Performance Assessment of Ga District Mutual Health Insurance Scheme, Greater Accra Region, Ghana

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ABSTRACT

Objective: This study assessed performance of the Ga District Mutual Health Insurance Scheme over the period 2007-2009. Methods: The desk review method was used to collect secondary data on membership coverage, revenue, expenditure, and claims settlement patterns of the scheme. A household survey was also conducted in the Madina Township by using a self-administered semi-structured questionnaire to determine community coverage of the scheme. Results: The study showed membership coverage of 21.8% and community coverage of 22.2%. The main reasons why respondents had not registered with the scheme are that contributions are high and it does not offer the services needed. Financially, the scheme depended largely on subsidies and reinsurance from the National Health Insurance Authority for 89.8% of its revenue. Approximately 92% of the total revenue was spent on medical claims, and 99% of provider claims were settled beyond the stipulated 4-week period. Conclusions: There is an increasing trend in medical claims expenditure and lengthy delay in claims settlements, with most of them being paid beyond the mandatory 4-week period. Introduction of cost-containment measures including co-payment and capitation payment mechanism would be necessary to reduce the escalating cost of medical claims. Adherence to the 4-week stipulated period for payment of medical claims would be important to ensure that health care providers are financially resourced to deliver continuous health services to insured members. Furthermore, resourcing the scheme would be useful for speedy vetting of claims and also, community education on the National Health Insurance Scheme to improve membership coverage and revenue from the informal sector.

Keywords: claims settlements, Ghana, membership coverage, National Health Insurance Scheme.

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Introduction

Many low- and middle-income countries are challenged with how to finance their health care systems to achieve universal coverage of health services. In 2005, the member states of the World Health Organization adopted a resolution encouraging countries to develop health financing systems aimed at providing universal coverage [1]. This was defined as securing access for all to appropriate promotive, preventive, curative, and rehabilitative services at an affordable cost.

In the 1990s, a number of mutual health organizations were established in Ghana, with funding and technical support from external partners. Most of these mutual health organizations, however, primarily focused on providing financial protection against the potentially catastrophic costs of a limited range of inpatient services for the disadvantaged people in society [2]. The National Health Insurance Scheme (NHIS) was introduced in 2004 to build on these organizations and provide comprehensive health services to all citizens in Ghana [3].

The National Health Insurance Act, Act 650, was passed into law in Ghana in 2003 through the Legislative Instrument (L1 1809), though implementation in terms of access to benefits began in November 2005 [3-5]. Its policy objective is that "within the next five years, every resident of Ghana shall belong to a health insurance scheme that adequately covers him or her against the need to pay out-of-pocket at point of service use in order to obtain access to a defined package of acceptable quality health services" [6]. The NHIS was designed as a mandatory health insurance system, with risk pooling across district schemes, funded from members’ contributions and a levy on the value-added tax charged on selected goods and services [3-6].

As a key social sector initiative to support the Ghana Poverty Reduction Strategy II policy objective of ensuring sustainable financial arrangements that protect the poor, the NHIS’s performance and long-term sustainability are significant. The performance assessment of the scheme is also key to Ghana’s attainment of the Millennium Development Goals 1, 3, 4, and 5.

Since its full implementation in 2005, the NHIS has been facing major structural and administrative challenges, including significant delays in issuing membership cards; lack of a uniform contribution system across schemes, which has implications for portability and equity within the national scheme; and...
considerable delays in provider claims reimbursement [3,7,8]. An independent health sector review report shows that at the end of 2008, the health facilities had outstanding claims worth GH¢49 million [7]. A number of initiatives and activities by researchers and development partners aimed at tackling performance challenges facing the District Mutual Health Insurance Schemes (DMHISs) have taken place. Most of these research and initiatives, however, focused on inventories of DMHISs and access, utilization, and quality of care and were largely uncoordinated. Moreover, key findings and associated recommendations were left unimplemented [9]. Therefore, little is known about performance elements of membership coverage, revenue mobilization, expenditure, and medical claims settlements of the DMHISs. The study aimed at filling this gap by providing performance assessment of Ga DMHIS.

