Factors Affecting the Demand for Medical Care in Southwest, Nigeria

Akintunde Temitope Sade(PhD)

Department of Economics, Osun State University, Okuku Campus, PMB 4494, Osogbo, Osun State, Nigeria. Email add: temitope.akintunde@uniosun.edu.ng

Lawal Bilikis Odunola

Department of Economics, Osun State University, Okuku Campus, PMB 4494, Osogbo, Osun State, Nigeria. Email add: lawalbilikisodunola@gmail.com

Aderajo, Oluwatosin Mary

Department of Economics, Osun State University, Okuku Campus, PMB 4494, Osogbo, Osun State, Nigeria. Email add: oluwatosin.aderajo@uniosun.edu.ng

Akanbi Bosede Esther(PhD)

Department of Economics, Osun State University, Okuku Campus, PMB 4494, Osogbo, Osun State, Nigeria. Email add: bosede.akanbi@uniosun.edu.ng

ABSTRACT

People's health is critical to the survival of any business. That is why this study attempts to investigate the socioeconomic determinants of demand for medical care in Southwest Nigeria. A descriptive study was carried out within the three (3) randomly selected local governments in Osun State. With the aid of a well-structured questionnaire administered to 399 respondents, data were collected and analyzed using chi-square and linear regression. The study found that the level of accessibility of medical care in the study areal is highly significant, that is medical care is available and accessible but not affordable by every household. The study revealed that income, heath care facility and price were the major factors responsible for medical care demand in Osun State. Results also showed that women demand for more medical care than men in the study area. The study therefore recommended that health insurance policy should be well implemented so as to reduce the out-of-pocket of medical care.

Keywords: Demand; Medical Care; Linear Regression: Southwest Nigeria

INTRODUCTION

With the growing expansion in the world of science and technology, it is expected that people's perspective to their health will be improved as individuals would normally want to live healthier and as such the demand for health care services should increase. However the reaction to medical care in developing countries particularly in Africa is still somewhat discouraging. Some of the established determining factors to accessing medical care are one's socio- economic status and beliefs. People will ultimately conclude that the limitation to enjoying health care is as a result of its exorbitant charges and as such, income has been identified as the most leading factor that limits the demand for medical care for low income earners. Institutions and government therefore continue to create innovative ways to raise funds for the provision of health care services. Though most developed countries are far ahead in

this regard by recognizing health as a significant element to achieving growth.

A healthy population is an added advantage to economic growth by the virtue of being less vulnerable to illness, and as such having increased capabilities, improved life expectancy which can translate to increase in labour productivity, (Grossman, 1972; Bloom and Canning, 2015). With respect to this, many economies particularly the developed ones thrive to achieve equality in the accessibility of health by taking up a bulk of the burden of   health care cost to be enjoyed by the entire populace. As the case may be for developing nations, there continues to be a growing inequality and under-utilization in the use of health services. The poor are usually vulnerable to sickness, outbreaks of diseases and in turn suffer low life expectancy when compared to the rich, (Wada et al., 2015).   Often times these can be attributed to barriers to demand (income, price, socio- cultural and religious beliefs, behavior of health care providers, travel time, knowledge , access to roads e.t.c)   and supply (cost, staff shortage, poor state of medical centers, low technology, lack of well trained staff and proper equipment e.t.c) factors, (Lahelma et al., 2000; World Bank, 2019).   However as speculated by Dixon-Fyle and Kowallik (2010) by the year 2050 many countries will spend more than 20% of GDP on health care but Nigeria is far from realizing this.

