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An Impact Assessment of National Health Insurance Scheme (NHIS) On Employees' Productivity in Adamawa State, Nigeria

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Abstract:

This study assessed the impact of the National Health Insurance Scheme (NHIS) on employee productivity. The study utilized data from the Federal College of Education (FCE, Yola) and American University of Nigeria (AUN) using a structured questionnaire. A sample of 200 respondents was drawn from the two institutions. Count data models were used to examine the effects of the benefits offered by NHIS on the productivity of workers. The findings from this study reveals that awareness and prevention campaign, drug quality, health treatment and dental care service reduce the probability of a worker falling sick and missing work days. The result shows 61% of workers who are insured have never missed work due to sickness in the last 12 months. The study recommends that, the services offered by the NHIS should be more strengthened and sustained since they are found to be impacting much on workers. Thus, proper monitoring and supervision of the programme are important to ensure that the goal of the scheme is attained. Awareness and prevention campaigns should be conducted at regular intervals to bridge the information asymmetric among individuals. When workers are enlightened and informed about certain diseases, for example, diabetes, blood pressure, cancer, etc. They will be able to take both preventive and curative measures. Health treatment should also be improved at the various healthcare centers enrolled in NHIS scheme to ensure that there is efficiency and effectiveness in the treatment given to the beneficiaries.

Keywords: *Productivity, Health Insurance, NHIS*

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1. Introduction

Public and private organizations have been married with health related problems of their employees. The associated problems can be viewed in terms of disability claims, hospitalization, absenteeism and lack of concentration in the work place due to sickness of self or of a family member, low morale and poor public relations among colleagues.

National health insurance scheme (NHIS) is a social and security health care scheme designed to provide comprehensive healthcare delivery at affordable costs, covering employees of the formal and informal sectors, as well as the self-employed, rural communities, the poor and the vulnerable. It's a health care system in which the healthcare of an employee is paid for by both the employer and the employee. This study aims at assessing the impact of national health insurance scheme on employees' productivity in Nigeria.

The term 'productivity' means different things to different persons. As a phenomenon, it ranges from efficiency to effectiveness, to rates of turnover and absenteeism, to output measures, to measure of client or consumer satisfaction and, to intangibles, such as disruption in workflow and to further intangibles, such as morale, loyalty and job satisfaction. The least controversial definition of productivity, however, is the quantitative relationship between output and input (Iyaniwura & Osoba, 1983; Antle & Capalbo, 1988).

Berger & Messer (2002) viewed that health is a form of capital, such that health care is both a consumption good that yields direct satisfaction and an investment good that yields indirect utility through increased productivity, fewer sick days and higher wages. This individual increase in output can translate into increases in labor productivity. An increase in an individual's stock of health raises his productivity in both market and non-market activities.

Moreover, most of the studies carried out on the impact of health insurance on employee productivity were studies carried out in the developed countries, and research in this area received limited attention in Nigeria. This implies that there is a major gap on the relevant literature in developing countries, particularly Nigeria. The motivation for this study is therefore, to fill this gap by studying the situation in Nigeria and providing the evidence on the impacts of health and health insurance on employee productivity, taking the health care services provided by NHIS specifically, using models that are adequate to capture the effects of health insurance on employees' productivity.

2. Theoretical Background

2.1 Conceptual Literature

The Concept of Productivity

The definition of productivity is complex. This is because it is both a technical and managerial concept. Productivity is an overall measure of the ability to produce a good or service. More specifically, it is a measure of how specified resources are managed to accomplish timely objectives as stated in terms of quantity. Productivity may also be defined as an index that measures output (goods and services) relative to the input (labour, materials, energy, etc, used to produce the output). Productivity in industry is usually defined as the manufacturing output compared with an input. Output from the production process is compared with a chosen input and is usually expressed either as a ratio or percentage (Ronald, 2009).

