

## Insurance and Demand for Healthcare: Examining the National Health Insurance Scheme in Ghana

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### Abstract

**Introduction:** Social health insurance is a collective pooled risk-sharing mechanism for providing all citizenry with equal access to health care in Ghana. The purpose of the study is to examine the effect of insurance on demand of healthcare in the context of the National Health Insurance Scheme in Ghana.

**Methods:** This study used three methodological approaches; initially an internet search of 108 articles with defined criteria for selection, systematic reviews and content analysis of the selected publication was also used to discuss this study on its objective.

**Results/Findings:** Empirical evidence for the findings indicated that outpatients and inpatients service utilization has consistently increased since the introduction of the National Health Insurance Scheme in Ghana.

**Conclusion:** The findings of the study provide an important insight for policy makers to mark-up strategies to meet the ever-increasing demand for healthcare and also ensure sustainability of the scheme to achieve universal health coverage.

**Keywords:** Health Insurance, Utilization, Demand, Healthcare, Inpatient and Outpatient, Ghana, NHIS

### Introduction

Healthcare financing the cornerstone of every health system has never been a consensus driven topic among world leaders [1]. Over the years, different countries have adopted different means of financing their health system. Some resort to full funding through taxation, others user fees, to some other countries insurance yet there are variation across the income levels of countries. The need for universal health coverage however has been at the center of many healthcare reforms policy debate over the past years. Advocates of universal health coverage (UHC) have identified user fees as a barrier to healthcare but prepayment and risk pooling through social health insurance and taxation are found to provide solution [2]. Most of the OECD countries obtained near full coverage (95% and above) of their population courtesy health insurance [3]. The use of health insurance is very popular in developed countries. In many developing countries this form of health financing is gaining prominence as countries pursue UHC and eliminate out-of-pocket payment as a barrier to healthcare access.

A number of low-income countries in recent years has implemented the social health insurance policy with the aim of eradicating out-of-pocket payment (user fees) to a pooling arrangement that increases utilization of health services [4, 5]. Moreover, to improve equity in the provision of health care and provide risk protection to

poor households social health insurance was adopted by some developing nations [5]. Crierl and Kegels (1997), argued that social health insurance results in quality care and can be accessed since it is able to generate enough revenue to fund healthcare cost. More so, in reducing health expense-related impoverishment, increase care-seeking behaviour, eliminate disparities in access, and fulfill national commitments to universal health care, a number of countries in Asia and Africa have adopted the national health insurance scheme [6]

In a study by [7] that studied the effect of insurance on outpatient visits by children, they examined annual ambulatory contacts using the 1987 National Medical Expenditure Survey (NMES) and several National Health Interview Survey files spanning 5 years. It was revealed that insured children average one more physician visit per year than uninsured children. The result is actually akin to the findings of [8] using earlier data. However, a study by [3, 9] had a larger effect. They analyzed the New York Child Health Plus program which revealed that visit among previously insured child increased between 0.6 to 1.6 visits per year while that of previously uninsured children was between 0.83 to 1.29 visits per year. Further evidence is provided by four studies using different data but a similar research approach which estimated effect of private insurance on outpatient service utilization to be 1-2 visits annually [10, 11].

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Probably the gold standard among all these studies is the RAND Health Insurance Experiment which established a positive association between insurance and the demand for healthcare. This study was conducted in the US over a period of eight years (1974 to 1982) by a group led by Joseph Newhouse. In Thailand Universal Coverage Scheme (UCS) was implemented in 2001 and according to Health Insurance System Research Office (2012) the number of outpatient visits per member per year rose from 2.45 in 2003 to 3.22 in 2010 while the number of hospital admissions per member per year rose from 0.094 in 2003 to 0.166 in 2010. They however cautioned that, increase in utilization cannot be solely attributed to the UCS since they could not get reliable household-level data on healthcare utilization before the UCS [12]. In Taiwan, after the introduction of universal health insurance the newly insured consumed more than twice the amount of outpatient physician visits and hospital admissions than before the implementation of the universal health insurance [13].

In this vein, the Government of Ghana in 2003 introduced a National Health Insurance Scheme (NHIS) as an avenue to improve utilization of health services and quality and affordable healthcare [14]. Therefore, NHIS operate on the mission “to ensure equitable universal access for all residents of Ghana to an acceptable quality of essential health services without out-of-pocket payment being required at the point of service use” [15]. The purpose of the study is to examine the effect of insurance on demand of healthcare in the context of the National Health Insurance Scheme in Ghana.

