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**Performance Based Financing; an international
review of the literature.**
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1 Introduction to Performance Based Financing (PBF)

Health research evidence from developing countries points to the challenges that are implicit in under resourced health sectors with associated lack of infrastructure, human resource capacity and supplies resulting in low productivity of service providers and poor healthcare utilization¹. Efforts by international development assistance has focused on investing funds (input based) to invigorate poorly functioning public health systems in developing countries over the decades. Public providers who are paid a low government salary have little incentive to provide more or better care. This has led to an enquiry by donors and implementing agencies on how to support public health systems through adoption of reward or incentive based approaches.

There are varied *definitions* used to describe the levels of incentives and performance rewards, whether organizational which includes: RBF; "results based performance", P4P; (payment for performance) and PBF; performance based financing. For the purpose of this review, we will adopt "performance based financing" as the working terminology. Performance Based Financing (PBF) is predicated on the assumption that linking incentives to performance will contribute to improvement in access, quality and equity of service outputs. In some instances NGOs are fund holders, who in turn establish performance based contracts with district level administrations or with other non government entities. In other countries (Tanzania and Zambia for example) the fund holder is a government entity that channel the NGO money while Rwanda now has a government fund holder. The contracts in all cases employ a business plan whereby health worker incentives are tied to performance, based on an agreed set of indicators. PBF is currently viewed as a promising and innovative strategy to tackle issues related to improved access, utilization, and provider performance².

In this literature review, we will explore incentive based approaches adopted in developing countries over the past decade, with a focus on the contribution of Performance Based Financing (PBF) to productivity, quality of health care and ultimately on the performance of health providers. Section One outlines the various definitions that are applicable to a wide range of performance based incentive schemes. Section Two reviews the institutional approaches that have been deployed by NGOs in collaboration with country level stakeholders, with a specific focus on the costs of introducing PBF using diverse operational approaches. Section Three explores the results that have been reported including both quantitative and qualitative effects on health service delivery and human resources. Section Four identifies the monitoring and evaluation tools that have been used to measure the results of PBF. Section Five offers a concluding summary with a proposed research agenda for future work.

Why has performance based approaches gained popularity and attention in the past decade? There is increasing interest on improving approaches to health service delivery in line with management reform and related accountability to the consumer. Attention is given to determining the relative returns on investment from inputs to the health system with more attention to output and outcome performance. Traditionally, most services were delivered through input financing which is now recognised to be too centralized; the input approach produced variable results contingent on willingness, capacity and motivation of the recipients and providers of the services³. Dissatisfaction with the gap between investment and outputs resulted in piloting of alternative funding modalities that have potential to elicit more autonomy and independent management for health providers and ultimately improved services for the users. The basic principle is "the money follows the patient", if health facilities attract more patients and provide quality services they will receive more subsidies and incentive payments on a scheduled basis (monthly, quarterly or bi-annual)⁴. Objectives of payment schemes include:

¹ WHO (2000). World Health Report; *Working together for health*. Geneva.

² Loevinsohn, B (2006). *Buying results; contracting for health service delivery in developing countries*.

³ Ibid.

⁴ Blanchett, K. (2003). *The role of financial incentives for government health workers in Cambodia*.

- Cost containment to rationalise the utilisation of inputs
- Increased autonomy at service delivery level
- Transforming clinical practice towards improved productivity and quality of healthcare
- Targeting specific populations groups with special attention to the poor and vulnerable.
- Community involvement in management of health services

PBF is therefore deployed as a modality to incentivise public and private providers, using different contract arrangements as informed by lessons learned from global and local context. PBF has been well documented as a modality under contracting of health service delivery, in Bangladesh for nutrition services. (1998), Cambodia for operational district level contracting of primary and secondary level health services (2000) and in Haiti for provincial health services delivery (1998-2008). The initial pilots of contracting with built in incentive systems for NGO and government workers yielded remarkable improvements in improved delivery of facility based healthcare.⁵

But the question remains, is PBF the panacea or does it create distortions and unexpected effects within relatively nascent health systems. Blanchett (2003)⁶ argues that PBF impact will vary as a function of organizational, demographic and provider characteristics including volume of activity, local competition, acceptance of salary supplements and trust in the rationale behind PBF. This leads us to explore the institutional arrangements and conditions that enable PBF to impact on improved healthcare delivery and health outcomes.

1.2. International experience with Performance Based Financing.

This review is focused primarily on developing country contexts, but a brief review of international evidence based on middle and high income countries points to similar experiences and challenges. Maynard (2008)⁷ described large variations in clinical practice, delivery of substandard healthcare by providers, lack of evidence based care and absence of patient reported evidence outcomes. He suggests that such deficiencies have been known for decades while reforms of structure and process have had limited impact. The deployment of performance indicators was initiated in the US and UK to stimulate more accountability and transparency leading ultimately to improved quality of healthcare. Outcome data from hospitals in the UK is now supplemented by patient reported outcome measures to determine the returns on investment in healthcare. Researchers however acknowledge the power of performance based payment systems but suggest that attention needs to be given to design, implementation and evaluation of the selected approaches.

Some key cross cutting issues that pertain to low, middle and high income countries include the following:

- Target indicators may be too simplistic with priority given to utilization and coverage but insufficient attention to quality of care. More attention is currently given to standardized measurement of quality, while health service management in UK have adopted the QUALYS and PROMS (forms of quality measurement).
- Consideration of perverse incentives is widely documented in the middle to high income country literature; Introduction of fee for service in the UK elicited selective abuse of certain diagnostic practices by day care practitioners (eg, 29% of angiography was found to be unnecessary with equivocal results in one NHS Trust). The focus on meeting select targets may well compromise overall quality while also compromising non-rewarded interventions. Concerns were raised regarding potential to elicit unnecessary invasive surgery where incentives are provided, eg; Caesarian sections were performed where non-invasive options were feasible.