Worse still, the incidence of COVID-19 pandemic has affected the health care system of most developing countries, Nigeria inclusive. Despite the fact that the prevalence in Nigeria was not as high as that of most developed countries, yet there were several problems with the supply of health care and health care demand. The Southwest Nigeria was greatly hit by this pandemic. It was observed that in order to limit the cases of COVID-19 transmission, most of the clinical activities in most hospitals were greatly reduced. This further made it impossible to access medical care even for cases that are not COVID-19 related. Even on the part of the populace, the fear of being infected by COVID-19, and the concern that the country's existing health facilities and equipment which were already deemed inadequate would be channeled to curbing the pandemic at various health care centres and thus reduced their demand for medical care. Several weeks of lockdown also contributed to the decrease in the demand for medical care. (Ajisegiri, Odusanya and Joshi, 2020). This resulted to self-medication.
Thus, the question that readily comes to mind is what is the level of accessibility to quality health care? What factors contribute to the demand for medical care? Who are those demanding for more medical care? In order to answer these questions, the study assessed the factors influencing the demand for medical care in Osun State, Southwest Nigeria.

The rest of the paper is divided into four sections study, section two presents the review of relevant literature, section three presents the methodology, section four discusses the results while section five concludes the study.

LITERATURE REVIEW

From the review of relevant literature, it has been observed that studies on the demand for health are diverse across various regions. Most of these studies have been carried out in the developed country. (Allan et al., 2014), Asia (Jiang et al., 2013), and Africa (Awiti, 2014; Wellay, et al., 2018; Logan, 2021) among others.

A study by Jiang et al., (2013) employed the use of logistic regression to examine the determinants of health care in China with focus on the age group of 45 and above. Result from the study found that financial status, age, occupation and geographical location were significant determinants of health care while insurance, education and gender were found to be insignificant to the use of medical care. Similarly, Allan et al., (2014) investigated the relationship between income and health care services of the older adults in Canada with the use of Logit and Ordinary least square technique. Their result showed that relative income is not a determining factor to accessing health care services by the older adults. Using the Logit regression analysis on a study in Ethopia. Wellay, et al., (2018) reported that people with higher education, severity of illness and perceived quality services increases the demand for health care services while increase prices and distance to health facilities decreases the demand for health. Canser, Haydar and Soyuk (2016) examined the contributing factors to health care demand in Turkey with the use of Krusskal Wallis non-parametric test and found that income, family members, gender, environment, quality services, availability of equipment, information on diagnosis are significant factors that influences the demand for health care while cost, increase in revenue and being a worker in the hospital are less important factors.

Awiti (2014) examined the relationship between poverty and health care in Kenya by employing the multinomial Probit model and found that income, geographical location, gender, price and quality of services are factors that affect demand for health care. The study concludes that poverty is negatively related to the demand for health care. In the study of Ssewanyana et al., (2004) on gender effect on demands for health care in Uganda, the study found that income, quality of service, distance, education and user fees reduced access to health care and men were less constrained by distance than women. The study revealed that men are less likely to seek care from public facilities relative to no-care than women.

In the same vein, Kaewkwan (2016) investigated the effect of household income on health care choices.   Results from the study revealed that income determines demand for health care services and that the income elasticity of demand for public and private health care providers differs. When income is high, the demand for health care in district hospitals are low while provincial, university, government, private hospitals are treated as normal goods.

Furthermore, few studies have investigated the determinant of medical care in Nigeria. For instance, in a study by Awoyemi et al (2011) in Nigeria using the multinomial logit technique found that household size, distance and price influences the utilization of modern medical care while quality of access route influences traditional care implying that the longer the distance to the hospital from home, the less the utilization of private hospitals and the more the people living in rural areas would show no inclination and opt for traditional or self-care. Similarly, Logan (2021) found that price negatively affects healthcare expenditures in South Africa indicating that prices of health care has to be looked into to improve access to health care. Likewise, the availability and affordability of public health has a direct effect on health services.

From the literature reviewed above, it could be observed that studies focusing on the factors influencing demand for health care in developing countries are sparse. Given the various methods and study area, these previous studies have largely reported varying results. This therefore calls for further investigation on the socioeconomic determinants of medical care in Southwest, Nigeria, hence this

study.

