dr Kwame Nkrumah to today have also affected the health system leading to unsustainable health programs and the collapse of some health centres across the nation (Nyatanyi, 2020). Thus, this study investigates some selected challenges in public healthcare services, i.e., insufficient government budgetary allocations to support the NHIS policy, inadequate human resources, demoralization of health workers, and hostile work attitude and ethics of health workers. The study would ascertain the contribution of the political environment to these challenges on the inaccessibility to quality healthcare by the people.

Additionally, the study's primary goal is to determine the impact of the challenges in the public healthcare services in Ghana on the inaccessibility to quality healthcare by the citizenry through the NHIS policy. Specifically, the study posits to achieve the following:to determine the impact of government budgetary allocations on quality healthcare in Ghana, to explore the influence of human resources management and demoralization of health workers on quality healthcare in Ghana, to establish the impact of health care infrastructure and work attitude and ethic of health workers on quality healthcare in the NHIS sector in Ghana, and finally, to ascertain the moderation role of professional behaviour on the relationship between work attitude and ethics and quality healthcare delivery. Moreso, this study relies on four critical questions to guide it in achieving the purpose of the study: **(Q1)** what is the impact of government budgetary allocations on quality healthcare in Ghana? **(Q2)** how does human resources management and demoralization of health workers influence quality healthcare in Ghana? **(Q3)** what is the impact of health care infrastructure and work attitude and ethic of health workers on quality healthcare in the NHIS sector in Ghana? and **(Q4)** what is the moderation role of professional behaviour on the relationship between work attitude and ethics and quality healthcare delivery in Ghana?

Accordingly, the study offers the following contributions to existing body of knowledge; **First**, this study would serve as a source of information or document that would periodically enable successive governments to do adequate planning, intense monitoring, and evaluation of public healthcareservices. This would help bring about best practices and measures that would holistically transform public healthcare services and make adequate plans for public healthcare services.

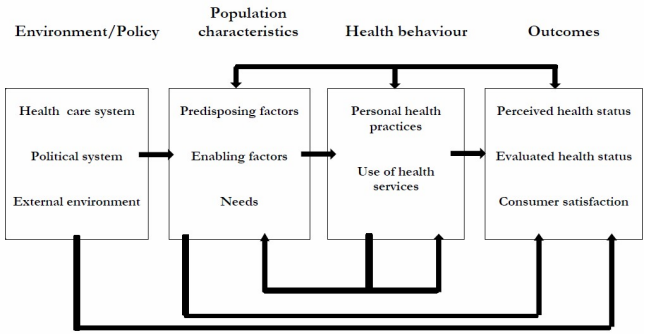
Second, this research would be beneficial to people designated to manage various public health facilities in the country. The study sheds light on the challenges in providing proper public healthcare and its impact on people's inability to obtain quality healthcare. This would inform management to implement a strategic plan in various public hospitals, which posits to deal with health workers and other critical internal matters that tend to hamper progress in the public healthcare services. Once these challenges are resolved, the public hospitals would be on course to achieving their intended purposes.

Lastly, the study would serve as a wellspring of information for scholars in academia interested in working on elements that concern public healthcare services or systems. It would explain the concept and help them carve out whichever portion of public healthcare services they want to work.The rest of the paper is arranged as follows; chapter 2 presents the theoretical underpinning and the literature review, chapter 3 present the research methodology, chapter

4 displays the results and discussion of the study, and finally, chapter 5 presents the conclusion, implications and limitations of the study.

Theoretical Underpinning: The study sort to determine the impact of the challenges in the Ghanaian public healthcare services on quality healthcare by natives of the country specifically Koforidua in the Eastern Region of Ghana. The study considers challenges such as insufficient government funding of the NHIS policy, human resources, demoralization of health workers, inadequate health infrastructure, and negative work attitude and ethics of health workers. The study would also ascertain whether health workers professional behaviour can moderate the relationship between health workers work attitude and ethics and quality healthcare in Ghana. The foundation of the study is built around Andersen's Health Behaviour Model and the WHO Health System Framework.

Andersen's Health Behavior Model: The Andersen Health Behaviour Model posits to explain and help understand why do people use healthcare services, explore the disproportion in access to health services, and introduce policies that would create room for equal access to healthcare (Andersen, 1995). To ascertain an individual use of healthcare services, the desired model focused on a person's predisposition to use dire healthcare services, the elements that influence one to use healthcare services, and a person's perception concerning the need for care (Bradley *et al*., 2002). An individual considers an equitable, effective, efficient, and inequitable measure before opting for a healthcare service (Rashid & Antai, 2014). According to the model, the individual also focuses on the environmental factors, which are the external factors that inform whether one can have ingress to quality healthcare services or not. The model based on the predisposing factors and the external environment produces an outcome that indicates an individual's health status and satisfaction (customer satisfaction) with the healthcare services enjoyed (Bradley *et al*., 2002).Moreso, under this model, accessing healthcare is based on the professionalism shown in public healthcare delivery. The model drives individual and contextual determinants regarding when and why to use health services (Babitsch *et al*., 2012). According to Andersen *et al*. (2002), the model was categorized into three fundamental components: the predisposing or susceptible factors, the enabling or external factors, and the need factors. The predisposing factors comprise individual elements such as the social-demographic features of a person (Andersen, 1995). These include age, sex, occupation, religion, ethnicity, family status, among others. This factor also considers mental issues such as health beliefs (e.g., attitudes, values, and comprehension related to health and health services) (Rashid & Antai, 2014). Contextual factors prone individuals to health services include the demographic and social composition of communities, collective and societal values, cultural norms, and political views (Babitsch *et al*., 2012). The theory speaks to need factors but differentiating between the perceived need for healthcare services (i.e., how people view and experience their general health, functional state, and illness symptoms) and evaluated need (i.e., professional assessments and objective measurements of patients' health status and need for medical care) (Andersen, 1995; Andersen *et al*., 2002; Babitsch *et al*., 2012; Jiang *et al*., 2020).



Source: (Rashid & Antai, 2014).

Figure1. The Andersen Health Behaviour Model

Literature Review and Hypothesis Development

Nexus between government funding and quality health care delivery: Hashimoto *et al*., (2020) in doing a qualitative study on the Haiti healthcare system and the route to 2030 ensuring there is universal healthcare for all, the analysis of the research indicated little progress has been made and identifies several challenges such as governments inadequate budgets to support the NHIS policy, inefficient budg*et al*otment, and unproductive management. Per the conclusions of the study, these challenges, especially the first, have affected healthcare delivery, coverage, and quality. Sengupta & Rooj, (2019) in a research on why the Government of India should increase funds for healthcare even in an economic downturn realized that the inadequate funds or budget made available for healthcare services make healthcare inaccessible and expensive to the poor and vulnerable such as women, aged, children, and disabled. Inadequate funds or insufficient budg*et al*location to support the NHIS policy were determined to have a big effect on people's inability to access standard public healthcare services in India. Akosua Akortsu & Aseweh Abor, (2011) sort to determine howhealthcare institutions in Ghana are financed to deliver on their mandate i.e., ensure good healthcare services to all. Findings reveal that public healthcare services are mostly supported by government subventions, inner generated funds, and donor given funds. The study, however, discovered that there are challenges such as delay in the release of subventions, inadequate subventions, or money received from the government, delay in reimbursement of service providers of health insurance schemes among others which makes it challenging for people to have access to reliable, quality, and affordable healthcare. Hassan *et al*., (2016) investigated healthcare financing in Bangladesh, challenges, and recommendations. The study discovered that there is a continuous fall in the budg*et al*located to the healthcare services from 6.2% to 4.3% of total government expenditure. The insufficient funding has made it difficult to cater to diseases and has created a platform for private healthcare providers to exploit and benefit from private spending at large.Based on the above empirical evidence, this study proposes that;

H1: *Government funding will have a significant positive impact on the quality of healthcare services in Ghana.*

