



Income Inequality and Health Outcomes: A Challenge to Sustainable Development in Nigeria-Focus on Nasarawa State

Angbas, Jonathan Avreson; Pam, Mary & Eshaleku, O Zacharia

Department of Economics

Plateau State University, Bokokos

Email: avrenab@yahoo.com

ABSTRACT

This study investigates the impact of income distribution and inequality on the health of the people in Nasarawa State using socioeconomic and cross sectional data from the three Senatorial districts of the state drawn from a field survey and analyzed through a bivariate model. The study finds that income inequality which has worsened over the years in Nigeria and especially in rural areas has affected health outcome of the populace negatively. The overriding reason is lack of access to the means of production. Although individuals desire to lead healthy lives due to its multiple impact on their social, economic, productive and political life, this is often difficult to realize due to the incidence of poverty accentuated by low incomes and rising inequality. Not only are income levels low in most developing countries, but that its distribution is severely skewed against the poor leading to worsening inequality. This has implications for the attainment of optimum health of the populace as intended by the Millennium declaration of the United Nations. If health care is to be financed from private incomes- as is currently the case- and against a poor and unorganized insurance framework, then the health of the people will be greatly compromised. This then means that individuals will become more vulnerable to disease conditions with its attendant negative effects. Opportunities that can enhance incomes of the very poor in society must be vigorously addressed if attaining sustainable development is to be achieved.

Keywords: Income, Inequality, Health outcome, Sustainable Development, Poverty Reduction

INTRODUCTION

Although many factors besides income inequality affect health, research has shown that the effect of inequality is statistically significant and is equivalent to a difference of approximately 11 days of life between high- and low-inequality places. This means that the ability of societies to improve the health of its citizens through re-distribution of income offers individuals the opportunity to raise their capacity to engage in productive activities in a sustainable way. This is one way of attaining the global objective of economic growth and its sustainability. Such will lead to a reduction in the poverty rates of these nations, reduction in the rate of deprivation and improve the individuals' ability to undertake his social and economic activities without hindrance compared to that of another. It also means bridging the gap between the extremely rich and the poor in society, a reduction in the dependency ratio thus making development sustainable which is one global objective of sustainable development. The implication is that a larger proportion of the population become self-reliant. According to Subramanian (2004) "Inequality effects between income inequality and life expectancy over and above average income, are pretty well established,"



Good health is a major determinant of economic growth and a critical component of the well-being of the population. Health remains an essential commodity for every human. Despite this, not enough is being done to ensure the provision of good health care for societies especially in poor countries where the level of income is often below the accepted minimum of the United Nations. Statistics from the National Bureau of Statistics (2016) and the Central Bank of Nigeria annual reports (2015) show that the nation has only budgeted an average of 5.45 per cent of its expenditure for health care over the past decade. This is far less than the 15 per cent prescribed by the World Health Organization and the United Nations for effective health care delivery. This situation is aggravated by the widening disparity in income distribution amongst the people creating entrenched poverty in the populace. For example, according to the World Bank (2015) a larger proportion of the populace especially in most poor regions of world live on less than one dollar a day while a smaller proportion have live in affluence. The World Bank asserts that a significant proportion of the population in Nigeria (about 67 per cent) live on less than one dollar a day. The life expectancy of the individual can be significantly enhanced if the income levels and its distribution amongst the population are near equitable. Unfortunately, across the globe there is growing income inequality leading to poorer health of the people

Three of the goals of the United Nations under the millennium declaration of 2000 focused on the need to attain global health and reduce poverty rates for a large segment of the populace by the year 2015. This is in recognition of the fact that a healthy population can generate several multiple impacts on the economies of the world which will create greater outcomes for prolonged lives to be led to increase productivity, savings and investments opportunities. The pursuit of the sustainable development goals to be attained by 2030 through income re-distribution is to ensure that global peace and security are achieved. Several research studies have found that life expectancy is generally lower in places with more income inequality. According to Cartlin "It's not just the level of income in a community that matters — it's also how income is distributed. Another study "Life-Course Socioeconomic Position and Incidence of Coronary Heart Disease" by Cutler and Meara (2011) found that the longer a person remains in poverty, the more likely he or she can develop heart disease. Deaton and Lubotsky (2013) found that the death rate from heart disease was 40 percent higher for poor men over all than for wealthier ones. Another by Orji and Okechukwu (2015) and that of Abidemi (2015) have found that income disparity and skewed income distribution has severe negative impact on health outcomes for the population.

