Title:

Aligning public financial management system and free healthcare policies: lessons from the free maternal and child healthcare programme of Enugu State, Nigeria

Short running title:

Public financial management and free healthcare programme in Nigeria

Full names of authors and contact details of the corresponding author

Daniel Chukwuemeka Ogbuabor*[1,2], Obinna Emmanuel Onwujekwe[2,3]

*Corresponding author: Daniel Chukwuemeka Ogbuabor, Department of Health Systems and Policy, Sustainable Impact Resource Agency, 22 Ogidi Street, Asata, Enugu, P.O. Box 15534, University of Nigeria Enugu Campus (UNEC), Enugu, Enugu State, Nigeria. Email address: ogbuabordc@gmail.com

Authors institutional affiliations

[1]Department of Health Systems and Policy, Sustainable Impact Resource Agency, Enugu, Enugu State, Nigeria; [2]Department of Health Administration and Management, University of Nigeria Enugu Campus, Enugu, Enugu State, Nigeria; [3]Health Policy Research Group, College of Medicine, University of Nigeria Enugu Campus, Enugu, Enugu State, Nigeria.

Abstract

The objective of this paper was to assess the alignment of public financial management system with health financing functions in the free maternal and child healthcare programme (FMCHP) of Enugu State, Nigeria. Data were collected through secondary analysis financial records, qualitative document review and semi-structured interview with 16 purposefully selected state and district-level policymakers. Qualitative data were analysed using a framework approach. Descriptive statistics (percentages and graphs) and student t-test were used to analyse quantitative data. Analytical approach included revenue and expenditure trend analysis. Level of significance was set at $\rho < 0.05$. The results show that no more than 50% of the promised fund were collected annually between 2010 and 2016, whereas the population of target beneficiaries significantly increased over the same period ($\rho < 0.05$). Level of pooling was limited by recurrent unauthorised expenditure and absence of expenditure caps. The average unauthorized expenditure was 34% per annum over 7 years. Misalignment of budget monitoring and purchasing include delays in provider payment, high administrative cost, poor financial information disclosure and absence of auditing. Of the 17 reimbursement exercises, 44% took a gap of 1 to 3 months, 31% took 4 to 6 months and 25% between 7 to 15 months. Whereas the drug costs significantly declined from 86% in 2013 to 38% in 2016 ($\rho < 0.05$); the cost of services significantly increased from 10% in 2013 to 43% in 2016 ($\rho < 0.05$). Yet, the administrative cost of purchasing significantly rose from 4% in 2013 to 19% in 2016 ($\rho < 0.05$). Addressing these misalignments by decision makers would ensure efficient and effective use of public funds to finance free healthcare policies in low-resource settings.

Key words

Public financial management, free healthcare, policy implementation, Nigeria

Background

In 2007, Enugu State launched the free maternal and child healthcare programme (FMCHP), a universal health coverage (UHC) scheme to improve financial protection and equity in the use of maternal and child health services, publicly funded from general government revenue and implemented through the district health system as described elsewhere.[1] The state and local governments (SLGs) agreed to contribute equally to finance the programme through earmarked budgetary allocations. Every month SLGs should transfer their budgetary commitments to the FMCHP fund housed in the Ministry of Health. The FMCHP is managed by two state-level committees – the Steering Committee (SC) and State Implementation Committee (SIC). Based at the Policy Development and Planning Directorate (PDPD) of the Ministry of Health (MOH), the SC is responsible for oversight of the programme, strategic direction, fund management, financial controls, primary purchasing and financial reporting. The SIC, housed within the State Health Board, monitors implementation of FMCHP in the districts, scrutinises providers' claims, recommends vetted claims to SC, receives funds for approved claims from SC and directly pays providers. The District Health Boards monitor FMCHP implementation in districts hospitals and local health authorities (LHAs), whereas the LHAs monitor FMCHP implementation in cottage hospitals and primary health centres within their areas.