Nexus between human resources management and quality health care delivery: Working on frequent barricades to implementation of maternal healthcare in low and middle-income countries, Puchalski Ritchie *et al*., (2016) indicated that there is a high degree of commonality that cuts across which are the common challenges such as funds and insufficient human resources that stifle the objective of maternal healthcare. According to the study, inadequate health workers are prevalent in most developing countries which deny people access to quality healthcare. Koblinsky *et al*., (2016) highlights pressing issues in the provision of healthcare and recommended steps that could be taken to catalyse progress towards achieving the Sustainable Development Goals (SDGs). The study encouraged the promotion of universal health coverage of quality healthcare services, especially for vulnerable women. The study calledfor an increment in the health workforce to meet the growing demands because the current health workforce was inadequate to serve all across countries which also posit to deny people access to quality healthcare. Hazarika, (2013) indicated India faces an acute shortage of healthcare personnel when working on the topic "health workforce in India: assessment of accessibility, production, and distribution. Results showed that there is an inadequate health workforce, inequalities in the availability of health workers, imbalance in the distribution of health workers such as doctors, dentists among others. This persistent challenge is making it problematic for people to access the best healthcare services through the best health personnel. Analysing the public healthcare services in Pakistan, showing forth what to learn, and defining a way forward, Kurji *et al*., (2016) indicate numerous challenges that are affecting the health service delivery in the country. Notably among the challenges isinadequately trained health personnel. The situation seemed alarming and has greatly affected public healthcare services disadvantaging citizens especially those in the remote areas. Based on the above evidence, this study proposes that:

H2: *Human resource management will have a significant positive impact on the quality of healthcare services in Ghana.*

Nexus demoralization of health workers and Quality healthcare delivery: Willott *et al*., (2020) did a study in Sierra Leone focusing on how staff recognition affects the delivery of surgical operations by health personnel who conducts them. Most of the healthcare providers indicated that the lack of recognition they suffer at the hands of their superiors, management, and the central government results in poor morale for work and manifesting in poor handling of patients. This is an indication that people suffer at the hands of health personnel who are not duly recognized in addition to severe workload hence making healthcare accessibility problematic. The study called that any involvement to better the system should therefore take into consideration staff and patient relations as a key element in its design and execution, and ideally be led and held up by front line healthcare employees.

Cerf, (2019) researched how resourcing health workers would enable countries in Africa to ensure better public healthcare service and universal health coverage for all. The study believes that the unavailable of resources in this case working materials, tools, and equipment could demoralize a health worker and called on governments to optimally resource health workers for quality service deliverance to the vulnerable, impoverished, and underserved people specifically those in the rural areas. The study also posits that motivating a health worker should be non-negotiable because a motivated health personal is quality cantered. However, the opposite of that is a dangerous path to tread as it would bring damming consequences in healthcare delivery because a demoralized health worker may show forth absenteeism, lateness to work, carelessness at work among others. Undertaking an examination into the sources and outcomes of industrial actions by Nigerian health workers from 2013-2015 which lead to a closure of several public health facilities and institutions preventing Nigerians access to quality health services, Oleribe *et al*., (2019) indicate that poor healthcare leadership and demand for better salaries and wages were the basic cause of all the industrial actions. These challenges demoralize health workers forcing them to act in a manner which is detrimental to the citizenry denying them access to good healthcare. Based on this evidence, this study proposes that:

H3: Demoralization of health will have a significant positive impact on the quality of healthcare services in Ghana.

Nexus between health care infrastructure and quality healthcare delivery

Kyei-Nimakoh *et al*., (2015) did a systematic review on obstetric awareness at health amenities in the sub-Saharan Africa in the wake of the effort being made to achieve the Millennium Development Goals (MDGs) set up by the United Nations in 2000. The reported that below par quality of service, inadequate resources, inadequate transport, and inaccessibility to healthcare necessities is what had led to the high maternal death rate in the sub-region. The study called for an urgent rise in healthcare infrastructure in order not to deny people equal and quality access to healthcare facilities wherever they find themselves in the sub-region. Dilélio *et al*., (2015) performed a national population research of a sample of 12402 adults aged 20-59 in urban areas to ascertain the lack of access and continuity of adult healthcare. Barriers to gain access and continuity were attributed to several factors withinadequate health facilities being a major reason i.e., lack of hospital facilities and hospital beds with other factors being structural i.e., charges. Due to this, the majority of the respondent in the study indicated the greatest absolute lack of access to healthcare occurring during emergencies.

Fenny *et al*., (2016) in the wake of the effort to expand access to healthcare and reduce healthcare inequalities in many low-income countries meant that many have developed social health protection programs. This led to finding the factors that contribute to low uptake and renewal of health insurance in Ghana. After a qualitative interview, the results captured two main themes i.e., social-cultural and structural with the structural factors representing the inadequate distribution of social infrastructures such as health facilities, poor quality of care, and weak administrative process of NHIS. These factors prevent people from logging into the scheme or benefit from the scheme after registration creating inaccessibility to public healthcare. Kurji *et al*., (2016) also indicate that the lack of health infrastructure has been a big challenge to Pakistan in ensuring that people have access to quality healthcare. Based on the empirical evidence above, this study puts forward the hypothesis:

H4: Health care infrastructure will have a significant positive impact on the quality of healthcare services in Ghana.

Nexus between work attitude and ethics and quality healthcare delivery

Mannava *et al*., (2015) considered a qualitative study on the attitude and behaviour of health workers who work in maternity wards in Africa and Asia with their interactions with patients. It was reported that negative attitude and behaviours in the manner of verbal abuse, rudeness such as ignoring and ridiculing patients or neglect. Other behaviours and poor work ethics such as physical abuse, absenteeism, or unavailability of health workers, lack of regard for privacy, poor communication, unwillingness to accommodate traditional practices, and authoritarian or frightening attitudes. These behaviours were a result of workload, patient's beliefs, prejudices, and feelings of superiority. This undermines healthcare services and prevents people to have access to quality healthcare. Obinna, (2011) had a look at how the poor attitude of health workers is killing healthcare services in Nigeria. The qualitative study described the situation as worrisome and makes a caveat “there is no exemption, all cadres of healthcare providers are guilty of this negative attitude, even at the slightest provocation”. Negatives attitudes such as rudeness, considering patients as a nuisance, neglect patients to long queues, and sometimes responsible for the death of an acquiescent due to negligence. The negative attitudes andbehaviours have a damming impact on quality healthcare and creating inaccessibility for people to have appropriate healthcare.

Also, Sahile *et al*., (2019) investigated nurses who are responsible for primary healthcare hyperactive in Addis Ababa, Ethiopia. It was ascertained that a negative attitude such as despising them, stigmatization, and discrimination was prevalent among the nurses towards the patients. The outcome of the study conforms with the results of Pusey-Murray, (2017) where reports of tarnishing behaviours from health care workers against patients with SMD include offering disheartening advice, negative remarks, rejecting behaviour, and negative attitudes. This outcome was also confirmed by Ndetei *et al*., (2011) where nearly half of the participants have a negative attitude towards people with severe mental disorders. Therefore, evidence-based and contextualized models are warranted to mitigate the negative attitudes of primary health care nurses as the study called for. Based on the above review, this study proposes that:

H5: Work attitude and ethics of health workers will have a significant positive impact on the quality of healthcare services in Ghana.

Moderating role of health workers’ professional behaviour

The present study further analysed the moderating role of health workers’ professional behaviour in the relationship between work attitude and ethics (WAE) and quality health care delivery (QHD). The professional behaviour (PB) of health care is an essential determinant in doctor-patient satisfaction, as medical professional experiences are influenced, at least in part, by how physicians understand and adhere to clients (Manzoor *et al*., 2019).Patients expect successful relation and courteous behavioural patterns from their health practitioners. Moreover, PB also influences patients' decisions to stick with their doctors. Several authors have suggested that when these expectations are not met, patients are dissatisfied and less likely to follow their medical regimen, attend appointments, or otherwise cooperate in their own treatment (DiMatteo *et al*., 1979; Dimitrievska & Misoska, 2021).

