Stunted scale-up of a performance-based financing program on HIV and maternal–child health services in Mozambique — a policy analysis

Jessica Gergen,1* Joana Falcao2 and Yogesh Rajkotia1

1ThinkWell, Maputo, Mozambique
2Independent contractor, Maputo, Mozambique
*Corresponding author, email: jessiegergen@gmail.com

Objective: A performance-based financing (PBF) program was implemented for services for HIV, prevention of mother-to-child transmission (PMTCT) and maternal/child health (MCH) in two provinces of Mozambique. This study investigates the determinants of policy scale-up to help accelerate the expansion of PBF in Mozambique and globally from pilot projects to national policies.

Methods: A retrospective policy programme analysis was carried out using in-depth key informant interviews. A total of 24 interviews were conducted with stakeholders from donor agencies, the implementing NGO, district and provincial health offices, and the Ministry of Health.

Results: Stakeholders reported that the scale-up process of PBF was influenced by three key determinants: political power, financial sustainability, and available capacity and evidence. In Mozambique, PBF scaled-up provincially but not nationally due to these determinants. The adoption of PBF in Mozambique involved a restricted range of policy actors at the central level and was strongly driven by the donor and a PBF champion. Provincial scale-up was fostered by political support and increasing capacity over time.

Conclusion: There was a generalised ambivalence and lack of incentive to scale-up PBF from the implementing NGO. Coupled with the lack of evidence of a positive effect, and of cost-effectiveness in comparison with other models to improve health service delivery and health system strengthening, it is difficult to argue for the need to scale up the PBF programme studied. Care needs to be taken to base the adoption of health policies, including PBF, on a situational analysis and on evidence of intervention effectiveness, cost-benefits and contextual fit.

Keywords: Policy, scalability, implementation research, results-based financing, health financing

Background

There is considerable momentum for the global expansion and scale-up of performance-based financing (PBF) as a mechanism to increase outputs, quality and coverage of health services using financial incentives to improve performance and motivate healthcare providers (Musgrove, 2011; Eichler et al, 2013; Soeters, 2013; Fritsche, Soeters, & Meessen, 2014). However, of the more than 35 health-focused PBF programs in low- and middle-income (LMICs), 80% remain in the pilot or scale-up planning phases. One reason for the slow pilot transition is because PBF is widely considered a complex health systems intervention that has not yet demonstrated sufficient efficacy, cost-effectiveness and acceptability by policymakers and practitioners (Meessen, Soucat, & Sekabaraga, 2011; Meessen, Schroff, Ir, & Bigdeli, 2017). A small number of qualitative studies have evaluated PBF’s effect on provider motivation (Brenner et al., 2017; Kambala et al., 2017; Lohmann et al., 2017; Lohmann, Muula, Houfert, & De Allegri, 2018). Providers in Nigeria reported being more punctual and hardworking because of changes spurred by PBF, namely more organized work environments and more supportive supervision (Bhatnagar & George, 2016). However, the concept of PBF and the implications of the structural and institutional changes required to accommodate PBF are still not well understood outside of the PBF community (Meessen, Soucat, & Sekabaraga, 2011; Meessen, Schroff, Ir, & Bigdeli, 2017).
Overall, the evidence surrounding PBF remains mixed and the heterogeneity of settings and implementation makes the case for broader expansion or scale-up precarious. While scale-up of effective health interventions or strategies is considered essential to benefit more people, there is limited evidence on the factors that enable or hinder such processes, particularly for PBF (Meessen et al., 2017; Shroff, Bigdell, & Meeseen, 2017). Scale-up is often interpreted as increasing geographical coverage from a limited study or program area to an entire region or country, but scale-up can expand beyond geographic coverage. For instance, Hartmann and Linn as define scale-up as, "expanding, adapting and sustaining successful policies, programs or projects in different places and over time to reach a greater number of people" (Hartmann & Linn, 2008). Mangham and Hanson suggest that scale-up is used primarily to describe the intent or process of expanding the coverage of health interventions, but can also refer to the increasing financial, human and capital resources required to expand coverage (Mangham & Hanson, 2010). This definition captures the importance of financial, political, human and institutional resources that drive both population and service coverage. Our definition of scale-up, adapted from WHO ExpandNet (2010), includes both the benefit of more people through increased service and population coverage and the cultivation of policy and sustainable program development. This study’s first research question was to assess to what extent PBF was scaled in Mozambique (i.e. provincially and/or nationally). Secondly, to assess what factors influence the extent of scale up achieved using key measures of scale-up (increased service and population coverage, as well as political coverage or institutionalization). This study identified three key determinants of scale-up (political buy-in, institutionalization, financial and institutional capacity, and evidence) informed by the WHO step-wise framework for developing a scale-up strategy. These determinants help explain the extent of scale up achieved over time for the PBF program in Mozambique, and have implications for similar pilot programs globally. The process of scaling-up PBF in Mozambique provides an opportunity to investigate the factors that have influenced local and national policy adoption. In addition, we can dissect the role of actors, evidence and finances to draw lessons that accelerate scale-up and influence policy levers required to scale PBF in Mozambique and beyond. This work is part of a larger 11 country analysis of policy scale-up.