⁵ Loevinsohn, B. Harding, A. (2004). *Buying Results; contracting for health service delivery in developing countries.*

⁶ Blanchett, K. (2003). *The role of financial incentives for government health workers in Cambodia.*

⁷ Maynard, A. (2008) Payment for Performance; International experience and a cautionary proposal for Estonia.

- Penalty systems as a form of disincentive are also deployed with examples provided as follows; (i) fines are introduced when hospitals fail to meet reduction targets for MRSA and Clostridium difficile infections. (ii) Hospitals are not rewarded where patients who acquire hospital based infections or skin diseases. Additionally, literature makes the distinction between non-payment for performance versus rewards, where it's indicated the former can have a more powerful effect on performance and efficiency driven approaches than actual performance incentives.
- The debate on the cost effectiveness of introducing and scaling up performance based financing approaches highlights whether transaction costs can be justified. This again raises the question of shifting the priority to productivity rates which may compromise improving quality of healthcare delivery. The promotion of extrinsic rewards over intrinsic motivators is also an issue when in fact building up of organizational values of trust, respect and support may have longer term gains than immediate incentive payments.

Some interesting issues are also raised regarding the policy reform process that surrounds the introduction of performance based financing:

Lindenauer et al (2007) recommends that certain discrete steps need to be considered which implicate resource expenditure at each stage; (i) specification of the process and objectives of the reform need to be clearly agreed and communicated to all stakeholders (ii) creation of provider acceptance of the need to reform and full collaboration is critical (iii) investment in appropriate design and implementation process is implicit (iv) congruence between the objectives and policy design while consideration needs to be given to budget neutral versus the gain or loss of the incentive system. And (v) management of the monitoring and evaluation with providers, government and public while learning from lessons learned across the range of countries who adopt such approaches.

2 Institutional Arrangements for PBF

A systematic review of the literature reveals that in virtually all countries where PBF has been formally introduced, non profit providers, usually NGOs or faith based organizations were instrumental in its inception in collaboration with the MOH. Organizational design of performance based funding mechanisms routinely adopts institutional arrangements where steering committees (commonly chaired by MOH) are responsible for the decision making while the fund holder (NGO) assumes responsibility for the operational management, with service providers (MOH/NGOs/faith based organizations) contracted for service delivery in specific geographic catchment areas⁸. The fund holder is mandated to provide the administrative and public health expertise that is required, in order to deliver effective managerial capacity and collaborate with the regulator (MOH). The regulator in turn is responsible for the stewardship, policy and standardization of approaches to health service delivery under their jurisdiction.

Health Net TPO (Dutch based NGO)⁹ have experience of contracting of health services in Cambodia, Afghanistan, Rwanda, with more recent experience of implementing PBF approaches in DRC and Burundi. In a recent mid term review, the authors articulate the organizational challenges associated with introduction of PBF and have evolved their implementation systems and structures accordingly. They recommend clear lines of responsibility and division of tasks between (a) service providers (b) financier or purchasing agency and (c) regulator (government/MOH). Business plans and contracts are drawn up and agreed between the three parties, stipulating selected output and outcome target indicators for performance linked fees.

PBF implies the development of supportive partnerships which is an extended role beyond the usual standard legal and contractual arrangements between fund provider and recipient. For example, the performance indicators are developed in collaboration with the fund holder, regulator and service providers with relative weights attached to each indicator to determine the payment bonus or lump sum award¹⁰. The introduction of pre-determined performance targets complemented by technical assistance and data validation for accountability relies on sustained commitment by all parties contracted, thus a business model is established between the MOH and a private non-profit entity (NGO or faith based organization)

Moving from a cost based reimbursement model to payment for performance is a major shift in organizational culture and practice. The evidence to date points to key determinants of success as articulated in the Rwanda studies. To reiterate conclusions from Rwanda reviews, Soeters et al (2006) suggest that certain conditions are critical to the success of PBF; (i) adequate funding (ii) adequate monitoring, verification and auditing (iii) evaluation of the process (iv) involvement of community organizations (iv) scope for private sector engagement (eg, faith based and other private providers) which accommodates a public private mix of providers thus augmenting the public sector capacities where resources gaps exist. These determinants are not anathema to a comprehensive management cycle in delivery of health services, but the distinction comes when exploring the levels of accountability and ambitious targets that are written in the contract, and associated rewards for reaching agreed targets.

While there are no global standards established for optimal catchment scope for PBF, some reviews have recommended that PBF should consider scale of economy due to the intensive investment in the pilot stage followed by coverage scale up. Based on Rwanda preliminary results for performance based payments to health facilities, Soeters et al (2006)¹¹ suggests

⁸ World Bank (2007). *Country interest in Results Based Financing. (A draft report)*

⁹ Dubbledam, R. (2007) *Mid Term Review for Health Net TPO Great Lakes Programs.*

¹⁰ The PBF approaches vary in how they incentives for performance are awarded and are linked to donor strategies for contracting and negotiated lump sum contracts or regular incentive payments.

¹¹ Soeters, R. Perrot, J. Lozitto, A. (2006). *Purchasing healthcare packages for the poor through performance based contracting; which changes in the district health system does it require?*

that fund holders may contract a minimum of 25 – 50 health facilities to ensure acceptable overhead costs while a small target population (<300,000) is not viable due to high transaction costs. The report recommends a target population between 300,000 - 1m for this purpose, based on the financial analysis of the project during the pilot phase. Such recommendations however do not take account of supplying health services to low density populations, where both operational costs and overheads are invariably higher. The question remains whether such approaches are sufficiently adapted or indeed appropriate to lower level and isolated facilities where utilization is sporadic and routine monitoring may not be feasible?

