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## CAPITATION IN HEALTHCARE FINANCING IN GHANA

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### ABSTRACT

**Objective:** To analyse implementation of the pilot study of the *per capita* system of healthcare financing in Ghana in 2012 for a determination of the likelihood of realising the inherent theoretical benefits when the system is rolled out nationally.

**Design and Setting:** First, publicly available information on how the pilot unfolded is presented, followed by the reaction of the health authorities to these developments. We then analysed accrued evidence on costs and developments vis-à-vis the theoretical benefits.

**Results:** It would appear that preparation for the pilot exercise could have been handled better. Concerns include i) the low level of both education and awareness of the capitation system among healthcare subscribers and primary care providers; ii) confusion about service provider to whom subscribers had been assigned for the capitation period; and iii) service providers not understanding differences between capitation financing and financing under the Ghana diagnostic Related Grouping; and iv) some indication of cost savings.

**Conclusion:** Cost savings may be available nationally. This is important because cost containment is the driving force behind the introduction of the capitation system.

### INTRODUCTION

This study analysed the pilot programme of the *per capita* system of healthcare financing in Ghana carried out in one political administrative region in 2012, with a view to identifying lessons that will stand the nation in good stead during the planned countrywide rollout of the system. Implementation of the capitation pilot was fraught with numerous challenges, many of them played out publicly. This study assesses this implementation using publicly available evidence. We address the question of whether there is some indication that the capitation system of financing healthcare will help address healthcare financing challenges as well as the chances of realising its expected benefits.

The National Health Insurance Authority (NHIA) was established "to secure the implementation of a national health insurance policy that ensures access to basic healthcare services to all residents". To this end, the National Health Insurance Scheme (NHIS) was established "to provide finance to subsidise the cost of provision of healthcare services." (1). The NHIS is funded by i) 2.5% sales tax equivalent on goods and services eligible for value added tax; ii) 2.5 percentage points out of 18.5% (of salaries) pension contributions on behalf of persons who belong to

the national pension scheme; iii) premiums paid by non-members of the national pension scheme; iv) budgetary allocations made by government; v) grants and other donor support; and vi) earnings on investments made by the National Health Insurance Fund (NHIF).

NHIF pays for the cost of healthcare services for members of the NHIS. In 2011, the sales tax provided 73% of NHIS revenues, deductions from pension contributions provided 17%, investment income generated 5%, premiums made up 4.5%, while other sources generated 0.5% (2).

For each of the years 2009, 2010 and 2011, NHIS expenditures exceeded revenues, reducing the NHIF to USD 152 million at the end of 2011. The NHIF started 2009 with USD 382 million (2).

Challenges facing the NHIS include fraud (double-billing, over-billing, non-adherence to tariff, irrational prescribing and poly-pharmacy, non-adherence to the Medicines List, poor quality care and unsupported claims) and anomalies (misapplication of funds, inability of the NHIS to account for monies collected, poor controls, conflict of interest, weaknesses in organizational processes as well as outright incompetence) as serious challenges facing the NHIS which needed urgent attention (3).

To establish the NHIS and NHIA, the National

Health Insurance Act 650 was passed in 2003. Payment for claims for services provided under the NHIS started in 2005 using the fee-for-service approach. Not happy with the fee-for-service approach, the NHIA introduced Ghana Diagnosis Related Group (G-DRG) tariffs system for certain claims, while maintaining the itemized fee-for-service for others.

From the NHIA perspective, the fee-for-service system suffered from the fact that it rewarded service providers for providing services or items to subscribers even if they were not needed. In addition, this approach was said to be very tedious to use - it delayed submission of claims, payment of claims and consumed time and resources as the NHIS attempted to vet claims made.

Under the G-DRG, related diagnoses and procedures are grouped together and the average cost of treatment in that group determined. The G-DRG ensures uniformity in claims processing and claims management but could still be used to benefit the provider unnecessarily. Further, reimbursement procedures for services rendered by providers though somewhat simpler than the fee-for-service system, is administratively complicated and makes a heavy demand on the time of both the service provider and NHIA staff. Further still, there is some incentive for the provider to opt for a more expensive diagnosis or procedure, even if a less expensive one will do.

