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Evaluation of the implementation Fidelity of Performance based healthcare financing in Nigeria: a desk review

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ABSTRACT

Introduction

Performance based financing is a policy shift from the traditional health care financing methods. It is designed to answer the supposed challenges hindering effective delivery of health care services to achieve maximum maternal and child health outcome. This study was aimed at exposing the contextual issues surrounding the implementation of PBF in Nigeria based on the originally adopted plan and how these changes affected the intended outcome of the project with a view to making recommendations on how best PBF can be implemented in Nigeria.

Methods

We conducted an evaluation of the pilot PBF program implementation in two of the three implementing states. We synthesized the Nigerian PBF implementation framework from literatures and project documents to serve as a benchmark for comparison with the implementation in the two states. For in-depth analysis of the fidelity, we used World Bank PBF operational principles to describe and compare the implementation in the 2 states.

Results

The study found that in linking payment to performance, verification processes were not followed and this was attributed to remoteness of some of the health facilities and in some cases insecurity. We also found that contractual agreements were not fully adhered to at all levels, Autonomy to healthcare providers varied for both states and there was little or no community participation in both states.

Conclusion-

The review shows that there exist significant gaps across the core principles in the implementation of the Performance Based Healthcare Financing in both pilot states and contextual factors such as insecurity, bad terrain; bureaucratic processes played a significant role in the inability of states to fully achieve implementation fidelity. We therefore recommend that the Nigerian government and implementing partners develop a framework to address these gaps in order to achieve the desired objectives of the program.

Key words: Performance Based Financing, Primary Health Care, Health Financing, Nigeria, Supply Side

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INTRODUCTION

Performance-based financing (PBF) could assume different names in different countries, these include results-based financing; performance-based incentives; pay for performance; performance-based contracting; and cash on delivery or conditional cash transfer (1). Results-based financing (RBF) is called PBF if it is targeted to the supply side financing (2). In this review, PBF is used in place of other similar concepts. The implementation of PBF also assumes different arrangements and payment methods. It could be implemented through contracting-in approach where health service providers acting within the national health system are targeted or contracting-out approach which focuses on non-state entities (not necessarily providers) outside the hierarchical structure of the national health system such as non-governmental organizations (NGOs) (1,3,4). The rationale for introducing PBF into the health sector is based on the apparent success of such payments in the businesses or private sector (1).

Performance-based financing started as far back as the 1980s and early 1990s when primary health care was introduced as part of reform in the health system (5,6). In the early 1970s, in many low and middle income countries (LMICs), delivery of primary healthcare was the responsibility of the public health system; it was responsible for developing health policy, financing healthcare, implementation and regulation- and health services were free at the time. The private sector was completely Independent of the public creating fragmentation in the health system (6). With increasing cost of free healthcare and poor performance of the public healthcare system, governments began to introduce reforms to address financial crises and enhance the efficiency of service delivery through the involvement of the private sector (8). By 1990, private bodies such as NGOs, insurance organizations and communities were seen to be actively involved in the delivery of health services with the government providing regulatory functions (6). The first experimentation of PBF was in Zambia's western province through the publicly provided health system and public financing (5). This was followed by the contracting experience in Cambodia in 1999 where government contracted out health services provision and management support to NGOs (7). In Haiti and Afghanistan, NGOs are contracted to provide health service delivery (8). PBF pilots started in 2002 in Rwanda before it became a national program(9,10). By 2013, PBF was implemented in many African and Asian countries (14).

Performance-based financing was conceptualized based on several theories, these include the system analysis theory, public choice theory, contracting theories, good governance and decentralization theories, theories of microeconomics and free market principles, health economics, and public health(15).The basic concepts of these theories are briefly explained in Table1.

