Sustainability of recurrent expenditure on public social welfare programmes: expenditure analysis of the free maternal care programme of the Ghana National Health Insurance Scheme

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Objective: Sustainability of public social welfare programmes has long been of concern in development circles. An important aspect of sustainability is the ability to sustain the recurrent financial costs of programmes. A free maternal care programme (FMCP) was launched under the Ghana National Health Insurance Scheme (NHIS) in 2008 with a start-up grant from the British Government. This article examines claims expenditure under the programme and the implications for the financial sustainability of the programme, and the lessons for donor and public financing of social welfare programmes.

Methods: Records of reimbursement claims for services and medicines by women benefitting from the policy in participating facilities in one sub-metropolis in Ghana were analysed to gain an understanding of the expenditure on this programme at facility level. National level financial inflow and outflow (expenditure) data of the NHIS, related to implementation of this policy for 2008 and 2009, were reviewed to put the facility-based data in the national perspective.

Findings: A total of US$936,450.94 was spent in 2009 by the scheme on FMCP in the sub-metropolis. The NHIS expenditure on the programme for the entire country in 2009 was US$49,25 million, exceeding the British grant of US$10.00 million given for that year. Subsequently, the programme has been entirely financed by the National Health Insurance Fund. The rapidly increasing, recurrent demands on this fund from the maternal delivery exemption programme—without a commensurate growth on the amounts generated annually—is an increasing threat to the sustainability of the fund.

Conclusions: Provision of donor start-up funding for programmes with high recurrent expenditures, under the expectation that government will take over and sustain the programme, must be accompanied by clear long-term analysis and planning as to how government will sustain the programme.

Keywords: Maternal health care, National Health Insurance, exemptions, financial sustainability, Ghana

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KEY MESSAGES

- Provision of donor start-up funding for programmes with high recurrent expenditure, under the expectation that government will take over and sustain the financing of the programme, must be accompanied by clear long-term analysis and planning.
- It is possible to inadvertently, rapidly overload programmes that are working well with more and more ‘open ended’ financing obligations without such careful analysis. This can tend in the medium to long term to compromise their ability to attain and sustain the desired goals.
- It is important to balance the laudable desire to rapidly attain improved public social welfare and the political and administrative popularity of such programmes with careful analysis of the ability to sustain the financing of programmes in the proposed time frames.

Introduction

The sustainability of priority health system interventions has been and remains a major concern in low-, middle- and high-income countries. Health system sustainability has been defined by the World Health Organization as the ‘ability to meet the needs of the present without compromising the ability to meet future needs’ (Roberts 1998). Health systems are economically sustainable ‘so long as the value produced by health care exceeds its opportunity cost’ (Thomson et al. 2009). They are fiscally sustainable, on the other hand, if government is able and willing to meet its health system financing obligations. Such obligations are often recurrent, rather than one-off costs.

With a few years to 2015, progress has remained slower than desired and many countries in sub-Saharan Africa are not on track to attain the Millennium Development Goal (MDG) 4 and -5 targets of a reduction by two-thirds of the under-five mortality rate and three-fourths of the maternal mortality ratios (MMR) of 1990 (GSS et al. 2009; Bhutta et al. 2010; Kinney et al. 2010; UNICEF 2012; WHO 2012; WHO and UNICEF 2012). A study of trends in MMR from 1990 to 2005 found a significant decrease of 2.5% globally, but that of sub-Saharan Africa fell by only 1.8% from 921 per 100 000 to 905 per 100 000 in the same reference period (Hill et al. 2007). The lifetime risk of maternal death in the least-developed countries is estimated to be >1 in 10, whereas for developed countries it is ~1 in 7300 (WHO et al. 2007).

A range of social, economic and geographic factors, such as quality of care, distance and transport to sites where skilled care is available, out-of-pocket (OOP) service utilization costs, women’s low social status, education levels, lack of autonomy and decision-making power, and cultural norms encourage or discourage access to—and use of—skilled attendants and well-equipped health facilities (Leslie and Gupta 1989; Stanton and Clemens 1989; Thaddeus and Maine 1994; Nahar and Costello 1998; Bloom et al. 2001; Gwatkin 2004; Hotchkiss et al. 2005; Haddad et al. 2006; McIntyre et al. 2006; Parkhurst et al. 2006; Gage 2007; Koenig et al. 2007). In addition, government’s financial ability to put in place and sustain health systems interventions to address these barriers is critical for attainment of targets.