*The capitation pilot:* In January 2011, the NHIA announced that service providers of the NHIS were to be pre-financed to provide services to

subscribers of NHIS under a programme referred to as the "capitation system". A pilot study was to be undertaken before the system would be rolled-out nationwide. Piloting got underway on 1st January, 2012, and was to last between six and 12 months. It continued past 31<sup>st</sup> December, 2012.

Under the pilot system, accredited healthcare providers were to receive advance payment monthly at a pre-determined fixed rate, to provide a defined package of services to subscribers registered with a provider. The capitation amount was initially envisaged to include pre and post-natal consultations, (delivery excluded), primary healthcare consultations at out-patient departments, medicines and routine laboratory and urine examinations. Subscribers would be allowed to voluntarily indicate their preferred primary-care provider (PPP). The PPP would then manage the primary healthcare needs of the clients. The capitation amount to be advanced to a PPP would be based on the number of clients who opted for that PPP. Once every six months, a subscriber could switch from one provider to another and payments will be redirected to the new PPP. Specialist referrals and in-patient care will continue to be paid for using the G-DRG. For the pilot study, the initial capitation rate was set at USD 1.03 per subscriber registered with a PPP per month.

*Expected benefits of capitation to Ghana:* Here is a summary of the advantages that adoption of a capitation system is supposed to confer on the healthcare system (4).

**Table 1**  
*Theoretical benefits of capitation (4).*

1. Reduce the current massive administrative and staff time costs of claims preparation, submission, vetting and reimbursement involved in claims preparation, submission, vetting and reimbursement in using G-DRG;
2. Simplify claims processing;
3. Improve cost containment;
4. Control cost escalation by sharing financial risk between NHIS, providers and subscribers;
5. Introduce managed competition for providers and choice for patients as a way of increasing the responsiveness of the health system;
6. Improve efficiency through more rational use of resources;
7. Correct some imbalances created by the G-DRG such as OPD supplier-induced demand where clients may be requested to make unnecessary visits because they are a condition for reimbursement under the G-DRG;
8. Address difficulties in forecasting and budgeting;
9. Other benefits to healthcare service providers include upfront payment as opposed to arrears, more predictable payment schedules, thus enhancing planning and encouraging stronger overall care management system.

### *Theoretical implications of capitation*

*Quality of care:* Consider the extreme case of a private hospital which receives capitation money for members of a healthcare scheme for a period in question. Suppose that for this period, no member of the scheme uses the services of the hospital. The result would be that the hospital keeps all the capitation money it received.

Thus for this private hospital, every out-patient visit by a scheme member amounts to a reduction in money it could potentially keep for itself. All else equal, it makes sense for this hospital to reduce the resources spent on each patient. Such a hospital has a built in incentive to under-diagnose and under-treat patients to reduce costs. Of course, hospitals cannot ethically refuse to give subscribers appropriate care so as to keep the capitation payment. However, if patients do not get well, they will return to the service provider, probably frustrated.

*Type of care:* Healthcare providers who work under capitation programmes tend to focus on preventive healthcare. For, to them, it is financially more rewarding to keep clients from becoming ill than to treat them after they have become ill. Also, providers tend to shift away from performing expensive and newly developed treatment options that may have only a marginally higher success rate than alternatives.

*Provider as Insurer:* In entering into agreement to provide healthcare under capitation arrangement, the healthcare provider is acting as an insurance company. The provider accepts fixed revenues (capitation amounts) but agrees to indemnify scheme members against unlimited claims in respect of ailments covered by their schemes over the period and to absorb the costs associated with clinical care. This means that the provider becomes the subscriber's insurer. Given that the typical healthcare provider attends to few scheme members (relative to the typical insurance company), healthcare providers play the role of micro-health insurers, assuming the responsibility for managing the unknown future healthcare costs of their patients (5).

Based on insurance principles (law of large numbers), large providers will tend to manage their health insurance risks better than smaller providers - better predictability of their costs, better preparedness for variations in service demand and costs and overall liquidity (6). It should be noted however that, even large providers are relatively inefficient risk managers compared with large insurance companies like the NHIS itself.

We note that Ghana is not the only country in search of an optimal system of healthcare financing that improves access and balances cost and quality of care. Many members of the Organisation for Economic Co-operation and Development continue

to experiment with new methods of paying healthcare providers. For example, the concept, Pay-for-Performance is used to provide incentives to increase the efficiency of primary care and specialist care physicians, (7).