Table 1 The theory of PBF and its descriptions

Theory	Descriptions
The System analysis theory	This theory looks at the relationships among different components of a system. It says that each component of a system (specialized team) operates independently or autonomously (black box). This, however, requires coordination and monitoring in order to deliver on organizational goals. The coordinator needs no detail activities of every team, instead, will only monitor performance or results based on the performance contract. PBF is said to be essentially operating based on this theory where neither policy maker at the national or state level, nor contract development and verification (CDV) Agency managers know, or should attempt to know all the details regarding financial, logistics or management aspect of each provider. In the black box, each actor is an independent expert (12).
The public choice theory	This theory explains many assumptions being made regarding public goods and interest. Public interest behaviour, for instance, assumes the government knows the needs of the public and has engaged the right civil servants who are supposed to defend public interest and maintain social justice. The civil

	servants are motivated to serve the interest of the public irrespective of their remuneration. Health workers, for instance, are supposed to act according to their professional ethics by being empathetic, respecting patients' privacy, etc. even when they are not motivated. However, in practical terms, these assumptions do not work especially if the interests of the implementing parties are not guaranteed. This theory is further demonstrated by the Maslow's hierarchy of needs (12).
The New public management and contract theory	This is based on the principal-agent theory where the principal is the government and the agent is the health worker. Each party signs bilateral contract to meet the needs of each other without being altruistic (12,13).
The Microeconomics and free market principles:	This is based on democratic principles, freedom of choice: A free market economy that promotes healthy competition within the health sector which is linked to societal choice (12).
The Health economics and public health	achieving equilibrium in demand and supply; identifying market failures and introducing mechanisms to correct those failures. Identifying cost-effective interventions and minimize inefficiencies in the health sector (12).
Decentralization:	transferring responsibilities of the state to the local level; creating more decision space at the local authorities to take responsibilities (12).
Good governance: beyond.	Key separation of functions to enhance sound public sector management, accountability, transparency, justice, respect for human rights and liberty (12).

Performance-based financing was introduced in Nigeria in 2011 with the aim of delivery of high impact MCH services and to improve the quality of primary health care services (14). It came under the umbrella name- Nigerian State Health Investment Project (NSHIP). The NSHIP seeks to provide managerial autonomy to health facilities while strengthening accountability mechanisms at the local government area (LGA) Primary Healthcare Authority and State Primary Healthcare Development Agencies (SPHCDA) through a collective package of institutional and operational level results-based financing approaches (14).

The NSHIP project is worth $171 million; of this amount, $21 million is a grant from the Health Resource Innovative Trust Fund (HRITF), while the rest of the money is a loan from the World Bank (WB). The NSHIP program is 100% focused on result based financing with $1 million reserved for impact evaluation (6). There are two components of NSHIP: The first is PBF for outputs at the health facilities levels and LGA PHC departments and the second, a decentralized facility financing where payments are half of PBF earnings and used for operational cost only with no incentives (3). This study is however focusing only on PBF.

The PBF in Nigeria was implemented in three phases: Pre-implementation phase consisting of program conception and design: Three states from different geopolitical zones were selected for the project; they are Adamawa in the north east, Nasarawa in the north central and Ondo States in the south west (16,17). These states were chosen based on certain selected criteria which include geo-political representativeness, filling gaps in donor support, robust governance capability and commitments, more significant health needs, and willingness to use pay for performance approaches. To serve as controls and for evaluation, Taraba, Benue and Ogun States were respectively selected. Pre-pilot phase: This was rolled out for 36 months following the approval of the project by the World Bank (WB). It was implemented in one PHC facility in each of the selected states (16). Pilot phase: This phase is for four years, 2014-2018 (extended to 2020) involving all the LGAs in the pilot states (14).

The specific objectives of this study are to identify the contextual issues surrounding the

implementation of PBF in Nigeria based on the originally adopted plan and how they affect the intended outcome of the project. Secondly, to make recommendations on how best PBF can be implemented to serve the overall health systems objectives in Nigeria and beyond.

METHODOLOGY

Study design

The study is an evaluation of the implementation fidelity of the pilot PBF program implementation in two of the three implementing states.

Study area

Two PBF pilot sites- Adamawa and Nasarawa States were used for this study. Ondo State, the third pilot state, was omitted from the study due to lack of relevant information on PBF at the State ministry of health/SPHCDA and website. In this study, we define implementation fidelity as the degree of exactness with which the policy frameworks and project plans are being implemented.

Analysis period

We synthesized the Nigerian PBF implementation framework from literatures and project documents from 2000 to 2018 to serve as a benchmark for comparison with the implementation in the two states. Literatures prior to the launch of PBF in Nigeria such as World Bank tool kit, NPHCDA user manual and case studies from other African countries were reviewed to create a robust benchmark for comparison with the 2 states under review.