#### **The National Health Insurance Scheme of Ghana**

The National Health Insurance Scheme is a policy that was born out of strong political will and promise. Not until the year 1992 when a multi-party system was allowed to contest for election, the Provincial National Defense Council (PNDC) remained the ruling government after military takeover in 1981. The reorganized PNDC which was now known as National Democratic Congress (NDC) contested for election in 1992 and 1996 and won both elections under the leadership of John Jerry Rawlings. In the year 2000 however, the leading opposition party, New Patriotic Party (NPP) had a strong campaign message; Thus to make healthcare accessible to Ghanaians by replacing the infamous “Cash and Carry” with National Health Insurance. Throughout their campaigning period in 2000 they re-echoed this message calling for the abolition of the upfront out-of-pocket payment for health service before treatment. Apparently, this is a promise that is might have helped them to win power in 2000.

As fate may have it, the John Agyekum Kuffour-led government took office on the 7<sup>th</sup> January, 2001. And three months into that same year a seven member ministerial health financing task force was inaugurated to work towards fulfilling the promise. Between March, 2001 and August, 2003, the activities of the committee had gone through rigorous test, debates and internal inertia because of some disagreements. Some organized labour groups and the major opposition party (NDC) disagreed with some of the content of the proposed National Health Insurance Scheme and how it

would operate. Nonetheless, August, 2003 the National Health Insurance bill was passed into law against all odds. The National Health Insurance, Act 2003 (Act 650) became the legal framework for the establishment of District Mutual Health Insurance Scheme (DMHIS) which will integrate into the already existing MHOs and establish new ones where there are none. The Act also mandates the creation of a National Health Insurance Council (NHIC) to be the regulatory body.

Against this background, the dream of bringing health insurance in lieu of out-of-pocket payment at the point of service use was becoming a reality. In 2004 the Legislative Instrument LI 1809 was also introduced consolidating the legal framework and foundation for the rollout of the National Health Insurance. In March, 2004 the NHIS was launched officially. However operation of the DMHIS did not take effect until 2005 and the exact dates of operation differs from one district to another.

In many different literature reviewed, there was some inconsistency in the year the NHIS was introduced. The word ‘Introduced’ has been used to mean ‘passing of the NHIS Act, 2003 (Act 650), launch of NHIS in 2004 and the passing of LI 1809 as well as the start of operation of the NHIS in 2005’ in different literatures. For instance, [16] indicate it was introduced in 2003 on one hand. On another hand these authors in their work stated the scheme was introduced in 2004 [17-18] while some studies stated that it was introduced in 2005. The confusion I must say emanates from the lack of distinction between the different stages of the rollout of the NHIS. Categorizing the stages, it must be noted that, the NHIS Act, 2003 (Act 650) was passed on 26<sup>th</sup> August, 2003 being the first hurdle passed. The second phase was the official launch of the NHIS in March 2004 and the passing of the National Health Insurance Regulation in that same year. Finally, operation of the scheme in terms of access and use of the NHIS for healthcare was in 2005.

However, in 2013, the NHIA celebrated ten [10] years anniversary under the theme “Towards universal health coverage: increasing enrollment whilst ensuring sustainability.” This anniversary was to commemorate the progress made so far towards achieving universal health coverage over the last 10 years. In this light, the NHIA as the official authority in-charge of the scheme, it is appropriate to conclude that the scheme was introduced in 2003 and should be cited as such in subsequent literature.

#### **The National Health Insurance Act, 2012 (ACT, 852)**

The NHIS was established and operated with the NHIS Act, 2003 (Act 650) and NHIR, 2004 (LI 1809). It has been the legal framework, which governed the operation of the scheme since its inception in 2003. All features of the NHIS were enshrined in the Act. However, the Act 650 and the National Health Insurance (Amendment) Act, 2008 (Act, 753) were both repealed and replaced with NHIS Act, 2012 (Act 852). The abolition of the Act 650 came up when desk and field research revealed fifty-nine legal issues and one hundred and eight (108) implementation and operational issues with the NHIS [19]. The new Act which was dissented to on 31<sup>st</sup>

October, 2013 Act 852 is the new legal framework for the scheme with one principal feature; establishment of a unitary National Health Insurance Scheme to replace the District Mutual Health Insurance Schemes.