According to the 2010 NHIS Annual Report, there are 145 DMHISs nationwide, with 10 in the Greater Accra region [10]. The Ga DMHIS is the biggest DMHIS in the Greater Accra region in terms of catchment area. The Ga district has a large number of suburban and rural communities, making it suitable for this study. Madina is the largest cosmopolitan settlement in the district, which also made it appropriate for the household survey. This article reports performance assessment of the scheme for the 2007-2009 period and recommendations for improving its operations.

Conceptual Framework

The conceptual framework for the study was adopted from the World Health Organization proposed framework for health systems performance assessment and modified to reflect the International Labour Organization’s core performance indicators for assessing social health insurance schemes [11,12]. According to the framework, high membership coverage, high revenue base, low expenditure, and prompt settlement of provider claims enhance performance ratios such as coverage rate, renewal rate, expense ratio, and claims ratio, which, in turn, results in high performance and an improved health status of the target population (Fig. 1).

Methods

Study Area

The study was conducted at Ga DMHIS and Madina Township, all in the Ga district of the Greater Accra region. The Ga DMHIS has a staff strength of nine and 74 contracted health care providers. The Ga district lies in the northern part of the Greater Accra region and is bounded in the north by Akuapim South district, in the east by Tema Municipal, and in the south by Accra Metropolitan. It has three subdistricts, namely, Ga South, Ga East, and Ga West, with 594 communities comprising mixed settlements: urban, periurban, and rural areas. The district has an estimated population of 891,609 and a growth rate of 4.4%. There are 58 health facilities in the district comprising public, private, and Christian Health Association of Ghana facilities. The main economic activities in the district are public service, trading, farming, and craftsmanship.

Study Design

The study was a cross-sectional survey of households and a retrospective analysis of membership, revenue, and expenditure records of the Ga DMHIS for the period 2007-2009. The study population consisted of membership data of Ga DMHIS and selected heads of surveyed households in the Madina Township.

Data Collection Method

Desk review

Documents on membership, operational reports, audited reports, financial statements, and claims payment books of the scheme were reviewed. The registration files were reviewed in terms of the number of people registered, number of membership cards issued, and number of renewals for each year under review. The audited accounts for 2007-2008 and unaudited accounts for 2009 were examined for total contribution collected, subsidies received from the National Health Insurance Authority (NHIA), donor support, and other internally generated funds. Information on administrative expenditure and medical bills was also collected. The claims submission registers and claims payments for 2009 were reviewed to determine the number of days between submission of claims and reimbursement.

Face-to-face interview

A community household survey was conducted in the Madina Township to determine the community coverage rate. A multi-stage sampling method was used to select the study subjects. In all, 376 household heads were sampled on the basis of an estimated prevalence rate of 43% membership coverage, a confidence level of 95%, and a 5% margin of error. The questionnaire covered background characteristics and membership in the NHIS. The household membership section looked at knowledge on the NHIS, membership status, and reasons for not enrolling into the scheme.

Data Analysis

The performance indicators for the study were analyzed as follows.

Coverage rate

Membership files for the period 2007-2009 were reviewed to determine the total number of valid card-bearing members in each year. The coverage rate was determined by dividing the total number of valid card-bearing members in each year by the estimated district population in the same year.

Community coverage rate

This was estimated by dividing the total number of participants with valid membership cards as of March 2010 by the total number of participants interviewed.

Annual revenue

This was estimated by adding the total amount of money collected from contributors, received from the NHIA and other donor agencies, and investment returns in each year of the period under review (2007-2009).

Annual expenditure

This was estimated by adding administrative expenses and medical claims expenses in each year of the period 2007-2009. The administrative expenses comprised salaries, membership cards’ processing cost, and other operational costs, while the medical claims expenses constituted payment of outpatient, inpatient, specialized medical services and essential medicines in the NHIS minimum benefit package.