METHODOLOGY

Primary data were used for this study which was sourced from 399 respondents with the aid of well-structured questionnaire administered in three local governments in Osun State. The study uses descriptive method to analyze the demographic section of the correspondents which include; Age, sex, marital status etc. The study made use of tables, percentages, chi square and linear regression to analyse the data with SPSS.

3.1 Sampling

The population of each of the local government areas was based on the published Macro-statistics of Osun State in 2001. The population figures in table 3.1.1 were projected to 2020 using the population projection formula: $P2 = P1 (1+ \frac{r}{100})^n$, where P2= Future population, P1= Initial population, r=growth rate, and n= number of years. In choosing the sampling frame for this study, 10% of the total number of local government areas in the state was randomly selected through fishbowl method to constitute the sample frame for the study as depicted in Table 3.1.2 below.

Table 3.1.1. List of Local Government Areas and their Populations

S/N	Local Governments	Population 2001	2020 Projected Population	Estimated no. of households
1	Atakumosa East	50370	91638	18328
2	Atakumosa West	79362	144383	28877
3	Aiyedaade	125285	227931	45586
4	Aiyedire	55038	100131	20026
5	Boluwaduro	56037	101948	20390
6	Boripe	108907	198135	39627
7	Ede North	91723	166872	33374
8	Ede South	96465	175499	350100
9	Egbedore	53263	96901	19380
10	Ejigbo	91694	166819	33364
11	Ife Central	127669	232268	46454
12	Ife East	126713	230529	46106
13	Ife North	168776	307054	61411
14	Ife South	116551	212041	42408
15	Ifedayo	32612	59331	11866
16	Ifelodun	101211	184133	36827
17	Ila	66868	121653	24331
18	Ilesa East	103730	194940	38988

19	Ilesa West	80601	146638	29328
20	Irepodun	106300	193392	38678
21	Irewole	102954	187304	37461
22	Isokan	75272	136942	27388
23	Iwo	139329	253481	50696
24	Obokun	80924	147225	29445
25	Odo-Otin	110810	201597	40319
26	Ola Oluwa	52154	94884	18977
27	Olorunda	110176	200443	40089
28	Oriade	106853	194398	38880
29	Orolu	96554	175661	35132
30	Osogbo	140631	255850	51170
	Total	**2,854,832**	**9,135,462**	**1,827,092**

Sources: 2001 Macro-statistics Osun State**,** The NBS (2011) Estimated Average Number 5 persons per household, Growth Rate of Osun @ 3.2 % by the United Nations Population Funds Agency (UNFPA)

Table 3.1.2. Randomly Selected Local Government Areas and their Populations

S/N	Local Governments	Population 2001	2020 Projected Population	Estimated no. of households
1	Ilesa East	103730	194940	38988
2	Iwo	139329	253481	50696
3	Odo-Otin	110810	201597	40319
	Total	**353,869**	**650,018**	**130,003**

Sources: 2001 Macro-statistics Osun State**,** The NBS(2011)   Estimated Average Number 5 persons per household, Growth Rate of Osun @ 3.2 % by the United Nations Population Funds Agency (UNFPA)

In determining the sample size for the study, the Taro Yamane Formula was adopted as follow:

$$n = \frac{N}{1+N\,(e)^2}$$

Where: n = sample size, N = population size (130,003) see Table 3.1.2, e = margin of error (e = error tolerance) * desired (0.05 at 95% confidence level)

$$n = \frac{130,000}{1+(130,000)(0.05)^2}$$

$$n = \frac{130,003}{326} = 399$$

Table 3.1.3. Sample size for each of the Randomly Selected Local Government Areas

S/N	Local Governments	Population 2001	2020 Projected Population	Estimated no. of households	Sample size
1	Ilesa East	103730	194940	38988	117
2	Iwo	139329	253481	50696	157
3	Odo-Otin	110810	201597	40319	125
	Total	**353,869**	**650,018**	**130,003**	**399**

Sources: 2001 Macro-statistics Osun State**,** The NBS (2011)   Estimated Average Number 5 persons per household,

Growth Rate of Osun @ 3.2 % by the United Nations Population Funds Agency (UNFPA)

3.2 Model

The framework adopted in this study is similar to that of Garcia-Subirats et al.,(2014) and Mwabu et al., (1993) whose model included most of the explanatory variables used for this study. The model is re-constructed by adding price, payment method, income, health care facility and attitude and behaviour of health personnel as independent variables.