Productivity is useful as a relative measure of the actual output of production compared to the actual input of resources measured across time or against common entities. As output increases for a level of input or as the amount of input decreases for a constant level of output, an increase in productivity occurs. Therefore, a "productivity measure" describes how well the resources of an organization are being used to produce input.

Types of Productivity Measures

Single factor productivity (SFP) is defined as the ratio of a measure of out-put quantity to the quantity of a single input used. That is, a measurement of productivity that is a ratio of output and one input factor. A most well-known measure of single-factor productivity is the measure of output per work input, describing work productivity. Sometimes it is practical to employ the value added as output. Productivity measured in this way is called value-added productivity.

Labour productivity (LP) is defined as the ratio of a measure of output quantity to some measure of the quantity of the labour used, such as the total hours worked. Labour productivity is the amount of goods and services that a worker produces in a given amount of time. It is one of several types of productivity that economists measure. Labour productivity often referred to as workforce productivity, is a measure for an organization or company, a process, an industry, or a country. Workforce productivity is to be distinguished from employee productivity, which is a measure employed at individual level based on the assumption that the overall productivity can be broken down to increasingly smaller units until ultimately to the individual employee in order be used, for example for the purpose of allocating a benefit or sanction based on individual performance.

Total factor productivity (TFP) is defined as the ratio of a measure of total output quantity to a measure of the quantity of total input. It is a variable which accounts for the effects in total output growth relative to the growth in traditionally measured inputs of labor and capital. If all inputs are accounted for, total factor productivity (TFP) can be taken as a measure of an economy's long-term technological change or technological dynamism. TFP cannot be measured directly. Instead, it is a residual, often called the Solow residual, which accounts for the effects in total output not caused by inputs.

Concept of National Health Insurance Scheme (NHIS)

The National health insurance scheme (NHIS) was established under Act 35 of 1999 by the Federal Government of Nigeria. The Scheme was officially launched on 6th June, 2005 and commencement of services to enrollees started in September 2005. The scheme is aimed at providing easy access to healthcare for all Nigerians at an affordable cost through various prepayment systems. NHIS is totally committed to securing universal coverage and access to adequate and affordable healthcare in order to improve the health status of Nigerians, especially for those participating in the various programmes/products of the Scheme.

An employer registers itself and its employee with the Scheme. Thereafter, the employer affiliates itself with an NHIS-approved Health Maintenance Organization, who now provides the employees with a list of NHIS-approved Health Care Providers (public and private). The employee registers him/herself and dependents with such Provider of his/her choice.

Upon registration, a contributor will be issued an identity card with a personal identification number (PIN). In the event of sickness, the contributor presents his/her identity card to his/her chosen Health Care Provider for treatment. A contributor has the right to change his/her Health Care Provider after a minimum period of three (3) months, if he/she is not satisfied with the services being given.
The Health Maintenance Organization (HMO) will make payment for services rendered to a contributor to the Health Care Provider. A contributor may, however, be asked to make a small co-payment (where applicable) at the point of service.

Health Care Providers under this Scheme will either be paid by capitation or fee-for-service or per diem or case payment.

Capitation - This is payment to a Health Care Provider by the HMOs, on behalf of a contributor, for services rendered by the Provider. This payment is made regularly in advance for the services to be rendered

Fee-for-Service - The HMO makes this payment to non-capitation-receiving Health Care Providers, who render services on referral from other approved Providers.

Per Diem - Per diem fees are payments for services and expenses per day (medical treatment, drugs, consumables, admission fees, etc.) during hospitalization.

Case Payment - This method is based on a single case rather than on a treatment act. A Provider gets paid for every case handled till the end, (National Health Insurance Scheme, 2010).

2.2 Empirical Literature

Several studies have been conducted to evaluate the relationship between health insurance and employees' productivity. Michael (2010) conducted a study to examine the perceived impact of NHIS on registered workers in federal polytechnic Idah. The result showed health security and insurance is an important measure of enhancing productivity in both private and public organizations. A healthy workforce makes a productive workplace.