### Key features of the NHIS

**Table1: Features of the Scheme (NHIS)**

Feature	Description
Object	To provide financial access to basic healthcare services provided under the benefit package of the scheme for residents of Ghana.
Funding	<p>Establishment of National Health Insurance Fund</p> <p>Sources of money for the Fund</p> <p>2.5% levy on each supply of goods and services made or provided in Ghana, each importation of goods, and supply of imported service</p> <p>2.5% of each person's contribution to SSNIT</p> <p>Moneys that are approved for the Fund by Parliament</p> <p>Income from investments, grants, donations, gifts, voluntary contributions, fees charged by the NHIA in the performance of its functions, moneys accruing from a percentage of the emergency motor insurance premium and NHIS members contributions.</p> <p>Expenditure of the Fund</p> <p>Payment of healthcare cost of NHIS members</p> <p>Payment of approved NHIS-related administrative expenses</p> <p>Support access to healthcare services</p>
Types	<p>National Health Insurance Scheme</p> <p>Private Mutual Health Insurance Scheme</p> <p>Private Commercial Health Insurance Scheme</p>
Membership	Membership is compulsory. It is open to all residents of Ghana and visitors to Ghana. Membership is by registration with any of the three schemes. Informal sector workers pay premium while formal sector workers are charged against their income (2.5% SSNIT contributions). Processing of membership is within 60 days after submission of application for membership.
Exemptions	The following group of people are exempted from the payment of premium/contributions and the NHIA is responsible for covering their cost of enrollment: a child; thus a person below 18 years, a person in need of ante-natal, delivery and post-natal healthcare, persons with mental disorder, indigents and differently-abled persons as determined by Minister in charge of Social Welfare, Pensioners of SSNIT, SSNIT contributors. Persons above 70 years of age and other categories prescribed by the Minister of Health.
Benefits	About 95% of all healthcare services are covered. Accredited service providers are to provide the minimum specified package. The NHIS medicine list is to be used. The following services are excluded; Cosmetic surgery, HIV retroviral drugs, angiography, heart and brain surgery, orthoptics, kidney dialysis, cancer treatment (except cervical and breast), organ transplant, treatment of chronic renal failure, non-listed medicines, VIP wards, appliances and prostheses (optical and hearing aids, dentures etc), morgue services, rehabilitation (except physiotherapy), echocardiography etc. The benefit package is subject to assessment every 6 months by NHIA.
Service providers	All service providers certified by NHIA are eligible to join the scheme as service providers. Health facilities (private, mission, public, quasi-government etc) as well as other healthcare providers are eligible.
Payment mechanisms	<p>Fee for service</p> <p>Diagnosis related groupings</p> <p>Capitation</p> <p>Others in which the Board in consultation with healthcare providers and the minister will determine</p>
Organization	NHIA established to implement, operate and manage the scheme, determine contributions, register and issue ID cards to members, register and supervise Private Health Insurance Schemes, manage the NHI Fund, grant credentials to service providers, resolve complaints, manage claims, public education, proposal of policies, monitoring and compliance of NHIS policies, identification and enrollment of exempt persons
Accountability	National Health Insurance Board is a 17-member governing body of the NHIA charged to oversee the activities of the Authority. Representatives of key stakeholder organizations/groups such as Ministries of Health, Finance, Social Welfare, as well as Ghana Health Service, SSNIT, National Insurance Commission, Dental and Medical profession, Pharmacy profession, accountancy or finance profession, a legal practitioner and health professionals with health insurance experience, NHIS members, organized labour and the Chief Executive of NHIA

### Methodology

Three main methodological approaches were used for the data collection on insurance and demand for healthcare with emphasis on the National Health Insurance Scheme in Ghana. These were Internet search/review, systematic literature review and Content Analysis.

**Internet search/review:** The internet search was on keywords and phrases from four databases (Google Scholar, BioMed, Emerald and Medline) such as demand

for health insurance, insurance utilization, which yielded 108 publications. On Google Search the results indicated 37 articles, Emerald 42, BioMed 13, Medline 16. Among the 108 articles, 62 were dropped since they did not discuss demand but issues on quality and challenges of insurances were studied in those publications. Furthermore, 27 articles were excluded after full text review since they treated issues on mechanism for financing health insurance in some Sub-Saharan countries. However, 19 articles were retained because

these studies focused on demand and health insurance with emphasis on Ghana from the first half of 2012 to 2014.