**PBF in Mozambique**

PBF in Mozambique is working to address some of the most critical health problems including MNCH, HIV/AIDS and Tuberculosis (TB). The maternal mortality ratio remains high, at 480 deaths per 100 000 live births (2013), the prevalence of modern contraceptives is only 7% in rural areas (2011), and HIV is hyper-endemic—the national HIV prevalence is 10.6% (2014 estimates) (Rosen & Fox, 2011; Elul et al., 2014; Fox et al., 2016). Mozambique also has one of the highest TB/HIV co-infection rates, with 58% of all notified TB cases being HIV-positive (Garcia-Basteiro et al. 2015).

The health system in Mozambique is also facing critical challenges. Technical and organizational capacity at the health facility level has led to longstanding difficulties in creating sustainable performance improvements in both human and facility resources throughout Mozambique. Funding flows between the Ministry of Health (MOH) and decentralized units is lacking transparency and accountability. Mozambique’s health system has traditionally been financed through centralized input provision. Meaning the MOH decides what services will be paid for in public facilities, then requests from the Ministry of Finance (MoF) an annual input budget. Under an input financing framework, inputs such as equipment, drugs and provider salaries are provided on a regular basis to finance the delivery of care. Conversely, under the PBF program, health facilities and decentralized government units on a district level, manage their money (autonomously) and invest it in equipment and providers according to a defined business plan.

The US President’s Emergency Plan for AIDS Relief (PEPFAR) financed the PBF program through the United States Center for Disease Control (CDC), and was implemented by the Elizabeth Glaser Pediatric AIDS Foundation (EGPAF), hereafter referred to as the implementing NGO. The PBF program was initiated in January 2011 in two provinces (Gaza and Nampula), with the goal of accelerating the achievement of Maternal and Child Health and HIV/AIDS-focused health outcomes. PBF is a healthcare services funding mechanism based on outputs (healthcare service provision) or outcomes (health status improvements) (Musgrove, 2011). Within the institutional arrangement of the program, the implementing NGO serves as the purchasing agent or fund holder that contracts service providers to provide healthcare services and disburses funds according to the PBF contract. The package of services under the PBF scheme is linked to performance across 21 clinical indicators and categorized into five groups: Prevention of Mother to Child Vertical Transmission (PMTCT), Pediatric HIV, Adult HIV Care and Treatment, Tuberculosis, and Maternal and Child Care (MCH). Many these indicators are drawn from the Mozambique national reporting system. Health facilities are also assessed based on the quality of services provided using three quality tools: PCI (prevention and control of diseases), IMM (maternity services) and IMQ (HIV services).

The implementing NGO and Provincial Health Offices [Departamento provincial de Saúde (DPS)] jointly conduct verification for the quantity and quality of services provided through quarterly visits to each PBF facility. Incentives are paid to the health facility or the District Health Authorities [Departamento Distrital de Saúde (DDS)], depending on the autonomy and capacity of health facilities. Once beneficiary health facilities receive quarterly PBF bonuses, 40% is allocated for investment into the health facility and 60% is distributed to all health facility staff as salary top-ups. Salary top-ups or incentives are distributed based on pre-determined criteria, including years of service, level of education and attendance. On average, PBF incentive bonuses represent between 15% and 50% of a monthly salary for health staff; this figure depends on the size and geographic location of the health facility and the professional position held by the provider.
Methods

Analytical frameworks

A review of the literature on policy analysis and scale-up was carried out to identify suitable analytical frameworks to address our research questions. Policy analysis is a multi-disciplinary approach that aims to explain the interaction between institutions, interests and ideas in the policy process. Introducing PBF into Mozambique required substantial changes in terms of institutional arrangements and involvement of actors (e.g., autonomy of provincial health authorities and health facilities, verification of performance for accountability, enhancing the health record keeping system). Among the existing policy analysis frameworks, the health policy triangle proposed by Walt and Gilson captures the complexity of policy implementation and expansion using four analytical components (Figure 1; Table 1).

Our analysis considered the evolution of the PBF program in the context of these four components (actors, policy process, content and context), combined with broader systemic determinants of scale-up that emerged from the findings, namely political institutionalization, financial and institutional capacity, and evidence. This modified Walt and Gilson framework, capturing the highly-simplified components of the Walt and Gilson policy triangle and overlaying the determinants of scale-up that were considered the drivers in Mozambique’s PBF program, offers a more comprehensive approach that focuses on health reforms.