Thus, in functional form, the model is specified as

$$MCA=f(PRC,INC, PYM, HCF, ABP)...(1)$$

where MCA = Demand of Medical Care, PRC = Price, INC = Income, PAY = Payment Method, HCF = Health Care Facility, ABP = Attitude and Behavior of Health Personnel.

The model is restated econometrically as:

$$MC=\beta_0 + \beta_1 PRC+\beta_2 INC + \beta_3 PAY + \beta_4 HCF + \beta_5 ABP + \varepsilon.................................(2)$$

where = β_0 intercept, β_1, β_2, β_3, and β_4 are the slope parameter of the model

RESULTS AND DISCUSSION

Table 4.1. Presentation of data according to demographic characteristics of respondents

1	**Sex**	**Frequency**	**Percentage**
	Male	127	35.4
	Female	232	64.6
	Total	359	100.0
2	**Age**	**Frequency**	**Percentage**
	18-29 yrs	43	12.0
	30-41 yrs	103	28.7
	42- 53 yrs	130	36.2
	54-65 yrs	81	22.6
3	65 and above	2	0.5
	Total	359	100.0
	Highest Education Status	**Frequency**	**Percentage**

		Frequency	Percentage
	No Formal Education	14	3.9
	Primary	14	3.9
	Secondary	66	18.4
	ND	59	16.4
	HND	92	25.6
	B.Sc	99	27.6
	M.Sc	11	3.1
	PhD	4	1.1
	Total	359	100
4	**Monthly Income**	**Frequency**	**Percentage**
	Less than ₦10,000	60	16.7
	₦10,001 - ₦20,000	31	8.6
	₦20,0001- ₦30,000	106	29.5
	₦30,001 - ₦40,000	150	41.8
	₦40,001 - ₦50,000	7	1.9
	₦50,001 and above	5	1.4
	Total	437	100.0
5	**Occupation**	**Frequency**	**Percentage**
	Civil Service	73	20.3
	Artisanship	90	25.1
	Trading	64	17.8
	Farming	60	16.7
	Studentship	11	3.1
	Private Sector Employee	21	5.8
	Unemployed	12	3.3
	Retiree	28	7.8
	Total	359	100.0
6	**No of children**	**Frequency**	**Percentage**
	0-2	93	25.9
	3-5	109	30.4
	5-7	92	25.6
	7 and above	65	18.1
	Total	359	100.0

Source: Author's Fieldwork, (2021)

From the table above, no 1 reveals that 127 (35.4%) of the respondents are male while 232 (64.6%) were female. This is an indication that the females demands for medical care than male in the study

