Performance Assessment of the Juaboso District Office of the National Health Insurance Authority

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ABSTRACT

Objectives: To assess the performance of the National Health Insurance Authority (NHIA) in Ghana. Methods: Using a thorough case study of the Juaboso District Office of the NHIA, this study assessed the community coverage rate, the annual expenditure and income, and the trend of claims payment for the period 2009 to 2012 as well as factors influencing the level of patronage of the National Health Insurance Scheme. A self-administered structured questionnaire was used to gather data from the management of the scheme. Secondary data were also gathered from the scheme’s audited financial statements. Informal discussions were held with the premium collectors and clients to throw more light on revenue generation challenges. Results: The study found an increasing trend in the coverage rate on a yearly basis. Over the study period, the rate moved from 30.6 to 60.1, representing an increase of 96.7%. This shows that in terms of coverage rate, the Juaboso District Office of the NHIA is performing very well. The study also found that revenue has increased but the percentage rate of increase has decreased, compared with the coverage percentage rate. Expenditure has been on the rise, increasing by as much as 20.7% in 2011. Again, the study revealed a consistent year-on-year increase in the claims payment, consistent with the national trend. Conclusions: Constant clinical auditing of claims payments is required to ensure accountability. This would lead to transparency with regard to performance assessment of the claims. The findings have important implications for the effective management of the NHIA.

Keywords: balance scorecard, claims settlements, financial performance, Ghana National Health Insurance Scheme, nonfinancial performance, performance, performance appraisal.

Introduction

Although the right to social security and health is well established in international law, access to effective and affordable health services is a rarity in most developing countries. According to the International Labour Organization [1], the problem is not only due to the poor health care services but also due to the inadequate quality of care and the high cost of obtaining these services. Since independence in 1957, health care financing in Ghana has gone through a number of significant changes over the years. Following the country’s independence, Ghanaians had access to free health care. This policy was, however, not sustainable in light of the needs of other sectors of the economy, and the government had to find alternatives to this financing mechanism. The introduction of the “cash and carry” system decreased access to health care, particularly among the poor. The government, in an attempt to cushion the burden of out-of-pocket payment for health care, introduced an exemptions policy. The policy exempted children younger than 5 years, prenatal care for pregnant women, and health care services for the indigent, the elderly (those older than 70 years), and for disease-specific services. Nevertheless, implementation problems at the district level meant that a significant number of clients who qualified for exemptions continued to face barriers in accessing basic health care. In an attempt to increase access and improve the quality of basic health care services, the government of Ghana passed the National Health Insurance Act 650 in August 2003, establishing Ghana’s National Health Insurance Scheme (NHIS). The NHIS was fueled partly by the relative success of the numerous mutual health organizations, which existed with very diverse management structures and benefit packages [2,3]. The objective of this scheme was to provide sustainable health financing to ensure accessible, affordable, and good-quality health care, especially for vulnerable and poor people [4] (Government of Ghana, 2004). To mobilize financial resources for the fund, the government of Ghana established the National Health Insurance Levy (NHIL) of
2.5% on specific goods and services. In addition, 2.5% of the 17.5% social security contributions paid by formal sector employees is automatically transferred to support the NHIS, and formal sector employees and their dependents (younger than 18 years) will automatically be enrolled. The issue of concern that necessitated the present study is how the scheme is performing in terms of its coverage rate, financial prudence, and sustainability. These are issues that are relevant considering the present struggles the scheme has had with claims payments. The focus of this study was therefore to assess the performance of the scheme using the Juaboso District Office of the National Health Insurance Authority (NHIA) as a case study.

**Literature Review**

The World Health Organization [5] defines health financing as the “function of a health system concerned with the mobilization, accumulation and allocation of money to cover the health needs of the people, individually and collectively, in the health system” (WHO 2000).

In recent years, the consensus has grown that prepayment health care financing, whereby people contribute regularly to the cost of health care through tax payments and/or health insurance contributions, provides greater financial protection to households than, and is, therefore, preferable to, out-of-pocket health care financing [6]. A study by Grosskopf et al. [7], however, found a weak positive correlation between performance and the relative reliance on public funding of the health care sector. Thus, even though the developed world usually shows signs of having better health, it does not necessarily imply that this is a result of reliance on a larger share of publicly funded health care.