The implication is that if income levels are low and its distribution are skewed against the larger proportion of the people, it will have negative effect on the health outcomes of the peoples. Conversely, if incomes are high and its distribution is generally equitable the life expectancy of the population is enhanced substantially. This is why economists and policy makers are of concern about income inequality and its distribution due to its impact on the welfare of the people and especially on the health outcomes for individuals. The major reason why this poor health habits occur in lower income environments is due to the lack of funds for better nutrition, medical attention, and education. For example, many of the high fat, high



sodium risk factor foods leading to heart disease tend to be the most inexpensive food found in stores.

At national and international levels, long time and cross sectional studies have been conducted on the impact of growing income disparity on health outcomes number of studies which have been conducted on the relationship between income inequality and health have all focused on developed countries. This could be due to the availability of data or its absence in the case of developing countries even though such studies have great importance in all these countries as it can provide critical information needed for specific intervention. Even at the international level, such studies have focused more on cross-country relationship leaving a void in country-specific studies including Nigeria. Where such studies have been conducted in Nigeria, data used have been sourced from the National Socioeconomic household survey. Such data have their problems ranging from aggregations, errors to overgeneralization whose results and suggestions may not be applicable to all regions of the countries due to socioeconomic, political and cultural differences. The approach of this study is different as it provide results based on a specific survey of individuals and households based on hospital information and attendance obtained from a field survey. This it believes can provide critical information for addressing the issue of growing income inequality across the spectrum. The study specifically evaluates the impact of income inequality on health care outcome in Nasarawa State drawing sample from the three Senatorial districts using data from a field survey. This is analyzed through socioeconomic variables such as life expectancy at birth, mortality rates, death rate among the respondents and the absolute income of the individuals.

Review of Literature

Theoretically, it is generally acknowledged that the relation between individual income and his health status is concave because each additional dollar of income raises individual health by a decreasing amount. This is because the cost of acquiring health care rises faster than the level of income due to a number of factors such as rising cost of health care services, drugs and the growing unhealthy attitude of the people. Added to this is the obvious rising incidence of disease prevalence and drug resistance, not to mention the risk incidence of some diseases. This concave relation between income and health has important implications for the aggregate-level relation between income distribution and overall average health attainment. This means that the unequal distribution of income in a society poses an additional hazard to the health of the individuals living in that society. According to Rodgers (2011), the individual's income is a powerful determinant of that individual's health status because he can afford to access healthcare when the need arises given the fact that its occurrence is uncertain. It should be stressed that it's not just the level of income of an individual or that of the community that matters — it's also how income is distributed. Many factors besides inequality affect health and these include factors such as the level of income and its distribution, poverty which is a risk factor that raises the level of mortality and morbidity, family size as well as cultural factors. These factors are germane in their impact on the health outcomes of the people especially in poor regions and countries due



either to psycho-social mechanism, the Social-capital mechanism or the socio-biological mechanism factors which each have their impact on the health of people. Rising income inequality can affect individuals in two ways. The direct effects which often change the individuals' own income and this is linked to the individual income mechanism where he is more able to deal with his health care needs. The indirect effects change other people's income, which can then change a society's politics, customs, and ideals, altering the behavior even of those whose own income remains unchanged and these are generally linked to the psycho-social, social capital and socio-biological mechanism factors. Indirect effects can thus change both average health and the slope of the relationship between individual income and health. According to Scholars such as Vafaei (2008), the direct effects stand on the absolute income hypothesis while the indirect effect has its stance on the relative income hypothesis. Studies have found that life expectancy of individuals are lower where income inequality are higher.