Ghana, where this study was conducted, is no exception to these challenges. The maternal health survey of 2007 estimated the MMR at 451 deaths per 100 000 live births in the 7 years preceding the survey, ~40 times the MMR in the USA (GSS et al. 2009). To reduce financial barriers to maternal health care, caused by OOP user fees at point of service use, in 2003 the Government of Ghana introduced a policy of exempting pregnant women from all forms of payment for maternal services in 4 of the 10 regions of the country with the highest poverty incidence. Providers were asked to grant the exemptions and then file reimbursement claims through the regional offices of the Ghana Health Service to the national office.

Findings from an evaluation of this policy showed that the incidence of household catastrophic OOP payment fell, with the proportion of the poorest quintile paying more than 2.5% of their income, dropping from 55% before the policy to 46%. Using the poverty head count, the proportion of households falling into extreme poverty as a result of delivery payments reduced from 2.5% before the policy to 1.3%. The proportion of facility-based deliveries also increased in every socio-economic group, with the greatest increases in the two poorest quintiles (Penfold et al. 2007). The 2003 policy was extended to the remaining six regions of Ghana in April 2005.

However, there were problems with implementation of the policy, often linked to fiscal sustainability and very similar to problems with previous health sector user fee exemptions schemes in Ghana. Reimbursements for exemptions granted by providers were somewhat erratic and dwindled over time. As in other exemption schemes associated with the user fee system in Ghana, providers reacted to delayed and incomplete reimbursements by granting fewer and fewer exemptions (Garshong et al. 2001; Bosu et al. 2004; MOH 2006; Agyepong and Nagai 2007; Witter and Adjei 2007; Witter et al. 2007).

The first Ghana National Health Insurance law (Act 650 of Parliament) was passed in 2003 and its implementation started in 2004. As the National Health Insurance Scheme (NHIS) grew and developed, provision by the Ministry of Finance of budgets for reimbursements under the various exemptions programmes associated with the preceding user fee systems dwindled still further until, by 2007, almost all these programmes had died a natural death.

The Ghana NHIS is described in several publications (Agyepong and Adjei 2008; McIntyre et al. 2008; Ansah et al. 2009; Witter and Garshong 2009; Agyepong et al. 2011; Mills et al. 2012). It is centrally funded by a single National Health Insurance Fund (NHIF) that is ~70% derived from a value added tax, 20–25% from formal sector Social Security and National Insurance Trust (SSNIT) contributions, 5% from non-SSNIT contributor OOP premiums and ~2–5% from other sources (mainly investment income).
At the start of NHIS implementation in 2004, all provider payment for services and medicines was by retrospective itemized fee for service. In April 2008, a case-based payment system, known as the Ghana Diagnostic Related Groupings (G-DRGs), was introduced. The G-DRG is not an all-inclusive DRG payment. It covers services only and medicines payment remains by itemized fee billing. The G-DRGs were produced by a tariffs review committee of clinical and other experts within the Ghana health system. The committee first sorted the list of principal diagnoses (from International Classification of Diseases (ICD)-10)—commonly found in Ghana and covered by the NHIS—into major diagnostic categories (MDC) by the specialties of Adult Medicine; Paediatrics; Adult Surgery; Paediatric Surgery; Ear, Nose and Throat, Obstetrics and Gynaecology; Dental and Ophthalmology. For each MDC, diagnoses were further grouped into those that needed an operation or procedure for treatment and those that did not. MDC is a measure of the case mix in a health facility.

DRG tariffs were adjusted for the level of the facility with facilities classified as levels B, C and D. Level B facilities are primary outpatient care clinics—commonly health centres and health posts—without a doctor. Level B facility services are staffed by nurses and physician assistants. In addition to primary preventive services such as immunization and child welfare, they provide basic outpatient clinical care, antenatal care (ANC), post-natal care (PNC) and carry out uncomplicated deliveries. Level C facilities are district hospitals and polyclinics. They have at least one general duty doctors. They provide more sophisticated outpatient services than level B facilities and, in the case of district hospitals, they provide inpatient and outpatient services. These inpatient services include caesarean sections (CSs) and other emergency obstetric care (EOC). Level D facilities are specialist referral hospitals with specialist doctors and departments. The G-DRG tariffs are adjusted upwards as the facility gets more sophisticated. Thus, the same procedure in a level B facility attracts a lower tariff than in a level C facility.