**Systematic literature review:** This desktop review covered pertinent national policy on health insurance and utilization in Ghana from 5 annual report form National Health Insurance Authority. Other articles and grey literature were also reviewed.

**Content Analysis:** An empirical content review of the 19 retained publications, was done to summarize findings and discussion on insurance and demand for healthcare. Analysis was based on systematic review and synthesis of the literature according to the objective of the study. A qualitative content analysis was adopted for the review of the selected papers.

## Findings/Results

**Table 2: Synthesis of Empirical Evidence**

Source	Country	Main finding
Hofter (2006)	Chile	Private health insurance cover positively affects only outpatient health services and not length of stay in the hospital.
Finkelstein et al (2011)	USA	As uninsured gained Medicaid coverage, there was 30% overall increase in inpatient utilization in Oregon
Finkelstein (2005)	USA	Demonstrated a 28% increase in hospitalization expenditures (proxy for percentage increase in utilization of services) between 1965-1970) a study of the Medicare launch
Cheng & Chiang (1997)	Taiwan	In Taiwan, after the introduction of universal health insurance the newly insured consumed more than twice the amount of outpatient physician visits and hospital admissions than before the implementation of the universal health insurance
Manning et al. (1988)	USA	- As part of the RAND experiment, there was 29% increase in admissions for those with "free care" as compared with those who faced 95% cost-sharing - Also there was 66% higher utilization of outpatient services (from physicians and other healthcare providers and 67% higher expenses than did those with 95% cost-sharing
Chomi et al. (2014)	Tanzania	Generally, health insurance is found to increase the probability of seeking care and reduce delays. However, the probability, timing of seeking care and choice of provider varies across the CHF and NHIF members
Li X. & Zhang (2013)	China	Compared with people without health insurance, people with health insurance (UEBMI and URBMI) are more likely to use outpatient services and are more likely to be hospitalized.
Smith & Sulzbach (2008)	West Africa	We find that membership in a CBHI scheme is positively associated with the use of maternal health services, particularly in areas where utilization rates are very low and for more expensive delivery-related care.
Zhou et al. (2014)	China	Compared to the uninsured, robust results suggest that UEBMI (type of insurance in China) had significantly increased the outpatient health services utilisation and hospitalization.
Mwaura et al. (2012)	Kenya	Overall, the insured members were more likely to be hospitalized compared with non-insured members. Among respondents who reported having been hospitalized in the previous 12 months preceding the survey, 20.5% were insured and 15.2% were not insured. Majority (33.4%) of the insured were hospitalized during child delivery in comparison to (26.7%) of non-insured members. Among respondents who had been hospitalized for surgery treatment, (28.2%) were insured while (20%) who not insured.
Akande et al. (2011)	Nigeria	National Health Insurance Scheme led to 144% increase in the utilization of health services at staff clinic of Unilorin Teaching Hospital.

The table 1. above summarizes other studies that indicate the influence of insurance on the demand for healthcare. A study by Smith and Sulzbach investigating community-based health insurance and access to maternal health services: with evidence from three West African countries, the study revealed that In Ghana, prenatal care utilization is higher than in Senegal and Mali. The average number of prenatal visits was six, with 83% of women reporting four or more prenatal care visits. In Ghana, a higher proportion of members (75%) than non-members (65%) reported delivering at a modern health facility, but this difference was not statistically significant. Interestingly, in Ghana, while 91% of women reported having a normal delivery, members of the Nkoranza insurance scheme were twice as likely as Nkoranza uninsured women to have a caesarean delivery, and five times more likely than women in Offinso district[20-22].

In a related study by [8] which assessed the effect of Ghana's NHIS on health care utilizations among the insured and uninsured on selected variables revealed

that: the mean value of all six variables is higher in the NHIS enrolled group, and the difference between the two groups is significant at the 99 per cent confidence level in all variables except for the breast examination, where the absolute likelihood is below 10 per cent for both groups.

