



# HEALTHCARE FINANCING AND SUSTAINABILITY IN GHANA: EVIDENCE FROM ADA FOAH MUNICIPALITY

Ampedu Raphael<sup>1</sup>, Adubofour Isaac<sup>2\*</sup>, Morkporkpor Korsiwor Agorsor<sup>3</sup>

<sup>1</sup>Sawyer Business School, Suffolk University, Boston, U.S.A.

<sup>2</sup>School of Finance and Economics, Jiangsu University, Zhenjiang, China

<sup>3</sup>Department of Marketing and Corporate Strategy, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

\*Correspondence Author: Adubofour Isaac.

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## ABSTRACT

*Provision of quality and equitable healthcare is one strategy towards the realization of universal healthcare for all. Whereas many nations have enacted various policies to narrow the gap of access to quality healthcare between rural and urban populations, between the poor and rich, and among various cohorts in the society, the role of policies in financing healthcare seems to influence access and equity to quality healthcare in many developing nations. 340 health professionals in the Ada-Foah Municipality of Ghana were sampled for the study. The study aimed at verifying how funding of medical activities impacts on the sustainability of quality healthcare services in Ghana. Findings of the study revealed a statistically significant relationship between healthcare funding and its sustainability in Ghana. It was further ascertained that government policy statistically moderates the relationship between healthcare financing and sustainability. The study finally discussed its contribution, theoretically and practically.*

**KEYWORDS:** Public funding, private funding, donor support, healthcare sustainability, government policy.

## 1. INTRODUCTION

Researchers have asserted that the provision of quality and sustainable healthcare is a necessary impetus for sustainable national development of any country. A mix of general taxes, government security, private healthcare, and small out-of-pocket consumer fees have been the favored method for medium- to higher-income health financing. In such circumstances, significant portions of the workforce function in metropolitan environments and institutional jobs and, as such, taxing these employees at the root and implementing healthcare services funded by the government or by payroll taxes are fairly simple, nevertheless, policy choices for funding low-income healthcare are more limited. Following Asfar et al. (2018), low-income countries such as Ghana also have significant communities in their rural and informal markets, reducing and inhibiting the efficient taxation

ability of governments towards financing healthcare in a country.

According to classical economists, several variables are related to a nation's economic growth, including its population's health status. A population's health condition is directly linked to total economic growth. Healthcare financing plays a crucial role in maintaining efficient and quality healthcare delivery to citizens within every economy as it provides the requisite resources needed to operate. A nation's healthcare structure can be assessed by paying close attention to service availability, service efficiency, equity availability, and health outcomes.

The study considers three basic sources of funding for healthcare, namely, public funding, private funding, and donor funding. Public funds in healthcare delivery ensures a wider coverage of healthcare and ensures equity in the provision of healthcare (Lang et al., 2019). Public funding enhances accessibility of healthcare