Key informants were selected through snowball and stratified systematic purposive sampling. In total, 24 informants from donor agencies, the implementing NGO, Ministry of Health (MOH), and Provincial and District Health Offices (DPS/DDS) participated. A list of key informants was drawn up and each informant was contacted to request an interview. Seven informants were interviewed from each of the implementing NGO, MOH and DPS/DDS, with three interviewed from donor agencies. All informants were assigned a unique identifier to ensure anonymity. Quotes, however, are assigned to their stakeholder general category (e.g., MOH, donor, the implementing NGO, and DPS/DDS).

Data collection

A semi-structured interview guide was used during in-depth interviews and was structured to explore the history of the project development. The interview guide explored decision making processes about development of project design, key actors and their involvement in the project development, analysis of country’s social, economic and political context, and how changes over time may have influenced project development. The interview guide was pre-tested with two key informants, who served as technical advisors to the PBF program, but were not included in the study sample.

Prior to interviews, an exhaustive desktop review of all internal and publicly available program documentation was conducted by the principle investigator. In March and April 2015, interviews were conducted with informants from three provinces of Mozambique (Maputo, Nampula and Gaza). Of the 24 interviews collected, two were collected in English and the remainders in Portuguese; 16 interviews were collected in face-to-face interviews and eight were conducted using a phone or Skype. Informed consent was received from each informant and interviews were recorded, transcribed verbatim.

Figure 1: Analytical framework (adapted from Walt & Gibson, 1994; Tesfazghi, Hill, Jones, Ranson, & Worrall, 2016, p. 93)

Table 1: Definitions of terms used in analytical framework

| Framework categories        | Definitions                                                                 |
|-----------------------------|-----------------------------------------------------------------------------|
| Policy triangle1            |                                                                             |
| Actors                      | Individuals, groups of individuals or organizations, states or governments involved in the adoption and expansion a select policy |
| Context                     | Systemic factors, including political, economic and social, at national and international levels, that influence policy |
| Content                     | The design features and institutional arrangements of the policy, including the objectives, target population or beneficiaries, and monitoring and evaluation framework |
| Process                     | Processes that govern and influence the implementation of the policy is the final component |
| Determinants of policy scale up2 | Political processes, systems and stakeholder who can affect the process of health policy through power and influence. |
| Financial                   | Refers to the availability of resources and sustainability of financial support. Sustainability includes linking scale-up to macro-level funding mechanisms and established budgetary processes. |
| Institutional capacity and evidence | Information, knowledge and skills that individuals, organizations, and institutions use to achieve intended policy goal, including scale up. One key type of information pertinent to scale up is evidence. |

1Adapted from Walt & Gibson (1994); Tesfazghi et al. (2016)
2Adapted from WHO ExpandNet (2010)
using local consultants, and checked for accuracy by the team. In two interviews, permission to use a voice recorder was denied so extensive note taking was employed. The average length of the in-depth interviews was 43 minutes.

Analysis
The verbatim transcripts and interview notes were imported into ATLAS.ti Version 1.0.14 for thematic analysis. Interviews were coded and analyzed by the two researchers to identify recurrent themes and variations across responses. An initial coding framework was derived based on Walt and Gilson framework: content, actors, process and context (Walt & Gilson, 1994). The coding framework and themes were continuously revised as data collection progressed and cross-referenced using inter-rater reliability comparisons by the two key researchers. The application of the policy triangle in our analysis was intended to identify what components of the current program served as enablers or barriers to scale-up. We also analyzed scale-up with the determinants of scale-up to further explore the extent of scale-up provincially (intervention regions) and nationally.

Results
Our results begin with an overall narrative of the PBF policy development and extent of scale-up using the policy triangle, supplemented by the analysis of the drivers or determinants of provincial and national scale up in Mozambique.

Extent of PBF scale-up
Context
Mozambique is comprised of 10 provinces with three tiers of government (national, provincial and district), each having a mandate to formulate and implement health policies and programs. With regards to health financing, Mozambique has a centralized input-based financing system where inputs such as equipment, drugs, and provider salaries are provided based on a budgetary allocation estimated for each facility. The rigidity of the budget formulation limits the reallocation of funds across line-items in response to health system changes in utilization or population needs. Hence, alternative health financing reform mechanisms are being explored through a number of interventions in Mozambique. Informants reported that global and regional support for PBF helped foster the initial excitement and support for PBF as a potential reform by regional and international partners.