A study conducted by Sekyi and Domanban which analyzed the effects of the National Health Insurance Scheme on the probability of outpatient care and its related out-of-pocket expenditure used a logit regression model and linear regression. Data from the household survey was analysed and it showed that, insured respondents were more likely to utilize outpatient care than their uninsured counterparts. The study further showed that membership of NHIS has a strong protective effect on out-of-pocket expenditures of outpatient care.

A more rigorous study by [18] which engaged 2,194 households containing 2,592 under-five children were randomized into a prepayment scheme allowing free primary care including drugs, or to a control group whose families paid out-of-pocket for health care; 165

children whose families had previously paid to enroll in the prepayment scheme formed an observational arm. The study found that, families who previously self-enrolled in the prepayment scheme were significantly less, had better health measures and used services more frequently than those in the randomised group. Against this background, the study concluded that, removing user fees for healthcare had an impact on healthcare seeking behavior but not on the health outcomes [18].

The Health systems 20/20 Project and the Research and Development Division of the Ghana Health Service in a joint study also evaluated the effects of the NHIS in Ghana. They found out from the study that, the percentage of respondents ill or injured in the two weeks before the survey who sought health care from a trained medical provider nearly doubled between 2004 and 2007, from 37% at baseline to 70% at endline. Those who reported self-treatment (using medication available at home) decreased significantly, as did the proportion who sought care from an informal/traditional provider (e.g. chemical seller, pharmacist, herbalist or traditional healer). In the endline sample, among respondents who were recently ill, those enrolled in the NHIS were twice as likely to have sought care at a modern provider, compared to the uninsured (88% versus 43%). In addition, the insured were half as likely to have visited informal/traditional providers, and less likely to self-medicate [23-24].

**Outpatient Utilization**

The outpatient utilization has consistently been increasing since the health insurance scheme started working at facility level. Annual reports from the NHIA indicates that over a seven year-period, OPD attendance has increased more than twenty-eight fold from about 0.6 million to about 24 million. This probably encapsulates all the studies that have been discussed

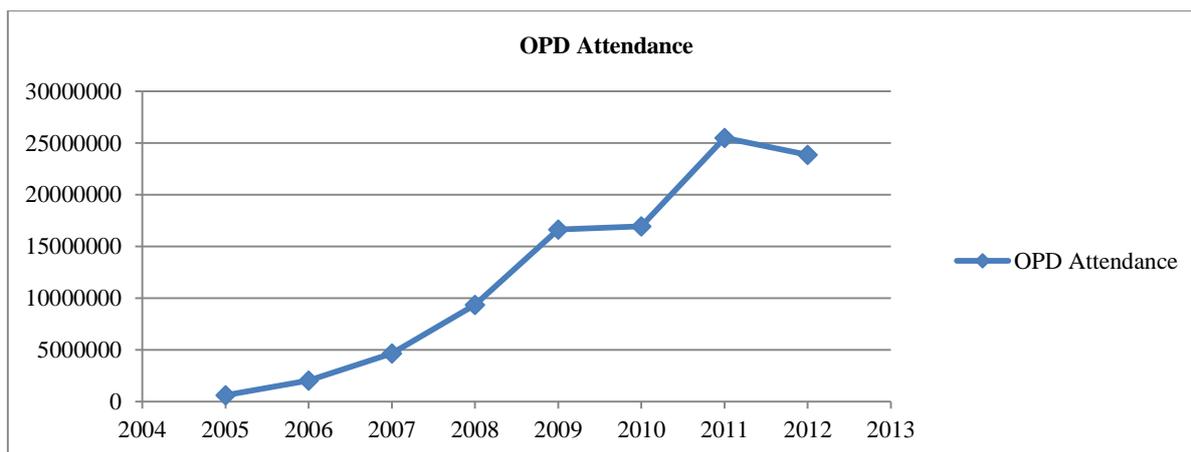
above. The figure 1 below depicts the trend of outpatient utilization from 2005 to 2012.