The flow of funds from FMCHP fund to providers has been fully described in a previous paper.[2] In a nutshell, healthcare providers are paid fees for each patient who received

free services based on approved fee schedule. Healthcare providers should duly record all transactions in the FMCHP and submit a detailed monthly claim to the SIC for reimbursement. The claims are vetted by SIC and approved by the Steering Committee, which should transfer funds for approved claims to the SIC monthly for provider payment. Whereas healthcare providers receive 70% of the cost of services, the balance of 30% is distributed to the components of the district health system to defray administrative costs. The FMCHP funds, as all public funds, is subject to Enugu state's public financial management systems and rules including budgeting, financial instructions, financial reporting and auditing.

Public financial management (PFM), described as institutions, policies and processes governing the use of funds, is key to ensuring that health financing policies contribute to universal health coverage.[3] A functional PFM ensures sustainable funding for health financing policies through sufficient and predictable resource allocations, equitable and efficient use of resources, and better financial accountability and transparency. In contrast, when the PFM system and health financing policies are misaligned, UHC schemes may not be prioritized in the budget, pooling of funds for UHC schemes might be ineffective, disbursement of funds may be unpredictable and use of funds could be inefficient. Such weak PFM systems, which are inconsistent with the health sector's need to improve financial protection and equity, could promote corruption due to significant resource leakages and misuse of funds[4] and result in ineffective implementation of health financing policies in support of UHC.[3]

Evidence of (mis)alignment of public financial management and health financing policies in low and middle-income countries are growing. Funding for UHC schemes

in China, Thailand and Eastern European Countries increased and were predictable,[5-7] which contrasts evidence of insufficient budgetary allocations and underfunding from Ghana, Nicaragua and India[8-10] and the same year on year government spending on free care policy in Senegal.[11] State governments defaulted from payment of their contributions to UHC schemes in Nigeria and Mexico, which delayed budget transfers from federal treasury to states.[12-14] Whereas fixed annual budget and cap on provider payment controlled costs and ensured financial sustainability of universal coverage scheme (UCS) in Thailand,[15] non-adherence to spending caps in Seguro Popular resulted in unauthorised use of financial resources including purchase of unauthorised goods (such as office furniture, cars, ambulances and medical equipment), paying excessively high prices for medicines and contracting unauthorised personnel.[14, 16] Nevertheless, misuse of state resources necessitated Mexican Ministry of Finance to exercise greater control by keeping resources out of local treasuries and instead, paying providers directly from resources in federal treasury.[16]

The experiences of Mexico confirm that usurping the fund management and purchasing roles of the State Health Social Protection Regime (REPSS) by MOH, significant delays in transfer of funds from state to healthcare providers, limited information regarding purchases in the basic package and high administrative cost result in misalignment of PFM rules and health purchasing.[12, 14, 16] A low administrative cost was found in Thailand's UCS because the scheme has no revenue-raising responsibility and underinvests in administrative functions.[17] Budgets based on historical expenditure of the preceding year resulted in lower fund allocation to providers in Vietnam than their actual healthcare expenditure.[18] In Thailand, hospital directors misallocated resources allocated to contracted units of primary care.[19] Lack

of administrative and service utilization data constrained monitoring of free healthcare policies in India and Nigeria,[10, 13] which contrasts experiences of robust health management information system in UCS in Thailand.[15]

The FMCHP policy envisaged that adherence to the contribution rules and state financial instructions would ensure predictable SLG budget transfers, transparent financial management by the SC and optimal use of FMCHP funds per guidelines to achieve efficient and effective delivery of free services. However, declining number of health facilities reimbursed for free maternal and child healthcare services in Enugu State indicate that PFM system and health financing functions in FMCHP are misaligned.[20] This paper explores these misalignments and provides evidence of how PFM can be better aligned with FMCHP objectives. Such insights can be used by health policymakers, public budget officials, health providers and development partners to ensure efficient and effective use of public funds to finance free healthcare policies in Nigeria and other low-resource settings implementing free healthcare policies.