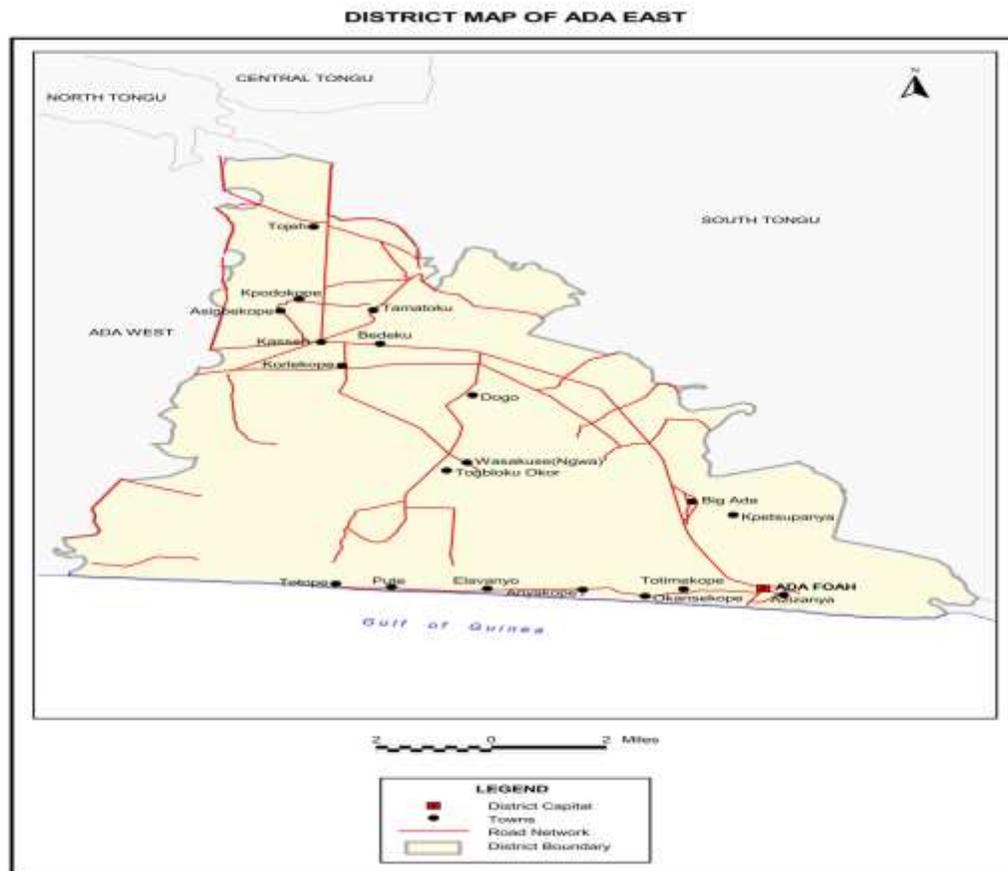
delivery to consumers. It also increases the accessibility of special healthcare services to most deprived communities in least developed countries. The private sector's involvement in health-care provision is undeniably beneficial. Even though it is the primary responsibility of the state to ensure the provision of healthcare in the country, private institutions and individuals contribute enormously to the provision of quality healthcare in every country.

Most countries especially those in middle-income countries have national budget constraints, making it virtually impossible for only the state to attain a wide coverage of healthcare provision in the country. Financial support from donors in the provision of healthcare is common in Africa. External bodies provide funding to help expand the provision of healthcare. Most donor funding in the health sector of Ghana can be found in the less developed parts of the nation. Financial support from donors was essential in the country's fight against the global pandemic, popularly known as COVID-19 (Jiang et al., 2020).

The research aims at examining the interplay between healthcare financing and the sustainability of health systems. The search is also extended to ascertaining the moderating role of government policies on the relationship between healthcare financing and sustainability.

### 1.1. Study Area

The study has its focus on the Ada-Foah Municipality of the Greater Accra Region of Ghana. The district is located between latitudes  $5^{\circ}45'S$  and  $6^{\circ}00'N$  and Longitude  $0^{\circ}20'W$  and  $0^{\circ}35'E$  (Owusu-Daaku and Diko, 2017). It has a total land area of about 289.78 square km, accounting for about 8.93% of the total land size of the Greater Accra Region (Captured in figure 1 below). The District Health Directorate constitutes one of the 16 Health Directorates of the Greater Accra Region of Ghana. The health directorates supervise and oversees all health issues. It has 13 health facilities under its control.



**Figure 1. Map of Ada East District**  
Source: Ghana Statistical Service, 2020



## 2. REVIEW OF LITERATURE

The financing and sustainability regimes of healthcare are closely linked (Boateng et al., 2013). Healthcare financing are often faced with challenges in most developing countries, between policy tools and objectives (Kiil and Arendt, 2017). Financing healthcare in Ghana, like most African countries is challenging due to the constrained nature of the country's national budget (Adusei-Asante and Doh, 2016). Healthcare financing has impact on the provision and sustainability of improved healthcare in a country.

