Pay for performance in Nigeria: the influence of context and implementation on results

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Abstract

Pay-for-performance (P4P) has recently been introduced in Nigeria to improve quality of health services. Its early results show significant variation between implementation sites. Literature suggests this might be explained by differences in design, context and implementation of the scheme. This study aimed to explore how context and implementation influence P4P in Nigeria. Semi-structured in-depth interviews with 36 health workers explored their views and experiences on how contextual and implementation factors influenced the impact of the P4P scheme. Data were analysed using the framework approach. Four themes captured the views and experiences of participants. Uncertainty of earning the incentive and inadequate infrastructure reduced health worker motivation and performance results; whilst adequate health worker understanding of the scheme and good managerial skills (health facility level) improved motivation and performance. Minimising delays in incentive payments, effective communication and improving the health workers understanding of the P4P scheme are likely to improve the outcomes of pay for performance programmes, independent of their design.

Key words: Behaviour change, developing countries, formative research, health financing, incentives, primary health care

Key Messages

• Contextual and implementation factors such as timely incentive payments, effective communication and training, can affect the impact of pay-for-performance (P4P) schemes.
• Minimising delays in incentive payments, effective communication, and improving the health workers understanding of the P4P scheme are likely to improve the outcomes of P4P programmes in Nigeria and similar low- and middle-income countries (LMICs).
• Efforts must continue to identify and address barriers that reduce the impact of P4P in Nigeria throughout its implementation.
• There is an urgent need to build an evidence base, which informs optimal conditions of implementing P4P in similar LMICs given the continued interest in P4P.

Introduction

Pay-for-performance (P4P) programmes, also known as performance/results-based financing are being introduced in many health care systems to try and incentivize behaviours that will increase the effectiveness and efficiency of health services. A P4P scheme has recently been piloted in Nigeria aiming to improve quality and utilization of maternal and child health services in primary health care (PHC) facilities. The P4P scheme in the Nigerian healthcare system...
follows a structure of payment of monetary incentives to PHC facilities (50% of the incentives are used for health worker bonuses and the other 50% for maintenance of the facility, equipment and drugs) on a quarterly basis upon achievement of predetermined targets of improvements in quality and utilization indicators. This includes antenatal care (ANC), number of facility deliveries, postnatal care (PNC) and number of fully vaccinated children (see Table 1) (NPHCDA 2012).

The P4P strategy has the potential to address the core challenges that persist in the Nigerian healthcare system, such as poor health worker motivation, inadequate infrastructure, lack of transparency and poor record keeping (Okafor 2009; Akinwale 2010; Scott-Emuakpor 2010). This follows the rationale that the bonuses paid could motivate the health workers either by supplementing their income or through the improvement of infrastructure, drugs and equipment at the health facilities. In addition, administrative processes in the P4P scheme, such as submission of reports by health facilities (to earn the incentives), audit trails and verification exercises (to reduce falsification of reports) would improve record keeping and transparency (NPHCDA 2012).

Evidence of effectiveness of P4P in healthcare, however, is conflicting, with mixed results from the evaluations (Van Herck et al. 2010; Eijkenaar et al. 2013).

Emerging literature suggests that the effectiveness of P4P is likely to be dependent on key features of the design, as well as the context, and implementation of the schemes, and that difference in these factors might explain the mixed results of evaluations of P4P (Van Herck et al. 2010; Epstein 2012). For example, well designed P4P schemes (with large-sized incentive) implemented in a context or setting with efficient administration, and adequate infrastructure to carry out incentivized activities, are more likely to be more successful, as opposed to poorly designed schemes implemented in settings with inadequate infrastructure and administrative delays.

In Nigeria, the P4P approach in all implementation sites follows the same design and mechanism of incentive payments. The early results of the pilot, however, show significant variation between the three participating States and also between the health facilities within these States (NPHCDA 2012). This provides an opportunity to explore the impact of contextual and implementation factors which are likely to vary between implementation sites, and so may influence outcomes.

The literature suggests that several factors could possibly explain within-scheme variation in performance (Young et al. 2005; Canavan and Swai 2008; Toonen et al. 2009; Stockwell 2010). These include implementation factors such as: uncertainty as to whether providers will receive the incentive (e.g. due to delay in payment), communication (e.g. lack of communication about changes in the scheme), trust in method of performance measure tool, health worker understanding of the P4P scheme; and contextual factors such as the role of health facility managers in the scheme (management skills) and the influence of infrastructure in the P4P scheme.