Methods

Conceptual framework

The study was guided by the framework for assessing the alignment of public financial management (PFM) and health financing policies.[3] The framework integrates health financing functions and health sector financial management into the budget cycle (Figure 1). The budget cycle has three stages: budget formulation, budget execution

and budget monitoring. Budget formulation, which aligns with revenue raising in health financing, involves making macroeconomic projections and determining resource allocation to the health ministry based on health sectoral and sub-sectoral priorities. Budget execution involves transfer of approved funds to the MOH (pooling of FMCHP fund) and making payments to healthcare providers for free services delivered (purchasing). Budget monitoring involves ensuring compliance with spending rules and financial instructions and accountability of spending agencies and entities. This framework was preferred to other frameworks for assessing PFM performance because it addresses the specific PFM requirements of the health sector and provides functional approach for investigating how PFM and FMCHP could be better aligned to contribute to universal health coverage.[3]

[Insert FIGURE 1 here]

Study Setting

The study was conducted in Enugu State, Southeast Nigeria. Enugu State consists of seventeen (17) Local Government Areas (LGAs). Five LGAs are mostly urban, and twelve, rural. Healthcare delivery in Enugu State is based on district health system with seven (7) health districts. Most health districts consist of 2-3 LGAs except one health district that has only 1 LGA. In 2017, Enugu State had an estimated population of about 4,073,974 at 3.2% growth rate of 2006 census estimate.[21] The total fertility rate is 4.8, proportion of women who are delivered in public health facility is 36.5% and under-five mortality rate is 131 per 1000 livebirths.[22]

Research design

This study adopted a mixed method design consisting of a quantitative component based on secondary analysis of financial and administrative data and a qualitative component (document review and in-depth, semi-structured interviews). Mixed method was used because it would sufficiently capture the complexity of implementation processes and the findings could be triangulated.[23]

Study population and sampling strategy

The target population for in-depth interviews include policymakers involved in FMCHP implementation at the state and district levels. We purposively selected state-level policymakers (n= 12) from the Steering Committee and State Implementation Committee of the FMCHP. We divided the seven health districts into two clusters of well-performing and poor-performing districts using provider payment data and randomly selected one district from each cluster.[20] The district-level policymakers (n = 4) were purposively selected based on their involvement in FMCHP.

Data collection

Quantitative data were abstracted from administrative and financial records collected from the Policy Development and Planning Directorate (PDPD) of the Ministry of Health, State Health Board (SHB), Enugu State Teaching Hospital and State budget using an abstraction form. The abstraction form included data on State and Local Government budget transfer to FMCHP pool, transfer from the FMCHP pool to State Health Board (State Implementation Committee) FMCHP account, other expenditure made from the FMCHP pool, payments to health facilities and central medical stores from State Implementation Committee, vetted provider claims and audit report.

Qualitative data were extracted from policy documents, programme reports, Hansard and memoranda on FMCHP records were collected from the Ministry of Health and Enugu State House of Assembly. About 27 documents, purposively selected because they informed the research questions of this study, were reviewed (Additional file 1). The documents were identified in consultation with key ministry of health officials and clerk of the House Committee on Health**.**

We also interviewed 16 policymakers using in-depth, semi-structured interview guide as a part of large assessment of governance of the FMCHP.[20] The interview guide included questions for assessing FMCHP budget formulation, release of funds to MOH, flow of funds from FMCHP fund to healthcare providers and monitoring of financial management rules. The participants were identified using government officials as gatekeepers. The interviews held in their offices, were conducted in English and lasted about one and half hours. The interviews were audiotaped, transcribed verbatim and the transcripts sent back to participants for validation.

Data analysis

Quantitative component

Quantitative data analysis focused on financial trend analysis of revenue collection, pooling and purchasing. Descriptive statistics used included percentages and graphs. Student's t-test was used to measure statistical significance of mean differences in proportion of variables (population of target beneficiaries, revenue raised, pool size, unauthorised expenditure, paid claims and unpaid claims) at $\rho < 0.05$. Unauthorised expenditure in this study means spending from the FMCHP funds that are beyond the

scope of FMCHP guidelines. Data were analysed using SPSS version 20 (IBM, New York, USA).