### 2.1 Theoretical Perspectives on Public Healthcare Financing and Sustainability

Public funding is a major component of a sustained healthcare system in most developing countries. It is the largest source of healthcare financing in Ghana, on average, almost 9% of the nation's Gross Domestic Product (GDP) was dedicated to the provision of healthcare in the country (OECD, 2020). A study by Wang et al. (2017) concluded that public funding has significant impact on the provision of healthcare in relatively poor nations. The study showed that, healthcare financing from public sources increases healthcare coverage.

Palmer and Lagarde (2018) suggested that providing healthcare in Australia is enhanced whenever the sector receives increased public funding. The study further revealed that public funding aids in the accessibility of special drugs by deprived areas of the country. This is consistent with the conclusions of previous study (Wagstaff, 2018).

Government budgetary allocation for the health sector helps in the expansion of health services in the country (Lourenco et al., 2019). A research by Poppe (2020) suggested a positive correlation between public funding of healthcare and its provision. The research results revealed that public funding helps to reduce child mortality in relatively poor nations. Public healthcare funding increases the resource base of healthcare facilities and enhances the efficiency of healthcare providers (Agbanyo and Peparah., 2020).

### 2.2. Theoretical Perspectives on Private Healthcare Financing and Sustainability

The inclusion of private sector in the provision of healthcare ensures the expansion of medical services in a country. In order for any country to achieve universal healthcare coverage, private financing in the provision of healthcare is necessary (Fox and Duggan., 2017). Private participation in the provision of healthcare ensures quality delivery of healthcare services. Private funding has significant relationship with the provision

of health services in the rural areas of Ghana (Saviano et al., 2019).

A research by Nualdaisri et al., (2021) showed that there exists a statistically significant relationship between private funding of healthcare and its provision in Asia and Africa. The study asserted that the private sector contributes significantly to the importation of essential drugs into the country for healthcare consumers. It was also ascertained that private funding helps in increasing medicinal information and education in Africa and Asia. Walvik et al. (2021) found that private funding contributed immensely in the fight against the global pandemic (COVID-19) through the provision of healthcare services. The study argued that the impact of the pandemic would have been worse in most least-developed nations but for the contribution of the private sector in the provision of healthcare.

Agom et al. (2021) demonstrated that that private funding helps to eliminate barriers to the provision of healthcare in Africa. The study argued that private funding helps in the extension of healthcare services to deprived communities in Africa. It was however concluded that private healthcare services are often high despite their quality in service delivery. This supports the position of past study (Frimpong, 2013).

### 3.3. Theoretical Perspectives on Donor Funding and Healthcare Sustainability

Financial support from donors in the provision and sustainability of healthcare is common in most African countries. Donor funding serves as relief to government healthcare budgetary allocations. Most donor funding in the health sector of Ghana can be found at less developed parts of the nation. A study by Doshmangir et al. (2019) identified a considerable relationship between donors' funding and the provision of healthcare to the Northern part of Ghana. It was revealed that foreign aid significantly assists in the expansion of medical services to deprived communities in the region.

A study by Shortall et al. (2017) showed that donor funding has statistically significant relationship with the provision of healthcare in West Africa. The study found that healthcare funding from donors ensures the expansion of healthcare in West African countries. It was further suggested that donor funding contributed significantly to the fight against Ebola in the West African region. This supports the conclusions of previous study (Burker, 2013). A study by Berazneva et al. (2021) suggested a direct correlation between external aid and the provision of healthcare in Africa. Findings of the study showed that foreign aid in healthcare services in the African region is enormous. It was further demonstrated that most of these foreign



donor healthcare projects are seen in deprived parts in Africa

Adeniyi et al. (2020) revealed that foreign aid has statistically significant relationship with the provision of medical services to fight HIV in South Africa. The research findings postulated that, healthcare support from external sources have direct association with the provision and expansion of medical services in the country. The study demonstrated that healthcare accessibility has increased significantly in the country as a result of donor funding. Ertz and Patrick (2020) established that donor funding helps in the training of healthcare professionals for efficient delivery of health services to consumers of healthcare. This training is essential for the effective delivery of medical services to healthcare consumers. Increase in the skills of healthcare provider's impacts positively in the delivery of quality healthcare services. A gap in knowledge is identified after a careful review of the above literature, this research seeks to examine the impact of the various healthcare funding models on the provision and sustainability of robust healthcare system in Ghana.