There is no systematic evidence of the influence of these factors in the Nigerian context because the scheme is among the first of its kind to be introduced. In addition, published evidence on implementation and context on the effectiveness of P4P schemes in low- and middle-income countries (LMICs) is sparse (Ssengooba et al. 2012). This study sought to address this evidence gap.

### Aim

The aim of this study was to investigate the influence of contextual and implementation factors on variations in performance in the Nigerian P4P pilot and inform the development of the scheme on a larger scale.

### Objectives

1. To investigate the views and experiences of health workers participating in the Nigerian P4P scheme on:
   - Uncertainty in earning the incentive in terms of: delay in payment, communication, and the tool used to assess individual performance.
   - Understanding of the P4P scheme.
   - The role of health facility managers in the scheme.
   - The role of infrastructure in the P4P scheme.
   - To examine whether and how these responses vary within and across professional roles, health facilities, and States.

### Methods

#### Study design

Qualitative semi-structured interviews were conducted in July 2013, 18 months after the P4P pilot scheme was introduced in Nigeria.

<table>
<thead>
<tr>
<th>Table 1. Summary of the P4P scheme in Nigeria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core design features</td>
</tr>
<tr>
<td>Who receives the incentives</td>
</tr>
<tr>
<td>Type of incentive</td>
</tr>
<tr>
<td>Type of payment</td>
</tr>
<tr>
<td>Size of incentive</td>
</tr>
<tr>
<td>Payment mechanism</td>
</tr>
<tr>
<td>Performance measure</td>
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<tr>
<td>Domain of performance measured</td>
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<td>Timing of payment</td>
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</table>
This study was approved by the Health Sciences Research Governance Committee at The University of York, as part of a doctoral research project.

**Participants**

Participants were health workers in health facilities participating in the P4P scheme. These included health facility managers, nurses, community health extension workers (CHEWs), laboratory technicians and Junior CHEWs. The participants were selected using maximum variation purposive sampling (Palys and Fraser 2008), which aimed to achieve diversity among the participants and reflect variation in performance between the health facilities.

We set out to select participants from top, average and low performing facilities (based on early results) across the three pilot scheme States.

Performance was measured by the average change in utilization of incentivized health services between December 2011 and December 2012 (details of performance data available on the P4P website https://nphcda.thenewtechs.com/data.html). Based on these results, we were able to group health facilities into top, average and low performers.

**Data collection**

The interviews aimed to build a rich and detailed picture of how contextual and implementation factors may have influenced the results of P4P in Nigeria. The topic guide was informed by existing literature, informal observation, and was piloted (see Table 2). Whilst we had pre-set themes/areas of enquiry, we gave room for emergent themes during the interviews. The interviews were conducted face-to-face, audio recorded (with consent) and transcribed verbatim.

**Data analysis**

We used a modified version of the framework approach by Ritchie and Spencer (1994) to analyse the data generated from the interviews. This approach presented a key advantage of facilitating comparison of data across the matrix (Gale et al. 2013) which enabled us to explore and compare the variations in views and experiences of the health workers. Data were organized using Microsoft Word rather than a specialist qualitative data management programme.

Data analysis consisted of five stages and was conducted by Y.K.O. (the lead author):

1. Familiarization with data

2. Identification of thematic framework: this involved refining initial and identifying emergent themes. The initial themes were:
   - Uncertainty of earning the incentive in terms of: delay in payment, communication, and the assessment tool.
   - Health worker understanding of the P4P scheme.
   - The role of health facility managers.
   - The role of infrastructure in the P4P scheme.
   - Health worker understanding of the scheme.
   - The role of the health facility manager in the P4P scheme.
   - The role of infrastructure

An emergent theme centred on ‘motivation’, where participants talked about other contextual and implementation factors (that influenced their performance in the scheme), some of which were not inherent to the P4P scheme. These factors included infrastructure, bad roads/mobility issues, and lack of manpower. Based on this, to avoid repetition in the findings, we incorporated the fourth initial theme ‘the role of infrastructure in the P4P scheme’ under this emergent theme, as it was one of the categories discussed by the participants under motivation. Therefore, the final thematic framework consisted of four themes (three initial themes and one emergent theme).