A recent research carried by Manzoor *et al*., (2019) focused on the moderation role of PB on the variables that affect health care delivery and patient satisfaction. The outcome of the study indicated that, PB moderates the association between health care services and the satisfaction level of patients in Pakistan. In general, the greater the doctor's politeness and cohesiveness, greater pleased and unhappy the client. As indicated by Dargahi *et al*., (2021) PB is the deep connection between the medical system and society, and it encompasses specialization, work ethics, and professional integrity to providing excellent medical care and healthcare services in order to attain the desired excellence and career development. There is gap in literature concerning the iteration relationship that PB plays in the association between WAE and QHD. As a result, there is a strong need to investigate the aforementioned relationships between the study variables in order to fill this gap. Based on the above discussion, this thesis, the researcher provide argument that PB will moderate the relationship between work attitude and ethics health workers and quality of health care delivery. This study proposes that:

H6: Health workers professional behaviour will positively moderate the relationship between work attitude and ethics and quality of healthcare delivery in Ghana.

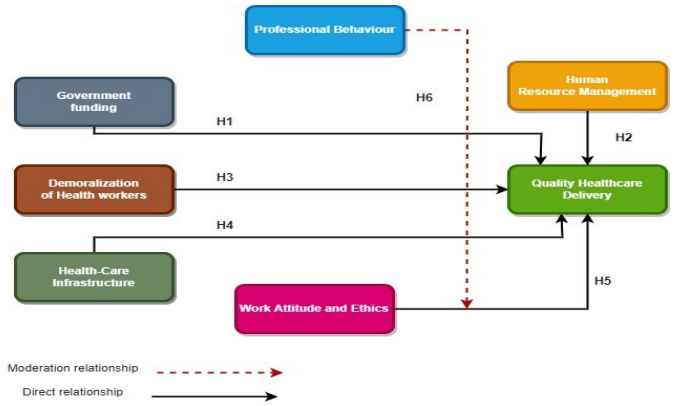


Figure 2. Conceptual framework for the study

RESEARCH METHODOLOGY

Data collection procedure: The questionnaire was administered one-on-one through a research team to the sample population. The researcher used 8 weeks to administer the questionnaire to the population. Thequestionnaire consists of three sections: the demographics aspect of the research population in the first section, the second section covers general knowledge about public healthcare services and its challenges. The third section covers the perception of participants on insufficient government budg*et al*location, inadequate human resources, demoralization of health workers, inadequate health infrastructure, negative work attitude, political instability, and inaccessibility to quality healthcare.

Demographic profile of respondents: Table 1 shows the profile or demography information about the interviewees of the analysis. The results from the survey indicates that, majority of the interviewees (64%) were females whiles (36%) were males. The implication is that, there is a dominance of female in the health-sector in Greater Accra region. The age range of the participant in Greater Accra Regional Hospital in Ghana shows that majority falls between 26-30 years (33.3%). Also 23.3% were between 21-25% and 31.7% were above 31 years. This shows a youthful working age in the health sector of Greater Accra region. The survey findings also revealed that (34%) of respondents had a diploma certificate, (39%) had a bachelor, 17% had master's degree or a doctoral degree, and 10% had other certificates. The demographic findings showed that 18.3% had less than one year of working experience at their current organization, and 28.7% had 1-5 years of experience, 27% had 6-10 years of experience, 9.6% had 11-20 years of experience and 16.3% had 21 and above years of experience.

Table 1. Profile of Respondents

Variables	Frequency	Percentage (%)
Gender		
Female	191	64
Male	109	36
Age of Respondents		
Below 20 years	35	11.6
21-25 years	70	23.3
26-30 years	100	33.3
31 and above	95	31.7
Educational Qualification		
Diploma	103	34
Bachelor	117	39
Masters	50	17
Others	30	10
Working Experience		
Less than 1 year	55	18.3
1-5 years	86	28.7
6-10 years	81	27
11-20 years	29	9.6
21 and above years	49	16.3
Total	300	100

Measures: The instrument employed for gathering information and data from the respondents is explained in this section. The study's measuring constructs used a 5-point Likert scale (1, strongly disagree; 2, disagree; 3, neutral; 4, agree; and 5, strongly agree). The following is a list of the methods used to quantify each construct:

Government Funding scale: The scales to measure government funding (GF) was adopted from (Munanye, 2014). Items such as "The government allocate adequate funds for the smooth running of the hospital and "I believe that financial allocation influences the quality of health care delivery" were utilized for the questionnaires. The convergent validity analysis proved the validity and reliability for the construct as indicated in Table 5.2. The Cronbach's alpha for GF was 0.878 and composite reliability of 0.934. This scale, therefore, indicates good reliability and validity.

Human Resources Management scale:The scales to measure human resources management (HRM) was adopted from (Hazarika, 2013). Items such as ("Inadequate health personnel affect the delivery quality of health care delivery" and Inequalities in the distribution of health workers such as doctors, dentists among others, affect the delivery quality of health care delivery") were utilized for the questionnaires. The convergent validity analysis proved the validity and reliability for the construct as indicated in Table 5.2. The Cronbach's alpha for HRM was 0.880 and composite reliability of 0.914. This scale, therefore, indicates good reliability and validity.

Demoralization of health worker's scale:The scales to measure demoralization of health workers (DHW) was adopted from (Oleribe *et al*., 2019). Items such as ("Lack of recognition from management demoralizes health workers, which affects health quality care delivery and "The unavailability of resources, in this case, working materials, tools, and equipment, could demoralize a health worker".) were utilized for the questionnaires. The convergent validity analysis proved the validity and reliability for the construct as indicated in Table 5.2. The Cronbach's alpha for DHW was 0.923 and composite reliability of 0.890. This scale, therefore, indicates good reliability and validity.

Health care infrastructure scale:The scales to measure health care infrastructure (HCI) was adopted from (Essendi *et al*., 2015). Items such as ("Inadequate infrastructure, which spans from inadequate hospital facilities, affect health care quality delivery" and "poor road networks to the available hospitals affect health care quality delivery") was utilized for the questionnaires. The convergent validity analysis proved the validity and reliability for the construct as indicated in Table 5.2. The Cronbach's alpha for HCI was 0.795 and composite reliability of 0.925. This scale, therefore, indicates good reliability and validity.

Work attitude and ethics scale: The scales to measure work attitude and ethics (WAE) was adopted from (Kim *et al*., 2015; Oleribe *et al*., 2019). Items such as ("Intolerance among healthcare personnel leads to poor health care quality delivery" and "Anger among healthcare personnel leads to poor health care quality delivery") was utilized for the questionnaires. The convergent validity analysis proved the validity and reliability for the construct as indicated in Table 5.2. The Cronbach's alpha for WAE was 0.804and composite reliability of 0.852. This scale, therefore, indicates good reliability and validity.

Healthcare Professional behaviour scale: The scales to measure professional behaviour (PB) was adopted from. Items such as ("I demonstrate respect and integrity; a responsiveness to patients' and society's" and "I demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices"was utilized for the questionnaires.The convergent validity analysis proved the validity and reliability for the construct as indicated in Table 5.2. The Cronbach's alpha for PB was 0.843 and composite reliability of 0.895. This scale, therefore, indicates good reliability and validity.

Quality healthcare delivery:The scales to measure quality healthcare delivery (QHD) was adopted from (Whitford, 2016). Items such as ("The organization has effective policies to support improving the quality of health care and services" and "Over the past few years, the organization has shown steady, measurable improvements in the quality of care provided to medical and patients") was utilized for the questionnaires. The convergent validity analysis proved the validity and reliability for the construct as indicated in Table 5.2. The Cronbach's alpha for QHD was 0.903 and composite reliability of 0.911. This scale, therefore, indicates good reliability and validity.