The G-DRG tariffs are further differentiated by facility ownership. Facilities are classified by ownership into public, private, not-for-profit (such as Christian Health Association of Ghana facilities) and for-profit/self-financing (NHIS 2010). The same procedure for any given level of facility attracts the highest tariff in a private self-financing facility, the lowest tariff in a public facility and an in-between rate in the private not-for-profit. The rationale behind this is that government pays the salaries of staff in public facilities and also periodically provides some financing for capital investments. Government also provides subsidy support, especially for salaries, to the private not-for-profit sector. Table 1 shows the G-DRG tariff schedule for services for public sector facilities in the year of the study (2009).

The NHI law of 2003 (Act 650) provided for exemption from premium payments of individuals and households too poor to pay (the indigent), all senior citizens over 70 years old and all minors (under 18 years) whose parents were members of the NHIS. After July 2008, there was a revision of the policy so that children under 18 years could be registered free regardless of the insurance status of their parents. Pregnant women were not included in the exemptions under Act 650. In 2008, to accelerate attainment of MDG 4 and -5 and replace the defunct exemptions programmes, a policy decision was taken by government to have a maternal premiums exemptions programme under the NHIS. The British Government initially offered 85 million dollars (US$85 000 000) as a start-up grant, payment of which was to spread over 5 years to support this free maternal care programme (FMCP). Twenty million dollars (US$20 000 000) were paid to the NHIS in 2008 and 10 million dollars (US$10 000 000) in 2009. Thereafter, the NHIS was expected to fund the programme.

Under the FMCP, once a woman not already insured provided proof of pregnancy, she was entitled to be insured free for 1 year to cover the period of her pregnancy and delivery. Her baby was also covered for up to 3 months after delivery to provide for time to register the baby under the free care for minors schedule of the NHIS.

This article uses a study of recurrent expenditure under the FMCP to explore issues in fiscal sustainability of the recurrent costs of this programme and draw out lessons for other low- and middle-income countries (LMICs) and their international development partners, struggling with implementation challenges related to fiscal sustainability of public social welfare programmes.

Methods

The study was retrospective and descriptive, and relied on secondary data from a review of the routine health management information systems data of provider facilities and the NHIS. Provider facility data were obtained from an analysis of the insurance claims and reimbursement records for maternity cases over the period January–December 2009 in the Osu-Klottey sub-metropolitan district of the Accra metropolis of the Greater Accra region of Ghana. The selection of the Accra metropolis was intentional based on the ease of access and availability of a wide range of provider facilities. Within the Accra metropolis, Osu-Klottey was selected to provide a perspective for all three levels of provider facilities (levels B, C and D).

<table>
<thead>
<tr>
<th>Facility</th>
<th>ANC</th>
<th>PNC</th>
<th>SVD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level D: Specialist referral hospitals</td>
<td>US$8.81</td>
<td>US$8.81</td>
<td>US$27.03</td>
</tr>
<tr>
<td>Level C: District hospitals and polyclinics</td>
<td>US$7.50</td>
<td>US$7.50</td>
<td>US$23.59</td>
</tr>
<tr>
<td>Level B1: Health centres</td>
<td>US$3.02</td>
<td>US$3.02</td>
<td>US$6.84</td>
</tr>
</tbody>
</table>
At the time of our study, the Osu-Klottey sub-metro was one of the 11 local government subdivisions of the Accra metropolis with a population of \(~114,797\), well served by public and private facilities. The public facilities were a Government maternity home, a Government polyclinic, two small primary care clinics and a regional specialist clinic. In the private sector, there are numerous small clinics and a few hospitals. Only the Government Maternity Home, the Government Polyclinic and the Regional Specialist Hospital were providing the maternal delivery exemption programme in the sub-metropolis at the time of the study. All three facilities were therefore included in the study.

The Government Maternity Home (GMH) and the Government Polyclinic (GP) did not have facilities for EOC. The Regional Specialist Hospital (RSH) had Obstetric and Gynaecology, Paediatric and Anaesthesiology specialists and facilities for EOC as well as a small neonatal intensive care unit.