Study tools

For in-depth analysis of the fidelity, and since the Nigerian PBF adopted World Bank PBF and Sina Health templates, we used World Bank PBF operational principles to describe and compare the implementation in the 2 states: The PBF principles are derived from the theories mentioned above; these are separation of functions, autonomy of health facilities, contracting arrangements, linking payments to performance, end-user empowerment and, equal access bonuses which forms the basis for the analysis (18). Relevant literatures on PBF implementation from other sub-Saharan African countries were used as well.

Search Strategy for Identifying Relevant Studies

A search of multiple online databases was conducted; articles were searched through PubMed, Scopus databases, Google Scholar, Cochrane library, VU online library link, World Health Organization (WHO) websites, and Federal Ministry of Health websites. Also searched were websites of NPHCDA, Adamawa State Primary Health Care Development Agency (ADPHCDA), and Nasarawa State Primary Health Care Development Agency (NSPHCDA) for program documents such as program reports, minutes of meetings, monthly data reports, and evaluation reports from 2014-2018. Other sources of data include national survey reports, World Bank (WB), and WHO publications. Some relevant information was also obtained through phone calls and emails from States and National PBF program officers in Nigeria. Various search terms were used either in combination, using the Boolean terms, phrases or single words to obtain the desired literature as presented in appendix 1. For the literature search, the period from January 2000 to June 2018 was used to ensure no important publication is missed out of the study. Important publications prior to the launch of PBF such World Bank tool kit, NPHCDA user manual and case studies from other African countries were reviewed to create a robust benchmark for comparison with the 2 states under review. However, some older key historical documents and those derived from snowballing were also used. Only literature published in English were selected. The data collected was analyzed and presented in different themes which reflect the objectives of the study.

Table 2 Synthetic Presentation of the Nigerian PBF Design

Core design features	Description
The objective of the program	The Main goal of the Nigerian PBF project is to increase the delivery and utilisation of high impact maternal and child health services and to improve the quality of primary care at the selected health facilities in the participating states. The program is thought to have the potential to address gaps in the healthcare systems such as inadequate infrastructure, lack of staff motivation and poor data management.
Beneficiaries of the project	The primary beneficiaries are women of reproductive age and children under-five. MCH services are provided mainly at the primary care level with few secondary care facilities for referral of cases. The general population also benefit through the provision of subsidised drugs.
Type of PBF intervention	Contracting in and a supply-side PBF; health facilities are rewarded monthly or quarterly based on service utilisation and performance on quality measures.
Type and amount of incentives provided	Cash bonuses aimed at increasing funding for the health facilities. Health facilities can receive 100% of their performance budget-linear incentive payment system (19). It can also earn up to 25% or more of its regular monthly earnings if it attains 100% in quality measures (19,20).
Payment rules and mechanisms	Payments are based on qualitative and quantitative measures for quality and utilisation respectively. Quality bonuses are paid quarterly while bonuses for utilisation are paid monthly. A maximum of 50% of bonuses earned are shared among health workers, and the rest are used to improve the quality of service in the facility (19).
Indicators	20 indicators/services for minimum package of activities (MPA), 22 indicators/services for complementary package of activities (CPA) and 15 quality indicators (19). The Contract Verification and Development (CVD) agency negotiates contracts and business plan with health facilities. The contract agreements are subject to amendment at the end of every quarter (19).
Monitoring and verification process	Purchased contracts and its linked business plan is the first level of control. The technical support unit (TSU) from SPHCDA conducts Ex-ante quantitative verification of health centres and hospitals every month. CBOs carryout Ex-post verification in the form of community client satisfaction survey every quarter. The PHC department of LGA conducts a quality evaluation of the health centres once per quarter. TSU-SPHCDA conducts counter verification. Hospital quality assessment is carried out by multi-agencies organised by TSU-SPHCDA with Hospital Board and technical partners once every quarter. The quality counter verification is done once per six months by multi-agency. LGA PHC department performance framework is assessed once per quarter by TSU-SPHCDA. Counter verification is done by multi-agency sampling once per six months (19).
Institutional arrangements and roles	Five contracts determine the institutional mechanism for the Nigerian PBF. The SPHCDA through development and purchasing agencies (DPA) is responsible for strategic purchasing, verification and coaching of health facilities. Community based organisations (CBOs) are contracted to carry out the community client satisfaction survey on behalf of DPA. Civil societies are part of the LGA reward based steering committee; they are also engaged for the community client surveys (19).
Evaluation strategies and results	Project duration is from 2014 to 2018, and midterm evaluation was done in 2017 (17).