Indexing/coding: in this stage, transcripts were read at least four times or more (depending on the richness and complexity of content) to develop textual codes or categories to accommodate and summarize all the relevant data provided by the participants.

Charting: this involved entering summarized data into a framework matrix in order to easily look across the dataset to identify patterns and connections within and between the themes.

Mapping and interpretation: this involved looking for related themes and searching for explanation. This final stage of analysis began with reflection on the original data and on the previous analytical stages, followed by identification of patterns in the data through general comparisons of the individual participants and participants’ clusters to examine the extent to which different views and experiences possibly explain the variation in performance results of P4P in Nigeria. Specifically, we explored similarities and differences in views and (or) experiences between participants by health Facilities (worst performers vs average vs top), States (Ondo vs Nassarawa) and health worker role (health facility managers vs other ranks). This was facilitated by quantifying number of views in participants’ clusters.

**Findings**

**Participants**

Thirty-six individuals were interviewed from thirteen health facilities from two out of the three States (Nassarawa and Ondo) where

### Table 2. Topic guide

<table>
<thead>
<tr>
<th>Topic</th>
<th>Interview questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertainty and risk of not earning the incentive</td>
<td>• I have heard that payments have been delayed in the past; can you please share your experiences with the delay in payments of incentives.</td>
</tr>
<tr>
<td></td>
<td>• Are explanations for the delays in payments communicated to you?</td>
</tr>
<tr>
<td></td>
<td>• Now, let us move on to talk about how individual performance is measured for payment of bonuses. What are your thoughts about the way the bonuses are shared to the health workers?</td>
</tr>
<tr>
<td>Health worker understanding of the scheme</td>
<td>• I would like get an idea of your understanding of the scheme; can you please tell me how this scheme works in this health facility?</td>
</tr>
<tr>
<td>The role of the health facility manager in the P4P scheme</td>
<td>• Can you tell me about some of the approaches that have been used in this health facility to improve performance?</td>
</tr>
<tr>
<td></td>
<td>• How is the incentive earned used in this health facility?</td>
</tr>
<tr>
<td>The role of infrastructure</td>
<td>• [For the health facility manager]: How do you decide how to utilize the incentives earned?</td>
</tr>
<tr>
<td></td>
<td>• Have you faced any infrastructural challenges in delivering the health services required to earn the incentive?</td>
</tr>
<tr>
<td></td>
<td>• If yes, what are they?</td>
</tr>
</tbody>
</table>
the P4P pilot scheme was implemented (Table 3). It was not possible to conduct the research in the third State as there was terrorist activity in the area at the time of data collection. Participants included 13 health facility managers (six in Nassarawa and seven in Ondo), eight nurses (six in Nassarawa and two in Ondo), 10 CHEWs and lab technicians (six in Nassarawa and four in Ondo) and 5 Junior CHEWs (three in Nassarawa and two in Ondo). All interviews took place in a private room at the health facility (chosen by the participant). Interviews lasted an average of 40 min (longest 1 h 30 min, shortest 25 min). One participant chose to stop the interview part way through without giving a reason why, and data from this participant was not included in the analysis.

Themes
There were four themes (including one emergent theme), which provided a framework for understanding the influence of context and implementation on the effectiveness of P4P in Nigeria (see Table 4). These themes and subthemes are now presented with illustrative quotes. Differences between views/experiences of participants by health facility, work role etc. are highlighted where present.

Theme 1: uncertainty in earning the incentive
This theme captures participants’ views on and experiences of uncertainty in earning the incentive with respect to delay in payment, ineffective communication and individual assessment tool. Most participants explained that delay in payment, and ineffective communication (about reasons for delay in payment and other changes in the programme) triggered uncertainty and distrust in the P4P payment system, which reduced motivation, had a negative impact on their behaviour, and hindered potential improvements in the health facilities.

...They (health workers) started saying that I have received the money and I have spent it instead of sharing it with them. But I told them no, it is not like that, keep working the money will come. But they said they will not work extra hard and not get the money. So they stopped working... and when they money finally came it was small and they were sad, saying look at what we could have gained. So it really affected us, you can see the fluctuation in the results because of that... (Health facility manager in an average performing facility in Nassarawa State)

In contrast, a few participants commented that the delay in payment did not affect their motivation because they felt that bonuses should not affect the way they did their jobs. They did think, however, that the delay in payment of incentive reduced performance of the health facility. This was mostly because planned improvement strategies that required funds, such as transportation to hard-to-reach areas or purchase of essential equipment were restricted due to delay in payment of the incentive, which ultimately led to decreased outputs and quality of health service delivery.