It was in 2009 when the American government decided it wanted to do innovative approaches associated with workforce productivity and incentives, something innovative to increase productivity. (Key informant interview [KII_V_NGO])

Mozambique’s weakened health system, with poor infrastructure and dissatisfied health workforce proved enabling for an externally funded clinical improvement program. Salaries for health workers remained low, while their workload continued to increase due to high demand and inadequate access to essential equipment and medicines. Informants reported that PBF offers funds for infrastructure and facility equipment and staff bonuses.

Well, providers are somehow satisfied … on the one hand we have the incentive, the intrinsic incentive is the money earned by the PBF … more than that is the very incentive, the money reverts to the PBF own facility … allocation or improvement of conditions of work for employees. (Provincial Health Office, KII_E_DPS)

PBF policy content
The Mozambique PBF program was designed as a localized policy intervention (two provinces) focused on HIV/AIDS care and treatment, which aligns with the donor’s and implementing NGO’s organizational mandate. The perception of provincial-level informants is that PBF has demonstrated positive impact including extra funds for health facilities, which in turn helped to improve service quality and monetary bonuses on staff salaries which helped to increase motivation. The fact that bonuses benefited all staff, independent of their direct relation with incentivized indicators, also boosted cooperation and transparency. Another factor that appeared as a strong enabler was that PBF supported the generation of financial autonomy of DDS’s and ultimately of health facilities:

Mainly it were the results we achieved, when we saw our indicators, the financial autonomy of hospitals growing, management capacity, work conditions, it increases the accountability of the health worker because he is makes an effort to improve his registers. We had certain fears regarding data falsification but because there is a verification team all is under control. It was we, DPS, who requested the expansion for further districts. (Provincial Health Office, KII_P_DPS)

However, the fact that the PBF scheme was designed as a pilot and remained conceptualized as an experiment by all stakeholders, including the implementing NGO, was perceived as a barrier to national scale-up.

It is necessary to think if the province is really going to expand with a pilot model or if we want to think in a different model more institutionalized and integrated. Because questions and doubts are arising in what regards its sustainability. (KII_E_NGO)

Actors
According to informants, the decision-making process to scale-up PBF nationally in Mozambique involved five key actors, namely, the donor (CDC), MOH, the implementing NGO, the DPS, and DDS. The donor had the financial power to initiate, expand and terminate the PBF scheme.

As we are the donor, we allowed it to happen, so they proposed and we said, ‘this is a good idea, let’s move forward with planning it, thinking about it’ and so various people from CDC were involved in various steps along the way (KII_C_Donor agency)

The implementing NGO was the driver behind the initiation of the PBF program, and heavily influenced the design, planning and evaluation of the program. The DPSs had the political power to give the final approval of PBF initiation and helped define policy components through participatory planning processes. The DDSs were the primary frontline implementers and beneficiaries, and hence a strong proponent. The MOH had the political and normative power to authorize initial project approval, but
played a rather marginal role in provincial level expansion and, to a certain extent, its lack of engagement worked as an impediment for the development of central level discussions around the future of PBF and the possibility of expanding the policy to other provinces.

**Process**

The design of the PBF program was a multi-stage participatory process involving CDC, the implementing NGO and the Provincial and District Health Offices (DPS/DDS). At the time of the PBF program’s initiation, the concurrent decentralization process allowed for the DPSs to decide whether to initiate and expand PBF within their provinces independent of MOH approval. In the DPS/DDS approval process they showed buy-in to the policy by suggesting content refinements. The implementing NGO gathered international expertise on PBF and co-designed the performance-based financing scheme with CDC.

Our partner (EGPAF) brought in a proposal for a pilot, a new approach of health financing for health, focused on the improvement of certain HIV indicators. Then we saw that the DPS priority was not only HIV, that we needed to add other components and so we increased the number of indicators. (KII_K_DPS)

Formal approval from the donor and from the MOH led to the PBF program’s official launch in January 2011 in a total of 19 health facilities. During the project’s initial year, the implementing NGO provided ongoing technical support and capacity building at DPS and DDS to create better understanding of the concept and increase health authorities’ participation in verification mechanisms. Despite the strong DPS and the implementing NGO buy-in, there was a caution towards PBF at MOH level.

The understanding that I had about the MOH’s interest in this is: “sounds good, try it and come back just when you have results and then we will talk”. (KII_F_NGO)

**Extent of scale-up: population and service coverage**

PBF in Mozambique was scaled up provincially, but not nationally. As of early 2015, the PBF program is continuing in the two program provinces in a total of 138 health facilities, 65 in Nampula and 73 in Gaza, equating to 56% and 79% population coverage respectively. Although the catchment area has increased substantially, the number of patients covered by the PBF program is limited by its focus on specific service types, i.e. HIV related services. Key changes to the PBF policy’s content expanded service coverage, including the addition of MCH indicators (January 2011) and introduction of the quality of care component (January 2013). Population coverage was gradually expanded as DPS and the implementing NGO phased in new facilities from 2011 to the end of 2014 (Table 2). A few additional facilities were added in 2015, however CDC limited the expansion due to the limited availability of evidence. As of 2017, the program was discontinued and is no longer being implemented.