### 3. EMPIRICAL STRATEGY

A study with the aim of ascertaining the impact of healthcare financing on the sustainability of health systems is essential in current times. This research therefore attempts to examine the interplay between financing models in healthcare and the sustainability of healthcare in Ghana. This section provides a description of data used for the analysis, presentation of baseline models as well as its analysis.

#### 3.1. Data

The data collection was carried in two phases comprising of a pilot survey at the Ga West District Health Directorate and the actual survey which was conducted at the Ga East District using the Health Directorate. The first phase involved the piloting of the instruments to ascertain the reliability and validity of the constructs for the public funding model, the private funding model, and the donor funding model. Data used for the study was collected from the Ada-Foah Municipality. Both primary and secondary data were used for the study.

#### 3.2. Statement of Hypotheses

Hypotheses are developed based on a retrospective examination of past research related to the study. The study critically examined previous literature that have bearing on this research in developing its hypotheses. This research primarily seeks to verify the relationship between healthcare financing and its sustainability.

Main hypothesis:

Hypothesis 1: *There exist a statistically significant and direct relationship between public healthcare financing*

*and sustainability.* This proposition is stated on the grounds that increase in healthcare financing would lead to a sustained healthcare system. Healthcare financing from the government is a means to sustaining medical services in Ghana (Adisah-Attaa, 2017). It enhances a wider provision of healthcare services (Karsio, 2019). Government support to the health sector of every nation significantly affects a massive provision of infrastructure that is capital-intensive in nature. Healthcare funding from the government also reduces inequality in healthcare provision, it aids in the extension of healthcare services to deprived communities (Amani et al., 2020).

Hypothesis 2: *Private funding is statistically significant with healthcare sustainability.* This hypothesis is stated on the grounds that the private sector plays a significant role towards the sustainability of quality healthcare systems in a country. Private funding is considered as a supplement to government funding on healthcare so as to ensure maximum provision and sustainability in a country (Yaya et al., 2017). Healthcare funding from the private sector helps to increase the quality delivery of healthcare. Private funding helps to improve healthcare provision and sustainability in rural areas (Scott et al., 2019). Funding from the private sector contributes significantly to the provision and sustainability of medical services (Ertz and Patrick, 2020).

Hypothesis 3: *Donor funding has statistically significant and positive relationship with healthcare sustainability.* These hypotheses are propounded on the foundation that, support from donors significantly impacts on the provision and sustainability of the healthcare system in a country. Studies have revealed a statistically significant and positive relationship between donor support to healthcare services and its sustainability (Tony et al., 2020). It is argued that funding obtained from donors increases the provision of healthcare in developing countries (Witter et al., 2019). It significantly affects the sustainability of quality medical services in a country (Tiwari et al., 2020).

Hypothesis 4: *Government policy decision statistically moderate the relationship between healthcare funding and its sustainability.* The hypothesis is stated on the foundation that, government policy decision on health would affect the relationship between healthcare funding (public, private and donor sources) and sustainability of quality healthcare services to healthcare consumers. Government policy serves as a foundation for all healthcare sectors in every country. Favorable government policies on healthcare have the propensity to enhance the attainment of a universal healthcare policy (Abass et al., 2020). The



sustainability of the healthcare system in a country is highly dependent on policies designed by the government (Tiwari et al., 2020). Policy decisions by the government have a bearing on the activities of foreign donors towards the health sector (Chavan and Kulkarni, 2017).