In Ghana, the major sources of financing health care are government funds through taxation, health insurance, and out-of-pocket payments. Government funds are generally derived from taxes, including direct taxes, levied on personal and company income, and indirect taxes, such as value-added tax and customs duties. Government funds may also accrue from domestic and international loans secured to fund government activities in addition to those funded from general tax revenue alone [8]. Mandatory health insurance is an insurance system that the law requires certain population groups or the entire population to adhere to, in contrast to voluntary health insurance, which carries no such legal requirement [9]. A national health insurance is also a form of mandatory health insurance and covers the entire population [10]. These schemes may include social and/or community-based schemes. There is also voluntary insurance, sometimes referred to as private health insurance schemes, and these may include employer-based schemes and individually written risks [11], and membership may be open to anyone who chooses to contribute [12]. Out-of-pocket payments are direct payments made by a patient to a health care provider; that is, funds are not channeled via any financing intermediary [6]. Out-of-pocket payments are also made to private providers by individuals not covered by any form of health insurance.

**Assessing Financing Mechanisms**

According to McIntyre [10], health care financing mechanisms are frequently judged on the basis of the extent to which they are feasible, equitable, efficient, and sustainable. These are also used to identify financing mechanisms that exemplify best practice. In assessing financing mechanisms, the element of feasibility raises critical questions: Are stakeholders likely to support or to oppose a given financing mechanism? Is there adequate administrative capacity (e.g., actuarial expertise and information systems) to ensure its successful implementation? There is a general agreement that individuals should contribute to health care funding according to their ability to pay and should benefit from health services according to their need for care [13]. A good health care financing system would help to reduce inequalities by enabling individuals to contribute according to their ability to pay. An efficient financing mechanism is one that generates a relatively large amount of funding and thus forestalls the need for multiple funding mechanisms, with each generating only a limited amount of funds. An important point is the extent to which a health care financing mechanism fosters both allocative efficiency (doing the right thing) and technical efficiency (doing it the right way) in the use of resources [14]. Sustainability is linked to the ability of a financing mechanism both to maintain its level of funding in the long-term and to expand its level of funding over time as the need for health care grows [13]. Sustainability implies ongoing long-term, purposeful planning for gradual increases in domestic funding for health services.

The framework reveals a relationship between revenue and expenditure and performance. Figure 1 displays the conceptual framework for the study adopted from prior study [15]. If revenue exceeds expenditure it will impact positively on performance. Again, the framework reveals a relationship between rate of claims settlement and renewal rate. Together, they impact on the total performance of the scheme and the health of the populace. If renewal rate is high, the health of the population generally improves. Because it is generally affordable, more people will be willing to patronize the service.

**Methods**

**Study Design**

A case study design was chosen to investigate the community coverage rate, identify factors influencing the level of patronage, assess the trend of its annual expenditure, and assess the trend of claims payment within the Juaboso District Office of the NHIA for the period 2009 to 2012, using a descriptive design. A descriptive design was used because it presents an opportunity to fuse both quantitative and qualitative data as a means to reconstruct the “what” of a topic. We used a structured questionnaire (see Appendix 1 in Supplemental Materials found at http://dx.doi.org/10.1016/j.vhri.2016.06.002) to collect revenue and expenditure data from the District Manager, the Accountant, and the sampled district population. The instrument used was pretested at the Ejisu District Office of the NHIA. The questionnaire was administered, which, in turn, offered an opportunity to probe for detailed information through follow-up questions. Informal discussions were also held with the premium collectors and clients to throw more light on revenue generation challenges. The data on the claims payment and coverage rate were obtained from the scheme’s register, audited financial statements, and the monthly reports submitted to the NHIA. Convenience sampling technique was used to sample the members within the scheme, whereas the District Manager and the Accountant were selected using purposive sampling technique. A letter of introduction explaining the purpose and importance of the study was sent to the head of the Juaboso District Office of the NHIA to seek approval to carry out the research. After an assessment of the risks and benefits of the study to the district, permission was granted to undertake the study. Statistical Package for Social Sciences (SPSS, Chicago, USA) and Microsoft Excel were the tools used for data analyses.
Profile of the Juaboso District Office of the NHIA

We conducted the study in the Juaboso District in the Western Region of Ghana. The district shares borders with Bia and Asunafo North districts in the north, Asunafo South and Sefwi Wiawso districts in the east, Aowin Suaman district in the south, and La Cote D’voire district in the west. The district capital Juaboso is located 360 km to the north of Sekondi, the regional capital, and 225 km from Kumasi. The district has a surface area of 1924 km². It is remotely located in terms of proximity to the regional and national capitals.