**Determinants of PBF scale-up**

Based on the experience of the PBF Mozambique program, we have identified three determinants of scale-up that resulted in provincial scale up, but failed to shift PBF from a externally-led and funded program to a national institutionalized policy.

**Political**

Key informants recognized the strong political commitment by the DPS and DDS to PBF as the key driver to scaling the program in terms of service and population coverage provincially. The DPSs and DDSs had large buy-in and felt partial ownership of the program as the implementing NGO frequently included these offices in participatory consultations and trainings. Provincial and district authorities received positive feedback from health facilities because of the increased funding and financial autonomy, i.e., power to decide how and when to spend available funds.

The provincial level was very positively active; they were always very favorable even before seeing changes in the indicators. I think their biggest motivation was the health workers motivation, because even before seeing results the DPS staff gave strong support and participated actively in the PBF scheme. (KII_X_NGO)

On the other side, all stakeholder categories recognized the national government’s mandate to endorse and operationalize policy decisions, thus conferring significant influence over the policy scale-up process. Informants reported that MOH felt no sense of ownership over the PBF program, and that, at the central level, there were no influential or politically powerful supporters of the PBF program.

Frankly, in spite of all the conversation about decentralization, who guides and [does] things, it’s the central level, at MOH level but also other ministers, what the central level says is what happens. If the central level keeps its distance the provinces will not go too far, they still depend on the central level for

| Period         | Health facilities | Districts | Catchment n (%) | Health facilities | Districts | Catchment n (%) |
|----------------|-------------------|-----------|-----------------|-------------------|-----------|-----------------|
| January 2011 (Q1) | 9                 | 8         | 214 329 (15%)   | 17                | 11        | 771 548 (16%)   |
| April 2012 (Q2) | 26                | 12        | 761 524 (54%)   | 45                | 19        | 1 847 509 (37%) |
| October 2013 (Q4) | 73                | 12        | 806 578 (79%)   | 65                | 20        | 2 739 187 (66%) |
| October 2015 (Q4) | 73                | 12        | 1 153 112 (79%) | 65                | 20        | 2 739 187 (66%) |

Note: Number is the cumulative count over time representing the expansion of PBF in Gaza and Nampula provinces. Total number of facilities is 138 in both provinces as of February 2015.
many things, highly qualified personal for example, amongst others. (KII_Z_Donor agency)

Although the MOH was a central piece for national scale-up, neither the donor nor the implementing NGO prioritized its engagement. Initial capacity building and workshops hosted by the implementing NGO proved unsuccessful in building political capital at the central level.

There is not even a serious discussion about this topic [PBF] at the MOH, consequently the project remains as a pilot, that seems to have positive outcomes, but the MOH still didn’t discuss it. (KII_C_Donor agency)

Further, the central level perceived the program to be a short-term donor funded ‘experiment’ and did not politically support its scale-up. At inception, the PBF scheme was designed as a pilot program, and remained conceptualized as an experiment by all stakeholders, including the implementing NGO staff and the provincial and district health offices. Additionally, the focus on HIV services made the scale-up selective to only those facilities that provided HIV services.

Financial

Informants generally viewed the biggest financial barrier to policy adoption and scale-up of PBF as donor funding. Funding for the PBF program is medium-term and externally dependent. The PBF program has been successful in reforming the purchasing of health services and increasing the fiscal capacity at the provincial and district level. An important financial precursor to the PBF program was the introduction of sub-grants agreement with the DPSs and DDSs. Previously funds were received through traditional agreements in which they were passive receivers of material and supplies.

Quite honestly, there wasn’t anyone interested in PBF at that time, they didn’t understand then what PBF was. There was fear that the country wasn’t ready for anything like that, I was told that countless times. (KII_A_NGO)

The PBF program continues to be fiscally dependent on a donor who focuses on HIV indicators and has clear and strong geographic division of HIV clinical partners within the country. Therefore, the implementing NGO did not advocate for fiscal expansion of PBF in additional provinces as it is out of their technical jurisdiction, meaning the implementing NGO was only responsible for and receiving funds for programs in Nampula and Gaza. Alternative funding sources were explored, such as the donor-pooled funds in ProSaude or public funding through the Ministry of Finance, but lacked a champion. The MOH has stated that it would require financial sustainability to consider implementing and expanding such a complex and innovative intervention.