Katsuru et al. (2010) sought to assess the impact of occupational health safety (OHS) on productivity in commercial food industry employing primary data and using simple percentage. The study shows an occupational health related problem negatively affects workers productive capacity in the food industry, resulting to reduced worker output. Workers exhibit negative attitude and low morale towards work.

Umoru & Yaqub (2013) analyzed the labour productivity effects of health capital in Nigeria, using GMM methodology and cointegration. In his study,result showed health capital investment is a significant determinant of labour productivity in Nigeria. Health capital investment enhances productivity of labour force.

Pedersen & Skagen (2014) explored the determinant of productivity loss and the work performance for employees with presenteeism employing binary choice and count models. The result showed presenteeism does not lead to either postponing task or letting others take over. Most those experiencing presenteeism are found at scale of work with much worse performance. It also showed work performance declines with worsening health status and employees who have had a sickness absence perform better.

Dey & Flinn (2000) used an equilibrium model of wage and health insurance to examine the effects of employer-provided health insurance on job mobility rates and economic welfare. The result revealed jobs that do provide health insurance last almost five times longer than jobs that do not provide health insurance, and the mobility rate for jobs without health insurance is significantly higher than the mobility rate for jobs with health insurance. It's also showed that health insurance enhances welfare and productivity. While decreasing health insurance premium paid by employees increases the steady stage health insurance coverage rate.

Fahima (1995) examined the effects of nutrition and health on labour productivity for women and men workers on the subsistence farm household and found out that an increase in caloric consumption increased the female labour productivity but health, as measured by weight for height of the female workers, was not significant. And caloric consumption of the male worker did not contribute to their productivity but their health, as measured by weight-for-height significantly added to the value of output.

2.3 Theoretical Framework

According to human capital theory increases in a person's stock of health and knowledge or human capital raise his productivity in the market sector of the economy, where he produces money earnings and in the nonmarket or household sector, where he produces commodities that enter his utility function. To realize potential gains in productivity, individuals have an incentive to invest in formal schooling and on-the-job training. The costs of these investments include direct outlays on market goods and the opportunity cost of the time that must be withdrawn from competing uses. This framework was used by Ben-Porath (1967) to develop models that determine the optimal quantity of investment in human capital at any age. In addition, these models show how the optimal quantity varies over the life cycle of an individual and among individuals of the same age. The model views health as a durable capital stock that yields an output of healthy time. Individuals inherit an initial amount of this stock that depreciates with age and can be increased by investment.

The approach uses the household production function model of consumer behavior (Lancaster, 1966; Michael & Becker, 1973) to account for the gap between health as an output and medical care as one of many inputs into its production. This model draws a sharp distinction between fundamental objects of choice--called commodities--that enter the utility function and market goods and services.

3. Methodology

This study adopted a survey research design using a well-structured questionnaire administered. The targeted population for this study consists of the academic and non-academic staff of American University of Nigeria (AUN) and Federal College of Education (FCE), Yola in Adamawa State, Nigeria. A total number of 200 workers were selected, 100 from AUN and 100 from FCE, Yola. This sample selection was made using stratified sampling technique for effective coverage and complete representation. Non-probability sampling technique was used to select the two corporations for effective coverage and complete representation. The variables used in this study were developed based on the work of Dizioli and Pinheiro (2012) with some modification and adjustment on their measurement.

The study employed the use of count data models; Poisson regression and negative binomial models. Poisson is the starting point for count data analysis, though it is often inadequate. The natural stochastic model for counts is a Poisson point process for the occurrence of the event of interest. The canonical regression specification for a variable Y that is a count of events is the Poisson regression,

$$\text{Prob}\left[Y = y_i | x_i\right] = \frac{\exp(-\lambda_i)\lambda_i^{y_i}}{\Gamma(1+y_i)} \tag{1}$$

$$\lambda_i = \exp(\alpha + x_i'\beta), y_i = 0, 1, \ldots\ldots, i = 1, \ldots\ldots\ldots, N \tag{2}$$

Where xi is a vector of covariates and, i = 1, …, N, indexes the N observations in a random sample. The significant features of the Poisson model are its log linear conditional mean function,

$$\text{E}\left[y_i | x_i\right] = \lambda_i \tag{3}$$

and its equi-dispersion,

$$\text{Var}\left[y_i | x_i\right] = \lambda_i \tag{4}$$

The distribution that is characterized with these parameters is said to have poisson probability distribution.