Method of data analysis: In the quantitative phase of this research, the study applied the PLS-SEM to test the proposed hypothesis. PLS-SEM is a statistical technique commonly used in social sciences, business, and other fields to analyse complex relationships between variables and assess structural models. PLS-SEM is particularly well-suited for situations where the data may be non-normal, small sample sizes, or the relationships among variables are poorly understood. Unlike traditional covariance-based SEM, PLS-SEM emphasizes maximizing the explained variance in the dependent variables and is often employed in predictive modelling. It works by constructing a latent variable model that combines observed variables into latent

Table 2. Result of measurement model assessment

Indicators	Items	Outer Loadings	Cronbach's alpha (α>0.7)	Rho_A (>0.7)	Composite reliability(ρc) (>0.7)	AVE (>0.5)
Quality Healthcare Delivery						
	QHD1	0.869	0.903	0.869	0.911	0.624
	QHD2	0.822				
QHD	QHD3	0.895				
	QHD4	0.775				
	QHD5	0.833				
Government Funding						
	GF1	0.856	0.878	0.932	0.934	0.513
	GF2	0.890				
GF	GF3	0.744				
	GF4	0.895				
	GF5	0.874				
	GF6	0.885				
Human Resource Management						
	HR1	0.864	0.880	0.900	0.914	0.685
	HR2	0.879				
HRM	HR3	0.823				
	HR4	0.794				
	HR5	0.814				
Demoralization of health workers						
	DHW1	0.843	0.923	0.845	0.890	0.607
	DHW2	0.858				
DHW	DHW3	0.785				
	DHW4	0.811				
	DHW5	0.847				
Health Care infrastructure						
	HCI1	0.834	0.795	0.902	0.925	0.643
	HCI2	0.759				
HCI	HCI3	0.826				
	HCI4	0.885				
	HCI5	0.816				
		Work Attitude and Ethics				
	WAE1	0.765	0.804	0.890	0.852	0.558
	WAE2	0.845				
WAE	WAE3	0.859				
	WAE4	0.875				
	WAE5	0.708				
Professional Behaviour						
	PB1	0.855	0.843	0.888	0.895	0.687
PB	PB2	0.797				
	PB3	0.917				
	PB4	0.902				

Note: Government funding (GF), human resource management (HRM), Demoralization of health workers (DHW), Health care infrastructure (HCI), Work attitude and ethics (WAE), Quality health care delivery (QHD

constructs and estimates their relationships (Hair, Howard, and Nitzl, 2020). PLS-SEM is valuable for its flexibility and ability to handle both formative and reflective constructs, making it a versatile tool for researchers seeking to uncover and model intricate relationships in their data. The PLS-SEM (SMART-PLS version 4.0) was used to test and analyse the variables' descriptive statistics and correlation analysis. Based on the proposed hypothesis of the study, the PLS-SEM was employed to explore the direct, indirect, and moderation analysis among the variables (Manley *et al*., 2021). The reliability test's measurement of the targeted latent construct determines how reliable a measurement model was evaluated. A model's dependability is checked using internal reliability, composite reliability, and average variance extracted. When measuring a specific construct, the internal reliability test determines how well the measuring items remain together (Sampene *et al*., 2022).

RESULTS

Measurement Model Assessment: The measurement model assesses these relationships by evaluating how well the observed variables (indicators) reflect the underlying latent constructs. It involves two key aspects: measurement model specification and estimation. In specification, researchers define the theoretical connections between latent constructs and their indicators, often guided by existing theories or conceptual frameworks. Estimation involves quantifying these relationships by assessing the reliability and validity of the measurement model. PLS-SEM typically uses loadings, which indicate the strength of the relationship between indicators and constructs, as well as other measures like Cronbach's alpha for reliability and Average Variance Extracted (AVE) for convergent validity. A well-specified and estimated measurement model is crucial for PLS-SEM, as it forms the foundation for subsequent structural model analysis, helping researchers gain insights into the complex relationships among latent constructs and observed variables in their research domain. To evaluate the measurement model, various test has been suggested by Joseph F. Hair *et al*. (2019), and all the criteria for these test have been summarized in Table 5.2 of this thesis. To evaluate the measurement model, these tests should be conducted: Factor Loadings (FL), Cronbach's alpha (CA), Composite Reliability (CR), Average Variance Extracted (AVE), Variance Inflation Factor (VIF), and discriminant validity. The results indicate each measurement's FL, CA, CR, and AVE in the study model.

Cronbach's alpha (CA) and Rho_A:Crochbach Alpha and rho_A are measures used to assess the internal consistency or how closely related elements are. CA was used to check the internal consistency, which measures the reliability based on the interdependence of the observed item variables. The findings of this thesis in Figure 3 confirmed that the variables' items had met the criteria required for the CA and Rho_A.

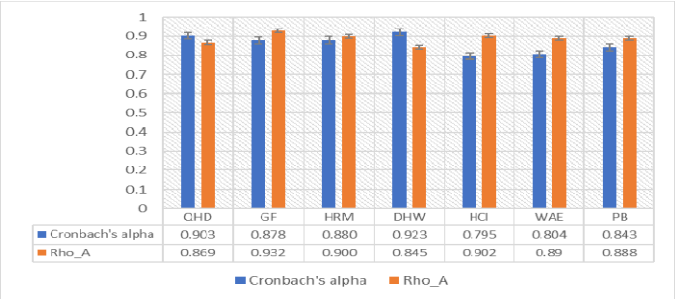
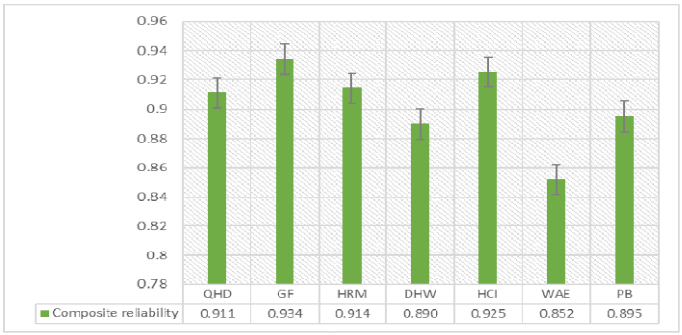


Figure 3.Crochbach Alpha and Rho_A for the variables

Composite Reliability (CR): Composite reliability values, which present the degree to which the construct indicators indicate the latent construct, surpassed the threshold value of 0.7, while average variance extracted, which reflects the total amount of variance in the latent structure indicators, surpassed the suggested value of 0.5 (Hair *et al*., 2020). To check the internal inconsistency, which measures the reliability based on the interrelationship of the observed items variables, Cronbach alpha was used, which surpasses the required threshold of 0.70 (Hair *et al*., 2020). According to the outcomes shown in Figure 4, all structures' composite reliability is higher than 0.70. A clear indicator that each item accurately measures its relevant concept.



Average Variance Extracted (AVE):The AVE is a critical statistical measure in PLS-SEM that assesses the convergent validity of a measurement model. AVE quantifies the extent to which the variance explained by a construct's indicators (observed variables) is greater than the variance due to measurement error. It helps researchers determine whether the indicators adequately measure and converge upon the latent construct they represent. A high AVE value, typically above 0.5, indicates that a significant proportion of the variance in the construct is captured by its indicators, suggesting strong convergent validity. On the other hand, a low AVE suggests that the construct's indicators do not converge well, indicating potential issues with the measurement model. Convergent validity is demonstrated when the AVE value exceeds 0.50 (Hair *et al*., 2020;Wiredu, Yang, Saljoughipour, *et al*., 2023). The results of this thesis, as shown in Figure 5, show that all of the variables' AVE exceeded the minimum requirement of 0.50.

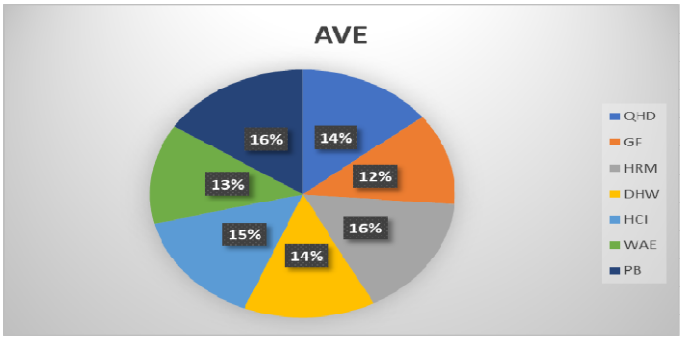


Figure 5. AVE for the variables

Multicollinearity Assessment: Multicollinearity assessment is a crucial step in statistical modelling and regression analysis. It refers to examining a model's degree of correlation or interdependence among independent variables (Chhetri and Baniya, 2022;Wiredu *et al*., 2023). Common techniques for assessing multicollinearity include examining correlation matrices, calculating variance inflation factors (VIFs), and conducting tolerance tests. VIFs quantify how much the variance of an estimated regression coefficient is inflated due to multicollinearity, with values above a certain threshold (often 5 or 10) indicating a problem as suggested by (Harman, 1976; Podsakoff *et al*., 2003). Tolerance tests, conversely, assess the proportion of variance in an independent variable not explained by other predictors. By evaluating multicollinearity, researchers can make informed decisions about whether to retain, transform, or exclude certain variables from their models, ultimately enhancing the reliability and interpretability of their statistical analyses. Table 3 display the latent constructs' collinearity values, estimated by a VIF to assess collinearity issues. In accordance with the criterion of Harman (1976), VIF values for all constructs higher than the threshold of 5 imply that a model is embedded with multicollinearity issues. VIF values for all the latent constructs were below the threshold of 5, suggesting that the model has no multicollinearity issues.