Considering previous experiences that have subsidy payments through non-governmental organizations we can see that the process has been very painful because the predictability of funding is complicated. So I think if there was additional concrete information on the subject, that could probably guide the process but still it would be necessary to discuss the sustainability of expanding this type of project. (KII_J_MOH)

Institutional capacity and information

Key informants agree that institutional capacity, including human resources, for PBF was sparse throughout the program’s implementation. Within the implementing NGO, the PBF champion built internal capacity of PBF. The champion imported expertise from her experience with PBF in Rwanda, and advocated for its feasibility in Mozambique. She was heavily involved in the design and initial implementation the PBF scheme. However, shortly after the PBF program’s launch, the implementing NGO lost this champion, diminishing the attention towards PBF. Informants stated that their efforts to push for scale-up were inhibited by the lack of expertise, insufficient evidence of PBF’s effectiveness, and low frequency of communication with MOH stakeholders.

I think if we had had people with better communication skills, more charismatic, we could have had a more relevant engagement at central level … at provincial level the engagement was stronger, but at central level the knowledge about which were the results, how to monitor, money reimbursed, was much weaker … people had general ideas, assumed certain positions, but I think a different team would have made a big difference. (KII_X_NGO)

However, respondents cited that the implementing NGO and the donor made a number of capacity building efforts. Several staff from MOH and DPS were sent to PBF trainings, which was intended to increase knowledge and political support both centrally and provincially. The implementing NGO provided ongoing technical support and capacity building to their field staff and DPS/DDS to create better understanding of PBF as a concept and increase health authorities’ participation in verification mechanisms. However, the MOH did not have internal capacity that understood and advocated for PBF. The initial MOH PBF focal point was never replaced after he left in 2013. Furthermore, no key politicians or party leaders have thrown their support behind PBF, so it has stalled at the national level.

The process started by doing advocacy at MOH level … then at provincial level. We hired a consultant that came to do some presentations and share experiences from other African countries and other Continents … we answered all questions … the idea was excellent … and the DPS wanted to embrace the initiative. (KII_E_NGO)

It [PBF] is a new concept and inside public administration … imagine if in 10 years each health provider has to justify his salary based on results and he or she must get paid according to that, it is a revolution, and the country is still far away from that mentality. (KII_B_NGO)

According to nearly all informants, evidence generation and dissemination was an important barrier of national scale-up. Performance data evaluated after the first year of implementation showed positive results. At the same time, CDC had increased the project’s budget and asked the NGO to concentrate its efforts only in Gaza and Nampula. The confluence of these factors led the implementing NGO to expand the PBF program geographically throughout 2012 and 2013 until it reached an average of 65% coverage.
However, after two years of implementation there was pressure from the donor and MOH to provide conclusive scientific results of PBF impact on incentivized indicators. In response, the implementing NGO hired external technical support to design and implement an impact evaluation of the PBF scheme in early 2013. The impact evaluation took more than a year to complete the analysis and synthesis. During that time there were a number of preliminary results presentations to key stakeholders but understanding of the findings and their impact on PBF as a potential national contracting mechanism was not recognized. As of December 2017, the results of the impact evaluation were not publicly available or widely disseminated outside of the implementing NGO and a few MOH workshops.

Every partner has come to us and said, “We want to do PBF” … and we said, ‘no’ to everybody, because we need to know if this works and we need to know why it works. (KII_C_Donor agency)

We stopped (expansion) because first there is a need for an impact study, because it’s not enough to blindly say that PBF works without having scientific evidence. We had evidence that some indicators improved, but it came from basic statistical analysis in Excel, but we needed evidence. (KII_E_NGO)

Discussion

This study is the first to explore the determinants of scale-up for a NGO-led PBF program as a potential policy in development (Shroff, Bigdeli, & Meessen, 2017). The PBF program was scaled-up within the pilot provinces, but failed to scale nationally and eventually was de-funded (2017), which was influenced by political, financial and capacity barriers. There was a generalized ambivalence about the desirability of scaling up PBF from the implementing NGO. Coupled with the lack of evidence of a positive effect readily available prior to 2017, and of cost-effectiveness in comparison with other models to improve health service delivery and health system strengthening, it is difficult to argue for the need to scale up the studied program of PBF in Mozambique.

Politically there were no active decision-makers pushing or planning for the program’s national scale-up, outside of the initial champion. Some minor, uncoordinated advocacy efforts failed at the central level due to lack of buy-in and clarity of a scale-up plan, in addition to limited evidence that PBF worked in the Mozambican context. The PBF program was characterized as an external policy process with the donor and implementing NGO exercising its power to involve only DPS/DDS actors and failing to sufficiently involve national actors. This decentralization of decision-making and implementation of the program resulted in limited buy-in at the central level during the initial years on implementation. Although the program gained significant political traction at the decentralized level, decision-making and finances of the health sector remains centralized in Mozambique.