RESULTS

PBF Design in Nigeria

Synthetic presentation of the Nigerian PBF design has been summarized in table 2 below looking at project objective, beneficiaries, type of PBF design, institutional arrangements, indicators, payment rules, and monitoring and evaluation.

Implementation fidelity of PBF in 2 pilot states

The fidelity analysis in the two implementing states is based on the core principles of PBF as described by Bertone et.al (12,18,21) which are linking payment to performance, contracting, autonomy, end user empowerment and equity.

Linking Payment to Performance:

In the national PBF plan, primary care facilities and hospitals are to receive cash incentives based on the measured quantities and qualities of services provided (16). The services are accessed based on MPA and CPA (16). In Adamawa and Nasarawa states, similar measures are being used to pay cash incentives; the two states have maintained the same number of MPA and the CPA (22,23). Quantity performances are measured monthly or bimonthly, while the quality performance is measured at the end of each quarter (16). According to a study by Bertone et al., however, monthly verifications are not always done in Adamawa State due to insecurity, sometimes payments are made in cash even without Ex-ante verification (21,24), and sometimes payments are delayed for months (25,26). In both states, a unit fee/subsidy is defined per service and quality carries up to 25% of the bonus earnings (16). Regarding the maximum of 50% bonuses to be spent on staff and on facility operations, there are no data to verify such practice; even though there are reports of utilisation of incentives to improve the quality of health facilities (14,27,28). The combined subsidies for all subsidies are modeled at $1.8 per capita per year for MPA and $0.9 per capita per year for CPA giving a total of $2.7 per capita per year (16). The implementation of this, however, varies in the two pilot States. In Adamawa State, the cost per capita per year in 2016 for both CPA and MPA was $2.99, while in Nasarawa State it was $3.4 (14). A total of 226 facilities are implementing PBF in Adamawa state as against 97(20%) in Nasarawa State (22,29).

Contracting arrangements

There are five contracting arrangements in the Nigerian PBF framework which has also been maintained in the two pilot states, these are:

1. A multi-lateral contract for the LGA reward based steering committee
2. Purchase contract between the State Primary Health Care Development Agency (SPHCDA) and the provider, i.e. primary care facility and the General Hospital
3. A motivation contract between health centre management and the individual health worker. The contract spells out the rights and obligations of each health worker in its facility. The health worker must perform 100% individual performance evaluation to earn a bonus.
4. A contract between the SPHCDA and the LGA health department
5. A subcontract between primary contract holder and a secondary health facility. The subcontracting can be for a specific service such as immunization and family planning. Up to 25% of the contracting fee is subcontracted.

Purchase contracts are valid for 12 months as long as they maintain good standard performance (16). The fees/subsidies agreed in the purchase contract are valid for a three months period subject to renegotiation after three months if need be.

The findings in the two implementing states are the same regarding contract agreements and subcontracting. The Hospitals Management Board in Adamawa state is however yet to sign a contract agreement with the SPHCDA despite commencing implementation of PBF in the General Hospitals (22). Similarly, in Nasarawa State, the SPHCDA is yet to engage private healthcare providers in the scheme in order to expand access (17). In 2017, ADSPHCDA has terminated the contracts of 4 health facilities and sanctioned 68 more for data manipulation while NSPHCDA had sanctioned three health facilities for similar offences (24,29).

Autonomy to health providers

Performance-based financing gives health facilities relative autonomy on procurement and financial management. Facilities manage its income from various sources to pay for its expenses; to purchase generic drugs, purchase equipment, rehabilitation of facilities, engage and pay contracted health staff, pay subcontractors, and pay community health workers as the case may be(14,16,20,25,30). Table 3 shows the elements of autonomy in the

two pilot States. In General Hospitals in Adamawa State, health workers have no control over cash incomes (23). Some health facilities do not have a bank account, and the procurement of inputs locally was quite challenging (21,31). This is in contrast to Nasarawa State where the facilities have relative autonomy (15,27,28). A qualitative study conducted in Nasarawa State among health workers where PBF is implemented demonstrated both financial and procurement autonomy by health facilities (32). Many facilities in both states, however, cannot develop a business plan and application of the indices tool(22,33).