Following this introduction, we present the methodology employed in conducting this study. Then we presented the results of our analysis followed by discussions and concluding remarks.

## MATERIALS AND METHODS

This assessment is conducted by evaluating evidence gathered during implementation of the pilot system against the theoretical benefits outlined by the NHIA in (4). The approach adopted in conducting this study involved a number of steps.

1. We gathered information on how the capitation pilot system evolved in the entire pilot region. Our sources included publicly available media reports, interviews conducted by the media with NHIA officials, NHIA press briefings (8), and National Health Insurance Scheme Reports, (2). We also used information available at the NHIA website.
2. Next, we reported on how the NHIA reacted to press reports about developments in the pilot programme;
3. Then, we analysed comparative claims data provided by the NHIA covering the periods January to June 2011 and January to June 2012 at a press briefing held on October 2012;
4. Beyond claims data, we also discussed the evidence that accrued during the pilot study in respect of the other benefits that the NHIA expected adoption the capitation system would bring about (4);
5. We then highlighted the challenging issues that must be addressed in order to increase the chances of attaining the objectives of capitation.

## LIMITATION

Granted that the pilot system was on-going for most of the time of writing, a full assessment of the pilot could not be made. For the same reason the NHIA has not, released any reports or data beyond press briefings referred to. However, our study is extremely worthwhile because it seeks to highlight challenges being faced and suggest ways to address same, given the importance of NHIS and the intended national rollout. On the ethical side, the author would have loved some feedback from the NHIA, but no official could be reached for authorised comment. However, this does not take away much from the study since it uses publicly available data. Opinions expressed must be considered those of the author.

## FINDINGS

*How the pilot capitation evolved:* The pilot study of the proposed capitation system began on January 1, 2012. It was to last between six and 12 months and would cover all NHIS subscribers and all PPPs in the Ashanti Region. Choice of the Ashanti Region was justified on the grounds that, that region is typical of Ghanaian regions. The NHIA expected to face in this region challenges it could expect to face in other regions. The region is centrally located in the country, has a mix of rural and urban communities and has a representative blend of small and big health facilities. 17% of active NHIS subscribers nationally are in this region (2). Overcoming challenges encountered in piloting the capitation in Ashanti would indeed position the NHIA to rollout the capitation system across the country with confidence.

We document developments in respect of implementation of the capitation system:

On January 6, 2012, the newspapers and radio stations carried news stories that the Society of Private Medical and Dental Practitioners (SPMDP) in the Ashanti Region had suspended their participation in the pilot study on the grounds that the capitation rate of USD 1.03 per patient per month for OPD primary healthcare (consultation, laboratory tests and medication but excluding child deliveries) was too small and that their businesses would collapse if they stayed with the capitation system. The SPMDP added that its members were not against the new system.

Further, the SPMDP was of the view that since they had not signed any contract to operate under the capitation system, they would provide their services under the old G-DRG system.

Later still in January, an advocacy group calling itself the Ashanti Development Union staged demonstrations in Kumasi (Regional capital) against the implementation of the capitation policy in the Ashanti Region for lack of effective public education.

Then, on February 11, the newspapers carried stories that the SPMDP and the Ghana Registered Midwives Association (GRMA) in Ashanti had jointly issued a statement to the effect that members of the two groups had resolved to indefinitely suspend providing services to NHIS subscribers. As part of their concerns, their members wondered why the Ashanti Region was chosen for the pilot study. They also complained that the capitation amount of USD 1.03 was woefully below the USD 7.06 paid them per visit under G-DRG.

Later, on February 15, the newspapers carried another story that teachers in Kumasi (Ghana National Association of Teachers) had called for suspension of the implementation of the capitation system 'to save lives'. Concerns included members not finding their names at designated preferred primary-care providers

(PPP) and being denied care. On the same day, the newspapers carried another story, that the NHIA had signed agreements with the SPMDP and GRMA under which both bodies would provide services under capitation while technical teams consisting of representatives of the two bodies and the NHIA would discuss issues of concern.

*NHIA reaction to issues arising since the pilot study began:* In response to the position of SPMDP on January 6 to provide services under the G-DRG instead of capitation, the NHIA responded that since capitation was a product of the NHIS, it was binding on all who had been accredited by the NHIA to provide services under capitation.

In reaction to subscribers being turned away by PPPs because their names were not on the list of subscribers submitted to PPPs by the NHIA (hence their capitation amounts had not been directed to the affected PPPs), the NHIA issued a fiat that no PPP may turn away a subscriber on this account.