The vision of the Juaboso District Office of the NHIA is to be a model of a sustainable, progressive, and equitable social health insurance scheme in Africa and beyond. The mission of the Juaboso District Office is to provide financial risk protection against the cost of quality, to provide basic health care for all residents in Ghana, and to delight subscribers and stakeholders with an enthusiastic, motivated, and empathetic professional staff who share the values of honesty and accountability in partnership with all stakeholders. Its core values are rooted in five distinctive areas, namely, integrity, accountability, empathy, responsiveness, and innovation.

The Juaboso-Bia District had a total population of 117,405 with a growth rate of 3.5% as in the year 2010, higher than the regional and the national average of 3.2% and 2.7%, respectively. Besides the growth rate, immigration has been a factor responsible for the high increases in the census period. This stems from the favorable climate and vegetation in the district that readily support the cultivation of cocoa and other food crops. The major economic activity is agriculture supported by other minor economic activities such as trade and commerce, banking and finance, manufacturing, and agro processing. There are only four health facilities that provide care to the Juaboso subdistrict, which consists of 53 communities with a population of about 37,241.

The Juaboso-Bia District Health Insurance Scheme was introduced in 2004 (the scheme was initially managing two districts, Juaboso and Bia, until Bia had a separate scheme in 2007) and became operational in February 2005. A total of 19,750 people were registered with the scheme as in June 2006.

Results

Demographic Profile of Respondents

The study findings reveal that about 52% of the respondents are at present insured, whereas 20% are not insured. The remaining 28% were insured previously but are at present uninsured. Analyzing the sex of the respondents, we record that 56% are females and 44% males. It, however, does not suggest that males generally have better health because maternity-related reasons could make a female frequent a health facility more often. There is a weak correlation between sex and insurance status, which is not statistically significant ($r = 0.254; n = 200$). Thus, the sex of a person is also not likely to determine his or her insurance status. Analysis of the age of respondents also reveals that most of the respondents (32%) are older than 50 years. This is followed by respondents aged between 21 and 30 years, who represent 28%. Respondents in the age groups of 20 years and younger, 31 to 40 years, and 41 to 50 years represent 16%, 12%, and 12%, respectively. There is a strong positive correlation between age and insurance status, which is statistically significant ($r = 0.681; n = 200; P < 0.0005$), indicating that the age of a person is a strong determinant of his or her insurance status. Examining the employment status of respondents, we document that most respondents (32%) are unemployed. Furthermore, 28%, 20%, and 20% are casual workers, farmers, and professionals, respectively. The data show no violation of normality or linearity. There is a strong positive correlation between employment status and insurance status, which is statistically significant ($r = 0.629; n = 200; P < 0.0005$), implying that the employment status of a person is likely to determine his or her insurance status. Most respondents are unemployed and are thus likely to seek financial protection for illness. Analysis of respondents’ marital status shows that most of them (48%) are married. In addition, 24% and 28% are divorced/widowed and never married, respectively. This denotes that more married people use health facilities and are likely to be subscribers of the NHIS. There is a strong positive correlation between marital status and insurance status, which is statistically significant ($r = 0.402; n = 200; P < 0.0005$). Analysis of respondents’ educational level shows that most of the respondents (36%) had only primary level of education. This said, 32% and 16% have secondary and tertiary level of education, respectively. The remaining 16% have no education. There is a weak correlation between education level and insurance status, which is not statistically significant ($r = 0.141; n = 200$), suggesting that the educational level of a person is not a strong determinant of his or her insurance status.

Reasons for Enrolling in the NHIS

The study examined the reasons for subscribers enrolling in the NHIS. Forty-four percent cite financial protection against illness as their reason for enrolling in the NHIS (Table 1). Thirty-two percent are influenced by peers to enroll in the scheme, whereas the remaining 24% cite other reasons including pressure from family, institutional or group requirements, and through the kind gesture of benefactors. A significant number of respondents also identify the need to have a national identification card as the reason for subscribing. It presupposes that this group of respondents does not have confidence in the scheme and its benefits.