Qualitative component

The interview data were analysed using NVivo 11 qualitative analysis software and a framework approach.[24] Deductive and inductive coding strategies were used by two independent coders to fit data into categories from which inferences could be made and inconsistencies resolved by consensus. Development of the main themes were guided by the dimensions of the framework for assessing PFM and health financing policy. Inductive codes reflected sources of misalignments between PFM and health financing functions and were generated by reading the transcripts to familiarize with data and assigning codes to emergent themes.

Ethical consideration

The study was approved by the Health Research Ethics Committee of the University of Nigeria Teaching Hospital Enugu, Nigeria. Written, informed consent was obtained from all participants for both participation and audio-recording of interviews.

Results

Quantitative component

Budget formulation and revenue raising for FMCHP

The revenue raised for FMCHP significantly varied between 2010 and 2016 ($\rho < 0.05$). Figure 2 shows that no more than 50% of the promised revenue (NGN200 million per annum) were generated per annum between 2010 and 2016 averaging 41.29% per

annum, whereas the population of target beneficiaries significantly increased over the same period ($\rho < 0.05$).

[Insert FIGURE 2 here]

Budget execution and pooling of FMCHP fund

An average of 63% of annual pool size was spent between 2010 and 2016 ranging from 20% to 90%. The proportion of annual unauthorized expenditure significantly rose from 1% in 2011 to 79% in 2014 and declined to 35% in 2016 ($\rho < 0.05$) but remained higher than authorized expenditures between 2013 and 2016 (Figure 3). The average unauthorized expenditure was 34% per annum.

[Insert FIGURE 3 here]

Budget monitoring and purchasing in FMCHP

The proportion of the annual pool size used to pay providers for free services varied significantly between January 2010 and December 2016 ($\rho < 0.05$) with a range of 8% to 88% (Figure 4). Overall, there were 17 reimbursement exercises. About 44% of reimbursements took a gap of 1-3 months, 31% took 4-6 months and 25% between 7 and 15 months. Most reimbursements included several unpaid claims for the preceding 2- 3 years. The total fund reimbursed to the state teaching hospital significantly declined from 2010 to 2016 ($\rho < 0.05$) and from 2011, is inversely related to unpaid claims (Figure 5). The unpaid claims significantly increased from 2012 to 2016 ($\rho < 0.05$).

[Insert FIGURES 4 here]

The administrative cost of purchasing significantly rose from about 4% in 2013 to about 19% in 2016 ($\rho < 0.05$). Drug costs constitute bulk of FMCHP expenses but significantly declined from about 86% in 2013 to about 38% in 2016 ($\rho < 0.05$). The cost of services significantly increased from about 10% in 2013 to about 43% in 2016 ($\rho < 0.05$).

[Insert FIGURES 5 here]

Qualitative component

Table 1 shows the key themes and sub-themes that characterise the misalignment of PFM system and health financing functions in FMCHP.

[Insert Table 1 here]

Budget formulation and revenue raising for FMCHP

Document review (DR) showed that whereas FMCHP funding remained at 2008 cost estimate (DR3), State and LG contributions transferred to the Steering Committee were less than estimated annual cost of two hundred million naira (DR4, DR6) and unpredictable and always in arrears (DR3, DR15). In 2009, State and Local Governments set new rules for direct deduction of State and Local Governments' contribution from Federation Account's general revenue allocated to State and Local Governments at Joint Accounts and Allocation Committee (DR14, DR15). That notwithstanding, only Local Governments' contribution was deducted and transferred to Steering Committee (DR14, DR15). In 2010, the State Economic Planning Commission reviewed the indebtedness of the Local Governments and some arrears of LG contributions were transferred to the FMCHP fund (DR14).