Starting January 17, the NHIA commenced running full page advertisements in the daily newspapers titled UNDERSTANDING THE NHIS PROVIDER PAYMENT SYSTEM AND CAPITATION. In this advertisement, the NHIA sought to educate the public on the capitation system and to straighten out some misunderstandings.

On February 3, the chief executive of the NHIA granted a radio interview during which he argued that comparison of the previous USD 7.06 per PPP visit to the capitation rate of USD 1.03 per subscriber per month was unfortunate. He explained that NHIA's analysis of the history of the NHIS showed that subscribers visited healthcare facilities twice a year on average. This translates to USD 14.12 per subscriber per year. The current USD 1.03 a month per subscriber works out to USD 12.36 per year, just a little less than the USD 14.12 under the G-DRG.

Then starting February 7, the NHIA ran another series of full page advertisements in the daily papers this time titled 10 THINGS YOU NEED TO KNOW ABOUT NHIS CAPITATION. The aim was to further educate the public on capitation.

Later in February 2013, after much negotiation with service providers, the NHIA agreed to

- o Exclude antenatal and post-delivery care from the capitation rate; also
  - o Payment for medication would revert to the itemised fee-for-service.
- As a result, the capitation rates would now be:
- o USD 0.35 per subscriber registered with government health institutions per month;
  - o USD 0.46 to members of the Christian Health Association of Ghana (owned by religious bodies but supported by government); and
  - o USD 0.65 to SPMDP members and other private providers.

The differential rates are due to differences in costs borne by government on behalf of PPPs.

Nevertheless, the agitation for higher capitation rate never receded. In March 2012, the NHIA announced increases in the capitation rates that would take retrospective effect to January 1, thus:

- o from USD 0.35 to USD 0.58 for government health institutions;
- o from USD 0.46 to USD 0.79 for members of the Christian Health Association of Ghana; and
- o from USD 0.65 to USD 0.84 for SPMDP members and other private providers.

*Analysis of capitation pilot evidence vis-a-vis stated potential benefits*

*NHIA Claim: Improving cost containment*

*Evidence:* As suggested in the introduction, cost containment appears to be the major reason for the introduction of capitation. Figure 1 shows monthly (January to June) movement in claims per active subscriber for 2011 and 2012. These charts which were presented by the NHIA chief executive in his press briefing in domestic currency have been presented in United States dollars for easy international comparison (8). What immediately stands out is that, of the four charts, the monthly averages in Ashanti during 2011 are highest. This is the period without capitation.

Next, one notices that the other three curves are bunched up – Ashanti 2012 with capitation, National 2011 and National 2012 (both without capitation). One

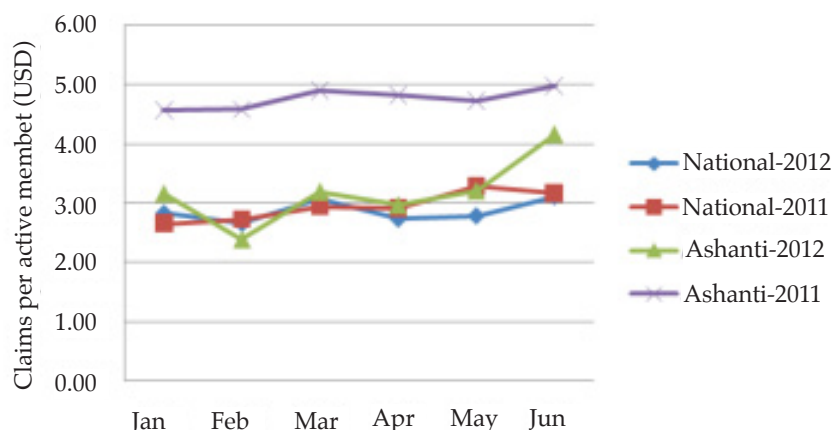
is curious that Ashanti 2012 with capitation is not lower than the other two. What is more, one wonders whether the May and June figures of Ashanti 2012 suggest the beginning of a rising trend.

*Other NHIA Claims (Table 1):* The following NHIA claims are addressed together because they have a lot in common.