### 3.3. Models

Econometric models are developed in an attempt to empirically ascertain the interplay between healthcare funding and sustainability in Ghana as well as verifying the moderating role of government policy on the relationship between healthcare funding and sustainability. The Prais-Winsten Regression technique was employed in the in the empirical analysis.

$$\text{Sust} = \beta_0 + \beta_1 \text{Pub} + \beta_2 \text{Priv} + \beta_3 \text{Don} + \beta_4 \text{Gen} + \beta_5 \text{Age} + \beta_6 \text{WrkExp} + \beta_7 \text{GDP} + \beta_8 \text{GovPol} + \alpha_2 \quad (1)$$

Sust =

$$\beta_0 + \beta_1 \text{GovPol} * \text{Pub} + \beta_2 \text{GovPol} * \text{Don} + \beta_3 \text{GovPol} * \text{Priv} + \beta_4 \text{Gen} + \beta_5 \text{Age} + \beta_6 \text{WrkExp} + \beta_7 \text{GDP} + \alpha_4 \quad (2)$$

Where, Pub(Public), Priv(Private), Don (Donor), are independent variables and Gen(Gender), Age, WrkExp(Work Experience), GDP, and GovPol(Government Policy) are control variables in the model. A number of control variables are included in the model to cater for possible endogeneity (Wooldridge, 2010). All variables are transformed using logarithms.  $\beta_0$  denotes intercept whilst  $\beta_1$ - $\beta_7$  indicates the models' slope.

which suggests the level of variation from its mean, and also reports Government Policy as the variable with the lowest dispersion from its mean (0.121). It also captures the age of respondents as the variable with the lowest median value (0.012) whilst presenting Public Funding as the variable with the highest median value (0.602).

Table 2 below also reports the values of correlation between the studied variables. Most of the variables have a low bivariate correlation. It presents statistically significant correlation coefficients between many variables. Most of the variables are statistically significant at the 1% level. The highest correlation recorded is between Government Policy and donor pool funds (0.669) whilst the weakest correlation is recorded between Private and public funding (-0.340).

## 4. RESULTS

Table 1 below presents a summary statistic of the studied variables. The analysis shows a summary description of variables used for the study. The analysis reports 0.508 mean value for sustainable health care. The Table also presents GDP as the variable with the highest standard deviation (0.787),

**Table 1. Descriptive statistics**

Variable	Median	Mean	Std. Dev.	Min.	25 <sup>th</sup> %	75 <sup>th</sup> %	Max
Sust	0.467	0.508	0.158	0	0.467	0.503	0.712
Pub	0.602	0.501	0.174	0	0.452	0.610	0.673
Priv	0.301	0.355	0.201	0	0.310	0.477	0.686
Don	0.514	0.554	0.131	0	0.543	0.448	0.721
Age	0.012	0.139	0.185	0	0	0.301	0.557
WrkExp	0.112	0.186	0.208	0	0	0.254	0.625
GDP	0.234	0.147	0.787	-1.543	-0.341	0.504	1.430
GovPol	0.477	0.539	0.121	0.301	0.477	0.602	0.698
Gen	1	0.647	0.478	0	0	1	1



Table 2. Correlation between variables

Variable	Sust	Pub	Priv	Don	Age	WrkExp	GDP	GovPol	Gen
Sust	1.000								
Pub	0.310***	1.000							
Priv	-0.018	-0.340***	1.000						
Don	0.119**	0.222	0.185**	1.000					
Age	-0.070	-0.137**	-0.072	0.131**	1.000				
WrkExp	0.011	0.136	0.057	0.024	0.194**	1.000			
GDP	0.097	0.050	0.071	-0.102***	0.070	-0.140**	1.000		
GovPol	0.326***	0.219***	0.140**	0.669***	-0.089	-0.171**	0.149**	1.0000	
Gen	0.135	0.014	-0.036	-0.093	-0.009	-0.058	-0.224	0.006	1.000

Note: \*\*p < 0.05; \*\*\*p < 0.01, indicating significance at 5% and 1% levels respectively