Most policymakers were aware that State and Local Governments contribute to FMCHP fund but noted that enforcement of rules for contribution was weak. Since 2010, only Local Governments transferred its share of funds to FMCHP Steering Committee because Local Governments' contributions are deducted directly from federation allocation to Local Governments, while "*the state government has not actually leaved up to its own responsibilities of making regular contributions"* (policymaker 3). Few policymakers indicated that funding ceiling remained unchanged since inception. As one policymaker observed, *"Free MCH budget should be reviewed every financial year – either upwards or downwards – but it had remained the same all through which does not look scientific or realistic"* (policymaker 10).

Budget execution and pooling of FMCHP fund

Review of documents indicated that rules for spending FMCHP funds covered referrals, drugs procurements, laboratory services, communications and enforcement of referrals, transport and logistics to support referrals, delivery of standardized services packages (DR5) and vetting of facility re-imbursement claims and mobilisation and advocacy activities (DR1). Nonetheless, there are no spending caps for resource allocation in the guidelines. FMCHP funds were used to procure 11 vehicles in 2014 (DR14). Some unapproved activities funded from FMCHP pool include renovation of building, procurement of office consumables, procurement of vehicles, repair of photocopying machine and printer, maintenance and fuelling of vehicles, training of health workers, meetings and workshops, community mobilization for immunization, staff welfare package, health budget preparation and investigation of cholera outbreak (DR 22).

Most policymakers said that rules for spending exist but not adhered to. They reported that "*Steering Committee met only twice"* (policymaker 1) in seven years and approvals of disbursement from FMCHP fund were done by Commissioner responsible for health. *"There were commissioners who delayed approval of reimbursement of providers even when there was a lot funds in the Free Maternal and Child Healthcare Programme account"* (policymaker 6). Yet, FMCHP funds were used to finance other health activities which are not authorized by FMCHP guidelines. *"When we received certain approvals from the State Governor without cash-backing, we normally took money from the FMCHP fund to finance them"* (policymaker 4).

Budget monitoring and purchasing in FMCHP

Review of documents indicated that at the inception of the FMCHP, funds were transferred from State Implementation Committee to Local Health Authority Secretaries for reimbursement of facilities for service and drugs costs, but in 2010, policy changed to payment of providers directly due to leakages at the Local Health Authorities (DR14, DR15). The proportions of service charge accruable to local health authorities (LHAs) between 2010 and 2015 were not remitted to LHAs but shared among State Ministry of Health, State Health Board and District Health Boards (DR23). Payment of providers are often late or never done and most healthcare providers are unclear about the reimbursement process (DR3) while some facilities are reimbursed fractions of claims (DR2). Delayed payment of providers resulted in stock-outs in many facilities while some providers resumed charging fees (DR2, DR10, DR14, DR17, DR19). Yet, we found only one audit report on the statement of account of the FMCHP (DR22).

Most policymakers identified weak organizational capacity of the Steering Committee as obstacle to effective health purchasing. They reported that Steering Committee rarely met, which constrained timely and predictable payment of providers. A policymaker indicated that *"since I joined the Ministry of Health in 2009 (seven years ago), the Steering Committee has met only twice"* (policymaker 1). Approvals for payment of providers were done by the Commissioner responsible for health. Consequently, reimbursement *"timelines stipulated in the free care programme guidelines were not met and took more than six months after vetting"* (policymaker 2).

Most policymakers said that unclear reimbursement procedure constrained accounting and financial reporting. Some state-level policymakers explained that there were leakages in funds when LHA secretaries served as financial intermediaries for paying providers: *"we discovered that the LHA secretaries were keeping back part of the moneys. So that is why all the facilities were directed to open account whereby cheques are issued in the names of those facilities"* (policymaker 1). District-level policymakers observed that *"since state-level policymakers by-passed Local Health Authority Secretaries in the reimbursement process, the Local Health Authority Secretaries became aloof"* (policymaker 14, District B) to provider accounting and financial reporting requirements.