Routine claims secondary data records were obtained from both the provider facility and the district insurance claims office. Variables analysed from these routine claims records were as follows: age of client, type of service (classified as normal delivery, antenatal, post-natal, CS, other EOC procedures and neonatal intensive care), number of routine antenatal and post-natal visits, and non-medicine and medicine claim expenditure and reimbursements. The variables used are the variables as captured in the routine data reporting system and there was no need for reclassification to be able to do the analysis. All routine claims data records for 2009 were included in the study. Records that were incomplete were dropped from the analysis. A total of 39,000 clients’ records were reviewed, of which 38,883 (99.7%) were complete and therefore included in the analysis. NHIA recurrent income and expenditure patterns for 2008 and 2009 were also reviewed to put the data from the study area into a national context. This was a recurrent expenditure analysis.

The data were entered and initially analysed in Microsoft Excel 2000. It was then exported to Stata® Version 9 using Stata Transfer for further analysis. Analysis was done to calculate total expenditure for all claims in the sample and average expenditure per claim with services and medicines claims combined. The analysis was also done for total expenditure and average expenditure per claim for each G-DRG service category (medicines excluded) and for total medicines expenditure and average medicines expenditure per claim. The G-DRG service categories for maternal care were ANC, PNC, spontaneous vaginal delivery (SVD), EOC and CS. The analysis was done for each facility and for the combined sample of facilities. All claim expenditure was in the local currency, Ghana cedis (GĦ€). This was then converted into US dollars using the average exchange rate in 2008 of US $1 = 1.00 GĦ€ and 2009 of US $1 = 1.45 GĦ€ to make the data more easily interpreted by an international readership.

Ethical approval for the study was granted by Ethical Review Committee of the Ghana Health Service. Permission to access and analyse the routine data was sought from the person in charge of the facilities. To ensure confidentiality, unique identifiers, rather than names, were used for each patient record.

Limitations of the study

This study focussed on the provider side. However, there might be demand side factors affecting the issues investigated. The secondary data used in this study had some inconsistencies. However on the whole, 99.7% of records that could be used for analysis are a very good result. For the detailed facility level analysis, the data analysed were from only one sub-metropolis of \(~150,000\) people in a country with a total population is \(~24,000,000\).

Results

The results of the claims data analysis are summarized in Table 2.

Sixty-two per cent of all claims (23,941/38,883) were for ANC. The majority of claims of all types (almost 60%) were from the RSH. Not only did all the claims for caesarean sections and EOC procedures come from the RSH but the bulk of normal deliveries (83%) claims also came from this hospital.

The RSH total average claim expenditure was higher than the overall average. However, averages did not always reflect the tariff gradation structure of higher reimbursements for higher-level facilities when disaggregated by type of service. Average ANC claim expenditure was lower at the RSH than at the GP. Average SVD claim expenditure was higher at the GMH than at the GP and RSH. The bulk of expenditure for the FMCP for all facilities in the sample was for services (84%), and total medicine claim expenditure was low, at 16% of all expenditure.

Claims expenditures for different maternal services

The total claims expenditure by service component showed antenatal service as the component with the highest claims expenditure at the GMH (US$313,34.75) and GP (US$77,484.99) for 7313 and 7432 antenatal claims, respectively. However, at the RSH, SVD constituted the highest expenditure at US$129,676.85 for 3407 SVD claims (Table 4).

Table 3 presents NHIS claims financing inflow and outflow data. Total NHIS expenditure on claims in 2009 was about double that of 2008. The British government grant in 2009 was about half the expenditure incurred in 2008 on maternal health services. The total of free maternal care payments in 2008 was 12% of the total claims expenditure of the NHIS. In 2009, FMCP expenditure was 23% of the total claims expenditure. NHIA expenditure exceeded income in 2009, giving a deficit.

Discussion

It will probably be difficult, if not impossible, to find a health system that is completely free of the tension between all the interventions that decision makers and beneficiaries would like to have, and interventions whose recurrent expenditures the health system can financially sustain based on the resources available. The tensions are even more acute in LMICs such as Ghana, where the ability of the economy to generate the revenues needed to sustain not just ‘would like to have’ but ‘clearly beneficial’ social welfare programmes can be problematic.