Table 3. VIF for the variables

Latent Constructs	VIF
Quality Healthcare Delivery	
QHD1	1.853
QHD2	1.061
QHD3	1.573
QHD4	2.463
QHD5	2.356
Government funding	
GF1	1.280
GF2	2.136
GF3	2.740
GF4	1.457
GF5	2.753
GF6	2.160
Human Resource Management	
HRM1	1.048
HRM2	1.369
HRM3	2.183
HRM4	2.558
HRM5	2.765
Demoralization of Health workers	
DHW1	1.769
DHW2	2.354
DHW3	2.782
DHW4	1.544
DHW5	1.770
Health-Care Infrastructure	
HCI1	2.364
HCI2	1.464
HCI3	2.760
HCI4	2.368
HCI5	1.271
Work Attitude and Ethics	
WAE1	2.610
WAE2	1.822
WAE3	1.512
WAE4	2.409
WAE5	2.003
Professional Behavior	
PB1	2.451
PB2	2.548
PB3	2.253
PB4	1.364

Note: Government funding (GF), human resource management (HRM), Demoralization of health workers (DHW), Health care infrastructure (HCI), Work attitude and ethics (WAE), Quality health care delivery (QHD).

Discriminant Validity: Discriminant validity assessment is recognized as an effective technique in the PLS-SEM approach. Discriminant validity examines the construct's distinctive nature in a proposed research model. The research can apply this technique to determine the unique role of each construct analyzed in the research model (Ronkko & Cho, 2022). It is, therefore, imperative to establish the validity of the construct to operationalize the theoretical concept applied in this research (Roemer & Schuberth, 2021). The thesis applied different techniques to analyze discriminant validity among constructs, which include: Fornell Lacker criterion, Heterotraitrait-Monotrait Ratio (HTMT), and Cross-Loadings.

Fornell Lacker criterion: The most extensively used method for this is the Fornell and Larcker criterion. The discriminant validity was assessed using Fornell & Larcker (1981) by comparing the square root of each construct's AVE (diagonal bolded values) with the correlation coefficients of each construct (off-diagonal values). Sufficient discriminant validity is confirmed as the square root of each construct's AVE (diagonal bolded values) is greater than its corresponding coefficients (off-diagonal values). The outcome indicated that all variables meet the Fornell Larcker criterion, as in Table 4.

Table 4. Results of Fornell-Larcker Criteria

Constructs	DHW	GF	HCI	HRM	PB	QHD	WAE
DHW	0.691						
GF	0.787	0.510					
HCI	0.326	0.221	0.721				
HRM	0.771	0.216	0.321	0.724			
PB	0.321	1.157	0.601	0.247	0.653		
QHD	0.114	0.291	0.721	0.101	0.150	0.622	
WAE	0.590	0.587	0.421	0.322	0.138	0.253	0.459

Note: Government funding (GF), human resource management (HRM), Demoralization of health workers (DHW), Health care infrastructure (HCI), Work attitude and ethics (WAE), Quality health care delivery (QHD).

Heterotraitrait-Monotrait Ratio (HTMT): Criticism of the Fornell & Larcker (1981) criteria through novel research indicates that the metric performs poorly, particularly when the indicator loading s on a construct differs only slightly. An alternative approach was thus recommended by Henseler *et al*. (2015) to assess the discrimination validity of a model using the HTMT ratio of correlation based on the multi-trait-multimethod matrix. The study harnessed this new method to test the discriminant validity; the findings are presented in Table 5. When the HTMT value is greater than the threshold value of 0.90, there is a problem with discriminant validity. However, as presented in Table 5, all the values for HTMT were below 0.85.

Table 5. Results of HTMT

Constructs	DHW	GF	HCI	HRM	PB	QHD	WAE
DHW							
GF	0.272						
HCI	0.316	0.690					
HRM	0.381	0.599	0.350				
PB	0.639	0.331	0.402	0.720			
QHD	0.289	0.630	0.773	0.646	0.523		
WAE	0.625	0.729	0.853	0.556	0.474	0.653	

Cross-Loadings: In PLS-SEM, cross-loadings are crucial for assessing the measurement model's validity. Cross-loadings indicate the extent to which a latent construct's indicators relate to other constructs in the model beyond their primary association. Analysing cross-loadings helps researchers ensure that each indicator measures the intended construct and does not strongly load on unrelated constructs, enhancing the model's accuracy and construct validity. Table 6 also shows the results for the cross-loadings and combined loadings of the constructs. According to the results, individual constructs have higher values for their respective item loadings than other constructs. This implies that the research model is not affected by the possibility of measurement bias.

Assessment of the Structural Equation Model Goodness of Fit: According to Dijkstra & Henseler, (2015) the standardized root means square (SRMR) should be 0.08 to estimate the model fitness of PLS-SEM (2016). The results of our analysis, as shown in Table 7, reveal a sufficient degree of model fitness with (SRMR) of 0.031. Furthermore, R^2 testing is used in this study to determine whether an endogenous variable has predictive value. In summary, the R^2 value represents the forecast's accuracy (Sampene, Cai, *et al*., 2022). Marcoulides *et al*. (2009) opined that the co-efficient of the R^2 value of 0.67 is considered robust or substantial, 0.33 is deemed to be moderate, and 0.19 is deemed weak. In this case, our study's results, as indicated in Table 7 show that the R^2 values for all the variables are robust and substantial.

Path Analysis: The path co-efficient results are achieved by assessing the structural model. This study employed a resampling bootstrap technique to obtain the PLS-SEM approach's t-statistics and original means (β). The data was processed using 5000 bootstrapped samples in this investigation (Hair *et al*. (2019). The eight hypotheses' path analysis (p-value) is between 0.000 and 0.05, as shown in Table 8 and Figure 6.

Table 6. Combined loadings and Cross loading

Indicators	DHW	GF	HIC	HRM	PB	QHD	WAE
DHW1	0.843	0.646	0.456	0.225	0.237	0.353	0.696
DHW2	0.858	0.710	0.505	0.245	0.238	0.423	0.684
DHW3	0.785	0.844	0.614	0.274	0.256	0.379	0.747
DHW4	0.811	0.847	0.540	0.251	0.230	0.351	0.743
DHW5	0.847	0.811	0.504	0.233	0.234	0.359	0.755
GF1	0.835	0.856	0.614	0.274	0.256	0.379	0.747
GF2	0.833	0.890	0.540	0.251	0.230	0.351	0.743
GF3	0.886	0.744	0.504	0.233	0.234	0.359	0.755
GF4	0.575	0.895	0.548	0.218	0.201	0.294	0.528
GF5	0.540	0.874	0.681	0.217	0.168	0.281	0.519
GF6	0.620	0.885	0.773	0.268	0.234	0.352	0.581
HCI1	0.540	0.760	0.834	0.217	0.168	0.281	0.519
HCI2	0.620	0.797	0.759	0.268	0.234	0.352	0.581
HCI3	0.562	0.711	0.826	0.329	0.296	0.396	0.572
HCI4	0.577	0.723	0.885	0.314	0.276	0.383	0.567
HCI5	0.227	0.213	0.816	0.776	0.821	0.769	0.497
HRM1	0.227	0.213	0.655	0.864	0.821	0.769	0.497
HRM2	0.269	0.293	0.543	0.879	0.915	0.922	0.726
HRM3	0.253	0.273	0.504	0.823	0.906	0.895	0.635
HRM4	0.268	0.293	0.521	0.794	0.789	0.879	0.623
HRM5	0.308	0.779	0.365	0.814	0.808	0.749	0.360
PB1	0.227	0.213	0.655	0.776	0.855	0.769	0.497
PB2	0.162	0.084	0.271	0.484	0.797	0.484	0.338
PB3	0.269	0.293	0.543	0.940	0.917	0.922	0.726
PB4	0.253	0.273	0.504	0.916	0.902	0.895	0.635
QHD1	0.227	0.213	0.655	0.776	0.821	0.869	0.497
QHD2	0.269	0.293	0.543	0.940	0.915	0.822	0.726
QHD3	0.253	0.273	0.504	0.916	0.906	0.895	0.635
QHD4	0.268	0.293	0.521	0.894	0.789	0.775	0.623
QHD5	0.880	0.710	0.505	0.245	0.238	0.833	0.684
WAE1	0.835	0.844	0.614	0.274	0.256	0.379	0.765
WAE2	0.833	0.847	0.540	0.251	0.230	0.351	0.845
WAE3	0.886	0.811	0.504	0.233	0.234	0.359	0.859
WAE4	0.269	0.293	0.543	0.940	0.915	0.922	0.875
WAE5	0.828	0.646	0.456	0.225	0.237	0.353	0.708