The negative binomial model is employed as a functional form that relaxes the equi-dispersion restriction of the Poisson model. A useful way to motivate the model is through the introduction of latent heterogeneity in the conditional mean of the Poisson model. Thus, we write,

$$E\left[y_i | x_i, \varepsilon_i\right] = \exp(\alpha + x_i'\beta + \varepsilon_i) = h_i\lambda_i \tag{5}$$

Where h_i= exp (ε_i) is assumed to have a one parameter gamma distribution, $G(\theta, \theta)$ with mean1 and variance $1/\theta = k_i$

$$f(h_i) = \frac{\theta^\theta \exp(-\theta h_i) h_i^{\theta-1}}{\Gamma(\theta)}, h_i \geq 0, \theta > 0 \tag{6}$$

After integrating h_i out of the joint distribution, we obtain the marginal negative binomial (NB) distribution,

$$\text{Prob}\left[Y = y_i | x_i\right] = \frac{\Gamma(\theta + y_i) r_i^\theta (1 - r_i)^{y_i}}{\Gamma(1+y_i)\Gamma(\theta)} \tag{7}$$

$y_i = 0,1, \ldots\ldots, \theta > 0, \qquad r_i = \theta/(\theta + \lambda_i)$ (8)
The latent heterogeneity induces over dispersion while preserving the conditional mean;

E $[y_i|x_i] = \lambda_i$ (9)

$Var[y_i|x_i] = \lambda_i[1 + (1/\theta)\lambda_i] = \lambda_i[1 + \kappa\lambda_i]$ (10)

Where $\kappa = Var[h_i]$

The study utilizes negative binomial model as a check against poor performance of the Poisson model to appropriately describe the count dependent variable. However, it adopts the two forms of negative binomial model, the negative binomial 1 and negative binomial 2.

It must be mentioned that the two forms of negative binomial differ only on the distribution they are following. They are used here to achieve a robust result in the study.

The density function for the negative binomial 1 (NB-1) model is given by

$$\Pr[Y = m_i|\gamma, \lambda] = \frac{\Gamma(m_i+\gamma_i)}{\Gamma(\gamma_i)\Gamma(m_i+1)}\left\{\frac{\gamma_i}{\lambda_i+\gamma_i}\right\}^{\phi_i}\left\{\frac{\lambda_i}{\lambda_i+\gamma_i}\right\}^{y_i} \quad (11)$$

Where $\lambda_i = \exp\,(x_i'\beta)$

and the precision parameter is given by

$\gamma_i = (1/\alpha)\lambda$

Where α is an over dispersion parameter. As a result of this specification, we have

$E(y_i|x_i) = \lambda_i$

and,

$V(y_i|x_i) = \lambda_i(1 + \alpha)$

This model is called negative binomial-1 (NB1) model.

On the other hand, Negative binomial regression can be considered a generalization of Poisson regression and assumes that the conditional mean Ui of Yi is not only determined by Xi but also a heterogeneity component ei unrelated to Xi. The formulation can be expressed as

$$u_i = Exp(X_i\beta + e_i) = Exp(X_i\beta)Exp(e_i) \tag{12}$$

Where, $Exp(e_i) \sim Gamma(\alpha^{-1}, \alpha^{-1})$

As a result, the density function of Yi can be derived as

$$f(Y_i|X_i) = \frac{\Gamma(Y_i+\alpha^{-1})}{\Gamma(Y_i+1)\Gamma(\alpha^{-1})}\left\{\frac{\alpha^{-1}}{\alpha^{-1}+u_i}\right\}^{\alpha^{-1}}\left\{\frac{u_i}{\alpha^{-1}+u_i}\right\}^{Y_i} \tag{13}$$

and the corresponding log likelihood function becomes

$$LL=\sum_{i=1}^{n}\left\{log\left[\frac{\Gamma(Y_i+\alpha^{-1}}{\Gamma(Y_i+1)\Gamma(\alpha^{-1})}\right] - (Y_i+\alpha^{-1})\log(1+\alpha u_i) + \log(\alpha u_i)\right\} \tag{14}$$