The FMCP, under the Ghana NHIS which has been the subject of this study, is clearly one such case where, despite the fact that the intervention to remove the access barrier to skilled attendants for mothers and newborns posed by OOP payment...
Table 2 Results of facility claims data analysis

<table>
<thead>
<tr>
<th></th>
<th>Government maternity home (Level B)</th>
<th>Government polyclinic (Level C)</th>
<th>Regional specialist hospital (Level D)</th>
<th>Total (whole sample)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Total no. claims records of all types analysed</td>
<td>7619</td>
<td>19.6</td>
<td>7968</td>
<td>20.5</td>
</tr>
<tr>
<td>Total no. ANC claims</td>
<td>7313</td>
<td>30.5</td>
<td>7432</td>
<td>31.0</td>
</tr>
<tr>
<td>No. of women with more than six ANC visits</td>
<td>250</td>
<td>59.4</td>
<td>81</td>
<td>19.2</td>
</tr>
<tr>
<td>Total no. post-natal claims</td>
<td>98</td>
<td>3.7</td>
<td>45</td>
<td>1.7</td>
</tr>
<tr>
<td>Total no. emergency obstetric claims</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total no. abortion claims</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total no. caesarean section claims</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total no. SVD claims</td>
<td>208</td>
<td>5.0</td>
<td>491</td>
<td>11.9</td>
</tr>
<tr>
<td>Average antenatal claim expenditure (US$)</td>
<td>4.28</td>
<td>10.43</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Average post-natal claim expenditure (US$)</td>
<td>3.86</td>
<td>16.58</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Average SVD claim expenditure (US$)</td>
<td>36.28</td>
<td>25.96</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Non-medicine claim expenditure (claims reimbursed) (US$)

<table>
<thead>
<tr>
<th></th>
<th>Total in 2009</th>
<th>Mean (SD)</th>
<th>Median</th>
<th>Skewness (kurtosis)</th>
<th>Range</th>
<th>Antenatal</th>
<th>Post-natal</th>
<th>SVD</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>28 943.66</td>
<td>5.63 (10.68)</td>
<td>12.10 (6.4)</td>
<td>8.67 (76.60)</td>
<td>0.60–99.92</td>
<td>21 390.94</td>
<td>296.03</td>
<td>7253.67</td>
<td>157 508.99</td>
</tr>
<tr>
<td></td>
<td>66 427.70</td>
<td>12.10 (6.4)</td>
<td>12.08 (6.4)</td>
<td>3.80 (25.01)</td>
<td>0.00–108.00</td>
<td>54 847.90</td>
<td>660.39</td>
<td>10 911.91</td>
<td>39 315.17</td>
</tr>
<tr>
<td></td>
<td>87.9</td>
<td>43.12 (56.60)</td>
<td>12.78</td>
<td>2.00 (6.89)</td>
<td>4.74–849.10</td>
<td>3407</td>
<td>102 912.69</td>
<td>101 344.41</td>
<td>211 940.48</td>
</tr>
<tr>
<td></td>
<td>100.0</td>
<td>29.52 (47.34)</td>
<td>10.88</td>
<td>2.78 (11.29)</td>
<td>(0.00–849.10)</td>
<td>88 127.61</td>
<td>99.1</td>
<td>119 509.99</td>
<td></td>
</tr>
</tbody>
</table>

Medicine claim expenditure (claims reimbursed) (US$)

<table>
<thead>
<tr>
<th></th>
<th>Total in 2009</th>
<th>Mean (SD)</th>
<th>Median</th>
<th>Skewness (kurtosis)</th>
<th>Range</th>
<th>Antenatal</th>
<th>Post-natal</th>
<th>SVD</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10 320.92</td>
<td>2.91 SD 1.11</td>
<td>4.72 SD 3.2</td>
<td>3.28 (40.79)</td>
<td>0.10–23.30</td>
<td>9943.81</td>
<td>81.72</td>
<td>293.32</td>
<td>32 090.88</td>
</tr>
<tr>
<td></td>
<td>24 559.33</td>
<td>4.72 SD 3.2</td>
<td>4.3</td>
<td>2.77 (21.60)</td>
<td>22 637.09</td>
<td>85.48</td>
<td>1.4</td>
<td>1835.04</td>
<td>2414.35</td>
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<tr>
<td></td>
<td>113 655.80</td>
<td>14.29 SD 19.04</td>
<td>7.6</td>
<td>3.43 (36.24)</td>
<td>22 637.09</td>
<td>85.48</td>
<td>1.4</td>
<td>1835.04</td>
<td>45 334.09</td>
</tr>
<tr>
<td></td>
<td>76.6</td>
<td>8.88 (14.23)</td>
<td>4.3</td>
<td>4.91 (61.94)</td>
<td>18.5</td>
<td>96.6</td>
<td>90.1</td>
<td>90.1</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>100.0</td>
<td>148 536.05</td>
<td>4.3</td>
<td>69 288.99</td>
<td>39 983.24</td>
<td>69 288.99</td>
<td>30 460.80</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