Expense ratio

This was estimated by dividing the total administrative expenses incurred in each year by the total amount of contributions collected in the same year for the period 2007-2009.
Claims ratio
This was estimated by dividing the total medical claims expenses incurred in each year by the total amount of contributions collected in the same year for the period 2007-2009.

Combined ratio
This was calculated by adding the expense ratio and the claims ratio.

Promptness of claims settlements
All provider claims submitted within the October-December 2009 period were reviewed to determine the number of days it took to settle them. The settlements days for each provider claim were grouped according to a defined schedule of 0 to 28 days, and more than 28 days. Based on the stipulated period of 4 weeks for claims settlements, all claims paid within 0 to 28 days were considered as prompt payment and those paid beyond 28 days as delayed payment.

Ethical consideration
Ethical clearance for the study was obtained from Ghana Health Service Ethical Review Committee on Research Involving Human Subjects. Approval was sought from the Ga DMHIS to use its data, and permission was sought from the Municipal Health Services to conduct the household survey in the Madina Township.

Participants were informed of the objective of the study and that they were free to participate and to leave at any point. A total of 365 household heads out of the 376 sampled voluntarily provided signed informed consent and were interviewed.

<table>
<thead>
<tr>
<th>Year</th>
<th>District population</th>
<th>Formal sector</th>
<th>Informal sector (18–69 y)</th>
<th>SSNIT pensioners</th>
<th>Aged (≥70 y)</th>
<th>Younger than 18 y</th>
<th>Indigent</th>
<th>Pregnant women</th>
<th>Total coverage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>749,022</td>
<td>4,957</td>
<td>19,035</td>
<td>237</td>
<td>1,990</td>
<td>25,598</td>
<td>831</td>
<td>NA</td>
<td>7.0</td>
</tr>
<tr>
<td>2008</td>
<td>782,715</td>
<td>9,794</td>
<td>42,318</td>
<td>1,171</td>
<td>4,027</td>
<td>47,240</td>
<td>2,920</td>
<td>11,997</td>
<td>15.3</td>
</tr>
<tr>
<td>2009</td>
<td>817,924</td>
<td>15,943</td>
<td>55,561</td>
<td>3,484</td>
<td>7,909</td>
<td>63,512</td>
<td>2,920</td>
<td>28,594</td>
<td>21.8</td>
</tr>
</tbody>
</table>

NA, not applicable (the free maternal care policy was introduced in 2008); SSNIT, Social Security and National Insurance Trust.
Limitations of the study
First, there were no separate data for active and nonactive members between the 2007 and 2008 period, making it difficult to determine the true membership coverage of card-bearing members in that period. Second, the financial audit report for 2009 was not available; hence, revenue and expenditure data were retrieved from account ledger books and financial statements, which might not give the true picture of financial flows in 2009.

Results

Coverage Rate
In general, the membership coverage of the scheme increased from 7% in 2007 to 21.8% in 2009 (Table 1). The number of registered members, however, dropped from 8.3 percentage points in the first year (2007–2008) to 6.5 in the second year (2008–2009). In all, the informal sector constituted one-third of the registered members; there were no registrations of pregnant women in 2007 and indigent in 2009.

Community coverage rate
Out of the total number of 365 household heads who participated in the survey, 81 (22.2%) were registered members with valid ID cards. The main reasons why some of the respondents had not registered with the scheme were “contribution is expensive” and “does not offer services needed” (Table 2).

Revenue and expenditure
In all, the expenditure of the scheme for the period under study exceeded the revenue. This occurred in 2007 and 2008 but was reversed in 2009 by a significant increase in NHIA support (Fig. 2). In 2009, the scheme generated 60.9% of the total revenue and expended 41.8%. The total revenue generated and the expenditure incurred for the period under study were GH¢12.8 million and GH¢13.7 million, respectively.

Annual revenue
While proportions of NHIA support in the form of subsidy for the exempt group and reinsurance for claims payment increased significantly from 82.9% in 2008 to 93.9% in 2009, contributions collected and other income generated showed a decreasing trend (Fig. 3).