On the other hand, the results indicate that various political enablers played out together to facilitate PBF expansion within the provinces. Implementing a new policy at smaller scale was more feasible, for both the implementing NGO and the donor, such as resources mobilization, cost, local capacity building, is more easily overcome. It is also easier to create standard operational procedures at a small scale, whereas national scale-up would likely require clear policy guidelines and heavy monitoring mechanisms.

Fiscally, there was no clear plan forward for sustainable financing of the PBF program. The program remained externally funded and co-implemented by the DPS and the implementing NGO until 2017, when it was terminated without scale-up outside of the two provinces. Donor-driven reform leading to weak national ownership was also noted in the design and implementation of the pilot in Tanzania and Uganda (Shroff, Bigdeli, & Meessen, 2017), also reported in work by Chimhutu, Tjomsland, Songstad, Mrisho, & Moland (2015). Alternative funding options that offer longer-term support, such as partial funding from Ministry of Finance or a pooled donor fund, like ProSaude, were discussed but little action was taken to secure such financial support for the program’s continuation or expansion as of early 2015.

Adding to the already established practices and proscriptions of international development, this study demonstrates the importance of advocacy and evidence, especially to national policy makers, for national expansion (Shroff, Bigdeli, & Meessen, 2017). The implementing NGO did not have the human or institutional capacity, nor the mandate as the implement NGO only had funding to work in the two target provinces, to expand the PBF program policy past the two pilot regions. There was a lack of knowledge and evidence to share with all stakeholders about PBF, particularly central level actors. Evidence generation and dissemination was considered a key barrier to national scale-up by all informants, demonstrating the importance of program implementers to perform rigorous evaluation for new or evolving policies. No research related to PBF’s potential undesirable impacts, such as additional costs and health staff burden, nor the adverse effects of stopping PBF once the health workforce was adapted to the additional financial incentives was conducted. Additionally, there was limited capacity to advocate effectively by tailoring presentations and messaging for key stakeholders to promote understanding of the policy results and their implications.

The linear model of policy-making—from evidence to policy-making—has been the subject of much criticism because its premise neglects the fact that converting scientific results into programmatic action is a complex socio-political process. The complexity of adopting PBF as a national policy, causing a shift from input to output-based financing, has only been successfully done in two countries in Sub-Saharan Africa (Rwanda and Burundi). Adoption of PBF at a national level requires several systemic changes including an internal cultural shift towards performance, accountability and good governance (Shroff, Bigdeli, & Meessen, 2017; Soucat, Dale, Mathauer, & Kutzin, 2017). The importance of this point cannot be overlooked. Although the evidence base for PBF in LMICs is lacking, PBF is not all that new or innovative and the broader literature on incentives-linked to performance supports their efficacy (Witter, Fretheim, Kessy, Lindahl, 2010; Scott et al., 2011; Meessen, Schroff, Jr, & Bigdeli, 2017). However, the health sector of Mozambique has unique attributes and poses specific challenges. Evidence generation and information...
sharing is a critical component, but how it is leveraged as an advocacy tool to build political power and constituency is also critical. The challenges faced by the PBF pilot project demonstrate the lack of understanding surrounding advocacy as a potentially powerful tool to help nationalize PBF and restructure health systems around performance and accountability.

None of the scale-up determinants (political support, financial and institutional capacity, and evidence) supported national scale-up in Mozambique. The PBF pilot program deviated from the global recommendations of donor-funded projects that prescribe a participatory and consultative process of decision-making with key stakeholders, including government. However, the importance of measuring impact and engaging national policy makers for political capital and funding are not new findings in policy scale-up. These have been documented determinants of scale-up or adoption of new policies, independent of the health issue, and should be better applied to the growing number of PBF pilots globally.

**Limitations**

This study has a number of limitations. The time period under review spans from 2011 to 2015, and we requested that participants recall a number of key events over this time period. This could have resulted in recall bias. There is also a risk of social desirability bias. Some of the perspectives of participants may have been influenced by a desire to appear favorable or unfavorable towards PBF retrospectively. Some participants could have exaggerated their behaviors to emphasize their position on PBF and their role in the project’s development. Finally, due to the limited number of documents available, a systematic and comprehensive document analysis was not possible.