“...I have human sympathy and that is why I am doing this job. So not receiving the bonuses on time will not make me relent in my efforts; it doesn’t affect my motivation as long as I have the necessary kits. I can only speak for myself; I have that heart in which my primary aim is the welfare of the patient. I am not trying to praise or flatter myself”. The delay however affects other things such as buying of some test kits and other laboratory equipment, which reduces our performance here (Lab technician at a low performing health facility in Nassarawa State)

Similarly, most participants expressed the view that their motivation to meet the required quality and performance targets was reduced as a result of lack of communication about reasons for delay in payment or change in unit prices, as they felt they were being cheated out of the money they worked for.

The lack of information affected some health workers because they thought they were being deceived because we didn’t get any information regarding the money, so it made people more relaxed, thereby affecting performance (CHEW, worst performing health facility, Nassarawa State).

There was diversity in views about the perceived influence of the individual assessment tool used to allocate bonuses to the health workers. About half of the participants offered that it was a fair way of distributing the bonuses because the criteria they were being judged on contributed to improving performance of the health facility. They also recognized that assessment by their individual contribution (e.g. number of deliveries they assisted with) might be unfair to some because they work shifts and some shifts might be more beneficial than others. For example, there might be more opportunities to go on outreach and home visits patients during the day compared to at night.

We work according to our qualification: e.g. I’m the only midwife here so I handle deliveries and I let the CHEW handle the outpatient department. So it is teamwork and all of us are doing our part. We have different skills and some things attract more money than others. For example, we receive more money for deliveries than for growth monitoring (OPD). Both are equally important health work and different people do it, so I think the way we share the bonus is fine (Nurse, top performing facility in Nassarawa State).

The other participants suggested that whilst the method of assessment was good, it could be improved to include individual contribution to enabling the health facility earn the incentive (not captured in the assessment form e.g. the number of deliveries they take, home visits and outreaches) because it would increase their potential to earn more, thereby increasing their motivation to work harder.

...There was a time when the staff went for outreach for immunization and I divided the health workers into two to go to different wards (villages). At the end of the day, when they got back

Table 3. Overview of participants

<table>
<thead>
<tr>
<th>Health worker qualification</th>
<th>Top performers</th>
<th>Average performers</th>
<th>Worst performers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ondo</td>
<td>Nassarawa</td>
<td>Ondo</td>
<td>Nassarawa</td>
</tr>
<tr>
<td>Health facility managers</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Nurses</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>CHEWs and Lab technicians</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Junior CHEWs</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>12</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>
### Table 4. Coding tree

<table>
<thead>
<tr>
<th>Themes</th>
<th>Subthemes</th>
<th>Categories/codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertainty of earning the incentive</td>
<td>Delay in payment</td>
<td>• Delay in payment reduces motivation and/or performance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Delay in payment reduces performance but not motivation</td>
</tr>
<tr>
<td></td>
<td>Individual assessment tool</td>
<td>• Assessment tool is fair and should not be changed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Assessment tool is fair but should be improved to further reflect individual contribution</td>
</tr>
<tr>
<td></td>
<td>Communication</td>
<td>• Assessment tool is biased and should be improved to further reflect individual contribution</td>
</tr>
<tr>
<td>Health worker understanding of the P4P scheme</td>
<td></td>
<td>• Reasons for changes communicated through 'hearsay'</td>
</tr>
<tr>
<td>The role of health facility managers</td>
<td></td>
<td>• Reasons for changes not communicated effectively</td>
</tr>
<tr>
<td>Motivation</td>
<td>Motivating factors improving performance</td>
<td>• Good working knowledge of the programme</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Aware of changes in the programme</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Average working knowledge of the programme</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Unaware about changes in the programme</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Hiring more staff</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Gifts to patients</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Outreaches and home visits</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Equipment and structural improvement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Improved supervision</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Health workers nicer and more welcoming to patients</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Free/subsidized services and or drugs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Bonuses (money)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Knowledge (education and experience)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Infrastructural improvement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Positive thoughts towards peer reporting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Structural challenges (insufficient infrastructure to meet targets)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Competition from 'quacks'/other health facilities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Mobility (bad terrain/roads)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Man power</td>
</tr>
<tr>
<td></td>
<td>Demotivating factors decreasing performance</td>
<td>• Negative thoughts towards peer reporting</td>
</tr>
</tbody>
</table>