Reasons for Nonrenewal

Concerning reasons for the nonrenewal of insurance, an overwhelming percentage (68%) cite low satisfaction with the service provider as a reason for nonrenewal. This suggests that a low quality of service is rendered under the NHIS. It is also an indication that quality of service is a determinant of insurance renewal. Again, 24% mention affordability as a reason for nonrenewal, implying that the subscription fee is not affordable to about 24% of the respondents (Table 2). This indicates that the cost of renewal is a potential determinant of insurance renewal. Eight percent of the respondents cite other reasons such as their perceived good health status and their preference for traditional care as reasons for nonrenewal. This suggests that a significant number of the respondents prefer orthodox treatment.

Reasons for Not Enrolling in the NHIS

Turning to the reasons for nonenrollment in the scheme, about 68%, 12%, and 20% of our respondents cite the lack of confidence in the scheme, cost, and other reasons as the major reasons for

<table>
<thead>
<tr>
<th>Table 1 – Reasons for enrolling.</th>
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</thead>
<tbody>
<tr>
<td>Reasons</td>
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<tr>
<td>Financial protection against illness</td>
</tr>
<tr>
<td>Peer influence</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
nonenrollment (Table 3). Notable among other reasons cited are low quality of care for subscribers under the scheme and the likelihood of nonce. Here, some respondents have not enrolled in the NHIS because they believe cheap and less effective drugs are likely to be prescribed to them. This suggests the need for strengthened education of the citizenry on the concept of health insurance. It can also be inferred that a person's level of education of the NHIS can determine his or her enrollment status.

**Performance of the Juaboso District Office**

The study used three performance indicators in assessing the performance of the Juaboso District Office. These were coverage rate, revenue, and expenditure. The coverage rate describes the number of card-bearing residents per the estimated population. Consequently, it was determined by deriving the percentage of registered members per the estimated population of the district.

We find an increasing trend in the coverage rate on a yearly basis. Specifically, the rate has increased by 98.82%, from 30.55% to 60.13% (Table 4). Following from an analysis of the coverage rate, the study identifies the factors influencing the level of patronage. Responses are measured using the relative importance index (RII) technique to analyze the various responses. The response categories range between "strongly agree" and "strongly disagree," which are subsequently rated on a five-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree). To determine the relative ranking of the factors, the scores were then transformed to importance indices on the basis of Equation 1:

$$\text{Relative importance/difficulty index} = \sum \frac{w}{AN},$$

where $w$ is the weighting given to each factor by the respondents, ranging from 1 to 5, $A$ is the highest weight (i.e., 5), and $N$ is the total number of the sample. On the basis of Equation 1, the RII can be calculated ranging from 0 to 1.

We document RIs of 0.83, 0.79, 0.94, and 0.91 for cost, convenience, technical quality of care, and service delivery adequacy, respectively (Table 5). Technical quality of care (convenience) is the most (least) significant factor influencing the level of patronage of the NHIS. From this point, we assess the sustainability of the scheme using the expenditure and revenue pattern. The revenue includes revenue from contributors and the NHIA as well as returns on investments. The expenditure includes administrative expenses, salaries, and medicinal claims expenses.

We find a rising trend for both revenue and expenditure from 2009 to 2012 (Table 6). In 2009, the district’s annual revenue was GHS 1,592,153 (GHS = Ghana cedi; US $1 = GHS 3.87), whereas the expenditure was slightly higher at GHS 1,833,080, implying a deficit of GHS 240,927. The revenue increased sharply from 2009 by 83%, 101.46%, and 106.15% to GHS 2,914,219, GHS 3,207,569, and GHS 3,794,404 in 2010, 2011, and 2012, respectively. The expenditure also increased abruptly from 2009 by 43%, 80.86%, and 107% to GHS 2,621,652, GHS 3,315,269, and GHS 3,794,404 in 2010, 2011, and 2012, respectively. These, in turn, resulted in deficits of GHS 240,927, GHS 107,700, and GHS 512,145 in 2009, 2011, and 2012, respectively. Put differently, the Juaboso District Office of the NHIA overspent its revenue by 15.13% and 15.6% in 2009 and 2012.