One key issue of this growing unequal access and distribution of health outcomes relates to the market and its operation which is driven always by the desire for increased profits. The decision to produce poor quality goods is made for the interest of profit and since the vast majority of the planet is relatively poor, it is no surprise that in order to meet the market demand, quality must be reduced or compromised to allow for competitive buying so as to increase profits levels for firms or corporations. In other words, there is a market for each social class and naturally the lower the class, the lower the quality. This reality is an example of a direct social system linking it to the causality for disease conditions to fester especially for the poor through consumption of poor quality products. While the knowledge through education about the difference between quality food products could help the decision process of a poor person to eat better, the financial restrictions inherent to their condition could easily make that decision difficult if not impossible to attain. On the whole, Richer, better-educated people live longer than the poor and less-educated people. From a pure health perspective, factors such as adverse selection, asymmetric information and supplier induced demand can negatively accentuate health outcomes resulting from income inequality.

Studies from countries across the globe have shown growing disparity in income especially where data is available. For example, according to Lobmayer and Wilkinson (2012) and the national office of statistics of the United States (2014), the average annual salary in America in inflation-adjusted 2008 dollars increased from \$32,522 in 1990 to \$35,864 in 2014, that is, a modest 10 percent increase over three decades. By contrast over the same period, the average annual compensation of the top 100 chief executive officers rose from \$1.3 million (or 39 times the pay of an average worker) to \$37.5 million (or more than 1,000 times the pay of an average worker). According to the same report recent trends in wealth inequality have been equally noteworthy and worrisome. The net worth of families in the top decile rose by 69 percent, to \$833,600 in 2011, from \$493,400 in 2008. By contrast over the same period, the net worth of families in the lowest fifth of income earners rose only 24 percent, to \$7,900. This sharp contrast in income distribution has led to segregated settlement patterns for members of society creating health implications.



Incidentally this income gap is growing to the advantage of the rich and this has negative effect on health care outcomes especially for the poor. This situation poses grave danger for societies because these poor will always engage in practices that will affect even the health of others leading to a rise in disease conditions. Several results from studies indicate that there has been a rise in the rate of these infectious and communicable diseases is threatening not only the attainment of the millennium development goals which ended in 2015 let alone assure us of the attainment of the sustainable development goals that are to be pursued and achieved between 2016 and 2030.

The World Health Organization WHO (2011) reports that Nigeria has 10 per cent of the world's disease burden, the 4th highest TB burden in the world and the highest number of children infected with HIV worldwide. Its life expectancy at birth is a mere 47.56 years which is the worst in Africa that has an average of 53 years and this has persistently been below the minimum benchmark set for developing nations over the last 10 years. Its infant mortality rates is one of the worst in the world while income disparity has been on the rise. If individuals have weak income bases and public authorities do little in terms of intervention to provide health care and take steps to bridge income gaps as is the case in Nigeria, then the result will be further catastrophic health care outcomes.

The income distribution statistics for Nigeria are rather poor especially where data is available. However, published financial statistics of major corporations provides plausible insights into the nature of the disparity in income amongst the workforce in the country and this can be taken as a general picture. For example, in published financial reports of twenty-five large corporations in Nigeria for 2015, the top 5 per cent of their chief executives earned a total of ₦102.5m in emoluments while the bottom 10 per cent earned less than ₦30m in annual income. *In addition, the growth in income of this top 5 per cent rose from ₦45.8m in 2005 to its present level which is 123 per cent over a decade while that of the lower 10 per cent rose only by 25 per cent over the same period.* This wide income levels has several implications especially for the health of the average worker given the dependency ratio of the country. For example while the top executives are often catered for in the overall package of their emoluments, workers on the lower rung of the ladder who are more in number have less access to health care financed by the corporation because they have to finance their health care needs. Incidentally in a national health accounts report published in 2015, the Federal Ministry of Health finds that the average individual spends about 67 per cent of his income on health care. A World Bank (2016) economic report asserts that two out of every three people live on less than one dollar a day in Nigeria and this is worsening by the day due to unequal opportunities and entrenched market monopoly power. Studies from some European countries suggest that spending from public sources appears to favour higher-income groups, resulting in an unfair cross-subsidy from poor to rich population segments (World Bank, 2008a). Specifically, nearly one in five households in Ukraine incur catastrophic health expenditures through high out-of-pocket spending. This has implications for poverty reduction and the fight against inequality especially in developing nations.