from the outreach, I reviewed the patients both groups have seen. It turned out that one group had seen a lot more patients than the other. Apparently the group with fewer patients had sat down in one place and didn’t really bother to move about. Then I told them that when the P4P money comes, this will be taken into consideration and I will not pay them as much as the other group. They were not happy with what I had told them but because they didn’t want their bonuses reduced, the next day they went back to that same ward and went to see a lot more patients. So if P4P includes outreach for basis of sharing bonus, I know the work will boost more. . . . All the other items on the individual evaluation form are still important and we can share the money according to a combination of the two. Doing it this way will make the health workers do more work because they will be focused and will have a target (Health facility manager, top performing facility in Ondo State).

Finally, a few participants said that the way the bonuses was shared was unfair because health facility managers used ranks of professional roles to share the bonuses, which did not recognize their own individual contribution in helping the health facility earn the incentive. This made them feel that the allocation of the bonuses was not performance based, thereby discouraging change in behaviour in some health workers. You see, the individual evaluation form is quite vague, and to tell the truth, as the health facility manager, I don’t look at all the points, I just share the bonuses according to ranks when it comes. If the programme implementers can come up something like this you have performed this in outreachs and you should be give this as bonus, it will be a great idea because it will encourage people to work harder and it is more transparent and it reflects what

P4P is about, because sometimes, a volunteer health worker does more work than a nurse on the same duty or even 2 nurses on the same duty and one does more work than the other and just because they are on the same rank, they get the same bonuses. The one who worked harder will be inclined not to work as hard in the coming quarter since the bonuses will still stay the same (Health facility manager, top performing facility in Ondo State).

Comparisons between participant clusters (facility, State and health worker role) on views and experiences regarding ‘uncertainty of earning the incentive’ revealed similar patterns for all subthemes: delay in payment, communication, and individual assessment tool (see Supplementary Table S1).

#### Theme 2: health worker understanding of the P4P scheme

When asked how the scheme works, about half of the participants demonstrated adequate knowledge and understanding of the scheme, while the remainder expressed poor knowledge of the scheme. Participants who understood the scheme appeared to be more highly motivated and were more willing to do more to improve performance compared to those with poorer understanding of the scheme.

P4P is a good programme; we have the opportunity to earn money based on the number of services we render. . . . The more we do, the more we get and we are given autonomy in the way we use the money. I feel P4P allows funds to get to where it is needed the most. . . . we share 50% as bonus for the health workers, 25% for drugs and the other 25% for other things needed. The autonomy itself is something to us and we can decide ourselves what we need to do it.
visits were usually impromptu. This meant that they could not be inefficient, since the supervisory supervision played a role in improving performance because the health facility manager had implemented under the P4P scheme. Their view was that these strategies helped improve performance of the health facility in Ondo state

Theme 3: role of the health facility manager
When asked about what role the health facility manager played in the P4P scheme, health workers reported several strategies the health facility manager had implemented under the P4P scheme. Their view was that these strategies helped improve performance of the health facilities.

A few health facility managers gave gifts to patients (e.g. sanitary towels and soaps for pregnant women who deliver at the health facility), which they thought encouraged other patients to come to the health facility, thereby increasing utilization of health services. Similarly, a few health facility managers who hired additional staff said it had helped reduce the workload in the health facility, which led to a more efficient system and increased performance. In the same way, a small number of the health workers suggested that improved supervision played a role in improving performance because that meant that they could not be inefficient, since the supervisory visits were usually impromptu.

With P4P we understand that we have money to do what we need to do in the health facility, we have problem of manpower but we have subcontracted, this fat man writing something outside is one of the workers we hired using P4P money and we hired another attendant so that we can do the work more effectively... we also give small gifts such as sanitary towels and soap for the women who come to deliver at the health facility (Health facility manager, top performing facility in Nassarawa State)

A few health workers also explained that their changed attitude towards patients since the introduction of the scheme made the patients more comfortable in the health facility, which encouraged utilization of health services. Similarly, several participants suggested that adequate equipment and structural improvement in the health facility brought about increased utilization because the patients perceived ‘a higher quality of care’.