**Conclusion**

There was a generalized ambivalence and lack of incentive to scale-up PBF from the implementing NGO. Coupled with the lack of evidence of a positive effect, and of cost-effectiveness in comparison with other models to improve health service delivery and health system strengthening, it is difficult to argue for the need to scale up the studied program of PBF in Mozambique. This study reaffirms that without sufficient political support by powerful national government stakeholders who advocate and build political constituency, particularly within the MOH and Ministry of Finance, policy scale-up to the national level is difficult. Greater focus on advocacy for and awareness raising of PBF among national and provincial level government stakeholders could help generate widespread support and potential financing. However, care needs to be taken to ensure that adoption of health policies, including PBF, on a situational analysis and on evidence of intervention effectiveness, cost-benefits and contextual fit.

**Acknowledgements** — We thank all the informants for agreeing to take part in the study. We acknowledge the participation of the Elizabeth Glaser Pediatric AIDS Foundation and the Provincial Health Directorate from Gaza and Nampula, which made it possible to access valuable information for the study. Finally, we also thank the Alliance for Health Policy and Systems Research and the Institute of Tropical Medicine, Bruno Meessen, Zubin Shroff, and Maryam Bigdeli for guidance and conceptualization of the study design for all 11 case studies. Ethical approval for the study protocol, data collection instruments and informed consent forms was obtained from the Ethics Review Committee of the World Health Organization and the Ethics Review Committee of the Mozambique Ministry of Health.

**References**

Bhatnagar, A., & George, A. S. (2016). Motivating health workers up to a limit: Partial effects of performance based financing on working environments in Nigeria. *Health Policy and Planning, 31*(7), 868–877. https://doi.org/10.1093/heapol/czw002

Brenner, S., Wilhelm, D., Lohmann, J., Kambala, C., Chinkhumba, J., Muula, A. S., & De Allegri, M. (2017). Implementation research to improve quality of maternal and newborn health care, Malawi. *Bulletin of the World Health Organization, 95*(7), 491–502. https://doi.org/10.2471/BLT.16.178202

Chimhunu, V., Tjomsland, M., Songstad, N. G., Mrisho, M., & Moland, K. M. (2015). Introducing payment for performance in the health sector of Tanzania – The policy process. *Globalization and Health, 11*(1), 38–48. https://doi.org/10.1186/s12992-015-0125-9

Eichler, R., Agarwal, K., Askew, I., Iriarte, E., Morgan, L., & Watson, J. (2013). Performance-based incentives to improve health status of mothers and newborns: What does the evidence show? *Journal of Health, Population and Nutrition, 31*, 36–47.

Elui, B., Lahuerata, M., Abacassamo, F., Lamb, M. R., Ahoua, L., McNairy, M. L., ... Jani, I. (2014). A combination strategy for enhancing linkage to and retention in HIV care among adults newly diagnosed with HIV in Mozambique: Study protocol for a site-randomized implementation science study. *BMC Infectious Diseases, 14*(1), 549–557. https://doi.org/10.1186/s12879-014-0549-5

Fox, M. P., Rosen, S., Geldsetzer, P., Barnighausen, T., Negussie, E., & Beanland, R. (2016). Interventions to improve the rate or timing of initiation of antiretroviral therapy for HIV in sub-Saharan Africa: Meta-analyses of effectiveness. *Journal of the International AIDS Society, 19*(1), 20888. https://doi.org/10.7448/IAS.19.1.20888

Fritsche, G. B., Soeters, R., & Meessen, B. (2014). Performance-based Financing Toolkit. Washington, DC: World Bank. https://doi.org/10.1596/978-1-4648-0128-0

García-Basteiro, A. L., López-Varela, E., Respeito, D., González, R., Naniche, D., Manhiça, I., Macete, E., Cobelens, F., & Alonso, P. L. (2015). High tuberculosis burden among people living with HIV in southern Mozambique. *The European Respiratory Journal, 45*(2), 547–549. https://doi.org/10.1183/09031936.00145714

Hartmann, A., & Linn, J. F. (2008). Scaling up: a framework and lessons for development and effectiveness from literature and practices. Washington D.C.: Wolfensohn Center for Development and The Brookings Global Economy and Development.

Ireland, M., Paul, E., & Dujardin, B. (2011). Can performance-based financing be used to reform health systems in developing countries? *Bulletin of the World Health Organization, 89*(9), 695–698. https://doi.org/10.2471/BLT.11.087379

Kambala, C., Lohmann, J., Mazalale, J., Brenner, S., Sarker, M., Muula, A. S., & De Allegri, M. (2017). Perceptions of quality across the maternal care continuum in the context of a health financing intervention: Evidence from a mixed methods study in rural Malawi. *BMC Health Services Research, 17*(1), 392–410. https://doi.org/10.1186/s12913-017-2329-6

**ORCID**

Jessica Gergen [https://orcid.org/00-0003-3405-5248](https://orcid.org/00-0003-3405-5248)