area. No. 2 above reveals that 43 (12.0%) of the respondents are within age bracket 18-29yrs; 103 (28.7%) were within age bracket 30-41yrs; 130 (36.2%) of the respondents are within age bracket 42-53yrs; 81 (22.6%) of the respondents are within age bracket 54-65yrs; while 2 (.6%) of the respondents are within age bracket 65yrs and above. It can be deduced that majority of the respondents are within the age range of 42-53. No.3 above reveals that 14 (3.9%) of the respondents have no formal education, 14 (3.9%) of the respondents only attended primary school; 66 (18.4%) of the respondent are secondary certificate holder, 59 (16.4%) of the respondents are holders of National Diploma; 92 (25.6%) of the respondents are holders of Higher National Diploma; 99 (27.6%) of the   respondent are holders of B.sc, 11 (3.1%) of the respondent are holder of Master's Degree, while 4 (1.1%) are PhD holders. The implication here is that majority of the respondents are well educated. The average monthly income reveals that 60 (16.7%) of the respondents earn less than 10,000; 31 (8.6%) of the respondents earn 10,001- 20,000; 106 (29.5%) of the respondents earn 20,001-30,000; 150 (41.8%) of the respondents earn 30,001-40,000; 7(1.9%) of the respondents earns 40,001-50,000 while 5 (1.4%) of the respondents earns 50,000 and above. By implication, the average monthly income of most of the respondents falls within the range of 30,001-40,000. The occupation in No. 5 reveals that 73 (20.3%) of the respondents are civil servants; 90 (25.1%) are Artisans; 64 (17.8%) of the respondents are engaged in trading; 60 (16.7%) of the respondents are into farming; 11 (3.1%) of the respondents are students, 21 (5.8%) of the respondents are Private Sector Employee; 12 (3.3%) of the respondents are unemployed while 28 (7.8%) of the respondents are retirees. the above result indicated that majority of the respondent are artisans, thus they depend on series of hand works for their survival. No.6 shows the household with 0-2 number of children in the study area were 93 (25.9%); 109 (30.4%) of the respondents have 3-5 children; 92 (25.6%) of the respondents have 5-7 number of children; 65 (18.1%) of the respondents have 7 and above children. The above analysis implies that most of the respondents have 3-5 number of children.

Table 4.2 Level of accessibility of the respondents to Medicare in the study area.

		Level					Total
		[5]	[4]	[3]	[2]	[1]	
Accessibility	Geographical Accessibility	91	4	30	3	13	141 [39.3%]
	Availability	62	3	18	3	23	109 [30.4%]
	Affordability	34	0	0	19	0	53 [14.7%]
	Acceptability	3	1	1	52	0	56 [15.6%]
Total		6	7	83	227	36	359

Source: Author's Fieldwork, (2021)

The table shows that geographical accessibility accounts for about 39.3%, availability of medical care to the reach of the respondents accounted for 30.4%, Affordability of the medical care accounted for 14.7% while acceptability accounted for 15.6%.   The result of this study is supported by the study of Asteraye, (2002) and Bello, (2005) who observed that demand for health care is characterized by the level of actual consumption of an individual in case of facing illness/ injury, this consumption could differ in accordance with demand factors such as income, cost of care, education, social norms and

traditions, quality and appropriateness of the services provided. Also, this result is in line with study of Canser et al (2015) who studied the factors that influence the demand of health services and the relationship between them and demographic characteristics. In his study he found that personal income, and perception of economic level affect the demand for health services.

Table 4.3 Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	27.325[a]	6	.000
Likelihood Ratio	29.476	6	.000
Linear-by-Linear Association	.830	1	.362
N of Valid Cases	359		

Source: Author's Fieldwork, (2021)

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 11.07.

Table 4.3 showed the result of Chi-Square analysis for testing the level of accessibility of the respondents to Medicare in the study area. The result shows that Pearson Chi-Square was 27.325[a] with p-value of .000. The decision rule is that if p-value obtained is less than or equal to the pre-set level of significance null hypothesis should be rejected otherwise should be accepted. However, using the bench mark of 0.05, the p-value of 0.000 is relatively low, there the study concluded that the level of accessibility of medical care in the study areal is highly significant. By implication medical care is readily available and accessible in the study area but cannot be afforded by some people in the study area as revealed in the table 4.3 above.

Table 4.4 The Result of Linear Regression showing the Factors Responsible for the Demand of Medical Care in the Study Area.