#### 4.1. Regression results

Regression results in Table 3 below presents the impact of public, private and donor funding on the sustainability of healthcare. The results showed a statistically significant relationship between public healthcare funding policy and sustainability in Ghana ( $\beta=0.240$ ,  $p<0.01$ ), indicating, an improved healthcare system in the country when public funding increases. This is consistent with conclusions of past study (Liaropoulos and Gorantis, 2015). The results also suggested a statistically significant association between

private funding and healthcare sustainability in Ghana ( $\beta=-0.125$ ,  $p<0.01$ ), suggesting a decline in sustainability when private funding increases. This conforms with the findings of previous study (Ainhao, 2020). Results of the study also revealed a statistically significant and direct association between donor funding and healthcare sustainability ( $\beta=0.309$ ,  $p<0.01$ ). Other control variables such as government policy and work experience also indicated to have a significant impact on the country's healthcare sustainability.

Table 3. Regression Results

Variable	Coefficient	standard error	t-statistic	P-values
Pub	0.240	0.052	4.610	0.000***
Priv	-0.125	0.043	-2.880	0.004***
Don	0.309	0.066	4.700	0.000***
Age	-0.030	0.051	-0.590	0.553
WrkExp	0.137	0.046	2.950	0.003***
GDP	-0.003	0.012	-0.290	0.770
GovPol	0.396	0.070	5.660	0.000***
Gen	0.105	0.062	1.680	0.095**

$R^2=0.821$

Adj  $R^2=0.782$

F-stat(8,39)=7.45

Note: \*\*p < 0.05; \*\*\*p < 0.01, indicating significance at 5% and 1% levels respectively.

#### 4.1.1. Moderating Effect Analysis

Regression analysis on the moderating effect of government policy decisions on the relationship between healthcare funding and sustainability is reported in Table 4 below. Results from the analysis suggested that, the interaction between government policy and public funding statistically moderate the sustainability of healthcare in Ghana ( $\beta=0.324$ ,

$p<0.01$ ). It was further ascertained that government policy decision and private funding statistically moderates healthcare sustainability in the country ( $\beta=0.180$ ,  $p<0.01$ ). It was finally observed that, healthcare sustainability is statistically dependent on the interaction between funding from donors and government policy ( $\beta=0.101$ ,  $p<0.05$ ).



Table 4. Moderating Effect

Variable	Coefficient	Standard error	t-statistic	P-values
GovPol*Pub	0.324	0.071	4.520	0.000***
GovPol*Priv	0.180	0.059	1.350	0.076***
GovPol*Don	0.101	0.076	1.320	0.018**
Age	0.125	0.049	2.560	0.513
WrkExp	0.022	0.035	0.610	0.040**
GDP	0.009	0.009	0.850	0.344
Gen	0.125	0.049	2.450	0.011**

 $R^2=0.676$ Adj  $R^2=0.621$ 

F-stat(7,26)=8.15

Note: \*\*p &lt; 0.05; \*\*\*p &lt; 0.01, indicating significance at 5% and 1% levels respectively.

## 5. CONCLUSION AND DISCUSSION

The study employed both primary and secondary data for its empirical analysis. A survey questionnaire on the studied variables was administered to respondents. The research delved into ascertaining the interplay between healthcare financing policies and sustainability of quality health system in Ghana. The research developed three basic hypotheses which were served as a guide for the analysis. It was first hypothesized that; public funding has a statistically significant relationship with quality medical services supply. This was deduced on the assumption that, as public funds increase, the sustainability of quality medical care services enhances. It was further hypothesized that healthcare funding received from the private sector significantly affects the provision and sustainability of quality medical care services. This was stated on the grounds that, funds from the private sector significantly impact the provision and sustainability of quality health care.

It was further hypothesized that; healthcare financial support received from donors has a statistically significant impact on the sustainability of healthcare in Ghana. This was developed on the assumption that healthcare funding from donors would assist countries to expand healthcare services to deprived areas in a country. It was finally hypothesized that the interaction between government policy decision and healthcare financing models has significant impact on healthcare sustainability in the country.