One of the fundamental requirements for success in delivering a PBF scheme is a well constructed business plan with multi stakeholder participation. The health providers are required to prepare business plans, spelling out strategies for attaining desired results and the innovations that will enable them to deliver improved services with increased coverage. NGOs differ in how they provide management support, advocate for participation of stakeholders and engage with the health providers in the design of the business plan. Earlier approaches in Cambodia and Haiti were less inclusive with more attention to mobilising services where utilization was extremely low. Rwanda and Afghanistan projects report multi stakeholder engagement, while also ensuring that beneficiaries participate in the design stages of the business plan. The goal of all schemes is to focus on delivery of a basic package of services in line with the national health policy. Some projects for example include additional interventions as informed by high disease prevalence (eg, TB in Cyangugu), preventive healthcare (eg, family planning methods in Butare).

2.1 What does PBF cost?

Costing studies as in **Table 1** are not uniquely comparable due to wide variations in inputs and transaction costs, but provide a useful indication of related investment per country. In addition, while the Afghanistan unit costs reflects total per capita cost, the Great Lakes projects generally report against the direct incentive costs, thus providing more accurate estimations for implementing PBF.

The challenge faced is to extrapolate the cost allocation for PBF as agencies use different incentive levels while not disaggregating operational costs from incentive packages in the reports. Costs reported have ranged from US\$0.3 per capita in Butare (Health Net TPO), to US\$2 per capita in Cyangugu (Cordaid) which includes the additional costs for staff incentives and top up of government inputs. In DR Congo, World Bank funded contracts to ten NGOs for health service delivery with coverage of 85 health zones, with an average cost of \$0.25 per capita for NGO budget allocation to health worker incentives¹².

¹² World Bank (2007). *Performance Based contracting to improve health services in post-conflict situations: DRC*.

Table 1 Costs of performance based financing.

Table I. PBF; Case of Afghanistan, Rwanda & DRC (per capita costs)						
	Afghanistan (NGOs)	Afghanistan (NGOs)	Afghanistan (NGOs)	Butare (HNI TPO)	Cyangugu (CORAIID)	DRC
Donor	USAID	World Bank	EC	DGIS/Private	DGIS/Private	World Bank
Population	6.71m	1.1m	4.03m	.4 million	.6 million	85 health zones
Project Date	2002-06	2003-07	2003-07	2002	2002	2005 - date
Health Centers	-	-	-	36	26	-
District Hospitals	-	-	-	3	4	-
Provinces	14	11	10	1	1	--
Per Capita costs (\$)*	4.82	3.80	5.22	0.3	2.0	0.25

Wide variations in the modality for payment of incentives was observed across the range of PBF projects studied. In Butare, Health Net TPO paid subsidies directly to health staff with 5% retained for the facility. In Cyangugu, Cordaid facilitated payments directly to the facility with health committees deciding on use of the funds; on average roughly 40% was given as bonuses and 60% reinvested at the facility. Both Butare and Cyangugu report positive results in utilization and quality of healthcare but coexisting variables such as technical assistance and regular monitoring contributed to higher uptake of services in Cyangugu. In DRC, NGOs provided a fixed proportion (70%) to direct health worker incentives, linking 30% to performance. Rapid improvements were noted during the start up but later payments became integral with health worker remuneration which may lead to a levelling off or even a decline in performance over time if there is no variation in payments¹³. We will revisit the issue of sustainability in the final section of this paper.

Concerns have been raised about the cost of administering what is a highly labour intensive approach to boosting health service delivery. Donors advocate that administrative costs should be kept within a ceiling (ideally <25% of budget costs). Rwanda project overheads were 25% of total budget but this is contingent on population target, range of interventions and operational costs in terms of geographic access, infrastructure, staffing costs and possible co-financing arrangements. Experience in the Rwanda as in other countries show that fund holder organizations require 4-7 qualified staff to manage a PBF project with a target population of 300.000 – 700.000 inhabitants.

The recent phase (2007 – 2010) of the World Bank IDA health sector project in DRC, covering 89 health zones with total population coverage of 10 million has adopted a performance based contract on two levels (NGO and health worker). A total of 10% of the project budget is earmarked for incentives, equivalent to \$0.40 per capita with rigorous spot checking and verification of data by an independent evaluation firm to measure both health zone and facility level performance¹⁴. The variation in costs across projects and countries mirrors the wide disparities in operational costs that also equate with non-PBF based health system programming.

2.2 Country based approaches to PBF:

Certain enabling factors were evident from the literature that contributed to the success of the PBF in some contexts, while potential threats to success were also inherent in all

¹³ ibid

¹⁴ World Bank (2007). *Performance Based contracting to improve health services in post-conflict situations: DRC.*

projects. One of the key determinants isolated here is the need for government endorsement of PBF approaches, leading to adoption as national policy in the longer term.

In 2000, the Rwandan government adopted a decentralized approach for the public health sector. Health sector reforms included district health development planning where responsibility for regulation and delivery of services devolved to district level. Historically Rwanda had a solid track record that predisposed them to success in the introduction of PBF including, supportive partnerships between the government and NGOs, good access to health facilities by the population (60% live within 5km radius of the nearest health facility) and a good track record on utilization of donor funds. Ultimately, the decision in 2000 by Rwanda government to adopt PBF as national policy with plans for scale up by 2008, provided immediate endorsement of the model and enhanced ownership within the public health sector. The level of ownership by government and civil society were found to be major determinants of success of PBF globally.

In Rwanda, an enabling environment was also in evidence with the existence of relatively autonomous service providers (eg, faith based, NGOs) who were willing and capable to assume responsibility. The existence of a working computerized health information system and the supply of trained providers and a non-monopolized drug distribution system were also precursors to the success of PBF in Rwanda context.