Annual expenditure
The main expenditure areas of the scheme were administrative and medical claims. The total expenditure for the period under review doubled from GH¢2.2 million in 2007 to GH¢5.8 million in 2008, and dropped slightly in 2009 (i.e., GH¢5.7 million) (Table 3). The proportion of administrative expenses showed a downward trend from 18.2% in 2007 to 3.6% in 2009, while that of medical claims expenses went up from 81.8% in 2007 to 96.4% in 2009.

Claims settlements
About 99% of 38,737 medical claims reviewed for the period October–December 2009 were paid beyond the stipulated period of 28 days for claims settlements.

Expense, claims, and combined ratios
The expense ratio showed a downward trend from 2.7 in 2007 to 0.7 in 2009, while the claims ratio increased from 12.2 in 2007 to 18.1 in 2009 (Table 4). The combined ratio, which is the sum of the expense ratio and the claims ratio, increased from 15.0 in 2007 to 18.8 in 2009.

Discussion
The membership of the scheme is categorized into formal sector workers, informal sector workers, pensioners, the aged (70 years and older), children younger than 18 years, indigent, and pregnant women. The membership coverage increased over the period under study, driven mainly by the exempt groups: children younger than 18 years, the aged, indigent, and pregnant women; only one-third of the informal sector group who pays contributions is registered. The increasing trend in annual membership

Table 2 – Reasons for not registering with the Ga DMHIS.

<table>
<thead>
<tr>
<th>Reason (n = 284)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contribution is expensive</td>
<td>35.3</td>
</tr>
<tr>
<td>Not sick now</td>
<td>10.5</td>
</tr>
<tr>
<td>Hospital is too far</td>
<td>1.0</td>
</tr>
<tr>
<td>Treat elsewhere</td>
<td>9.5</td>
</tr>
<tr>
<td>Does not offer services needed</td>
<td>33.2</td>
</tr>
<tr>
<td>Belong to other district scheme (NHIS)</td>
<td>10.5</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

DMHIS, District Mutual Health Insurance Scheme; NHIS, National Health Insurance Scheme.

Fig. 2 – Revenue and expenditure status (2007–2009).
coverage is good for membership growth and development of the scheme as shown in previous studies [11,13,14]. It indicates that registered members have accepted the NHIS program and are ready to pool their resources to seek a measure of protection from the risks that they face [13]. The small proportion of registered informal group who pays contributions, however, could affect the revenue base and presents long-term sustainability problems [3]. In spite of the increasing trend in annual membership coverage, the number of registered members declined from 8.3 percentage points in the first year (2007–2008) to 6.5 in the second year (2008–2009), a trend found in other studies [3,8,15]. The cause of this decline in membership registration could be attributed to reasons found in the household survey.

The household survey shows a membership coverage of 22%, which gives credence to that obtained from the desk review at the scheme office. Most of the respondents considered the annual contribution of the scheme, which ranges from GH¢10.00 to GH¢24.00, as expensive, and hence they did not register for the scheme. Others believe that the scheme does not offer the services that they need or are simply not sick; hence, they do not see the need to register. These reasons show that respondents do not understand the importance of the NHIS; therefore, continuous community education would be useful to sensitize people on the role that health insurance plays in stabilizing their situation.

In relation to revenue, the main sources are support from the NHIA in the form of subsidy and reinsurance, contributions from the informal sector, and internally generated funds such as membership cards’ processing fees and interest on investments. The total revenue of the scheme increased significantly over the study period, which is good for growth and long-term sustainability as evidenced in a study by Guy [4]. In spite of the annual increase in revenue, NHIA support was the predominant contributing factor, which constitutes about 90% of total revenue of the scheme. In absolute terms, the contributions collected and other income generated increased in the first year (2007–2008) and declined in the second year (2008–2009), which might be due to a similar trend observed in the membership registration, particularly informal sector registration. The decline in contributions from the informal sector, if it continues in subsequent years, would reduce the revenue base and cause further days in the payment of provider claims. In the long term, it could threaten the financial viability of the scheme if support from the NHIA goes down. These trends in revenue were also found in the study by Witter and Garshong [3].