Most policymakers observed that reimbursement processes are paper-based and not integrated into state health management information system. It was found that claim forms that were not properly completed were kept aside while figures on mutilated pages of claims form were deducted from total claims before recommending vetted

claims to Steering Committee for payment. Few policymakers observed that vetting team conducted quality assurance visits to "*verify that expenditure claimed in the reimbursement forms corresponded with facility records"* (policymaker 8) but sometimes, service data were inconsistent with providers' claims, which is described as data "konjaring", that is over-reporting attendance to increase claims (policymaker 10).

Most policymakers revealed that financial information about FMCHP funds were not publicly disclosed noting that the role of State Implementation Committee was limited to *"writing and issuance of approved reimbursement cheques to health facilities"* (policymaker 10). The policymakers also stated that mechanisms for overseeing adherence to financial rules include crediting FMCHP expenditure on drugs at central medical store for health facilities and existence of financial monitoring committee to ensure that the State Implementation Committee complied with transfer of approved funds directly to health facilities. Some policymakers observed that constitution of financial monitoring committee resulted in conflictual relationship between Ministry of Health and State Health Board. *"The financial monitoring committee instructed that the Board should never issue cheque to any facility without reporting to the committee. The Board disregarded the directive"* (policymaker 8).

Discussion

The study has examined how public financial management system and rules influence implementation of the free maternal and child healthcare programme in Enugu state, Nigeria. The findings highlight the misalignments between PFM and revenue raising,

pooling and fund management, and purchasing during implementation of FMCHP and provide useful insights into how PFM can be better aligned with FMCHP objectives to contribute to attainment of universal health coverage.

This study's findings showed that financing of FMCHP was insufficient and unpredictable. The level of promised funds remained unchanged over the initial 8 years of implementation despite increase in population of target beneficiaries and changes in the unit cost of services and drugs, which is consistent with experiences in Senegal.[11] Changes in target population and cost of care imply underfunding of the scheme even if government transferred fully the existing budget commitment to the programme. Yet, existence of funding plan by State and Local Governments did not translate to availability of the promised funds for FMCHP. The state government defaulted from paying their contribution and only the local governments sustained their budget transfer to FMCHP fund, resulting in chronic underfunding of the programme. Besides evidence from Nigeria and Mexico of state governments' defaulting in their contributions to UHC schemes,[12-14] several studies also found poor government commitment to funding UHC schemes consistent with findings of this study.[10, 14] Conversely, UCS budget increased more than a two-fold between 2002 and 2011 and by 75% between 2005 and 2010 and is timely transferred to the scheme.[5, 25]. In comparing Thailand's UCS to Nigeria's FMCHP, increased funding of UCS was due to increased annual fiscal capacities and robust health management information system which provided evidence on health service utilization that put National Health Security Organization in strong position to negotiate higher capitation rates with Budget Bureau.[17] Aligning PFM system and revenue raising to support FMCHP would entail a shift from historical budgeting to formulating a realistic and evidence-informed

annual budget for free maternal and child health services and strengthening enforcement of the contribution rules to create proper organisational incentive to guarantee appropriate and timely state budget transfer.

The study revealed that absence of clear resource allocation strategy, high unauthorised expenditure from the pool, and weak accountability between Steering Committee and Implementation Committee constrained efficient pooling and fund management. The FMCHP guidelines merely identified areas of spending but lacked resource allocation caps for different expenditures. Lack of spending caps in FMCHP contrasts experiences in Seguro Popular implementation in Mexico, where rules regarding how states could use funds stipulated that no more than 40% of funds can be used for human resources, no more than 30% can be used for pharmaceuticals and a minimum of 20% for preventive activities.[14, 16] However, experiences in Mexico indicate that resource allocation rules would not necessarily translate to adherence to negotiated expenditure targets as implementers incurred huge unauthorised expenses.[12, 14] Similarly, this study confirms the Mexico's experiences of use of funds for free care policy for unauthorised activities. The balance of power within the Steering Committee seem to have favoured the Ministry of Health to usurp the pooling and fund management function of the Steering Committee but resulted in use of FMCHP funds to finance Ministry of Health activities (where approvals have not been cash-backed) and lack of financial information disclosure. In addition, weak accounting and financial reporting from the State Implementation Committee resulted in institutional conflict between the Ministry of Health and the State Health Board. Even though the FMCHP guidelines did not explicitly provide for establishment of financial monitoring committee, it recognizes the strategic role of the Steering Committee to