- (i) *Capitation will reduce the current massive administrative and staff time costs of claims preparation, submission, vetting and reimbursement involved in using G-DRG and fee-for-services for medicines to pay for first line OPD care*
- (ii) *Simplifying claims processing.*
- (iii) *Other benefits to healthcare service providers include upfront payment as opposed to arrears, more predictable payment schedules, thus enhancing planning*

*Evidence:* The amount for the first month of capitation reached the PPPs in good time for the start of the pilot. Subsequently, minor delays resulted from interbank transactions. Indeed, claims processing has been simplified. However, because the lists of subscribers that went along with the capitation amounts to PPPs were inaccurate, the amounts PPPs received were not consistent with subscribers they were to serve each month. While the situation improved with time in the course of the pilot, it gave PPPs nightmares to the extent that some threatened to opt out of contracts with the NHIA.

**Figure 1**  
Average claim per active member (USD)



National refers to the national average excluding Ashanti Region.

Ashanti is the region in which capitation was piloted.

*Note:* Present values between 2011 and 2012 has been set aside to simply the exposition.

*NHIA Claim: Sharing financial risk between the NHIA, PPPs and subscribers*

*Evidence:* NHIA had to revise the capitation rates upwards. The new rates reported above represent increases of 29% for SPMDP and private providers,

70% for Christian Association members and 68% for government-owned providers. These increases were not planned for. The NHIA bears risk to the extent that the total capitation amount it pays may, more often than not, exceed the cost borne by PPPs

in providing healthcare. PPPs bear the risk that the cost of providing treatment to subscribers registered with them may, more often than not, exceed the total amount of capitation received.

PPPs are assuming the role of insurers, roles they are least prepared to play as discussed earlier. On the part of subscribers, if the capitation system is working well and is well funded (the system has government backing), subscribers do not bear financial risk as envisaged here.

*NHIA Claim: Introducing managed competition for providers and choice for patients as a way of increasing the responsiveness of the health system*

*Evidence:* As the NHIA continued to address the teething problems of capitation, and PPPs became more comfortable with capitation, there were indication of some competition among PPPs to serve clients better. Clients were allowed by the NHIA to change PPPs (before six months were up) as a way of addressing concerns of unhappy subscribers.

*NHIA Claim: Improving efficiency through more rational use of resources*

*Comment:* No evidence at this stage to assess this potential benefit.

*NHIA Claim: Correct imbalances created by the G-DRG such as OPD supplier-induced demand*

*Evidence:* Indeed, during the pilot, PPPs had no incentive to encourage multiple visits by subscribers. In fact, they had every incentive to discourage repeat visit.

*NHIA Claim: Addressing difficulties in forecasting and budgeting*

*Evidence:* Data on OPD utilisation during the pilot is still being tallied. However, national data show clearly that overall OPD attendance has not at all stabilized (see year-on-year variations in Table 2). Confounding the picture for forecasting purposes is the wide regional variation in the number of active members as proportion of population. It ranges from 24.6% in 2011 in the Central Region to 50.9% in the Upper West Region (2). These differences must be borne in mind as the NHIA prepares to rollout capitation nationwide.

**Table 2**

*Annual variations in total OPD attendance by NHIS subscribers*

| Year  | OPD Cases  | % increase |
|-------|------------|------------|
| 2005  | 597,859    |            |
| 2006  | 2,434,008  | 307        |
| 2007  | 4,648,119  | 91         |
| 2008  | 9,339,296  | 101        |
| 2009  | 16,629,692 | 78         |
| 2010  | 16,931,263 | 1.8        |
| 2011* | 25,486,081 | 51         |

## DISCUSSION

Final piloting figures are not yet in hand. But available evidence suggests that the average claim per active member during the first six months of capitation was not lower than non-capitation claims. This is troubling on the surface. Part of the explanation may lie in the fact that even during the first six months of 2011, when there was no capitation, average monthly claims in Ashanti were higher than the national average. With capitation, the savings in Ashanti hover around USD 1 per claim per month. The logic may be stretched to suggest that nationally too, the saving may be USD 1 per average monthly claim per active subscriber. Nationally, this would have translated to USD 25 million (USD 1 per 25,486,081 attendance), a substantial amount. The NHIA should however keep an eye on what appears to be a rising trend in Ashanti starting May 2012.