EOC: Emergency Obstetric Care
SVD: Safe Motherhood
Antenatal: Antenatal care
Post-natal: Post-natal care
SVD: Safe Motherhood Delivery
EOC: Emergency Obstetric Care
Abortion
Caesarean section

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of insurance premiums would appear to be a ‘clearly beneficial’ one, we find compelling evidence of potential financial unsustainability of the programme. These kinds of challenges are not unique to the Ghana FMCP. An evaluation of the Safe Delivery Incentive Policy in Nepal highlighted considerable implementation difficulties related to financial sustainability, and the need for strong financial monitoring systems (Powell-Jackson et al. 2008).

The financial sustainability threats to the FMCP are coming from several fronts. One is a failure, from the onset of the programme, to look at internal medium- and long-term financing sustainability planning supported by actuarial calculations. Instead the programme appeared to have started with a rather optimistic ‘donor dependency’ approach. It is doubtful that it is reasonable for any programme to depend on short-term donor guarantees for long-term sustainability. Provision of donor startup funding for programmes with high recurrent expenditures, under the expectation that government will take over and sustain the programme, must be accompanied by clear long-term analysis and planning as to how government will sustain the programme. International development partners or donors should also be responsible in this matter, and not encourage governments of resource-constrained countries to start programmes on the basis of external financial guarantees that the donor will not sustain in the long term, without countries having carefully considered their internal ability to sustain the programme. It is possible to inadvertently, rapidly overload programmes that are working well with more and more ‘open ended’ financing obligations. In the long term, this can tend to compromise their ability to attain and sustain the desired goals and create problems that could have been avoided by a little more systematic approach to planning and implementation. It is important to balance the desire to rapidly attain improved public social welfare—and the political and administrative popularity of such programmes—with careful analysis of how to sustain the financing of programmes in the proposed time frames. There is an urgent need to explore new and sustainable mechanisms to provide the needed extra resources for this programme.

Another factor feeding the threat to the sustainability of this programme is that it would appear that inadequate attention has been paid to claims expenditure cost containment. Attention to provider payment mechanisms and strategic purchasing (Kutzin 2001) are an essential part of developing sustainable universal health coverage programmes, whether financed by taxes, insurance or a combination. Claims reimbursements are the major expenditure driver accounting for over 85% of the NHIA expenditure in 2009. Total expenditure on claims payments increased from US$198.11 million in 2008 to US$212.52 million in 2009 (NHIA 2009). Financial sustainability of the scheme remains a big challenge to management, given the increasing demand for health insurance and its

<table>
<thead>
<tr>
<th>Service cost item</th>
<th>Government maternity home (US$)</th>
<th>Government polyclinic (US$)</th>
<th>Regional specialist hospital (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANC</td>
<td>US$31,334.75</td>
<td>US$77,484.99</td>
<td>US$95,529.95</td>
</tr>
<tr>
<td>PNC</td>
<td>US$377.75</td>
<td>US$745.87</td>
<td>US$109,674.48</td>
</tr>
<tr>
<td>SVD</td>
<td>US$7,546.99</td>
<td>US$12,746.95</td>
<td>US$129,676.85</td>
</tr>
</tbody>
</table>

This total expenditure is both medicine and non-medicine claim expenditures for each of the maternal health services.
consequent increase in healthcare service utilization and related reimbursement claims. The FMCP is no exception. The total FMCP claims payments in 2008 amounted to 12% of the total claims expenditure of the NHIS (US$24.45 million) and, in 2009, it rose to 23% of the total claim expenditure (US$49.25 million).