Therefore, the negative binomial model follows the Likelihood ratio where the estimators are obtained by maximizing the objective function of the distribution.

However, the empirical model is thus specifies as; productivity (proxied by days absence from work due to sickness) as a function of NHIS services. That's,

$$ABS = f(HI, DQ, AP, HS, HT, MC) \tag{15}$$

Equation for estimation:

$$ABS = \theta_o + \theta_1 DQ + \theta_2 AP + \theta_3 H + \theta_4 HT + \theta_5 DCS + \mu \tag{16}$$

Where:

μ = The random error term.
ABS = Day's absence due to sickness
DQ = Quality of drugs
AP = Awareness and prevention campaign
HS = Regular health screening services
HT = Health treatment
DCS = Dental care services

More compactly, equation 16 can be represented as

$$y = \alpha + x'\beta + u \tag{17}$$

Where x' is a vector of covariates and, i = 1,…, N, indexes the N

The expected sign of the coefficients of the parameters of the model can also be explained as θ_1, θ_2, θ_3, θ_4, and θ_5 are all expected to have a negative relationship with the number of days missed work due to sickness.

4. Result & Discussion

Table 1. Poisson Model, Negative Binomial Model and Marginal effects

Days absence	*Poisson Model b/se/p*	*Poisson Marginal Effects b/se/p*	*Negative Binomial Model b/se/p*	*Negative binomial marginal effects b/se/p*
Awareness & prevention camp	*-0.181*	*-.547*	*-0.372*	*-1.102*
	(0.098)	*(0.293)*	*(0.446)*	*(1.315)*
	0.065	*0.062*	*0.405*	*0.402*
Drug quality	*-0.123***	*-.377***	*-0.127*	*-.384*
	(0.044)	(0.133)	*(0.164)*	*(0.501)*
	0.005	0.005	*0.439*	*0.443*
Health treatment	*-0.005*	*-.014*	*-0.000*	*-.001*
	(0.040)	(0.121)	*(0.151)*	*(0.457)*
	0.908	0.908	*0.998*	*0.998*
Dental care services	*-0.112***	*-.342***	*-0.172*	*-.521*
	(0.040)	*(0.121)*	*(0.160)*	*(0.49)*
	0.005	*0.005*	*0.281*	*0.289*
Health screening	*0.190*	*.615*	*0.303*	*1.001*
	(0.112)	*(0.383)*	*(0.507)*	*(1.834)*
	0.091	*0.108*	*0.550*	*0.585*
Lnalpha Constant	1.883***		*2.143***	
	(0.161)		*(0.743)*	
	0.000		*0.004*	
R-squared N			*1.516****	
			(0.172)	
			0.000	

Source: Author Survey (2015)

Table 1 depicts the estimated results for the Poisson model, negative binomial model and their marginal effects respectively. From the Table, workers who hold insurance and have awareness and prevention campaigns are expected to have a reduced probability of missing work days due to sickness with 18% (37%). The probability is higher in the negative binomial than in the Poisson model. Looking at the marginal effects, it shows a one-day program of awareness and prevention campaign on diseases is associated with a 55% (1%) decrease in the number of missing work-days due to sickness.

The probability that a worker will miss work days falls by 12% (13%) when good quality drugs are provided. For the marginal effects, it implies that any additional quality drug given to a worker is associated with 37% (38%) reduction in day's absence due to sickness. Drug quality is statistically significant at the 5% level of significance for the Poisson, but statistically insignificant in the negative binomial at all levels.