The question of adequacy of capitation amount may be addressed by establishing objectively the cost of providing healthcare services. Admittedly, this is not a trivial exercise, but in Ghana, some work has been done in this direction (9 – 10). The NHIA may consider tackling this issue in the medium term. For, beyond agitating for higher capitation rates if the PPP consider that the capitation rate is low, they may be tempted to provide lower quality and cheaper care. This of course, raises ethical and other concerns, but is a possibility.

The need for adequate education is paramount. It would help address confusion about:

- providers mixing up the underlying concepts of payments: G-DRG versus capitation;
- which PPPS subscribers were enrolled with, or whether they were enrolled at all is another bottleneck that must be addressed. Without doubt, NHIA must literally ensure that every single subscriber indicates their preferred PPPs. Meanwhile, NHIA must also ensure that PPP are not overburdened since this has the potential of causing disaffection among subscribers as waiting times increase and service quality falls since PPPs will try to stretch their resources to serve all. This situation is a two-edged sword however. Putting a limit on the number of subscribers per PPP, dilutes the intended advantage of introducing managed competition among providers. By capping the number of subscribers per PPP even those PPPs not pulling

their weights may end up with subscribers, at least for the next six months.

Table 3 summarises our assessment of the evidence that accrued against the theoretical benefits of capitation system to deliver advantages to the three stakeholders relative to the G-DRG. We conclude that overall the pilot study was fraught with many challenges. On balance however, the outcome of the capitation appears to have favoured the NHIA more in financial terms than service providers. However, the NHIA's image has taken a beating. It will have to act with more circumspection to win back public confidence before proceeding with the planned national rollout of the capitation system if they are to carry the public along. Benefits to subscribers are potentially large but indirect. They will be realized when the healthcare delivery system improves as a result of capitation.

**Table 3**

*Summary of evidence and our assessment of extent to which the pilot study has revealed benefits of the capitation system to stakeholders relative to the Ghana Diagnostic Related Grouping.*

| NHIA indicated*<br>Benefit   | IMPACT ON STAKEHOLDER  |  |   |
|--|--|--|---|
|  | NHIA/NHIS  | PROVIDER (PPP)   | SUBSCRIBER  |
| 1.Reduce administrative and staff time costs of claims preparation | Substantial confusion. Subscriber numbers per PPP were inaccurate resulting in massive discrepancies in amounts transferred versus what should have been | Same as for NHIA/NHIS                                      | Lots of headaches for many whose names were not found with preferred PPP. NHIA had to issue a fiat that they could go to ANY PPP and receive care |
| 2.Simplify claims processing                                       | Yes, once numbers of subscribers were agreed   | Yes, once numbers were subscribers agreed                  | Not an issue  |
| 3.Improve cost containment   | Some indication to that effect   | Many complained that capitation rates are too low          | Not an issue.   |
| 4.Control cost by sharing financial risk                           | Some positive evidence   | Pilot did not provide evidence on frequency of attendance. | Not an issue  |
| 5. Introduce managed competition among PPPs                        | Some positive evidence noted towards the end of pilot  | Same as for NHIA/NHIS                                      | Same as for NHIA/NHIS   |
| 6.Improve efficiency   | No evidence  | No evidence  | Many disagreed  |
| 7.Correct imbalances created by the G-DRG                          | Yes  | Yes  | Not applicable  |

|   |   |                       |   |
|---|---|-----------------------|---|
| 8. Address difficulties in forecasting and budgeting      | On the contrary. Pilot was rather chaotic                                       | Same as for NHIA/NHIS | Chaos in conduct of pilot negatively affected subscribers |
| 9. Upfront payment and more predictable payment schedules | Yes, but were grossly inconsistent with subscriber numbers registered with PPPs | Same as for NHIA/NHIS | Not an issue  |

Source: Author's analysis of publicly available information.

\* See Table 1.

This study suggests that the following should be undertaken before NHIA embarks on a nationwide rollout of the capitation system:

1. NHIA should seek answers to why the average monthly claim in Ashanti appears to be rising as the capitation pilot appears to be taking hold.
2. The NHIA should work closely with service providers in respect of revisions to the capitation rate to avoid public wrangling over appropriate rates.
3. Before national rollout, PPPs need to understand how capitation is supposed to work financially. Subscribers must understand the need to register for a PPP and the reasons for being asked to prioritise three PPPs. Education should also focus on getting providers to appreciate the conceptual differences between fee-for-service and capitation.

#### ACKNOWLEDGEMENTS

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