There are several possible reasons why costs are escalating and overtaking inflows. One possible reason could be that the tariffs set are too high and the desired quality of care could be obtained with lower tariffs. However, a comparison of the claims expenditures in this study with related expenditures from other studies in LMIC suggests that this may not be the case. Studies of dispensaries in rural Tanzania, a low-income country, suggest even lower costs of US$0.60 and US$0.40 per ANC visit (Gilson 1995; Kowalewski 1998) compared with US$4.28 calculated in this study in Ghana (LMIC). However, this is a report that is over a decade old. It is very likely that, if the costs recorded at that time are adjusted for inflation over time, the differences may be much smaller. From a study of a hospital in Pakistan (LMIC), the average cost for a SVD was US$40 (Khan and Zaman 2010) which is again higher than average claims expenditure for the same service in the RSH (US$35.48) in this study.

Another possible problem could be frivolous use by clients. However, using the average number of antenatal visits per clients as a crude indicator, the majority of women in this study would appear to be under-, rather than over-utilizing services. The average number of antenatal visits for all facilities was less than half the stipulated number of visits for over 93% of clients who use antenatal services.

There is also the observation that women would appear to be bypassing less expensive primary care services that attract lower claims reimbursement tariffs and using services of the specialist hospital that attract higher tariffs, even for normal deliveries. However, counter-intuitively, the average claims expenditure per ANC visit was higher at the GP than at the RSH. Similarly the average claims expenditure for SVD was higher at the GMH than at the RSH. It is possible that providers are engaging in some kind of ‘compensating behaviour’ at the lower-level facilities to maximize their revenue despite the tariff differential. Medicines, for example, can be a major cost driver; and they might be dispensing a lot more drugs and supplies, that are paid for by itemized billing, to increase revenue. Other studies have found that expenditure on medicines tends to be high (Barry et al. 2010) and drugs and medical supplies were the second major category of total cost (Green and Barker 1988; Valli et al. 1991). Whatever the reason, clearly the counter-intuitive observations in this study about the average costs of some services at the different levels of facility merits further investigation into provider behaviour.

Pregnant women in the sub-metropolis preferred to use RSH services for deliveries rather than the lower-level facilities. Total expenditure on SVD at the Regional Specialist hospital was (approximately) ten times as great than the total expenditure on delivery services at the GP (see Table 4). The low utilization of delivery services at health centres and GPs stands in contrast with the high utilization of ANC that is observed at these facilities. The implications of these findings are challenging for health care managers, since it appears that the rationale of stepped care and gatekeeper systems are not working in the study setting. Levels of care and gatekeeper systems are important cost containment mechanisms. EOC offered at the RSH setting constitutes a huge part of the cost observed for this level. This is similar to findings from Burkina Faso, that the cost of EOC is significantly higher than the cost of care for uncomplicated delivery in hospitals in Burkina Faso (Katerina et al. 2008).

Levels of care and gatekeeper systems can also reduce overcrowding and the related reductions of quality of care at higher-level facilities. The low delivery services usage at the GMH facility cannot be due to transportation problems, since the study site was a sub-metropolitan area well served by public transport systems. There may therefore be other drivers, such as perceived quality of care or trust in the referral system.

In conclusion, this study assessed the financial sustainability of claims expenditure of the FMCP of the Ghana NHIS by the NHIA to draw out lessons for Ghana and other LMICS struggling with implementation challenges related to financial sustainability of programmes to increase financial access under resource constraints. There is much literature on defining, measuring and evaluating sustainability (e.g. LaFond 1995), and on general underlying factors, such as health financing trends (World Bank 2006). However, there are few studies that consider a comprehensive exemption scheme being financed as part of a NHIS in a lower middle-income country, using a DRG system of reimbursement for services, as has been done in this study.

There is no easy way for LMICs in this dilemma. However, there are some clear lessons from this study. The first is to avoid a dependency on donor promises to replace careful long-term fiscal evaluation and planning in designing and implementing such programmes. The ‘ability to meet the needs of the present without compromising the ability to meet future needs’ (Roberts 1998) requires a lot of careful planning rather than ad hoc approaches. Ability to meet health system financing obligations must go with the willingness to commit to those obligations. The second is to pay more attention to issues of strategic purchasing of the services delivered by such programmes. There are incentives and disincentives inherent in different provider payment mechanisms: careful attention must be paid to design with this in mind.

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