Similarly, the probability that a worker will remain on admission and miss work days falls by 46% (32%). This means the probabilities are relatively high in both the two models. For the marginal effects, it shows a single health treatment offered to an individual during admission is associated with 14% (1%) reduction in day's absence due to sickness. The

Individuals who receive dental care service are expected to have a reduced probability of missing work days as a result of dental problems by 11% (17%). Looking at the marginal effects, it implies that every dental care service provided is associated with 3% (5%) decrease in missing work days.

However, missing work days increase by 19% (2.1%) when an individual is medically screened. From the marginal effects, it implies that a single health screening is associated with 11% (58%) increased number of missing work days. This is not consistent with the a priori expectation of the model, because we expect a worker to get healthier when he/she is medically screened and is able to detect health problems at their early stages. However, this could be as a result of psychological problems that individuals may encounter when they get to know about their health problems. Statistically, health screening is insignificant at all levels of significance in both the models. When all the regressors are held constant, day's absence is expected to increase by 1.9% (2.1%).

However, the findings of this study corroborate that of Abiola (2011) which revealed a positive relationship between healths related programmes and employees' productivity in Nigeria.

Table 2. Over dispersion test for Poisson Model

Ystar	**Coefficient**	***Std.err.***	**T**	**p>/t/**	**[95% conf. interval**
Muhat	-.474	.015	-31.25	0.000	-.504 -.444

Source: Author's Survey (2015)

Table 2 presents over dispersion test for the poisson model because of its assumption of equi-dispersion and thus reports the statistics for the test. It can be inferred that the null hypothesis of equi-dispersion is rejected at all the levels of significance. Alternatively, the negative binomial model is likely to capture the data generating process more appropriately than the Poisson model.

Endogeneity Test for Poisson and Negative Binomial Models

Most of the coefficient in the Poisson and negative binomial estimations tend to be insignificant; this could be as a result of an endogeneity problem. Thus, they are subjected to the endogeneity test. The test is going to be a two-step procedure. The first step is to see the degree of correlation between the variables, which indicates the severity of the endogeneity problem and the second step is to correct the endogeneity problem that might arise. Thus, Tables 3 and 4 below depict the correlation matrix of the variables in the study.

Table 3. Correlation Matrix for Poisson Regressors

	Awareness & prev.campaign	***Drug quality***	***Health-treatment***	***Dental-care service***	***Health-screening***
Awareness & prev. campaign	1.0000				
Drug quality	-0.1645	1.0000			
Health-treatment	-0.1758	0.3135	1.0000		
Dental-care service	-0.2423	0.3091	0.5966	1.000	
Health-screening	0.3131	-0.1619	-0.3188	-0.3188	1.000

Source: Author's Survey (2015)

Table 3 depicts the correlation test for the explanatory variables in the Poisson model. From the Table the variable seems to be correlated. This may be as a result of the endogeneity among the variables. The test is conducted to correct the problem and obtain optimal parameters.

Table 4. Correlation Matrix for Negative Binomial Regressors

	Awareness &prev.campaign	**Drug quality**	**Health-treatment**	**Dental-care service**	**Health-screening**
Awareness &prev.campaign	1.0000				
Drug quality	-0.1645	1.0000			
Health-treatment	-0.1758	0.3135	1.0000		
Dental-care service	-0.2423	0.3091	0.5966	1.000	
Health-screening	0.3131	-0.1619	-0.3188	-0.3194	1.000

Source: Author's Survey (2015)

Table 4 depicts the correlation test for the explanatory variables in the negative binomial model. All the variables seem to be correlated. Thus, they are corrected as presented in the next Table.