Findings of the study revealed a statistically significant relationship between public funding and the sustainability of quality health services in Ghana. This was consistent with the first hypothesis. The analysis showed that funds received by the government to finance medical services significantly affect the provision of healthcare in the country. The study further ascertained that; private healthcare funds significantly affect the sustainability of healthcare in the country. It was finally observed that financial

support from donors significantly affects the provision and sustainability of healthcare in the country.

### 5.1. Contributions of the study

The study provides both theoretical and practical contributions. Theoretically, it contributes to the knowledge in literature on how healthcare funding policies affect the provision and sustainability of quality healthcare services (Yaya et al., 2017; Amani et al., 2020). It also provides adequate information to policy makers in the area of healthcare on the relationship between healthcare financing regime and the provision as well as the sustainability of quality medical services.

In practice, the research provides adequate information to institutions and Non-Governmental Organizations (NGOs) in the health sector on how to fully regard the various financing regimes in their operational plans, such information is necessary for the strategic alignment of organizations in their quest to considerably advance their support to the health sector in the country (Abass et al., 2020). The study also gives relevant information on how policies designed by governments affect the sustainability of healthcare systems in a country (Chavan and Kulkarni, 2017). The government, as well as organizations are therefore admonished to fully regard the impact of healthcare financing policies on the provision and sustainability of healthcare since a statistically significant relationship was identified.

### 5.2. Limitations and future research

The unavailability of data on some relevant variables served as a limitation to the study in the attempt to empirically establish the relationship between healthcare funding and sustainability in Ghana. Future research is entreated to consider all control variables if full dataset is available.

Although the various funding models showed to have significant relationship with healthcare sustainability, other covariate and external factors may



also have the propensity to influence sustainable healthcare system. future researchers are therefore encouraged to consider other controlled covariates such as economic shocks in their analysis.