Factors	Degree of Significant	T-test	Sig.
Price	-.549	2.861	.004
Income	.724	3.419	.001
Payment Method	.008	.125	.859
Health Care Facility	.512	2.178	.003
Health Attitude and Behaviour Health Care Personnel	.143	2.020	.044

Source: Author's Fieldwork, (2021)

Table 4.5 Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
1	.852[a]	.727	.718	.51566	1.888	88.199	.000[b]

a. Predictors: (Constant), price, income, payment method, health care
facility,   Attitude and behaviour of care personnel

b. Dependent Variable: Demand of Medical care

(Source; Authors'computation)

Table 4.4 showed the result of the linear regression on the factors responsible for the demand of medical care in the study area. At 5% level of significant, the t-statistic shows that price of health care ($t=2.861$ and $p=.004$), income ($t=3.419$ and $p=.001$), health care facility ($t=2.178$ and $p=.003$), and health attitude and behaviour of health care personnel ($t=2.020$ and $p=.044$) were found to be significant as factors responsible for the demand of medical care in the study area while payment method was insignificant as factors responsible for the demand of medical care in the study area. Price of health care shows a negative relationship with medical care while other observed factor exhibit positive relationship. The negative relationship between price and demand for medical care follows the law of demand which implied that there is an inverse relationship between price and quantity demanded. This conforms to the earlier studies by Awoyemi et.al (2011) and Logan (2021).   Based on the response of the respondents, the major factor that is responsible for the demand of medical care in the Osun state is income with degree of significant of 0.724, followed by health care facility with degree of significant of 0.512.

Table 4.5 presented the model summary of the linear regression and it showed how fit our model is. The value of R was .852[a] which implied that a strong relationship exist between dependent variable and independent variables. The estimation results shown in the table revealed that the value of R-squared and Adjusted R-squared were .727 and .718 respectively. This implied that 72.7 percent of variations in demand of medical care is caused by factors considered in the model while the remaining percentage can be attributed to factors outside the model.

Furthermore the F-statistic was 88.199 and the F-probability was .000[b] which indicated that the overall model is highly significant at 5% and that the independent variables such as income of the respondents, health care facility, attitudes and behaviors of the heath personnel, price of health system and payment method significantly caused variation in demand of medical care. This implied that all the factors such as price, income, payment method, health facility attitude and behaviors of health care personnel jointly contributed in predicting demand of medical care. The value of Dublin Watson was 1.888 which indicated that the model is not suffering from serial correlation, thus the model is desirable and acceptable.

CONCLUSION

This study investigated factors influencing the demand for medical care in Osun State. The data collected from the respondents via questionnaire were analyzed using frequency table, percentage, chi-square and linear regression. The result of the analysis showed that income of the respondents, heath care facility and price were the major factors responsible for medical demand in Osun State. This is attributed to the fact that people with high level of income will be able to demand for best medical care anywhere and anytime. On the contrary, people with low income can be hindered in accessing medical health care even when their health issue is serious, most especially if the cost of health care is very high, thus, not affordable. Results showed that women demand for medical care than men in the study area. Also, when health facilities are in good condition, people within and outside the area will be enticed and willing to spend their money to demand for such health care. The study therefore recommended that government should improve the income of the populace. The health care should be accessible and affordable. More importantly, the health insurance scheme should be well implemented in order to raise the demand for medical care. It is equally important to improve on the health care facilities such that cases of infectious diseases like COVID-19 will have designated hospitals where they can be treated so that other people will not be afraid of coming to the hospital.

Finally, the incidence of COVID-19 pandemic affecting the demand for medical care in Nigeria should also be looked into which this study has not been able to address. This is therefore, suggested as an area of further research.

REFERENCES

Ajisegiri, WS., Odusanya, O.O., & Joshi, R. (2020) COVID-19 Outbreak Situation in Nigeria and the Need for Effective Engagment of Community Health Workers for Epidemic Response. *Global Biosecuirty*, 1(4). jglobalbiosecurity.com/articles/10.31646/gbio.69/

Allan, D., Funk, L., Reid, C., & Cloutier-Fisher, D. (2011) Exploring he Influence of Income and Geography on Access to Services for Older Adults in British Columbia: A Multivariate Analysis Using the Canada Community Health Survey (Cycle 3.1). *Canadian Journal on Aging / La Revue Canadienne Du Vieillissement* 30(1) 69-82. doi:10.1017/S0714980810000760

Asteraye N. (2002). Determinants of Demand for Health Care Services and their Implication on Health Care Financing: The Case of Bure Town1. *Ethiopian Journal of Econ.* 11(1)87-122.