Equally positive in its findings, the Haiti study in 2006¹⁵ reported that a shift from reimbursement for expenditures (input based financing) to payment determined by meeting performance targets demonstrated remarkable improvements in key health indicators (utilization, ANC, assisted deliveries by trained providers, EPI), for a target population of 2.6m, over the six year period in a context of "violence, poverty and limited government leadership" Eichler et al (2006)¹⁶ attributes the success largely to (i) phasing the approach to allow for testing of results and lessons learned (ii) the investment in capacity building of the NGO providers through technical training, learning and exchange networks in advance of the introduction of output based contracts and (iii) commitment to a longer term program (12 years with three phases) by USAID ensured scale up of initial pilots with opportunities for introducing innovations and revisions to the original design based on lessons learned. This compares with previous findings in Afghanistan and Rwanda that suggest PBF is a promising mechanism to boost health facility performance but contingent on simultaneous resource investment in management capacities which are critical for its success and sustainability.

Afghanistan adopted a full scale delivery of the BPHS in response to the gaps in health services and quality healthcare delivery post-conflict. Contracting was the preferred mechanism used by the MoPH to deliver health services through a range of donors (EC, USAID & WB)¹⁷.

Afghanistan provides an interesting contrast to the Great Lakes projects where payment for performance was not adopted, rather a technical assistance boosting strategy was used to enhance health service outcomes. Increased investment in capacity building was employed by (USAID REACH) , who was interested to monitor performance of NGOs service delivery acumen in the absence of monetary incentives. The results in fact demonstrate that fear of failure and pressure to perform was equally influential in improving service delivery, where no financial incentives were in place. In this context, intrinsic factors are purported to contribute to quality improvement but attribution of success is also a question for intrinsic rewards.

The modalities of contracting adopted included two fundamental approaches; (i) capacity building of MOPH and (ii) technical assistance to NGOs to improve their management. Targets were established by MSH (USAID funds) and monitored with withdrawal of funds if

¹⁵ Rena Eichler, Paul Auxila, Uder Antoine, Bernateau Desmangles (2006). *Going to Scale with Performance based payment in Haiti*.

¹⁶ Ibid.

¹⁷ Strong, L. Palmar, N. Sondorp, E. (2006). *Performance based payment in contracts with NGOs delivering BPHS in Afghanistan*.

the NGO did not meet the agreed targets based on a standardized set of indicators¹⁸. In practice, cessation of funding to NGOs did not occur but additional technical assistance and monitoring was provided where agencies required strengthening or requested specialized support.

The World Bank employed performance bonuses as a portion of overall contract price consisting of lump sum agreements with NGOs for province wide delivery of the BPHS with a 10% bonus awarded as an incentive to reach or exceed the targets outlined in contracts. Although health specific outcome and impact indicators are not yet measured, the output results have been positive with increase utilisation of facilities, more trained health workers per facility and improved access for ANC and delivery, indicators for deliveries by trained providers increased, which was a cross cutting target indicator for all projects. With reference to the Mali experience with performance based contracting, the Ministry of Health of Mali, with financial backing from the World Bank, established performance based contracts with the country's 12 national and regional hospitals. For this contracting initiative, the ministry of health adopted a special budget that was destined to extra-payments to hospitals. The extra payment is attributed to hospitals according to their performance which is calculated by using several indicators. As the Malian initiative of performance based contracting is still in its early stages it is difficult to draw any definitive conclusions. But the contracting strategy has already produced indirect results; it has for example clarified the stewardship role of the state regarding its relationship with hospitals and it has motivated the hospitals to look into their management methods and improve them.

¹⁸ See MSH – USAID REACH program targets, www.usaid/Afghanistan/REACH.

3 Major Findings of PBF

Results of reviews and evaluative studies of PBF¹⁹ although not conclusive have shown that PBF offers the opportunity to quickly achieve positive results for delivery of vital health services with concomitant improvement in the quality of healthcare. In formative studies, authors agree that it's premature to report on sustainability of the achievements as projects were in the early phases of implementation and scale up.

3.1 Organizational development and PBF

In terms of organizational culture, performance based approaches require organizational behaviour change and improvements in the capacities of the different actors. To summarize, reviews converge on the need for increased accountability, organizations including government stakeholders are obliged to be increasingly consultative and transparent in management of services. New systems are required for monitoring and verification of outputs, development of contracts with the health providers, data collection and periodic audits²⁰. While, these requirements imply a major upscale in organizational demands, it also implies new skill requirements from all levels of the system. The Haiti pilot introduced eligibility criteria known as "state of readiness" for NGOs, based on organizational and technical competencies prior to commencing Payment for performance systems (P4P). While results demonstrated significantly improved performance compared to the control areas, this may also be an artefact of prior selection of well performing NGOs, who have a solid track record of success.

Anecdotal evidence and results of field assessments suggest that PBF has played an important role in wider institutional development²¹. This has manifested in enhanced motivation of service providers and managers, innovative approaches and more accountability for results²². The change in provider behaviours is well reported in the literature but changes in community behaviour and attitudes are not amplified in relation to views of communities' response to PBF and trust in the system. More recently, a number of household based surveys with socio economic components have been undertaken where the focus is on community acceptance while feedback committees are also in place to conduct exit surveys and elicit more immediate views of the health consumer satisfaction ratings²³.

NGOs who are implementing PBF view it as a promising and innovative strategy to tackle issues related to access, utilization, and provider performance. The Rwanda experience has shown that these schemes can work in a resource constrained environment but where minimal conditions are in place (e.g. functioning drug supply system, well maintained facilities, minimal staffing levels) with performance payments significantly boosting the service supply compared to input based financing.

More research is required however, to explore the issues of health equity and access by the most vulnerable groups to health care services. Overall, consumers paid less out of pocket in the Health Net supported project in Butare and in Cordaid's project in Cyanguu in comparison to the non-contracting provinces due in part to incentives to lower fees to attract more patients. In DRC project areas, the burden on households was significantly reduced through lowering of user fee costs, it is encouraging to note that the average consultation fee reduced from \$4 to \$2 in the target areas over the first two years. We will

¹⁹ Soeters, R & Griffiths, F (2003). Soeters, R. Perrot, J & Lozito, A. (2006). Strong, L. et al (2006). Meessen, B et al (2007)

²⁰ Speters et al (2006)

²¹ PBF calls for a "Black box approach" whereby health facility managers have the autonomy to shape the services and create an entrepreneurial spirit among the team which will foster independence and non-reliance on central authorities. Hiring and firing of staff is therefore devolved to local provider/manager level while also encouraging sub-contracting of services to private providers where appropriate.