take corrective actions to ensure administrative efficiency in fund management. The Ministry of Health set the financial monitoring committee to strengthen the logical link between pooling and purchasing and provide revised incentive environment that motivates the State Health Board to minimize corruption and optimize use of financial resources. To better align PFM and pooling and fund management, there is a need for clarity of roles and responsibilities for various FMCHP committees, disclosure of financial information to the various stakeholders, design of clear resource allocation strategy and enforcement of fund management rules.

The study further revealed that misalignment of PFM system and purchasing is characterised by delay in reimbursing providers for free services, accumulation of unpaid claims, stock-outs of drugs in health facilities and resumption of user fees by some providers. Such delays ranged from 3 to 15 months despite availability of funds in the FMCHP pool. The delays arise from delay in accounting and financial reporting by providers, delay in vetting of provider claims and delay in approving and transfer of approved claims to providers. Similar delays in transfer of funds from the state to healthcare providers was found in Mexico.[12] Four factors seem to be influencing the delay in provider payment in this study. The first factor is institutional conflict between Local Health Authority secretaries and the Ministry of Health. At inception, FMCHP policy allowed State Implementation Committee to transfer approved claims funds to LHAs' accounts. The LHA Secretaries had substantial discretion in financial resource allocation to service providers, but allegations of misappropriation of funds hindered effective transfer of funds to providers similar to misallocation of resources to contracted units of primary care by hospital directors in Thailand's UCS.[19] After initial 5 years of implementation (in 2012), the policy changed to transfer of service charges

directly to service providers, whereas expenditures on drugs are transferred to central medical store on behalf of health facilities. Consequently, the LHA Secretaries lost interest in monitoring and supervising the accounting and financial reporting by providers.

The second factor was weak vetting team. Delay in vetting of claims resulted from an initial lack of budgetary support for vetting team, incessant transfer of vetting team members, poor motivation of vetting team due to absence of incentives, weak quality assurance system, weak information and communication technology support, and centralization of vetting of claims. Initially, vetting committee was constituted as ad hoc committee and had no budget line for its activities including quality assurance visits to health facilities to verify provider claims. However, the revised FMCHP policy in 2013 has provided for use of FMCHP funds to cover administrative costs of vetting claims. Also, vetting of claims from all health districts is centralized at State Health Board, which seems to contribute to the delay in verifying claims. A meaningful change would be decentralization of vetting to health districts and linking district vetting offices to central coordinating vetting unit at State Health Board using functional information and communication technology infrastructure.

The third factor is that the FMCHP claims' management is paper-based process and has not been integrated into health management information system. This study's finding contrasts experiences in Thailand where evidence of utilization informs the capitation rates,[15] but differs from experiences in India and Nigeria where lack of administrative and service utilization data constrained monitoring of free healthcare policies.[10,13] Limited information and communication technology infrastructure

constrained accounting and financial reporting by providers, vetting of claims and transfer of funds to providers. Although health management information system is not an intrinsic part of provider payment system, it shapes the claims reporting and billing system.[26] The fourth factor is weakness of the Steering Committee. Approval of vetted claims is assigned to Steering Committee but in practice, Commissioner responsible for health approves disbursements from FMCHP fund. Thus, weak organizational capacity of Steering Committee constrained effectiveness and efficiency of purchasing because approvals depended on (un)willingness of the commissioner to approve funds. As we have argued elsewhere,[2] consistent enforcement of provider payment standards and use of ICT aligned with HMIS to manage provider payment would realign public financial management systems and purchasing objectives of the FMCHP.