Note: Government funding (GF), human resource management (HRM), Demoralization of health workers (DHW), Health care infrastructure (HCI), Work attitude and ethics (WAE), Quality health care delivery (QHD).

Table 7. Structural Model Fit Summary

Construct	R^2	Adj R^2	SRMR
QHD			0.031
GF	0.951	0.965	
HRM	0.835	0.853	
HCI	0.734	0.751	
WAE	0.871	0.890	
DHW	0.837	0.860	

Note: Government funding (GF), human resource management (HRM), Demoralization of health workers (DHW), Health care infrastructure (HCI), Work attitude and ethics (WAE), Quality health care delivery (QHD).

Table 8. Result of direct effect

	Hypothesis	β	Standard Deviation	T Statistics	P Values	Decision
H1	Government Funding -> Quality Healthcare Delivery	0.463	0.057	33.675	0.000	Supported
H2	Human Resource Management -> Quality Healthcare Delivery	0.780	0.201	45.668	0.000	Supported
H3	Demoralization of Health workers -> Quality Healthcare Delivery	0.338	0.077	40.353	0.001	Supported
H4	Health-Care Infrastructure -> Quality Healthcare Delivery	0.512	0.084	38.031	0.002	Supported
H5	Work Attitude and Ethics -> Quality Healthcare Delivery	0.380	0.112	32.905	0.000	Supported

Direct Path Analysis: The direct path analysis of ouris shown in Table 8. The first hypothesis stated that government funding will significantly affect the quality of healthcare delivery in Ghana. The results government funding (H.1 β) = 0.463; t-value = 33.675; = 0.000) has a direct and significant interaction with QHD. The inference from this outcome shows that QHD in Ghana is affected by the level of government expenditure towards hospitals.This result indicates that the thesis H1 was supported. Hypothesis 2 of the thesis stated that human resources management will significantly affect the quality healthcare delivery in Ghana. The results revealed that HRM (H.2 β) = 0.780; t-statistics = 45.668; p=0.000) has a direct and significant connection with QHD. This outcome provides statistical proof to support this hypothesis 2 of the present research.

The present study hypothesis 3 stated that demoralization of health workers will significantly affect the quality of healthcare delivery in Ghana. The finding shows that DHW (H3. β) = 0.338; t-value = 40.353; p=0.001) has a significant influence on QHD. Therefore, H3 was supported. Referring to the thesis hypothesis 4 which stated that health care infrastructure will significantly affect the quality of healthcare delivery in Ghana. The empirical outcome has shown that HCI (H.4 β) = 0.512; t-statistics = 38.031; p=0.002) has direct influence onQHD. Thus hypothesis 4 was supported. The fifth hypothesis of this thesis focused on the association between work attitude and ethics and quality healthcare delivery in Ghana. The outcome from the survey revealed the WAE (H.5 β) = 0.380; t-statistics = 32.905; p=0.000) has direct and significant connection

with QHD. This outcome provides statistical proof to support this hypothesis 5 of the present research.

The graphical representation of the moderation impact of PB has been demonstrated in Figure 7.

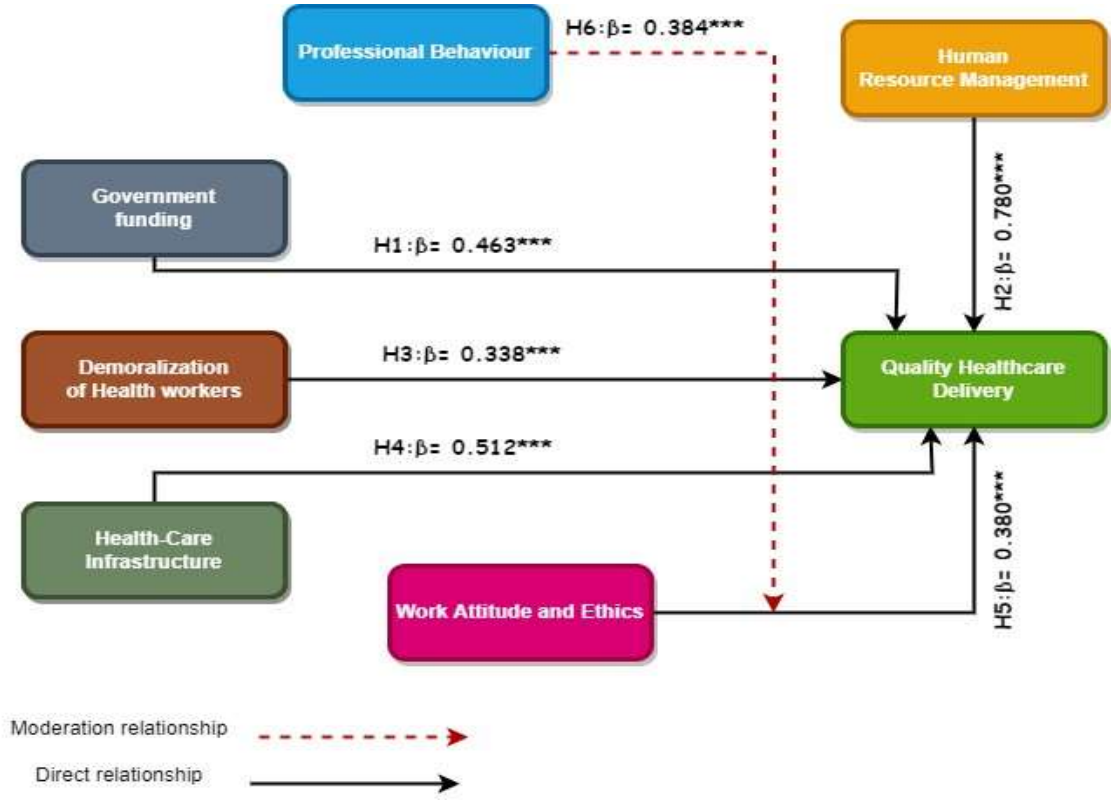


Figure 6. Results of the structural equation research model

Table 9. Moderation Effect

	Hypothesis Path	(β)	T Statistics	P Values	95% Bootstrapping		Decision
					LLCI	UPCL	
H6	PB*WAE---->QHD	0.437	66.445	0.000	0.056	0.801	Supported

Note PB: Professional behaviour, WAE: work attitude and ethics, LLCI: lower-level confidence interval, UPCL: upper-level confidence interval