We started going for outreachs, we try as much as possible to shorten the waiting time, improve patient satisfaction, we have improved attitude towards the patients, and we also improved the outlook of the hospital and make our patients more comfortable, we have running water around all the time (Health facility manager, top performing facility in Ondo state)

Finally, most health workers offered that the increase in number of outreach and home visits led to increased performance because they were now able to attend to patients in hard-to-reach areas of the community. In the same way, most of the health workers talked about how the free or subsidized drugs and health services improved utilization because members of the community could now afford healthcare.

The supervision of this programme is the driving force for the change. The Local, State and Federal government sends people to monitor and supervise us almost every week. So we must always be alert and working. We have also increased the mobilization of pregnant women; we campaign for ANC within our catchment area population. We reduced the cost of our drugs and now people can afford our treatments (CHEW, low performing facility in Nassarawa State)

There was some variation in health workers’ views and experiences regarding the role of the health facility manager in the P4P scheme. Particularly, some improvement strategies (e.g. hiring additional staff and giving incentives to patients) implemented by health facility managers were only experienced in top performing health facilities, whilst others (e.g. Outreach and structural improvements) were experienced across all the health facilities (see Supplementary Table S3).

Theme 4: motivation
When asked about how the P4P scheme affected their motivation and performance, participants talked about factors that motivated them and factors that reduced their motivation and subsequently influenced performance results under the P4P scheme.

Factors improving motivation. There were diverse views about the sources of motivation. Whilst most participants described how the bonuses from the P4P was a major source of motivation, a few participants explained that their main source of motivation was the knowledge and skills they had acquired due to exposure to new clinical cases since the introduction of the P4P scheme. This encouraged them to want to see more patients and to improve the quality of health services they provide, as this would improve their skills and knowledge.

One health worker told me that she has improved on her skills because we now attend to more patients and we can put our knowledge to work. We are very happy about that. That makes me happy even more than the money. I feel more exposed to many new cases. I now feel like I my doing my job (Health facility manager, top performing facility in Ondo State).

A few participants also said that the availability of drugs and equipment at the health facility improved the motivation. This was because prior to P4P, they had felt that going to the health facility was futile because there were no drugs or equipment to use for patients.

A lot has changed, in the sense that before P4P, we were short of drugs and other equipment, but since P4P, the facility can afford to buy those things now. No shortage of drugs now. The patients are happy now that they can come and they will not hear some story about how we don’t have drugs in the health facility and this has caused a very rapid great change in the health workers. There has been a massive improvement in punctuality and coming to work.: before P4P, usually the health workers just tell themselves; if there are no drugs in the health facility, why bother come anyway and what are we coming here to do but now, they
have no excuse for not coming to work (Nurse, average performing facility in Ondo State).

**Factors decreasing motivation.** Participants also had diverse experiences about challenges that decreased motivation of health workers and the performance of the health facility. These included mobility problems, inadequate manpower and infrastructure and competition. A few participants identified instances where the health workers could not go on home visits due to the poor road networks and lack of means of transportation, which often deterred their motivation and overall performance.

Our performance is really affected by the terrible roads which make transportation very difficult, so we can’t do many outreachs or home visits as much as we would like (Health facility manager, average performing facility in Ondo State)

In the same way, a few participants shared experiences of when they had to turn patients away from the health facility due to inadequate infrastructure.

We have just two rooms in this place, so we can only attend to a few people at a time and we have to send people away when the ward is full; in the end it reduces the amount of bonuses we receive (Health facility manager, low performing facility in Ondo State).

The views and experiences of participants regarding factors improving motivation were similar across participant clusters. In contrast there were a few noticeable differences between participants’ views and experiences regarding factors that decreased motivation. For example, the view that inadequate infrastructure and mobility issues constituted a major source of demotivation for the health workers was mostly specific to low performing health facilities in Ondo State, whilst inadequate manpower was mostly specific to health facilities in Nasarawa State (see Supplementary Table S4).

**Discussion**

This study aimed to explore the views and experiences of health workers of contextual and implementation factors on the Nigerian P4P scheme, and to consider how they might explain the variation in performance results across the sites which was seen despite implementing the same programme. To the best of our knowledge, this study is the first to explore these factors in the Nigerian context and one of only a few internationally to explore the influence of contextual and implementation factors on the effectiveness of P4P.