²² Eichler, Rena et al (2005). *Performance Based Payment to Improve Impact: Evidence from Haiti*.

²³ Most NGOs now include community surveys and variants of household level indicators to establish community indices of satisfaction with health service provision linked with targets for PBF.

explore the determinants of success for PBF more fully to reflect some of the successes reported to date.

3.2 Determinants of success - how to translate institutional incentives into health worker incentives

In this section we will explore how the health care facilities have to rethink their human resources methods when financial incentives are introduced at the organizational and human resources level. The focus here will be on the ways the management system "translates" the organizational incentives to the health worker level?

In order to understand the implications of a PBF scheme for the health facility managers, one can divide the management options into actions on intrinsic motivation factors and actions on extrinsic motivation factors²⁴

Intrinsic motivation of a health worker is related to aspects such as moral duty or attachment to the goals of the employer organization (it is about "doing more than the minimum required"). The intrinsic motivation is partly linked to idiosyncratic reasons but they are also heavily dependant on the management structure and on the organizational culture in general. Examples of intrinsic factors are: status, being responsible and held responsible for results, being respected by clients and/or superior management levels, good working conditions (equipment), being part of a successful team, future perspectives (like in one's career), team work. So, looking at these intrinsic motivation factors from the PBF perspective, the question is how can the management use intrinsic motivation factors in the context of PBF? Soeters et al (2006)²⁵ underline that PBF schemes can indeed be used as leverages for initiating innovative and proactive management actions that will motivate the workers.

The link between PBF and **extrinsic motivation** is much more straightforward than with intrinsic motivation. In essence, the question is about money and monetary incentives, which are at the base of the PBF schemes logic. As previously outlined the separation of organizational monetary incentives (health facility, NGO, faith based) from individual health worker incentives distinguishes the approaches to PBF; some of the schemes, like the Health Net Butare scheme, are already targeting directly the health workers, while others are targeting the organization as a whole. When the organization as a whole is targeted, there has to be a cascading approach where the first level fund holder pays the health facility according to the performance based arrangement between these two parties. Then the health facility in its turn takes the fund holder role and pays the health workers according to another contractual arrangement The Malian initiative of performance based contracting between the Ministry of Health and the public hospitals follows this logic; once the hospitals receive the extra payments (if they get one) it is then up to them to decide how to use this money according to the Ministry of Health in Mali in 2006.

The organization can choose to pay the workers according to an internal performance incentive system whereby the money could be distributed for example according to a logic based on hierarchical position of the workers. In Haiti the performance based financing scheme inspired the participant NGOs to create their own incentive arrangements for the staff but also for the organizations to which they outsourced some of their work²⁶ If the internal incentive system is chosen, there is still a choice between rewarding individual performance or a group (for example a care unit) performance²⁷ So, how should the trickle

²⁴ Maestad O. (2007), *Rewarding Safe Motherhood: How can Performance-Based Funding Reduce Maternal and Newborn Mortality in Tanzania?*, CMI report series

²⁵ Soeters et al (2006). *Performance based financing and changing the district health system. Bulletin of WHO. V84 (884-889)*

²⁶ Eichler et al (2001) *Promoting preventive healthcare; paying for performance in Haiti*. Edited by Brooks, P. Smith, S. World Bank.

²⁷ (cf. de Roodenbeke, 2008).

down question, from organization to HR level, be addressed in the PBF schemes. It seems that there are no clear guidelines developed for the introduction of PBF into a public sector health system.

Overall across the projects reviewed, the PBF approach was perceived by the majority of staff as a positive and valued development, with most acknowledging the benefits to both the provider & the consumer of the health care services²⁸. The health workers felt that it has improved the work conditions, salary, environment and management.

3.3 PBF and other determinants of success

If PBF has proven potential to make staff more accountable through remuneration of results based on performance targets, then we need to continue to explore why it is a success and what are the unintended outcomes? The shift in organizational culture to a more results oriented way of working has demonstrated increased levels of staff motivation (self reported and via direct observation) and has in many instances promoted innovations in service delivery such as, subcontracting community groups or private sector providers and opening of health posts²⁹. Major areas of improvement were noted among NGO and government staff in Haiti and Rwanda studies including (i) opportunity for flexibility and more autonomy in managing their projects (ii) enhanced opportunities for professional development and capacity building (iii) improved and less frequent reporting requirements and (iv) ability of staff to be innovative led to higher motivation and sustained results.

In Haiti pilot study which focuses on organizational performance targets, all participating NGOs (3 local organizations) witnessed improvements in staff motivation and innovation leading to improved outputs and meeting most of the agreed targets. All NGOs received performance bonuses though none received 100% of the total 10% of budget award

Empowerment of staff and management was highlighted in all of the reviews undertaken where staff (both NGO and government staff) felt they had greater control over management decisions and how services are organized and delivered. The creation of a more enabling and empowering environment combined with financial incentives for meeting targets has proven potential to increase in quantity and quality of outputs. Improvements usually evolve through trial and error with no given success formula, as cited by Eichler (2001) while Meseenen (2006) suggests that investment in PBF may yield positive outcomes but should not be perceived as a blueprint for revitalising a weak public health system.

In reviewing the range of services (*see Table 2*) supported through PBF, it's noteworthy that there is wide consistency in terms of the package of services selected for improvement through incentives. Some reviewers are critical that the unique focus on utilisation, ANC, institutional deliveries and family planning may undermine attention to other key health indicators that have equal morbidity and mortality implications (eg, Malaria, HIV). Meseesen (2006)³⁰ acknowledges the risk of perverse incentives while also highlighting the bias towards curative facility care with the risk of compromising on preventive outreach healthcare interventions which in most projects are not included in the incentive package of services.