Table 6 also shows the claims, expense, and combined ratios. Claims ratio is estimated by dividing the total medical claims expenses incurred in each year by the total amount of premium received in the same year for the period 2009 to 2012. Expense ratio is estimated by dividing the total administrative expenses incurred in each year by the total amount of premium received in the same year for the period 2009 to 2012. Combined ratio is the sum of both claims and expense ratios. In 2009, the claims ratio was 9.61, which meant that for every GHS 1.00 (US $0.26) of contribution received from client, on average the scheme or district office expended GHS 9.61 (US $2.48) on claims or medical bills. This means that the district office spent more than it received in the settlement of providers’ claims. The ratio increased by 27.37% in 2010 to 12.24 and fell slightly to 11.97 in 2011. In 2012, however, the ratio increased sharply to 13.53, recording an increase by 13.03%; the review of tariffs upward accounted for this. The district office recorded an expense ratio of 1.27 in 2009, which meant that on average, for every GHS 1.00 (US $0.26) it received, GHS 1.27 (US $0.33) was spent on administrative or operational expenses to run the scheme. On the contrary, the ratio fell to 1.05 in 2010; the decline has been consistent year on

<table>
<thead>
<tr>
<th>Year</th>
<th>District population</th>
<th>Formal sector</th>
<th>Informal sector</th>
<th>SSNIT pensioners</th>
<th>Age (≥ 70 y)</th>
<th>Younger than 18 y</th>
<th>Pregnant women</th>
<th>Total membership</th>
<th>Total coverage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>108,955</td>
<td>726</td>
<td>10,008</td>
<td>–</td>
<td>603</td>
<td>24</td>
<td>6,457</td>
<td>33,291</td>
<td>30.55</td>
</tr>
<tr>
<td>2010</td>
<td>111,749</td>
<td>834</td>
<td>14,326</td>
<td>5</td>
<td>725</td>
<td>6</td>
<td>5,710</td>
<td>43,271</td>
<td>38.72</td>
</tr>
<tr>
<td>2011</td>
<td>114,542</td>
<td>746</td>
<td>16,557</td>
<td>5</td>
<td>1,197</td>
<td>7</td>
<td>5,453</td>
<td>49,378</td>
<td>43.11</td>
</tr>
<tr>
<td>2012</td>
<td>117,405</td>
<td>969</td>
<td>18,537</td>
<td>–</td>
<td>1,116</td>
<td>7,935</td>
<td>4,557</td>
<td>70,597</td>
<td>60.13</td>
</tr>
</tbody>
</table>

SSNIT, Social Security and National Insurance Trust.
year, recording 0.97 and 0.82 in 2011 and 2012, respectively. This meant that the district office made savings from 2011 to 2012, spending GHS 0.97 (US $0.25) and GHS 0.82 (US $0.21) in 2011 and 2012, respectively, for every GHS 1.00 (US $0.26) it received from contributors. In 2009, the combined ratio was 10.88, which meant that the district office spent on average GHS 10.88 (US $2.61) for every GHS 1.00 (US $0.26) it received from contributors to settle claims and administrative expenses. The main cost driver is the claims expense, as indicated in the claims ratio earlier. The ratio steadily increased in 2010 to 13.29, reduced to 12.94 in 2011, and then increased sharply to 14.35 in 2012 (Fig. 1).

Finally, the study finds an increasing trend in the payment of claims from GHS 1,619,373 in 2009 to GHS 3,578,683 in 2012 (Fig. 2). The most profound increase (220.99%) was recorded in 2012, from GHS 1,619,373 in 2009 to GHS 3,578,683 in 2012, using common size horizontal analysis.

### Discussion

The findings reveal that more than 50% of the population is at present insured, but the rate of renewal has reduced. We reiterate the fact that 28% of the respondents have failed to renew their subscriptions. This phenomenon could be attributed to such reasons as extended traveling times to the nearest health facility, a cumbersome renewal process, constraints to pay for the renewal, and a lack of consistent information on how subscription is renewed [16]. The findings also confirm suggestions in a similar study in Guinea-Conakry on focus groups with members and nonmembers of the mutual insurance scheme to find out why subscription rates were so low. It was discovered in Guinea-Conakry that a failure to understand the scheme does not explain these low rates. On the contrary, most respondents, members and nonmembers alike, acquired a very accurate understanding of the concepts and principles underlying health insurance; nevertheless, the main reason for the lack of interest in the scheme is the poor quality of care offered to members of the mutual health organization at the health center [17]. Thus, the reduction in renewal could be explained by the poor services participants received after subscribing to the scheme the first time. One key policy recommendation is the need to retrain players under the NHIA on quality customer care and service delivery. The Ghana standard authority must also monitor the quality of drugs issued under the NHIA. These policy recommendations are inevitable to enhance technical service quality of the scheme. Another policy recommendation is to increase the NHIL from 2.5% to say 3%. This increase of 0.5% should be used to cater to emergencies and the most helpless in the society.