**Inpatient utilization**

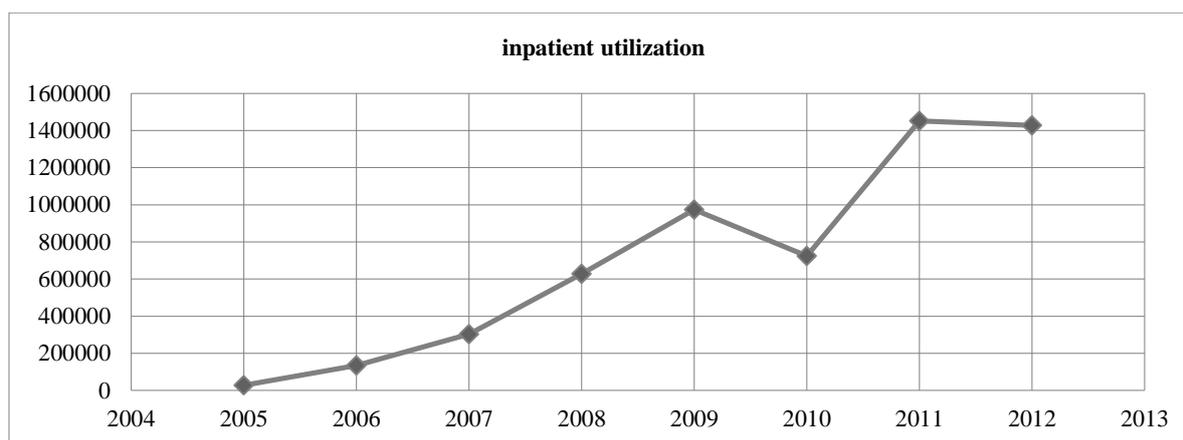
Over the same period inpatient utilization increased more than fifty fold. With a rise from 28,906 in 2005 to 1,428,192 in 2012. It is however noteworthy that there was a drop in 2010 and 2012. This further supports the other findings from related studies. The figure 2 below illustrates the trend of inpatient utilization from 2005 to 2012.

**Discussion**

Evidence from the findings indicates that health insurance either private or public is positively correlated with healthcare utilization. Studies from Taiwan stipulated that after a timely introduction of universal health insurance, outpatient physician visits increased twice compared to when there was no health insurance. Again in Chile, outpatient utilization was increased due to private health insurance, whereas in the United States there was 66% higher utilization of outpatient services fueled by private health insurance [25, 13, 26]. A recent study in China indicated that people with health insurance (UEBMI and URBMI) are more likely to use outpatient services and the vice versa [27]. More so, in Ghana the National health insurance caused increased outpatient utilization from in about 0.6 million to 2005 to almost 24 million 2012. Furthermore NHIA, 2010 indicated that about 69.73 percent of the populations are getting treated for utilizing the outpatients department of service providers. This empirical evidence indicated there is a high for healthcare with health insurance being the confounding variable where Wagstaff postulated that health insurance increase access and affordability to healthcare in Africa[28, 29].



**Figure 1.** Trend of Outpatient utilization of healthcare services from 2005-2012



**Figure 2.** Trend of inpatient utilization of healthcare services from 2005-2012

Literature further indicates that there is rise in inpatient services based on health insurance. Studies indicated there was a rise in hospitalization expenditures by 28% in the United States over a period of five years. Medicaid in the United States increased inpatient utilization by 30% in Oregon [30, 31]. Inpatient service normally is utilized in maternal care units, intensive care admission and surgery treatment. In a study by Mwaura it was revealed that Majority (33.4%) of the insured were hospitalized during child delivery in comparison to (26.7%) of non-insured members. Again health Insurance Scheme led to 44% increase utilization of health services at staff clinic of Unilorin Teaching Hospital. The above findings corroborate the findings in Ghana which revealed that, inpatients service use increased 28, 906 in 2005 to 1,428,192 in 2012 [32, 33]

### Conclusion and Recommendations

This study provides an initial exploratory insight into health insurance and demand on healthcare provision and delivery with specific emphasis on outpatient and inpatient units. The study indicated that outpatient service use is on the increase due to the emergence of health insurance. Again, there is an exponential increase in inpatient utilization which is mainly influenced by health insurance. This policy has improved access to health services use. Specifically, maternal and child healthcare seeking behavior has improved in Ghana. Even though, health outcomes have not been a focus of this study, the improved access may have contributed to the reduction in the maternal and infant mortality in Ghana. The major challenge with this policy is the issue of sustainability, due to the increasing membership base there is the need for policy-makers to mark-up strategies to ensure its longevity in serving the optimum aim for universal access to healthcare in Ghana.

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