Awiti, J.O (2014) Poverty and health care demand in Kenya. *BMC Health Serv Res*. 14 (1):1–17 https://doi.org/10.1186/s12913-014-0560-y

Awoyemi, T., Obayelu, O., & Opaluwa, H. (2011). Effect of Distance on Utilization of Health Care Services in Rural Kogi State, Nigeria. *J Hum Ecol,* 35(1), 1-9.

Bello R. (2005). Determinants of demand for traditional method of health care services in Osun state: Nigeria. *Ind J Soc Dev.* 5:203–17.

Bloom, D & Canning, D. (2015). Health and economic growth: Reconciling the micro and macro evidence. University of Stanford. http://iisdb.stanford.edu/pubs/20924/BloomCanning_42.pdf

Canser, B., Haydar, S., & Selma, S. (2015). The Affecting Factors of Healthcare Services Demand in

terms of Health Services Use: A Field Application. *International Journal of Health and Life Sciences.* 1(2), 33-41.

Dixon-Fyle, S., & Kowallik, T. (2010) Engaging consumers to manage health care demand. Mckinsey & Company.

Garcia-Subirats, I., Vargas, I., Mogollón-Pérez, A.S. *et al.* Inequities in access to health care in different health systems: a study in municipalities of central Colombia and north-eastern Brazil. *International Journal of Equity Health* **13,** 10 https://doi.org/10.1186/1475-9276-13-10

Grossman M. (1972). On the concept of health capital and the demand for health. *Journal of Political Economy.* 1972 (80), 223–55.

Kaewkwan, T. (2016) Income Elasticity for Medical Care Services: An Empirical Study in Thailand. *Thammasat Review of Economic and Social Policy* 2 (1) 77-123.

Logan, R. (2021) Healthcare price changes and expenditures in South Africa: Some implications for economic policy, Development Southern Africa, 38:4, 607-621, DOI: 10.1080/0376835X.2021.1907176

Jiang, Y., Wang, Y., Zhang, L., Li, Y., Wang, X., & Ma, S.(2013) Access to healthcare and medical expenditure for the middle-aged and elderly: observations from China. PloS One. 8(5):e64589. https://doi.org/10.1371/journal.pone.0064589

Lahelma E, Arber S, Rahkonen O, et al (2000). Widening or narrowing inequalities in health? Comparing Britain and Finland from the 1980s to 1990s. *Sociology of Health & Illness* (22)110–136.

Mwabu, G., Ainsworth, M. & Nyamete, A.   (1993). Quality of Medical Care and Choice of Medical Treatment in Kenya. An Empirical Analysis. *Journal of Human Resources* 28(4), 283- 291. 38.

Osun State (Nigeria). Department of Macro Statistics Department of Macro-Statistics, Central Economic Planning Office, 2000

Ssewanyana, Sarah & Nabyonga, Juliet O. & Kasirye, Ibrahim & Lawson, David, 2004. "Demand for Health Care Services in Uganda: Implications for Poverty Reduction," *Research Series* 150529, *Economic Policy Research Centre* (EPRC).

Wada, K., Higuchi, Y., & Smith, D. (2015). Socioeconomic status and self-reported health among middle-aged Japanese men: results from a nationwide longitudinal study. *BMJ Open*. 2015;5: e008178.

Wellay, T., Gebreslassie, M., Mesele, M., Gebretinsae, H., Ayele, B., Tewelde, A., & Zewedie, Y. (2018). Demand for health care service and associated factors among patients in the community of Tsegedie District, Northern Ethiopia. *BMC Health Services Research*, *18(1).* doi.10.1186/S12913-018-3490-2

World Health Organisation, (2019). Sustainable development goals. Goal 3. Ensure healthy lives and promote well-being for all at all ages. WHO, Geneva. https://www.who.int/sdg/targets/en