The main expenditure areas of the scheme are administrative expenses and medical claims expenses. The annual expenditure went up in the first year of the study period and dropped slightly in the second year. The total expenditure, however, exceeded revenue, with medical claims expenses as the major contributing factor. This trend in the scheme’s expenditure was also seen in the estimation of the expense and medical claims ratios. The combined ratio increased consistently over the study period, with medical claims ratio as the driving force. The increasing trend in medical expenses could pose a serious financial challenge to the scheme. In the long term, it may result in diminished social protection and value to the insured members. The change in claims payment mechanism from fee-for-service to Diagnostic Related Groupings and an upward review of the medicine price list in 2008 might partly account for the high medical claims expenditure observed in 2008 [3]. According to the 2010 independent health sector review, claims for medicines totaled 60% of all claims in 2009 [7]. These factors contributed to a growth in distressed schemes and failure to pay outstanding provider claims in 2008 [3]. As emphasized earlier, it would be important for the scheme to attract more members and to retain them over long periods during which they consume no or few services [16]. The increasing rate of medical bills expenditure as explained by the management is due to 1) comprehensive benefit package with no co-payment mechanism to control cost; 2) ineffective gatekeeper system, which contributes to increase in health care utilization and cost at secondary and tertiary facilities; and 3) client and health care provider abuse.

The claims settlements pattern of the scheme shows lengthy delays in the payment of provider claims. According to the NHIS Legislative Instrument (LI 1809), the stipulated period for vetting and payment of claims is 4 weeks after receipt of the claims from a health care provider [5]. About 99% of sampled claims submitted within October–December 2009, however, were settled beyond the mandatory period. Because the main source of income for health

<table>
<thead>
<tr>
<th>Year</th>
<th>Administrative expense (%)</th>
<th>Medical claims expense (%)</th>
<th>Total expenditure (GH¢)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>18.2</td>
<td>81.8</td>
<td>2,232,163.34</td>
</tr>
<tr>
<td>2008</td>
<td>8.9</td>
<td>91.1</td>
<td>5,757,550.21</td>
</tr>
<tr>
<td>2009</td>
<td>3.6</td>
<td>96.4</td>
<td>5,732,104.33</td>
</tr>
</tbody>
</table>

Fig. 3 – Revenue distribution of the scheme (2007–2009). NHIA, National Health Insurance Authority.
Adherence to the stipulated 4-week period for claims payment would also be important to ensure that health care providers are financially resourced to deliver continuous health services to insured members. Furthermore, the scheme should be adequately resourced to ensure speedy vetting of medical claims and also to facilitate community education in the district to improve membership coverage and revenue from the informal sector.

Table 4 – Expense, claims, and combined ratios (2007–2009).

<table>
<thead>
<tr>
<th>Year</th>
<th>Expense ratio</th>
<th>Claims ratio</th>
<th>Combined ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>2.7</td>
<td>12.2</td>
<td>14.9</td>
</tr>
<tr>
<td>2008</td>
<td>1.4</td>
<td>14.0</td>
<td>15.4</td>
</tr>
<tr>
<td>2009</td>
<td>0.7</td>
<td>18.1</td>
<td>18.8</td>
</tr>
</tbody>
</table>

Acknowledgments

We acknowledge contributions of the management and staff of Ga DMHIS, field workers, and field supervisors. We thank the Ga East District Director of Health Services for permitting us to conduct the household survey in the Madina Township and the staff of Madina Polyclinic for their support in the recruitment and training of field workers.

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Conclusions

There are increasing trends in membership coverage and revenue that are largely driven by the exempt groups and subsidies from the NHIA, respectively. The medical claims expenditure is increasing with significant delays in settlement. Introduction of cost-containment measures including co-payments and capitation payment mechanism would be necessary to reduce the escalating cost of medical claims.

REFERENCES