The study has explored the misalignments between public financial management system and free healthcare policies through a detailed analysis the free maternal and child healthcare policy of Enugu state, south-east, Nigeria. The study has generated useful insights about how PFM system influences free healthcare policies in resource-constrained settings, and the triangulation of quantitative and qualitative findings increases the validity of our conclusion that PFM plays key roles in the effectiveness of free healthcare policies. Evidence from this study may be limited by poor availability and accessibility of financial and administrative records of FMCHP. As an example, outstanding claims of district providers could not be analysed due to lack of data. However, the study leveraged on the first authors' insider-researcher position to obtain the financial records that inform the data reported in this study.

Conclusion

This study identified important lessons to align public financial management system and free healthcare policies in Nigeria and similar settings. There is a need for shift from historical budgeting to formulating a more credible, realistic and evidence-informed annual budget for free maternal and child health services and strengthening enforcement of the contribution rules to create proper organisational incentive to guarantee appropriate and timely state budget transfer. Clarity of roles and responsibilities for various FMCHP committees, disclosure of financial information to the various stakeholders, use of clear resource allocation strategy and adherence to fund management rules would strengthen the pooling and fund management. Timely payment of providers could be achieved by enforcement of provider payment standards and use of ICT aligned with HMIS to manage provider payment.

Acknowledgements

We are grateful to all participants of this study, government officials who gave us access to administrative and financial records and Prof Nkoli Ezuma for assisting with qualitative tool development and data analysis.

Funding

This work was partially funded by the African Doctoral Dissertation Research Fellowship (ADDRF) (Grant Number: 2014-2016 ADF003) through the African Population and Health Research Centre (APHRC) Nairobi, Kenya.

Conflict of interest statement

The authors report no conflict of interest.

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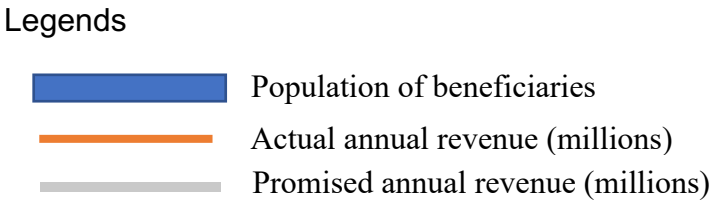
Table legend

TABLE 1 Misalignment of PFM and health financing functions in FMCHP in Enugu State

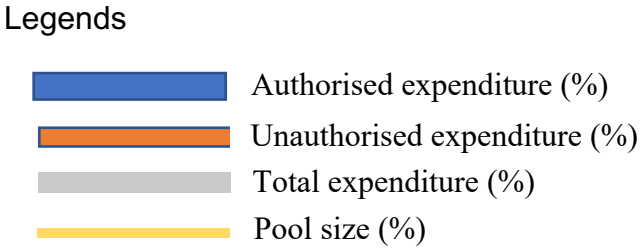
Figure legends

1. **FIGURE 1** Framework for assessing alignment of public financial management and health financing policies

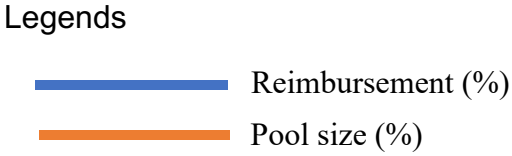
2. **FIGURE 2** Trend of revenue raising for FMCHP and population of target beneficiaries.



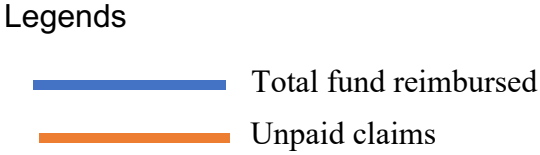
3. **FIGURE 3** Trend of spending from FMCHP funds between 2010 and 2016.



4. **FIGURE 4** Proportion of annual pool size spent on payment of healthcare providers.



5. **FIGURE 5** Trend of annual reimbursement and cumulative unpaid claims in ESUTH.



Additional files

Additional file 1: List of policy documents reviewed