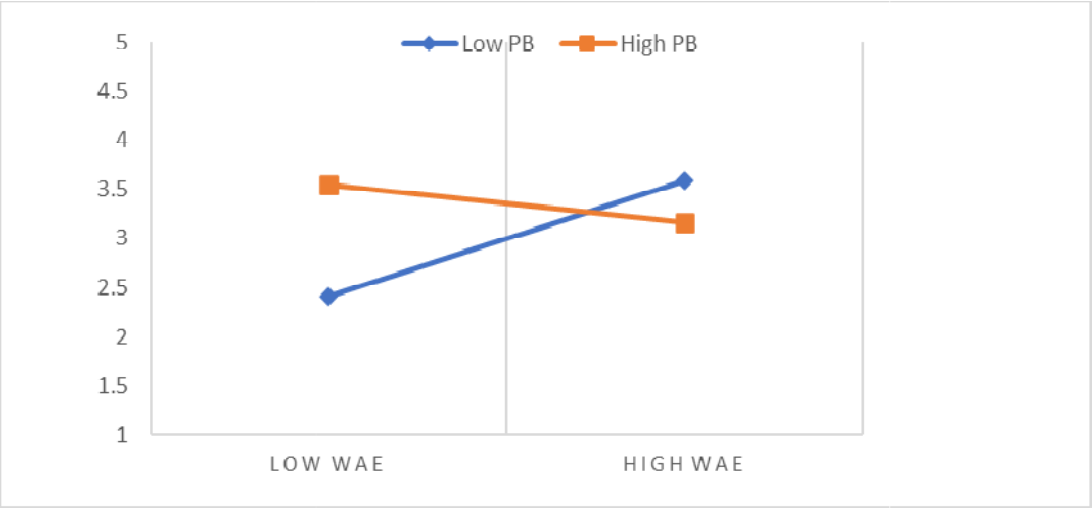


Figure 7. Moderation professional behavior

Moderation Analysis: Moderation analysis is performed to evaluate how a third variable intervenes in the interplay between two other variables. For instance, in an intervening model, we assumed that a variable named X is estimated to affect an outcome variable Y through one or more intervening factors generally referred to as the moderation (M) (Hayes 2009). Therefore, in this study the researcher proposed that PB moderates the association between WAE and QHD. The empirical outcome indicated that PB (H6 β= 0.437, T-value= 66.445 p<0.000) has a moderating influence on the association between WAE and QHD at LLCI of (0.056) and UPCL of (0.801). The figure indicates that the simultaneous increase of PB can be enhanced and strengthen the linkage between WAE and QHD. Thus, as depicted by the graph, a higher level of PB leads to a more substantial effect on improving WAE, thereby enhancing their QHD.

DISCUSSIONS

This research seeks to provide an understanding of how government funding, human resource management practices, the demoralization

of health workers, healthcare infrastructure, and work attitudes and ethics collectively shape the landscape of healthcare quality in Ghana. The adoption of PLS-SEM offers a methodological advantage in scrutinizing the intricate connections between these variables, contributing to both theoretical advancements and practical insights for policymakers and healthcare practitioners alike. Table 10 provides a summary of the empirical outcome reported in this research.

Table 10. Synopsis of findings

No.	Hypothesis Statement	Validation
	Direct Relationships	
H1	GF has a positive and significant effect on QHD.	Accepted
H2	HRM has a positive and significant effect on QHD.	Accepted
H3	DHW has a positive and significant effect on QHD.	Accepted
H4	HCI has a positive and significant effect on QHD.	Accepted
H5	WAE has a positive and significant effect QHD.	Accepted
	Moderation Relationships	
H6	PB positively moderates the association between WAE and QHD.	Accepted

Relationship between GF and QHD: The study results provide evidence that support the thesis first hypothesis (H1). Thus, the researcher found that government funding has a positive and significant impact on quality health care delivery in Ghana. In general, there is a strong correlation between quality healthcare and finance. While market forces determine the cost of health care delivery, the government steps in to supplement the market where there are gaps and impose regulations where there is unfairness and/or inefficiencies (Tang *et al*., 2004). The influence of government funding (GF) on the quality of healthcare in Ghana is a critical aspect of healthcare provision, as financial support from the government significantly shapes the resources, infrastructure, and overall capacity of the healthcare system. Adequate government funding is essential for ensuring access to quality medical services, maintaining well-equipped facilities, and supporting healthcare professionals. In Ghana, the extent of government financial backing directly impacts the availability of essential medical equipment, the recruitment and retention of skilled healthcare personnel, and the implementation of effective health programs. Shortfalls in funding can lead to inadequate staffing levels, limited access to modern medical technologies, and compromised healthcare services. Conversely, robust government funding contributes to improved healthcare infrastructure, enhanced training opportunities for healthcare workers, and the ability to respond effectively to public health challenges, ultimately influencing the overall quality of healthcare delivery in the country. This study results is in line with (Hassan *et al*., 2016; Riman & Akpan, 2012).

Relationship between HRM and QHD: Concerning the research (H2), the findings from the study indicated that human resource management (HRM) has a significant and direct interplay with QHD in Ghana. Human resources, when pertaining to health care, can be defined as the different kinds of clinical and non-clinical staff responsible for public and individual health intervention (Nugraheni *et al*., 2021). The influence of Human Resource Management (HRM) on the quality of healthcare in Ghana is a pivotal aspect of healthcare system dynamics. Effective HRM practices play a critical role in ensuring the availability, competence, and motivation of healthcare professionals, which directly impacts the overall quality of healthcare services. In Ghana, where the healthcare sector faces challenges related to workforce shortages, skill mismatches, and retention issues, HRM becomes a linchpin for addressing these issues. Adequate recruitment, training, and development of healthcare personnel, coupled with supportive workplace policies and a positive organizational culture, can enhance healthcare professionals' performance, job satisfaction, and ultimately contribute to improved patient outcomes. Conversely, poor HRM practices may result in burnout, demotivation, and compromised patient care. Therefore, understanding and optimizing HRM in the context of Ghana's healthcare system is essential for achieving and sustaining high-quality healthcare delivery. The outcome of this study supports these studies by (Hazarika, 2013; Ngoc Su *et al*., 2021; Schneider *et al*., 2021).

Relationship between DHW and QHD: Referring to the thesis (H3), the findings indicates that QHD in Ghana is affected by demoralization of health workers. Thus, our research hypothesis was supported. This implies that DHW leads to a fall in the quality of health. Demoralization implies state of dejection, hopelessness, and a sense of personal "incompetence" that may be tied to a loss of or threat to one's own goals or values. It has an existential dimension when beliefs and values about oneself are disconfirmed (Gabel, 2013).When healthcare professionals experience demoralization, characterized by feelings of frustration, disillusionment, or inadequacy in their roles, it directly impacts their job performance and, consequently, patient care. Demoralized health workers may exhibit reduced motivation, compromised communication, and a diminished sense of commitment to delivering high-quality services. This, in turn, can lead to suboptimal patient outcomes, decreased efficiency, and challenges in maintaining a positive healthcare environment. Addressing the issue of demoralization among health workers is thus pivotal for enhancing the overall quality of healthcare in Ghana, requiring targeted interventions and supportive policies to bolster the well-being and job satisfaction of the healthcare workforce. The study outcome supports the findings by (Allen & Cug, 2020; Oleribe *et al*., 2019; Raviola, 2015; Walker *et al*., 2021).

Relationship between HCI and QHD:Health infrastructure includes advanced machines, specialist doctors, nurses, and other paramedical professionals and developed pharmaceutical industries.By having newer hardware, healthcare organizations can focus on using complex, robust systems to support patients; such as supporting new and improved Electronic Health Records deployments, which incorporate numerous applications across different interfaces (Leslie *et al*., 2017). Adequate and well-maintained healthcare infrastructure, including hospitals, clinics, and medical equipment, plays a crucial role in ensuring timely and effective healthcare delivery. A robust healthcare infrastructure not only facilitates access to essential medical services but also enhances the efficiency of healthcare processes, from diagnosis to treatment. Additionally, the availability of modern and well-equipped facilities can contribute to attracting and retaining skilled healthcare professionals, further influencing the quality of care provided. Conversely, inadequate infrastructure, characterized by a lack of resources, outdated equipment, or insufficient medical facilities, can pose significant challenges to delivering high-quality healthcare services. Therefore, understanding and addressing the nuanced relationship between healthcare infrastructure and healthcare quality in Ghana are essential for the formulation of effective policies and strategies aimed at improving overall health outcomes for the population.Kurji *et al*., (2016) also indicate that the lack of health infrastructure has been a big challenge to Pakistan in ensuring that people have access to quality healthcare. The outcome of this study agrees with (Fenny *et al*., 2016; Kyei-Nimakoh *et al*., 2015).