## REFERENCES

1. Abass K, Gyasi R M, Guodaar L, (2019). 'New Wine In Old Wine Skin': Public Perceptions Of Nhis Per-Capita Payment System And Implications For Health-Seeking Behavior In Ghana [J]. 3(2):25-34.
2. Adisah-Atia, I. (2017). Financing Health Care In Ghana[J]: Are Ghanaians Willing To Pay Higher Taxes For Better Health Care? Findings From Afrobarometer. 6: 90.
3. Adusei-Asante K., Doh, D. (2016). The two sides of free national health insurance policies: lessons from daakye district, ghana. Rangsit j soc sci human[J], 3: 37-47.
4. Adeniyi, O. V., Ajayi A.I., Somefun, O. D., (2020). Provision Of Immediate Postpartum Contraception To Women Living With Hiv In The Eastern Cape, South Africa[J]; A Cross-Sectional Analysis. 17: 1-12.
5. Agbanyo R., & Peprah, J. (2020). National health insurance and the choice of delivery facility among expectant mothers in ghana[J], 1-23.
6. Amani, P., J., Tungu, M., Hurtig, A-K, (2020). Responsiveness Of Health Care Services Towards The Elderly In Tanzania: Does Health Insurance Make A Difference[J]. A Cross-Sectional Study. 19: 1-9.
7. Agom, D. A., Onyeka, T. C., Iheanacho, P. N., Et Al. (2021). Barriers To The Provision And Utilization Of Palliative Care In Africa: A Rapid Scoping Review[J]. 27: 3.
8. Asfar T., Arheart k L., Dietz N. A. (2018). Changes in cigarette smoking behavior among us young workers from 2005 to 2010: the role of occupation[J], 18: 1414-1423.
9. Boateng D., Awunyor-vitor D., (2013). Health insurance in ghana: evaluation of policy holders' perceptions and factors influencing policy renewal in the volta region[J], 12: 50.
10. Berazneva, J., Woolf, D., & Lee, D., (2021). Healthcare financing in Africa. In Press.
11. Burke, R., S., Sridhar, D., (2013). Health financing in ghana, south africa and nigeria: are they meeting the abuja target? [M], 6:65.
12. Chavan, P., kulkarni, (2017). Role of nonparametric test in management and social science research[J], 6: 38-52.
13. Doshmangir I., Moshiri, E., Mostafavi, H., et al. (2019). Policy analysis of the iranian health transformation plan in primary healthcare.[J] 19: 1-8.
14. Ertz, M., Patrick, k. (2020). The future of sustainable healthcare: extending product lifecycles. Resources, conservation and recycling [J], 153: 104589.
15. Fox S., & duggan, M. (2017). Health online 2017. Health [J], 2017: 1-55.
16. Jiang Y., Ni. W. (2020). Impact of supplementary private health insurance on hospitalization and physical examination in china[J], 63: 101514.
17. Karsio, O. (2019). Free choise in publicly organised and funded social services.
18. Frimpong, P., B., (2013). The quest for equity in the provision of health care in ghana. African review of economics and finance [J], 4: 254-272.
19. Kiiil, A., Arendt, J., (2017). The effect of complementary private health insurance on the use of health care services[J], 17: 1-27.
20. Lang 'at E., Mwanri L., Temmerman, (2019). Effects of implementing free maternity service policy in kenya: an interrupted time series analysis[J], 19: 645.
21. Lourenço, C., Tatem, A. j., Atkinson, P. M., (2019). Strengthening surveillance systems for malaria elimination: a global landscaping of system performance.[J], 2015–2017. 18: 1-11.
22. Nualdaisri, P., Corlett, S., A., & Kraska, J. (2021). Provision and Need for Medicine Information in Asia and Africa, A scoping review of the literature.
23. Owusu-Daaku, K., N., Diko, (2017). The sea defense project in the Ada East District and its implications for climate change policy implementation in ghana's peri-urban areas[J], 28.
24. OECD (2020). Global healthcare report.
25. Palmer, N., Lagarde, M. (2018). The impact of health financing strategies on access to health services in low and middle income countries. The cochrane database of systematic reviews [J].
26. Poppe (2020). Impact of the healthcare system, macro indicator, general mandatory quarantine, and mask obligation on covid-19 cases and death in six latin american countries: an interrupted time series study[J], 8.
27. Saviano M., Barile S., Caputo F., et al. (2019). From rare to neglected diseases: a sustainable and inclusive healthcare perspective for reframing the orphan drugs issue[J], 11: 1289.
28. Scott J., T., Larson, J., C., Buckingham, S., I., et al. (2019). Bridging the research-policy divide: pathways to engagement and skill development[J], 89: 434.
29. Shortall c k, glazik r, sornum a, et al. 2017. On the ferries: the unmet health care needs of transiting refugees in greece. International health [J], 9: 272-280.
30. Tiwari, B., Ban, A., Gurung, S., et al. (2020). Translating evidence into policy: opinions and insights of health researchers and policymakers in nepal[J], 9:12-18.
31. Wagstaff, A. (2018). Catastrophic medical expenditures: reflections on three issues [M]. The world bank.
32. Walvik, L., Brejnebøl, M., W., Ravn, A., T. (2021). The Impact Of The Covid-19 Pandemic On Mental



- Health Among Healthcare Workers In Ear-Nose-Throat Clinics[J]. 68.*
33. Wang, W., Tensah, G., Mallick, I., (2017). *The impact of health insurance on maternal health care utilization: evidence from ghana, indonesia and rwanda[J]*, 32: 366-375.
  34. Wooldridge, J. M. (2010). *Econometric Analysis of Cross Section and Panel Data*. Cambridge, MA: MIT Press.
  35. Yaya S, Bishwajit G, Ekholuenetale M., (2017). *Urban-Rural Difference In Satisfaction With Primary Healthcare Services In Ghana[J]*: 17: 1-9.