Table 3 Elements of Health Facility Autonomy

Decision ability (autonomy)	Adamawa State	Nasarawa State
Manages its cash income	Yes (22)	Yes (23)
Open and operate designated bank account	Some facilities	Yes (32)
Procure inputs locally rather than depending on the central system	Yes, but sometimes rely on free drug distribution from the central government leading to stock out in some facilities. Some facilities depend on central procurement system because of insecurity.(15)	Most facilities procure local inputs, use part of their subsidies to renovate facilities.(15, 28)
Have the authority to hire, fire and discipline facility recruited staff	Facilities do hire local staff such as health assistants and laboratory technicians to meet their needs. Some staffs are however from external support programs such as the Midwives Service Schem (MSS) which are not under the control of the facility manager or in-charge. (22)	Some facilities have hired midwives using their performance bonuses, though they also receive external staff from MSS. (23, 28)
Organize clinic operating time and outreach activities	The government fixes facility opening hours, however, outreach is organised by the facilities.(15)	Same as in Adamawa State.(15)
Develop and negotiate business plans	Some facilities still in need of technical assistance. (22)	Most facilities (23)
Apply the indices tool	Partially, general hospitals especially are not using it. (28)	Not all facilities due to inadequate capacity. (28)

Separation of function:

To ensure accountability and prevent conflict of interest and collusion, the provider and the purchaser have separate functions. There is a separate function between the regulator and the purchaser, and between purchaser/verifier and the fund holder as shown in appendix 2 (16).The purchaser is the SPHCDA which also serves as a verifier, the LGA health department serves as a qualitative verifier of services provided, and a fund holder is a unit in the LGA while the service providers are the primary care facilities and the general hospitals. This administrative structure has been maintained in the two pilot States (20). However, results verification auditing has not been regular in both states. In Nasarawa State, for instance, the health facility staff were asked to bring their data to the LGA instead of the LGA team visiting the facilities (28). Some facilities in both States were not regularly audited (24,29).

End-user empowerment:

In the two pilot states, community members are involved through the ward development committees in developing a business plan for most of the facilities. Grassroots organizations in the community are also trained to carry out client satisfaction survey (24,29).

No evidence of local NGO or CBO involved in purchasing of services or involvement of civil societies at any level (16,24,29). There is little or no engagement of the community even at the facility level in some communities (26), similar to the findings in DRC, Tanzania and Zambia by Jurrien et al. where existing health committees were just asked to take part without any actual involvement (34).

Equity and equal access

In health financing for Universal health coverage, equity is critical because of its enormous potential in creating a health system that is based on need. In the Nigerian PBF design, equity weighting/rural hardship is calculated by policymakers within a state based on either health workers' population density, remoteness of a facility from the state capital, and relative poverty index. Based on these indices, the Nigerian PBF has categorized health facilities into five. The health facility closest to the LGA administrative centre is for instance in category one, while those with longest travel distance, farthest from the main road and based on other indices are in category five (+10% bonus fee). The equity weighting was instituted to attract and retain staff in the remote rural health facilities to provide quality services (3). There is, however, no evidence of equity weighting in the two states except for indigent patient's committee that is assessed under quality indicators. Regarding user fees, clients in Adamawa State do not pay user fee unlike in Nasarawa State where it is a challenge (17,21,30). A demand-side incentive such as Conditional Cash Transfer (CCT) and transport voucher was introduced in one LGA in Nasarawa State in the last quarter of 2016 as a pilot (29). In Adamawa State, demand-side incentives are still under consideration (22). Bonus payment for hardship is higher in Nasarawa than Adamawa State (31).

Table 4: PBF Equity and Equal Access Implementation.