Turning to the sex of the respondents, we record 56% females, with most of them being older than 50 years. This could probably mean that women and the aged, realizing their vulnerability in poor health conditions, are more conscious about seeking health care and, in this case, acquiring accessibility to health care through the NHIS. This finding is supportive of similar suggestions by Ibiwoye and Adeleke [18], who reveal that generally, across all socioeconomic quintiles, older age, higher education, religion, a female-headed household, and perceiving NHIS as beneficial increase the odds of enrolling and remaining in the scheme significantly.

We also observe that most of our respondents are unemployed, with a high proportion of these respondents being married. Analysis of their educational level indicates that 36% of the respondents had only primary level of education, 32% had attained education to the secondary level, and 16% had attained the tertiary level of education. These findings confirm assertions from a study by Schellenberg et al. [19], in which they indicated that socioeconomic factors, such as marital status, level of education, income, and size of family, affect the level of participation in the NHIS.

With regard to reasons for enrollment in the NHIS, 44% cite financial protection against illness. Sixty-eight percent state low satisfaction with the service provider as a reason for nonrenewal. This finding supports the assertion that poverty is usually the main barrier to access health facilities, according to Spangenberg and Mock [20] and Xu et al. [21]. Thus, the poor and all those who for some reasons are excluded from formal insurance must be particularly protected from expenditure that may arise from unexpected necessity of health care [22].

We also find an increasing (96.7%) trend in the coverage rate on a yearly basis. This shows that in terms of coverage rate, the

### Table 5 – Factors influencing level of patronage.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Frequency</th>
<th>RII</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>110</td>
<td>0.82</td>
</tr>
<tr>
<td>Convenience</td>
<td>87</td>
<td>0.79</td>
</tr>
<tr>
<td>Technical quality of care</td>
<td>190</td>
<td>0.94</td>
</tr>
<tr>
<td>Service delivery adequacy</td>
<td>160</td>
<td>0.91</td>
</tr>
</tbody>
</table>

Note. Frequency key: SA, strongly agree; A, agree; NS, not sure; D, disagree; SD, strongly disagree. RII, relative importance index.

### Table 6 – Revenue, expenditure, and claims, expense, and combined ratios (2009–2012).

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual revenue (GHS, million)</th>
<th>Annual expenditure (GHS, million)</th>
<th>Claims ratio</th>
<th>Expense ratio</th>
<th>Combined ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>1,592,153</td>
<td>1,833,080</td>
<td>9.61</td>
<td>1.27</td>
<td>10.88</td>
</tr>
<tr>
<td>2010</td>
<td>2,914,219</td>
<td>2,621,652</td>
<td>12.24</td>
<td>1.05</td>
<td>13.29</td>
</tr>
<tr>
<td>2011</td>
<td>3,207,569</td>
<td>3,315,269</td>
<td>11.97</td>
<td>0.97</td>
<td>12.94</td>
</tr>
<tr>
<td>2012</td>
<td>3,282,259</td>
<td>3,794,404</td>
<td>13.53</td>
<td>0.82</td>
<td>14.35</td>
</tr>
</tbody>
</table>

GHS, Ghana cedi.
Juaboso District Office of the NHIA is performing very well with the potential to perform even better. This supports findings of a longitudinal study on the impact of Ghana’s policies. In this study, it was revealed that health insurance coverage had increased significantly (17.5%; \( P < 0.001 \)) after the 2008 NHIS policy, which resulted in an increase in facility delivery within the same period [23].