Not only are health care for several nations statistics scary, good health remains the desired essential commodity for every individual and a determinant of economic growth as well as critical component of human capital that can raise the level of the well-being of the population. This explains why the United Nations listed it and adopted as one of the seventeen goals of the sustainable development to be pursued after the '*perceived attainment of the Millennium development goals in 2015*'. This goal which is for the world's population to be healthy or free from all forms of diseases and have improved well-being and not just the absence of disease is to be vigorously pursued alongside others and attained by the year 2030. This is in recognition of the fact that a healthy population can generate several multiple impacts on the economies of the world through increased participation in productive activities that will then create greater and better outcomes for prolonged lives to be led. There is no gain saying the fact that good health is a determinant of economic growth and a component of the well-being of the population. This is because it enables an individual earn an income through effective participation in economic activities, supply greater amount of his labour for enhanced productivity, save for further investments and free up resources used in treating disease conditions. The individual's level of income and its distribution amongst the populace therefore has enormous implication for the attainment of good health. This means that those who don't have an income, have low incomes or are poor are most likely to be unhealthy creating a possibility to increase the health burden of the population in the process.

Income levels and disparity across the globe have remained an issue of concern for development experts due to its tendency to negatively rob-off on the economic well-being of the people. The income of the individuals hold key to several economic, social and political dimension of his survival. It enables him access to the basic needs of life, propels further economic growth through stimulating saving habits for investment opportunities, provision of the needed market for goods produced and a veritable source of capital for investors. In spite of the positive impact which health can have on the productivity, saving and investment potentials of nations, not enough is being done to ensure the provision of good health care for societies especially in poor countries where the level of income is often below the accepted minimum by the United Nations. This situation is made worst by the widening disparity in income distribution amongst the people. For example, according to the World Bank (2015) a larger proportion of the populace especially in most poor regions of world live on less than one dollar a day while a smaller proportion have live in affluence. Incidentally this income gap is growing to the advantage of the rich and this has negative effect on health care outcomes especially for the poor. This situation poses grave danger for societies because these poor will always engage in practices that will affect even the health of others leading to a rise in disease conditions.

Several results from studies indicate that there has been a rise in the rate of these infectious and communicable and this is threatening not only the attainment of the millennium development goals which ended in 2015 let alone assure us of the attainment of the sustainable development goals that are to be pursued and achieved by the year 203. For example, the World Health Organization (2017) reports that over 104 million people across



the globe suffer from tuberculosis out of which 1.7 million died from its effects. In the same vein, the incidence of HIV/AIDS which is closely related to tuberculosis has equally risen in recent times in spite of the initial significant success made in halting its spread lately. It is equally reported by the United Nations (2017), malaria especially in children is attaining new heights despite the concerted efforts made through distribution of mosquitoes treated nests. Most of these new developments have been attributed to the inability of people to thwart effectively the incidence of these diseases on account of poverty or growing income inequality. Worst still is the fact that individuals are unable to gain access to the means of production that will lift them out of the incidence of poverty let alone guarantee a sustainable living.

Scholars may not be totally agreed on which measure of income inequality can best be used for an evaluation of the extent of inequality in such income and its impact on health or other welfare indicators. This is because there are several measures of income inequality available depending on the intention of the study, what is however not in contention is the position that it has implication for health care outcomes. Some of these measures include the percentage of the share of people that hold total income compared to those who are deprived; while others employ the ratios of the population that hold top level income as against those at the bottom of the ladder which stems from one's inability to gain access to employment. Others like the Gini coefficient measures the extent of deprivation that the individuals suffers which results from lack of access to the means of production (Kawachi and Subramanian, 2003).

Many economists have attributed these close correlations to the effects of education, arguing that more educated people are better able to understand and use health information, and are better placed to benefit from the healthcare system. Economists also have emphasized the negative correlation between socioeconomic status and various risky behaviors, such as smoking, binge drinking, obesity, and lack of exercise. Indulgences become common amongst this social group following their fatal resignation to fate about their economic and social status. The theoretical foundation for this position is seen in the psychosocial mechanism philosophy of Wilkinson (1996), Vafaei (2008), Marmot (2002) Everson (1997, Basma (1997), Berkman (1995) and Kawachi et al (2002). At the other extreme is the effect of decrease in social capital on health outcome has been extensively discussed by scholars such as Kawachi et al (1997). His position is hinged on the definition of what social capital is- the provision and condition among people that lead to their accomplishing a goal of mutual social engagement, and reciprocity reinforced by networking (Last, 2007). A widening of the income gap in the population would result in a damage to the social fabric of the community leading to a segregation of people into poor and rich sections. This will reduce the amount of social capital available to the community and negatively affect the health of the population.