²⁸ This finding applies to all studies undertaken in Rwanda, Haiti and Afghanistan based on author conclusions.

²⁹ Soeters, R., Perrot, J. Sekaganda, E. Lozito, A. (Cordaid Rwanda) (2006). *Purchasing health packages for the poor through performance based contracting*.

³⁰ Meseesen, B. Kashala, J. (2004). *Output based payment to boost health worker performance in Rwanda/Kabutare district*:

Table 2 Typical package of health services for PBF

Health Center:	District Hospital:
<ul style="list-style-type: none"> ✓ Curative consultations ✓ Prenatal visits(ANC) ✓ Assisted deliveries ✓ Immunization ✓ Family planning 	<ul style="list-style-type: none"> -Consultations -Inpatient (BoR) -Emergency obstetrics -Surgeries -Vasectomies/ligatures

Results of PBF projects are nonetheless encouraging with evidence of increased health provider productivity and accountability. The PBF pilot in Cyangugu province (Cordaid Rwanda) reported results where, curative contact rates doubled through improved access and reduction in user fee costs. Family Planning (CPR) increased from 3% to 10% province wide while quality of care improved. Out of pocket payment for services in Cyangugu province decreased by 62% with user fee reduction from 2.5% to 0.7% while institutional deliveries increased from 27% to 62% during the three year pilot. DRC provided equally encouraging results in World Bank across 85 supported health zones where outpatient consultations increased from a baseline of 0.06 (2002) to 0.30 (2007) with assisted deliveries rising from 25% to 74%³¹

In the Rwanda projects actual improvements in health outputs were notable with increases in key health indicators including (Utilization from 0.33 to 0.57 contacts per inhabitant per year), institutional deliveries (contractual approach provinces outperformed the control provinces by 23,1% institutional delivery coverage rate against 9,7%)³². In contrast to Rwanda model of PBF, Haiti introduced payment for performance based on community health focused access and coverage targets though the exact indicators are not reported in the review. This was intended to stimulate more community based approaches in order to achieve wider public health goals.

The disadvantages or potential risks of performance based incentives are clearly articulated by Meseesen and Kashala (2004)³³ who undertook a pre and post study of 15 health centres in Kabutare province (Rwanda, 2003). They adopt a more cautious view on PBF whereby workers are prone to over-focus on the services that incur incentives or bonuses while neglecting other essential services (reproductive health/communicable diseases). The risk of over or under reporting is also inherent in the system though the majority of studies have found that this is not the case based on cross checks and triangulation of health information data with household level survey results. The authors of the study suggest that PBF is not the panacea and is only one approach among many to attend to health workers performance leading to improved healthcare delivery

3.4 Quality of care

While positive results have been achieved by PBF on the level of meeting quantitative health indicators, the question remains how PBF contributes to quality improvement of healthcare. The risk inherent in incentives for targets approach include, compromising on quality of

³¹ World Bank (2007). *Performance based contracting to improve health services in post conflict situations; DRC.*

³² Note that the major focus across all PBF Rwanda projects was on utilization, ANC, institutional deliveries and EPI with no noticeable difference in EPI coverage between PBF districts and control districts in the surveys conducted.

³³ Meseesen, B. Kashala, J. (2004). *Output based payment to boost health worker performance in Rwanda/Kabutare district:*

healthcare in order to meet utilization targets. Several approaches have been adopted within the PBF strategy to overcome this potential risk.

Health Net TPO have adopted quality of care metrics into the performance based scheme and contracting approaches globally³⁴. The corresponding qualitative measures guide the incentive payments. At health centers quality was defined in terms of adherence to clinical protocols. At the hospital level quality is assessed in terms of: (i) adherence to administrative procedures (e.g. frequency of meetings, timeliness of reports and decisions), (ii) effectiveness of drug management (e.g. lack of stock outs, timeliness of orders), and (iii) supervision, training and health information system performance.

In Afghanistan, the World Bank support contracting of services to NGOs in 34 provinces and have introduced a rigorous monitoring system including quality of care measures. Based on National Health Facilities Performance Assessments, a 'balanced scorecard' is calculated at provincial level which includes qualitative measures. The Fully Functional Service Delivery Point (FFSDP) monitoring tool was introduced by USAID in Afghanistan contracting as a means for NGOs to monitor the level of quality in facilities. The rigorous monitoring of services and quality of care may contribute to the improvements with or without incentives.

In Central African region, Health Net TPO³⁵ built in a number of quality indicators in the PBF incentives, next to the productivity indicators. These indicators addressed topics like working conditions to be able to deliver quality care, continuity of care (referral rate, internal referral, opening hours, etc.), quality of management and quality elements in curative care (the number of quality deliveries in stead of the number of deliveries) based on defined quality criteria. Furthermore, the verification activity was extended to measure the quality of care as perceived by the patient. These quality elements were included in determining the level of incentives to be paid to the facility, these bonus, in turn, were used partly to improve the conditions for quality care.

The consumer voice is vital to address the satisfaction with service provision by the communities; community participation should therefore be integral with the PBF approach to ensure user feedback on quality of care provision. The levels of participation however are highly variable based on evaluation reports and reviews conducted with notable improvements in user exit surveys and community user surveys. Most projects have provision for feedback by Community feedback committees who are invited to participate in the monitoring process and are represented on the steering committee. For example, Cordaid Cyangugu hired 25 local community groups to conduct regular user satisfaction surveys based in the catchment communities. Despite the increased emphasis on community monitoring, more community interventions was called for, as staff felt that there is no incentive for staff to engage with communities when all the performance indicators are facility based.

³⁴ Griffiths, F. Soeters, R. (2004) *Improving workers performance through contract management, a case of Cambodia*.