The results report a rise and fall in revenue from the NHIS within the study period. The annual revenue increased by 83.0% in 2010, but decreased dramatically to 10.1% in 2011 and subsequently continued to decrease to 2.3% in 2012. It points to the fact that although revenue is on the increase, the rate has been decreasing as compared with the coverage rate. An analysis of data by [23] indicates that the scheme is substantially dependent on tax funding (93.5%). Thus, everybody pays for the scheme through taxation (NHIL) but unfortunately the scheme excludes more than 72.1% of the population it covers. Excessive disenrollment, due to membership nonrenewal, also affects the sustainability of the policy. These, in turn, result in low revenue generation. One key policy recommendation is the need to invest funds raised by all districts under the NHIA in a central investment account by the Ministry of Health. Here too, the interest arising from the investment should be distributed on the basis of the contribution of each district. This, in turn, may enhance revenue and, ultimately, sustainability of the scheme. Another policy recommendation is what we term “the profit-sharing option.” Here, subscribers renewing their membership should be granted a discount on the basis of their use of the services of the NHIA during the previous year.

This study discovers that expenditure has been oscillating over the years. It decreased by 3.3% in 2010 and increased by 20.7% in 2011, and then in 2012 the percentage again decreased by 13.5%. It was observed that the year 2010 recorded the most significant increase (49.1%) with respect to expenditure. This sharp increase in claims payment may be due in part to the rising coverage rate, fraudulent claims, and the probable increase in the in- and out-patient utilization by subscribers. It was reported that GHS 6.7 million was retrieved from health care facilities after conducting clinical audits in those facilities. One key policy recommendation is the need to re-insure the subscribers to control the expenditure of the scheme. Another policy recommendation is the need for constant auditing of claims payments to ensure that existing fraudulent claims are dealt with. This has been recommended because of purported arguments of the existence of such fraudulent schemes that could derail the attainment of the scheme’s objectives.

**Conclusions**

The study has examined the performance of the Juaboso District Health Insurance Office. The primary contribution of this study comes from assessing the performance of the NHIS from the sub-Saharan perspective, an important but less researched area. Several findings are made and adequately discussed. This includes the fact that both coverage rate and claims payment rate are on the ascendancy. Revenue and expenditure also increase proportionally. Although this may represent an increasing performance of the Juaboso District Office, the issue of sustainability is also very relevant. This will include stepping up the fight against fraudulent claims and all existing loopholes to ensure that the scheme is sustainable to the benefit of all residents. The issue of sustainability is emphasized in the NHIA’s objective, emphasizing that the scheme seeks to provide sustainable health financing to ensure accessible, affordable, and

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**Fig. 1 – Conceptual framework [15]. NHIA, National Health Insurance Authority.**

**Fig. 2 – Juaboso District claims payment trend (2009–2012) [18].**
good-quality health care, especially for vulnerable and poor people in Ghana. The performance assessment of the NHIS including the Juaboso District Health Insurance Office is also key to Ghana’s achievement of the Millennium Development Goals 1, 3, 4, and 5 for Africa. We conclude that NHIS’s performance and long-term sustainability are significant key social sector initiatives to support the Ghana Poverty Reduction Strategy II policy objective of ensuring sustainable financial arrangements that protect the poor. For this reason, further studies especially on the long-term sustainability are welcome.

The main limitation inherent in the approach adopted is the use of a single-district NHIS in a nonexperimental context. Thus, the results may not be applicable beyond the scope of this study to other NHIS in Ghana and/or sub-Sahara Africa. From this point, future research should seek to replicate this study in other districts with a larger sample to provide a better understanding of the performance of the NHIS in sub-Sahara Africa.

Supplemental Materials

Supplemental material accompanying this article can be found in the online version as a hyperlink at http://dx.doi.org/10.1016/j.vhri.2016.06.002 or, if a hard copy of article, at www.valueintheonlineversion as a hyperlink at http://dx.doi.org/10.1016/j.vhri.2016.06.002 or, if a hard copy of article, at www.valueintheonlineversion as a hyperlink at http://dx.doi.org/10.1016/j.vhri.2016.06.002 or, if a hard copy of article, at www.valueintheonlineversion as a hyperlink at http://dx.doi.org/10.1016/j.vhri.2016.06.002 or, if a hard copy of article, at www.valueintheonlineversion as a hyperlink at http://dx.doi.org/10.1016/j.vhri.2016.06.002 or, if a hard copy of article, at www.valueintheonlineversion as a hyperlink at http://dx.doi.org/10.1016/j.vhri.2016.06.002

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