They have also pointed to mechanisms that run from health to earnings, education, and labor force participation, and the role of potential third factors, such as discount rates, that affect both education and health. There is a presumption that socioeconomic status is protective of health. Not only are wealth, income, education, and occupational grade



protective of health, but so are several more exotic indicators such as social networks, housing type and the amount of control that individuals have in their jobs that provide higher self-esteem. This above means that these workers have to finance their health care needs from personal sources. Where income levels are as low as in Nigeria, it will have dire negative consequences for the overall health of the people. In a report by the World Bank based on a national health account for Nigeria in 2014, an average individual spends over 67 per cent of his income for health. Where only a small proportion of the population is gainfully employed and given a weak health care system, income disparity will further worsen and aggravate the already poor state of health of the people. If optimum health has multiple impact on economic growth such as improved income earnings higher savings, reduced absenteeism and increased productivity in productivity, then low income and heightened inequality will lead to further poor health. This is addition to the fact that public resources meant for provision of infrastructure will be diverted towards health.

Much research has investigated the association of income inequality with average life expectancy, usually finding negative correlations that are not very robust. A smaller body of work has investigated socioeconomic disparities in life expectancy and infant mortality, which have widened in many countries since 1980. These two lines of work should be seen as complementary because changes in average life expectancy are unlikely to affect all socioeconomic groups equally. Although most theories imply long and variable lags between changes in income inequality and changes in health, empirical evidence is confined largely to short-term effects. There are however other measures of how income inequality could affect the health of the people such as; the individual income mechanism, the Neo-material mechanism, the social capital mechanism, the psycho-social mechanism and the socio-biological mechanism according to Vafaei (2008) and Biggs et al (2010). Each of these theories tries to evaluate the impact of absolute income, relative income and circumstantial conditions of the individuals and how it does or can affect his overall health status.

Specifically, the individual income-mechanism theory maintains that the aggregate income of the individual has the greatest impact on his health as it offers him access to health if it is to be consumed as any commodity- a high income guarantees more and better health. The neo-material mechanism stance believes that if income inequality is wide spread in society leading to a greater proportion of the populace lacking income, it will limit his capacity to access such social services as education, health, food, employment, housing and transportation. On the other hand, the Social capital mechanism holds that the interrelatedness of society is punctured where incomes are low leading to such society being unable to construct the fabric through trust, cooperation and networking that holds its members together thus affecting their health. The stance of the psycho-social mechanism is built on the fact that income inequality affects the health of the people through perceptions of social place in the society of the individual based on income. This creates a hierarchy that can trigger negative emotions such as shame and mistrust that can lead to anti-social or deviant behaviour. The socio-biological mechanism theorem is based on the overall low social status and quality of the environment of any society where it is believed that a poor environment



produces poor health. Whichever theorem holds, the implication is that poor health results and affects the population negatively.

Methodology

Various measures are available to quantify the impact and extent of income inequality on health of the people within a given community or society. Of these, the Gini coefficient is frequently used. Algebraically, the Gini coefficient is defined as half of the arithmetic average of the absolute differences between all pairs of incomes in a population, the total then being normalized on mean income. If incomes in a population are distributed completely equally, the Gini value is 0, and if one person has all the income (the condition of maximum inequality), the Gini is 1.0. Researchers found that life expectancy and mortality rates was lower in places with more income inequality. Measuring population health has many variables ranging from infant mortality and adult deaths, number of deaths at birth, life expectancy, proportion of the population that has access to health to the nutritional status of the people are used. For the purpose of this study, two of these variables-the infant mortality rate, the number of deaths at birth through ill health as well as the life expectancy at birth used were compressed due to availability of data. The study is based on a field survey conducted in three hospital locations across the three Senatorial districts of Nasarawa State based on their records and after due ethical consideration was obtained and sorted out to validate and authenticate the results of the study. The study drew a sample of 240 respondents based on hospital records and completed with specific interviews of patients. The analysis was done bearing in mind the statistical desire to achieve some level of accuracy defined by the level of confidence, sample standard error, the level of error that could be made and the amount of time and resources available to the research. The model used for the study draws from that of Fidell and Tabachnick (2007) who used a Multivariate model to evaluate health outcomes based on cross country analysis with some modifications based on study objective and availability of data. This study is based on a micro level data drawn from a field survey using a bivariate model. The functional form of the model is cast as:

$$POH = F(AIC, HCF, HOS, RIC).$$

The econometrically estimated model is thus:

$$POH_{ij} = \beta_0_{ij} + \beta_1 AIC_{ij} + \beta_2 HCF_{ij} + \beta_3 HOS_{ij} + \beta_4 RIC_{ij} + \mu_{ij}$$

Where POH = Population health (measured by the rate of infant and adult deaths)

AIC = Absolute income of the respondents

HCF = Access to health care facilities (primary health care)

HOS = Household size (number of members per each household)

RIC = Relative income of respondent

μ = Stochastic error term

POH, AIC, HCF AND RIC are respectively the control variables adopted for the d =study while $\beta_{0ij}, \beta_{1ij}, \beta_{2ij}, \beta_{3ij}, \beta_{4ij}$ are the parameters to be estimated. The μ is the stochastic error term and the ij refer to the individual households included in the study.



Population health cannot only be measured by the rate of infant mortality per household or society but includes the cumulative negative health effect resulting from the number of adult deaths in the population. In estimating the model of the study, a chi-square test was needed to examine the effects to the model of dummy-coded variables that are included in a model. The use of this type of model has become widespread in econometric research due to the interplay of numeric and socio-economic variables in shaping individual behaviour that have equally widespread economic implications and impacts.

RESULTS AND DISCUSSION

The result from the data are presented below based on the random effects of the variables.

Random-effects (GLS) estimates using 240 observations

Included 68 cross-sectional units

Dependent variable: ln Gross State Pro

VARIABLE	COEFFICIENT	STD ERROR	Z STAT	P-VALUE
Constant	2.13	50.13346	16.000	<0.00001 ***
lnAIC	0.0453	0.02341	11.190	0.00971
lnHCF	-0.031	0.01980	15.681	<0.00001 ***
lnHOS	-1.729	0.02492	29.280	<0.00001 ***
lnRIC	-2.120	0.00090	26.803	<0.00001 ***

Breusch-Pagan test -

Null hypothesis: Variance of the unit-specific error = 0

Asymptotic test statistic: Chi-square (1) = 4134.96

with p-value = 0 Hausman test :Null hypothesis: GLS estimates are

consistent Asymptotic test statistic: Chi-square (4) =9.52542 with p-value 0.0492276

The result presented above shows that the constant term is positive indicating that there is a positive relationship between population health and the sample drawn for the study. In specific terms, population health will increase by 2.1 per cent if other variables are controlled or are not operational. This variable is statistically significant. The autonomous value operates like that found in a consumption function where individuals would always spend even in the absence of an income. There are natural situations for individuals to have health where there is the complete absence of risky behaviour or third party influence. The absolute income of individuals (RIC) has a positive impact on their health and this a variable too is statistically significant indicating that if people have income, they can pay for their health care needs in the absence of publicly funded health care. As for the variable of access to health care facility, there is a low but negative relationship with population health and this is not statistically significant. Most African societies have a social fabric that binds members together and where one suffers from ill health members can



offer some help but this could be limited by their capacity especially where they do not have the means. The absence of health facilities in rural areas affects population negatively as infant mortality and adult deaths could be high. A large number of those sampled reported that their health care facilities are ineffective or non-existent at all. As for household size, there is a negative relationship with population health and this variable is statistically significant. The import is that where family sizes are large couple with poor income and ineffective health care facilities, population health decreases and this is reflected in the number of infant and adult deaths. Based on the records obtained for the study, most deaths were recorded in families where their number was in excess of ten.