³⁵ J.J.M. Toonen, "le suivi de qualité des soins auprès de l'approche d'achat de performance", 2007 NealthNet TPO/KIT.

4 Monitoring & Evaluation

Performance based payment schemes are predicated on the assumption that performance can be measured. This relies on having an established M&E (HMIS) system that is reliable and efficient, which is rarely the case in developing countries.

The greatest challenge to effective monitoring of health services impact is the paucity of reliable population data, in particular in post-conflict countries where years of war have destroyed systems and their associated institutional structures are totally decimated. Most studies cite the notable absence of reliable population denominators, which results in weak measurement of outcome and impact indicators of health service delivery. Equally, health system reviews conclude that the nascent health information systems within the public health sector yields notoriously unreliable information. Use of grey literature, anecdotal evidence and non-comparable data sets predisposes the evaluator to drawing tentative if not unfounded conclusions. With specific reference to Afghanistan performance based financing; there may be measurement bias inherent in the monitoring tools and the self reporting nature of the instruments³⁶. The authors also acknowledge the issue of risk of attribution of results to PBF while other coexisting developments may have had equal influence. In this case they recommend randomisation of pilot districts with non-pilot districts to control for the variants.

4.1 Measures and indicators for PBF

With respect to measurement of indicators, concerns were expressed in selected reviews that targets set may be over ambitious, while outcome level indicators did not have baseline data to measure against (eg, knowledge and attitude measures for HIV/AIDS, Contraceptive prevalence, malaria prevalence). Virtually all PBF projects reviewed focused on output level indicators which are measured at the health facility level but aggregate measures across facilities may also present a problem if standardised recording and reporting of indicators is not introduced from inception of the project. Comparable data continues to be a challenge in particular for qualitative indicators.

Dubbedam (2007) states that it is not feasible to measure impact indicators (mortality, prevalence rates) at the facility level while it is recommended to focus on key service level indicators and establish meaningful trends for before and after intervention comparisons.

The tendency to focus on select facility based interventions as a basis for incentivising health workers was noted earlier in this paper, which can result in exclusion of preventive and promotive health services. The risk of perverse incentives has been documented in view of the selective approach to provision of incentives for meeting key targets; this incurs the risk of health workers overly focusing on meeting the selected targets while compromising the delivery of other non-incentivised services. (eg, Caesarian sections at hospital level). The monitoring tools and regular audits have demonstrated value in preventing the abuse of the incentive system but this does not address the imbalance of indicators per se. Reviews of the Great Lakes PBF projects have recommended to revisit the incentive linked targets periodically to ensure that they are relevant and measurable.

Measurement for community based health interventions is not adequately addressed given the over emphasis on facility based service targets. Afghanistan USAID supported projects deploy the LQAS³⁷ as a monitoring tool at household level to measure the health status of the communities with a selection of maternal, child and reproductive health indicators

³⁶ Strong, L. Palmer, N. Sondorp, E. (September 2006). Performance based payment in contracts with NGOs delivering a basic package of health services in Afghanistan.

³⁷ LQAS; Lot Quality Assurance Sampling is a monitoring survey tool that is deployed for periodic monitoring of household based indicators of health status linked with community and facility health based interventions.

adopted. Results have been positive with increase health seeking behaviour and consequent increase in utilisation rates, and improved access for ANC and deliveries by trained providers increased. Use of standardised measurement is still rare due to the diversity in implementing agency approaches but efforts are being made to improve monitoring tools as noted in the Great Lakes projects supported by international NGOs.

If PBF encourages decentralization and monitoring of peripheral services, it also raises the question of feasibility of scale up and institutional sustainability of complex systems. Measuring performance systematically costs money and time as is evidenced in the projects reviewed. Equally capacity is a major concern and challenge to the fund holder who have to work with weak government information systems and low skilled staff.

Findings from studies equally suggest that NGOs and government staff require more technical assistance in order to manage PBF. Major areas for capacity building of NGOs included (i) strategic planning (ii) cost and revenue analysis (iii) determining client perceptions of quality of services (iv) models of staff organization and utilization and (v) information systems and HR management. It was noteworthy that technical assistance is now demand driven and therefore more appropriately linked to the results based approaches. For PBF to be successful, solid checks and balances are required through a verification system to ensure that the system is serving the users and not creating perverse incentives. A holistic approach whereby a balance of supply and demand measures is included in the monitoring framework is critical with quality of care built in as integral to a systems wide approach.

4.2 Sustainability

Discussions on sustainability in the context of post-conflict countries is somewhat anathema to the principles of long term engagement and reconstruction of health systems. It is therefore important to recognize the levels and feasibility of sustainability in this context (a) financial sustainability (b) technical sustainability and (c) institutional sustainability.

In respect to introduction of PBF schemes, it is understood that the governments in post-conflict countries are unlikely to have the financial revenue to support the top up incentives to health workers. With the basic package of health services estimated to cost in the range of \$12 - \$34 depending on services provided, it is out of reach of most governments to sustain vital healthcare with additional incentive payments as top-up. Experience in countries such as Afghanistan and Cambodia conclude that \$3-5 per capita is an absolute minimum for delivery of basic healthcare package at decentralized levels³⁸. Donors anticipate that a longer term commitment (>10 years) will be necessary to support the health system and to strengthen indigenous institutions.

To date there is a limited body of evidence that PBF or payment for performance can actually be sustained beyond the initial pilot and scale up period. Evidence from Rwanda suggests that efforts to mainstream PBF at the early stages of its design and implementation produce more positive ownership and enable a smooth transition to nationalising the model. While the approach has been nationalised in Rwanda, the MOH continue to rely on international aid to augment government revenue through bilateral on-budget support and augmented by project aid as channelled through NGOs and faith based organisations.