Table 5. Endogeneity test for poisson model

Variables	***Health treatment/ health screening***	***Dental care/drug quality***	***Drug quality/health treatment***	***Health screening/ Awareness &prev. campaign***	**Awareness & prev. camp. /Health screening**
Chi2(2)	445.86	104.33	2.03	65.89	83.31
Prob> chi2	0.0000	0.0000	0.3620	0.0000	0.0000

Source: field work (2015), computed by Stata 11

The variables are constructed based on the pairing of their correlation coefficient. From the Table 5 above, all the variables become statistically significant at all the levels of significance except the pairing of drug quality and health treatment. These variables that are found to be significant after correcting for the endogeneity problem can now be used for statistical inference.

Table 6. Endogeneity Test for Negative Binomial Model

Variables	*Dental care/health treatment*	*Drug quality/health treatment*	Awareness & prev. camp. /Health screening	*Health treatment/ awareness & prev. camp.*	*Health Screening/ Drug quality*
Chi2(2)	*0.32*	*0.17*	*7.65*	*97.19*	*2.91*
Prob> chi2	*0.8528*	*0.9186*	*0.0218*	*0.0000*	*0.2332*

Source: Author's Survey (2015)

From the Table 6 above, health treatment versus awareness and prevention campaign and awareness and prevention campaign versus health screening are significant while dental care service versus health treatment, drug quality versus health treatment and health screening versus drug quality are not statistically significant.

The estimates from the two models have been corrected by addressing the problem of endogeneity attributed to the variables used in the study. Thus, it implies that we can estimate other statistics, such as marginal effects, incidence rate ratio (irr) and predicted probabilities that are useful for the analysis.

Table 7. Incidence Rate Ratio for Poisson and Negative Binomial Model

Days absence	Incidence rate ratio For poisson model	Incidence rate ratio for negative binomial model
Awareness & Prevention Campaign	.834 0.065	.689 0.405
Drug quality	.884 0.005	.880 0.439
Health treatment	.995 0.908	.999 0.998
Dental careServices	.894 0.005	.841 0.281
Health screening	1.209 0.091	1.354 0.550
Constant		
Pseudo R2 LL ratio	-623 0.028	-306 0.005

Source: Author's Survey (2015)

Table 7 depicts the incidence rate ratios for Poisson and negative binomial models. From the Table it can be seen that the incidence rate ratio for awareness and prevention campaign is computed to be 0.834 (0.689). When the figures are approximated to 1, it implies for every awareness and prevention campaign program conducted the chance of a worker coming to work because he/she is not sick is 1.Thus, the ratio of awareness and prevention campaign program is approximately 1:1

Similarly, the incidence rate ratio for drug quality is computed to be 0.884 (0.880).When approximated to 1, it means for every quality drug given, the chances of a worker coming to work is 1.Thus, the ratio for drug quality to days absence is 1:1

For health treatment, the incidence rate ratio is 0.99 (0.99).This shows for every health treatment provided, the chances of a worker coming to work is1.Therefore, the ratio of health treatment to days absence is 1:1. Equally, the incidence rate ratio for dental care is computed to be 0.894 (0.841).This implies that for every dental care service offered, the chance of a worker not missing work is approximately 1.Thus the ratio of dental care service to days absence is 1:1. The incidence rate ratio for health screening is 1.209 (1.354). This means for every health screening conducted, the chance of a worker not missing work is 2.Therefore, the ratio of health screening to days absence is 1:2.

5. Conclusions

The existence of a vibrant and sound health sector is necessary for economic growth and sustained development. An effective health sector guarantees a sound and healthy workforce. A sound health care is one of the major ingredients for productivity. The provision of effective health care services that are affordable and accessible to workers had always been challenging prior to the implementation of the insurance scheme. The establishment of a health insurance scheme by the government has brought improvement in the health and livelihood of workers and their families.

Health insurance has an impact on the probability that a worker gets sick, misses workdays due to sickness, as well as the probability that he recovers and gets back to work. In recent times, many organizations are offering health related services to compliment the welfare of their workers. Empirical evidence from our study shows 61% of workers who hold insurance have never missed work days due to sickness in the last 12 months. However, the scheme need to be more effective and improve on some of its services, especially health screening. Other benefits proposed by the scheme are still not available in some health care centers.

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