The relative income of the individual has a statistically significant negative relationship with population health. Where incomes distribution is heavily skewed creating extreme inequalities, population health suffers. Since health care services is not subsidized (most patients buy their drugs, pay for surgery) and against endemic poverty, ill-health becomes a logical outcome. A 2014 national accounts report show that individuals spend about 68 per cent of their income for health care. This is only possible where the individuals have income or can access public health insurance where is almost non-existent in Nigeria. Across Nigeria health insurance is not popular and where people cannot borrow, their health will decrease. In specific terms, if relative income decreases by 2 per cent, population health will worsen by 1 per cent. Given the concave relationship between income and health care where as income increases health care increases at a decreasing rate, this situation will mean a fast deteriorating health care for the people. These results reveal that income inequality has significant negative relationship with population health and this supports the views expressed by other scholars like that of Hopkins (2006) even at an aggregate level. In rural areas, people are increasingly being pauperized as a result of the lack of access to the means of production and this is aggravated by the ineffective, inappropriate design and poor implementation of policies fueling the incidence of poverty. This study provides some micro level information to confirm these aggregate studies and justifies the stance that public policies in reducing income inequality by promoting inclusive growth where people can have increased access to the means of production must be vigorously pursued and sustained.

CONCLUSION

Health which is a major component of human capital has enormous economic impact on the productivity of the people. Where individuals have good health it increases their rate of participation in the process of production, reducing the rate of absenteeism, creating income opportunities for the labour force and also providing opportunities for investments. The result of this study show that low income and worst still its skewed distribution that has created inequality amongst the people has forced a large proportion of such individuals to resort to private health care financing through out-of-pocket expenditure. Although this has remained



a major and often an important source of health care financing in many developing countries, it has severe negative effect on the health of the people. It has forced them into facing catastrophic medical expenses creating conditions for entrenched poverty especially where incomes are already low. Such poor households will fall into poverty as a result of catastrophic spending on essential health services or face the prospect of suffering severe ill health where they cannot to fund health care. The resultant poor health in such instances reduces their quality adjusted life years (QALY) which the years they would productively live. The above leads to lower life expectancy of loose of productivity. For example, Bawah and Binka (2005) in a study found that the absence of malaria in the labour force (meaning healthy labour) could cause average life expectancy of the population to rise from 48.8 years to 54.9 years. In another study, Bonnel (2000) reveals that given a healthy Africa- free from HIV/AIDS, income per capita could rise or grow at 1.1 per cent a year compared to 0.4 per cent in a HIV/AIDS scenario. In a another study, Angbas (2015) finds that HIV positive workers earn 1 per cent less wages while contributing 1.2 per cent less labour to the process of productivity and save less than those who are not infected.

RECOMMENDATION

Given the concave nature of the relationship between income and health, it is possible to raise the health status of individuals by a re-distribution of income. In specific terms, in a hypothetical society consisting of just two individuals, that is, a rich one and a poor one, transferring a given amount of money from the rich to the poor will result in an improvement in the average health of all peoples because the improvement in the health of the poor person more than offsets the loss in health of the rich person. Indeed, it is possible that by transferring incomes from the relatively flat part of the income/health curve, there may be no loss in health for the wealthy. This means that policies that tend to improve income distribution in societies can lead to overall better health for the people which may include higher taxes that could then be spent on health, re-distribution of income or raising the minimum wage of the lower half while retaining the existing income levels of the wealthy. Studies have indicated that direct payments for health care are usually regressive, as they may be unaffordable to the poorest. International evidence shows that out-of-pocket payments (which has become a major source of health care financing in developing countries) are inversely related to income. As countries become more affluent, the proportion of health financing from public sources increases (Gottret & Schieber, 2006). Given that incomes are low and poverty against the endemic access to health care for these category of people will continue to be hard to attain. This calls for concerted effort at reducing the incidence of income inequality and ensuring better re-distribution of income so as to reduce inequality as well as increase public funding for health care so as to reduce the proportion of the poor in society. This can be done through raising social opportunities where the poor are given greater access to the means of production and also guaranteed a better sharing of the proceeds from its distribution. This will reduce the incidence of inequality and the skewed nature of most income distribution that has negative impact on the health of the people.



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