Equity Measures	Adamawa State	Nasarawa State
User fee	No (17)	Yes (21)
Demand-side incentives	CCT implemented in 3 Wards by NGOs only (21)	Pilot CCT and transport voucher in one LGA (29)
Fee exemption apart from MCH services	Introduced for internally displaced persons (21)	Not implemented (17)
Use of equity indicators or target in the balanced scorecard	Nil (17)	Nil 17)
Incentives to community health workers	Yes (28)	No evidence found (28)
Selection of service package	Services not usually utilised by the poor (28)	Services not usually utilised by the poor (28)
Pay more incentives to those working in hard to reach or far to reach areas	Yes (31)	Yes (31)

DISCUSSION

The Nigerian PBF design is according to the WB and Sina Health template similar to that used in countries like Rwanda, Burundi, Cameroon, and other Sub-Saharan African countries (11). Few institutional differences in design with other countries, for instance, are the number of MPA; while Nigeria has 22, Burundi has 31, and while the level of contracting is 5 in Nigeria, it is 9 in Burundi (11,12). In Rwanda, CBHI was introduced as a necessary demand-side incentive with PBF addressing the supply side, and this marks the significant contextual differences between the country and Nigeria (35,36). One remarkable thing about the PBF in Nigeria, however, is the fact that the existing health system and structures are being used with only technical support from the WB team (20). This kind of arrangement will not only lead to capacity development but also ensure technical sustainability of the project.

The States selected for the pilot project were purposively done rather than through randomization. One of the criteria used was robust governance capability and commitments (16). This method will not only introduce bias in the outcome of the project but may also affect the external validity of the study. The level of governance so mentioned in the project document was also not adequately defined as governance is subject to change with each democratic dispensation depending on the level. Perhaps a 'weak' governance state should have been included in the pilot study in order to rule out confounding outcomes.

Implementation Fidelity:
Implementation of a designed project plan often has some disparities because of some contextual issues or changes which probably were not anticipated during the planning stage. The implementations of the project in the two pilot states have maintained some level of fidelity based on the available data. They have both followed the national template. The detailed review, however, shows more contrasted results which are not so unexpected considering the contextual differences between the states.

The pilot states have maintained the institutional structure and the same number of MPA and CPA according to the national framework although their health priorities might be different. Monthly and quarterly data verification and auditing were not regularly carried out by the LGA PBF technical team and the purchasers in some facilities in both states especially those located in the remote areas. This does have a serious implication on the integrity and the outcome of such a project. In Nasarawa State, for instance, the health facility staff were asked to bring their data to the LGA instead of the LGA team visiting the facilities siting terrible terrain as being the reason creating room for data manipulation (28). Again this defeats the essence of separation of functions. In Adamawa state, though most facilities are verified monthly, some facilities are not verified despite receiving monthly incentives (21,24,29). This, however, has been adduced to insecurity in those regions just as similar experience reported in Congo DRC (21).

Monthly payment of incentives has also not been consistent in both states creating uncertainty in the project with health workers sometimes being discouraged (20,26,33). This is probably due to government bureaucratic process. Private sector involvement may be necessary to address this challenge as practised in other countries though it may increase the transactional cost (34). The high per capita expenditure ($3.4) in Nasarawa state could be responsible for the few numbers of health facilities implementing PBF as compared to Adamawa state which is more than as twice as the former (22). This had limited the number of communities benefitting from the project and indeed, the scope of the pilot. It could also be due to the bargaining power of the purchasers in Adamawa state making a deal with the facilities at a much cheaper rate.

Regarding contracting, the pilot sites have maintained the same level of contracting arrangements based on the national framework and PBF principle. Some Hospitals are engaged without signing a contract with the Hospitals Management Board in Adamawa State, probably using de factor autonomy(22). Though this may seem like an advantage in order to facilitate speedy implementation of the project, it could, however, result in some administrative and institutional challenges. Currently, reports from the state showed that the Hospitals lack the autonomy to spend the revenues generated from the PBF project (23). Even though flexibility is allowed in project plan implementation, strict fidelity might be required when it comes to contracts in order to guarantee some level of autonomy to the health facilities as demonstrated in Nasarawa state. Regarding autonomy on operating time, facilities are operating based on the civil service working hours rather than fixing their working hours to meet the needs of the communities. However, this may result in challenges with State and LGA supervision, and so far no studies have been done to show the effectiveness of such arrangements.

The project reports from the states showed capacity gaps to be autonomous in some facilities. Some facilities could not develop a business plan nor use the indices tool to appraise their staff. Relying on the technical team and fund holder to develop a business plan for a facility contradicts the principle of separation of function and autonomy. The power to hire and fire local staff is another crucial area that gives facilities some level of control in both states, but other volunteer health workers were recruited and posted by the federal government who are not necessarily answerable to the facility in-charge. This could create friction and disharmony, especially where the management system is weak, but with a good management system, it could boost productivity as found in one study in Nigeria (26).