Relationship between WAE and QHD: This thesis research finding disclosed that a standard of work attitude and ethics shown by medical workers has a positive and exceptional association with QHD. The reason is that, ethics within healthcare are important because workers must admire healthcare difficulty, make good judgments and decisions based on their values while keeping within the laws that govern them. Healthcare workers are held to a higher standard of morals and morals than the general public. They are expected to do what is best for the clients and make the right choices when providing care (Haddad & Geiger, 2021). Work attitude, encompassing the mindset, motivation, and commitment of healthcare professionals, plays a pivotal role in influencing the delivery of quality patient care. The ethical conduct of healthcare practitioners further contributes to the overall integrity and trustworthiness of the healthcare system. In Ghana, where the healthcare sector faces various challenges, including resource constraints and diverse patient needs, the significance of positive work attitudes and ethical practices becomes paramount. A healthcare workforce characterized by a strong work ethic and adherence to ethical principles not only fosters a conducive environment for patient-centered care but also contributes to improved healthcare outcomes. Exploring and

understanding the nuances of work attitude and ethics in the Ghanaian healthcare context is essential for developing targeted interventions that can enhance the quality of healthcare services and contribute to the overall well-being of the population. The study findings align with (Pusey-Murray, 2017; Sahile *et al*., 2019).

Moderating role of Professional Behaviour: The research further examined the moderation role of professional behaviour (PB) on the interplay between WAE and QHD. The outcome of the study indicated that PB has an impact on the nexus between WAE and QHD in Ghana. This hypothesis was proven in this study.Health care is delivered by groups of professionals who need to advertise well, appreciating the principles of honesty, respect for others, classified and commitment for their work (Khan *et al*., 2020) .In the context of healthcare in Ghana, the moderating effect of professional behaviour and work attitude plays a pivotal role in shaping the relationship between ethics and the quality of healthcare. As healthcare professionals navigate ethical considerations in their practice, the extent to which their work attitudes align with professional norms becomes a crucial moderating factor. A positive and conscientious work attitude may amplify the positive impact of ethical standards on healthcare quality, fostering an environment where ethical principles are not only acknowledged but also actively implemented in day-to-day clinical practices. Conversely, a misalignment in work attitudes may mitigate the positive influence of ethical guidelines, potentially leading to lapses in quality of care. This nuanced interplay highlights the importance of not only emphasizing ethical standards but also cultivating a professional work attitude among healthcare providers to enhance the overall quality of healthcare services in Ghana.

CONCLUSIONS

This research can conclude that: **First,** support that government provide to hospitals are very key aspect that contributes to the quality of healthcare delivery. Therefore, the Ghanaian government should provide sufficient funds to the hospital. Enhancement government budg*et al*location would result in improved delivery of quality health care. **Second,** the research discovered that the management of human resource is essential to enable the delivery of efficient and effective medical services and achieve patient satisfaction, the practice of human resource management is very important in health care sector and modern hospitals need should have alternative approaches for practicing HRM successfully.**Third,** the empirical outcome indicated that if health medical staffs are demoralized, their level of attitude which affects QHD in Ghana. The research found out that medical staff had abilities as well as knowledge to carry out their appointment. Encouragement in beneficence considerable health care services was found to be capable, motivated, profitable, and gratifying quantity of workers. **Fourth,** the study findings revealed that health care facilities significantly affect QHD. Thus, health care equipment, drugs, and medical supply systems should be put in place to help facilitate QHD in Ghana. **Fifth,** to explore the impact of work attitude and ethics of medical staff on quality health care. The survey findings indicated that WAE of health workers has an enormous impact on QHD. The attitude and behaviour of health workers is essential in enhancing quality health care delivery in Ghana.**Lastly**, to explore the moderating impact of healthcare professional behaviour on the relationship between WAE and QHD. The study found that PB has a significant iteration effect on this relationship. Well -motivated and highly trained medical professions is critical to the success of national health care reforms. The research also found out that the healthcare professional had the vital skills as well as experience to perform their jobs.

Theoretical implications: This study has a theoretical addition form of advanced a model for health care organization. The Andersen's health behaviour model posits to explain and help understand why people use healthcare services, explore the inequality in access to health care services and introduce policies that would create room for equal access to health care (Andersen, 1995). The research also contributes to the WHO health system framework (World Health Organization, 2007). The WHO health system framework defines the health system as comprising six key functional building blocks - service delivery, health workforce, inflammation medical products (including both vaccines and technology), financing and leader ship and governance and link them to the broader health system goals (World Health Organization, 2007). Theoretically the research contributes a lot for future research and some body can come up with new more factors for overall health care organizations.From the perspective of Andersen's Health Behaviour Model and the World Health Organization (WHO) Health System Framework, the research provides a comprehensive framework for assessing and addressing the determinants of healthcare quality. It highlights the significance of considering not only structural and systemic factors but also the behavioural aspects of healthcare professionals. The study suggests that effective policies should not only focus on enhancing government funding and improving infrastructure but also on fostering positive human resource management practices, minimizing demoralization among health workers, and promoting a work environment characterized by ethical standards and positive attitudes. Such an integrated approach aligns with the broader goal of achieving a resilient and patient-centric healthcare system in Ghana.As the healthcare landscape in Ghana continues to evolve, the insights garnered from this research offer practical implications for policymakers, healthcare administrators, and practitioners alike. The emphasis on the interplay between financial support, workforce dynamics, psychological well-being of health workers, infrastructure, and ethical considerations underscores the need for a holistic and adaptive approach to healthcare quality improvement. Moving forward, strategies informed by these findings can contribute to the development of targeted interventions and policies that address the multifaceted challengeswithin the Ghanaian healthcare system, ultimately enhancing the quality of healthcare services for the benefit of the population.

Practical Implication: This paper provides practical contribution to the improvement of quality health care delivery. Thus, the research provides solution to challenges of QHD. The study findings indicated that, factors such as government funding, human resource management, demoralization of health workers, health care infrastructure and work attitude and ethics effect on the quality health care delivery in Ghana. Therefore, the practical implication from this study will serve as a reference point where government, policy makers, hospital administrators can provide a better framework that can incorporate all these factors discussed. We believe that the focus on improving these factors can be a better way to improving QHD in Ghana Moreover, this would inform management of the need to implement a strategic plan in various public hospitals, which would address health workers and other critical internal issues that stymie progress in public healthcare services. Once these issues are resolved, the public hospitals will be on track to achieve their goals.Based on the findings of the research on the multifaceted determinants of healthcare quality in Ghana, several policy recommendations can be articulated to enhance the effectiveness of healthcare delivery in the country. In addition, there is a critical need for increased government funding (GF) directed towards the healthcare sector. Adequate financial resources are essential for upgrading healthcare infrastructure (HCI), addressing human resource management (HRM) challenges, and implementing interventions to counteract the demoralization of health workers (DHW). Policy measures should be enacted to ensure a consistent and sufficient flow of funds to support the development and maintenance of healthcare facilities, training programs, and initiatives to boost the morale of healthcare professionals.Moreover, fostering a positive work attitude and strong ethical standards among healthcare providers is crucial for improving healthcare quality. Policy interventions should focus on comprehensive training programs that not only enhance the technical skills of healthcare professionals but also emphasize the importance of cultivating a positive work attitude and adhering to ethical principles. Strategies for ongoing professional development, mentorshipprograms, and a supportive work environment can contribute to a healthcare workforce that is not only skilled but also motivated and ethically committed to providing high-quality care.

Limitations and Future Research: While the study on the impact of government funding, human resource management, demoralization of

health workers, healthcare infrastructure, and work attitude and ethics on quality healthcare in Ghana provides valuable insights, it is not without its limitations. One limitation lies in the potential for cross-sectional data to capture only a snapshot in time, potentially overlooking dynamic changes and trends. Additionally, the research focuses on specific factors within the Ghanaian healthcare system and may not fully capture the broader socio-economic and cultural influences on healthcare quality. Future research endeavours should consider employing a longitudinal design to better understand the temporal dynamics and causal relationships over time. Furthermore, exploring the perspectives of diverse stakeholders, including patients, policymakers, and community members, could offer a more comprehensive understanding of the multifaceted factors influencing healthcare quality. Additionally, a comparative analysis across different regions or countries could provide valuable insights into context-specific challenges and best practices. Finally, future research might delve deeper into qualitative methodologies to capture nuanced aspects of healthcare practices and perceptions that quantitative data alone may not fully elucidate.

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