We found that factors such as delay in payment, ineffective communication, incomplete incentive payment, and scepticism in the division of bonuses (individual assessment tool) generally led to distrust and uncertainty in payment, possibly leading to decreased health worker motivation and health facility performance (Theme 1). This may have been due to existing uncertainty within the system i.e. corruption and lack of transparency (Hargreaves 2002; Garuba et al. 2009; Okafor 2009). This is consistent with the findings of an evaluation in Uganda which found that one of the main factors that contributed to the failure of the P4P scheme was the lack of certainty in earning the incentives as perceived by the health workers (Sengooba et al. 2012). Thus suggesting the importance of trust within P4P schemes in LMICs.

This article is the first to report health worker understanding of a P4P scheme in an LMIC (Theme 2). However, this finding is consistent with that of the review by Eijkenaar et al. (2013) which found that P4P schemes in which health service providers were not knowledgeable about the schemes were mostly ineffective or unsuccessful. Similarly, other studies have found an association between clinician motivation and understanding on the incentive programme in USA and Australia (Young et al. 2005; Stockwell 2010).

We also found that the role of the health facility manager was important (Theme 3). Health facility managers in top performing facilities prioritized needs of the health facility by hiring additional staff and providing incentives to patients, which may partly explain differences in performance results. For example, hiring additional staff helped to meet the increasing demand for health services and reduced waiting times for patients. Better managers were able to recognize, prioritize and meet the needs of the health facility and motivate the health workers in response to P4P. We are not aware of other studies that explored this factor, however we know that quality improvements in general are to a certain degree dependent on the skills or ability of the health facility manager (Ndizeye et al. 2014), and that whatever the strategies used to improve quality of care and performance are, managerial skills and explicit dialogue with the members of staff are important (Elovainio 2010).

Finally, the findings suggest that improvement in the infrastructure, availability of drugs and equipment, and the acquisition of skills and knowledge due to the bonuses influenced the motivation and performance of the health workers (Theme 4). Inadequate infrastructure and human resources limited motivation and hindered improvements. This is consistent with findings from a study exploring health worker motivation in a P4P scheme in Rwanda (Paul 2009) and ophthalmic physicians practices in a P4P in the USA (Locke and Srinivasan 2008). Other studies on the general motivation of health workers in LMICs also support these findings (Luoma 2005; Leshabari et al. 2008).

Henderson and Tulloch (2008) found that both financial and non-financial incentives are required to improve quality of care in LMICs. These findings and those of our own study emphasize the importance of a multifaceted approach with the use of incentives in LMICs, where poor motivation of health workers results from a combination of factors such as poor salaries, poor working conditions, inadequate infrastructure and limited opportunity for career development or training (Luoma 2005; Leshabari et al. 2008).

This research highlights a number of contextual and implementation factors that helped explain variations in the effectiveness of P4P across implementation sites of the Nigerian pilot. Recommendations were made to those responsible for the scheme to guide further development and implementation as the scheme is scaled up (Box 1). Other LMICs implementing or considering P4P could benefit from learning about these factors, when refining existing or implementing new schemes. In addition, this study has shown that other countries implementing P4P on a large scale could benefit from formative evaluations on pilot programmes to explore the influence of context and details of implementation on the effect of the scheme. Also, it is important that evaluators of P4P schemes take into consideration, and possibly report the influence of context and implementation on the effectiveness of such schemes.

The mechanisms through which factors can enhance or impede the implementation and success of such schemes have been discussed above. However, the overall and long term success of health services reforms and the sustainability of their impact also depend importantly on the degree to which governments or other agencies take the responsibility to carry out, resource and lend political support to such strategies. Hence need for government ownership in Nigeria if this health financing mechanism is to be sustained.
Other factors such as: health workers’ understanding of the P4P scheme, the competence of health facility managers, and appropriate infrastructure to offer incentivized services could be improved through regular training of health workers on how the scheme operates, what to expect, what is expected of them, and setting priorities. This would improve understanding of health workers and competency of the managers.

Contextual and implementation factors such as timely incentive payments, effective communication and training, can affect the impact of P4P schemes on top of the main design features. Efforts must continue to identify and address barriers that reduce the impact of P4P in Nigeria throughout its implementation. There is an urgent need to build an evidence base, which informs optimal conditions of implementing P4P in similar LMICs given the continued interest in P4P.

Supplementary Data

Supplementary data are available at HEAPOL online.

Conflict of interest statement

None declared.

References