Performance-based financing empowers the community to demand accountability and quality service provision through the civil societies and the WDC (14). The pilot states did not demonstrate active participation of the communities apart from carrying out community client satisfaction survey using CBOs who are not necessarily representative of the community. The communities seem not to be involved in decision making except a mare tokenism. It seems all decisions are from top to bottom approach contrary to the national framework and this could undermine the outcome of the project.

Demand-side financing was not part of the original design despite widespread poverty in the country and is one of the underlying cause of low utilization of MCH services (37,38). This is despite various facts that demonstrated that PBF without demand-side incentives or other complementary strategies cannot close the equity gap or substantially increase health service utilization. Demand-side financing may be necessary for Nigeria to achieve the objective of this project.

CONCLUSIONS

The implementation fidelity, based on PBF principle from the national template, the two pilot states has been partially achieved. In terms of Linking payment to performance there has been inconsistent data verification and audit in the remote facilities. Also, bonus incentives were paid in some instances in cash instead of banking transfer and sometimes without data verification. Payment of bonus incentives in both states has been irregular. High per capita expenditure above the national plan and WB benchmark were experienced in Nassarawa State. The autonomy of health facilities differs from some having a high level of autonomy while others have less, particularly the general hospitals. Available business plans vary in quality depending on the facility's management capacity. There are varying levels of staff capacity in both states and across various health facilities affecting implementation fidelity. The level of community involvement in the program in both states is a mare tokenism. Furthermore, the equity and equal access measures for staff retention are inadequate. These factors might have an adverse effect on the PBF outcome if not addressed. We therefore recommend that the NPHCDA and implementing partners develop a framework to address these gaps in order to achieve the desired objectives of the program.

LIMITATIONS

We acknowledge the fact that findings are mainly reports from similar studies and a prospective follow up of the project hence this review may have missed out some important findings related to the outcome under review. However, this study has produced significant findings which can still be used to improve the PBF project subsequently and in the event of a possible scale up.

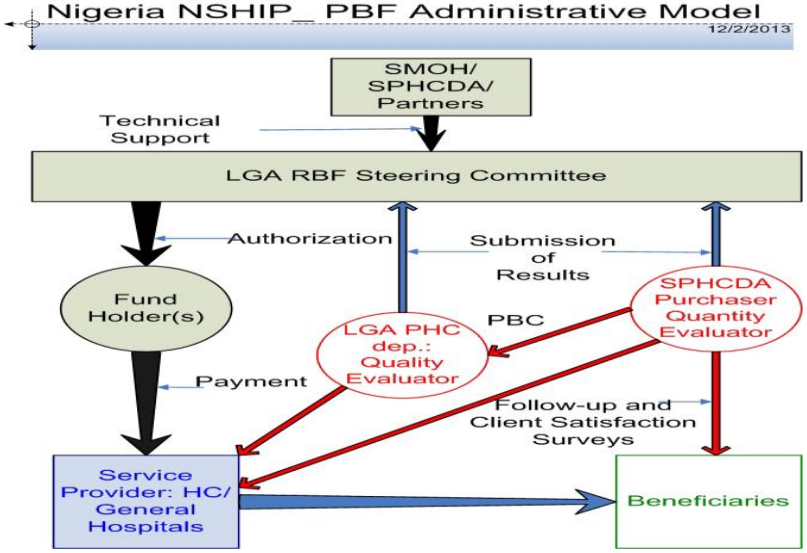
AUTHORS' CONTRIBUTIONS

ADG- conceptualization, design, literature review and review of manuscript; MJI - Design, writing of manuscript and manuscript draft revision; EUE and AN- Conceptualization and review of manuscript: All authors read, reviewed and approved the final version of the manuscript.

Appendix 1: Search terms for literature review

	Search terms	Boolean terms
What	Performance-based financing Performance-based contracting Performance-based incentives Pay for performance Performance-based payment Results based financing Reward for performance Reward for results Fee for service Buying results Output-based aid Cash on delivery	AND OR NOT
	Autonomy Community empowerment Separation of function Incentives Equal access Contracting History Principles Theories	
	Design Implementation	
Where	Africa Nigeria Sub Saharan Africa	

Appendix 2: Nigerian PBF administrative framework showing the split of functions



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