Concerns expressed by Lovensohn (2005) in the context of Afghanistan include (i) feasibility of scaling up (ii) overhead or transaction costs are higher than governments can afford (iii) government may have limited capacity to manage such complex approaches and are by implication unsustainable. Based on the formative experiences of NGOs who are engaged

³⁸ Lovensohn, B. Harding, A. (2004) *Buying Results; contracting for health service delivery in developing countries*.

with PBF, Rwanda met with a gap in funding in 2004 where the government could not meet its commitment and international donors were also slow to deliver funds. Cordaid delivered an interim financing facility where it filled the gap on disbursements for Cyangugu province. Recommendations from formative studies suggest that the PBF needs to be adopted as a national health plan with budgets built into the annual finance plan.

4.3 Technical sustainability

Technical sustainability should be context specific and with particular attention to capacities in post-conflict environments where vacuums exist on all levels. External factors that are beyond the control of the health providers in low income countries include; (i) shortage of skilled health workers and (ii) lack of appropriate levels of training and professional development

Technical sustainability therefore raises issues of participation and ownership, whereby community involvement and managerial autonomy by district level management, resides with the national and local level stakeholders. In Burundi, a formal Steering committee was institutionalised in Cordaid supported projects similar to the Rwanda experience where government had vested interests in adopting the approach with associated high levels of participation in planning and monitoring of services.

In Haiti³⁹, local NGO readiness and capacity to participate in PBF was measured using a Service delivery and Management assessment tool (SDMA). Organization capacity assessments are seen as critical to the process of assessing NGO status and ability to assume responsibility for contractual commitments. The approach was welcomed by NGOs as it allows for capacity building and technical assistance as integral to the management and delivery of services.

Technical sustainability also applies to scale up and replicating the model in new districts/provinces. The application of PBF to local context will require skills of technical advisors to adjust the tools and procedures while training local management and technical staff. Ultimately, PBF should aim to build up a critical mass of local health professionals who are competent as trainers and advisors for health financing, for the purpose of sustainability.

4.4 Institutional sustainability

Rwanda provides very useful examples of the enabling conditions that are conducive to adoption of a performance based financing approach in a low resource country, with all of the challenges inherent in countries emerging from conflict. Can PBF trigger improvements and resource mobilization in resource poor areas: or is a minimum standard and resource allocation a pre-requisite for its introduction in countries where capacity of governments is weak and governance is limited?

In Burundi, Health Net International contracted all health facilities in mid-2006 with a national entity acting as purchasing agency. In parallel, DRC introduced a phased approach with a scale up based on readiness of facilities with the project (HNTPO) serving as the fund holder. Equally, Rwanda PBF projects were instrumental in adopting a multi stakeholder approach, involving both community and district level authorities in the design and monitoring of the projects.

³⁹ Eichler, R. Paul Auxila, Uder Antoine, Bernateau Desmangles (2006). *Going To Scale With Performance Based Payment: Six Years Of Results In Haiti*.

For the Afghanistan contracting, Health Net introduced comprehensive guidelines and agreements that laid out the roles and responsibilities of each stakeholder including community based organizations. The delineation of authority in line the organogram structure including, regulator (MoH), fund holder (Health Net TPO) and service providers (Health facilities) lays paves the way forward for institutionalising the management structure. A cluster Management team (inclusive of all stakeholders) serves as a steering committee to guide the management process, this includes community members.

5 Conclusion and Research Agenda

Based on a review of selected PBF literature from developing country contexts, the early results of using such approaches are promising and demonstrate potential for improvement in health service utilization and quality of healthcare. There is ambiguity among health system professionals regarding the extent of attribution of success. This calls for more rigorous monitoring of the impact of increased investment in resources and technical assistance compared to the provision of performance linked incentives. Overall, the studies of projects in Afghanistan, Great Lakes region and Haiti have shown that PBF project areas have improved indicators compared to control areas for selected facility based services. Some key conclusions and research questions are evoked following the review of select documents (see bibliography) and call for follow up formative and impact studies to explore the issues as follows:

5.1 Institutional Strengthening and PBF

- 1 The question of precursors to success of PBF is a major question as each context needs to be explored to determine readiness and interest in this financing option; Rwanda demonstrated the ideal enabling environment where macro level support (government willingness and capacity) for PBF synchronised with local level organizational (suitable community based NGOs) readiness resulting in a scaling up of PBF and absorption into national policy. Other countries continue to witness less interest by government but success can be achieved at provincial level (eg, DRC, Haiti). **Supporters of PBF advocate for working with government toward with respect to support for governance and decentralization where applicable.**
- 2 PBF assumes certain pre-requisites (full and sustained engagement of providers and community stakeholders, functioning health information systems, motivation and high level commitment from the MoH as regulator and steward of the public health facilities and monitoring capacities at facility and district level). What is the minimum package for start up of PBF? **This high level of investment is unlikely to be achieved in the absence of concomitant technical assistance and capacity building at facility and community level.**
- 3 Economy of scale was found to be a concern when introducing any performance based financing mechanisms as the initial investment in terms of human resources and financial is high, while an optimal coverage is necessary to justify this financial investment. Systems and procedures (baselines, administration, financial monitoring and technical assistance) have to be established relatively quickly to ensure a functioning system prior to payment of financial incentives to health workers. **The literature speaks of the requisite inputs been in place but attention to deficits in input and challenges to resource mobilisation are not fully addressed.**
- 4 Given that all of the PBF and associated contracting approaches studied are undertaken by INGOs with full collaboration with national government and local NGOs, the required resource investment is supplied largely through donor assistance, in order to start up the projects; elements of co-financing are also implicit as government continue to pay the public salary while top up incentives are provided by the NGO. **While international NGOs are usually the independent purchasing agencies; the future scope for national private (profit/non profit), to assume responsibility as fund holder remains a question.**
- 5 The distinction between the effects of technical assistance and supervisory support to health facilities compared to the singular effect of performance payments requires further investigation. **Are the positive results an artefact of intrinsic motivators or the explicit result of extrinsic financial rewards which in turn perpetuates organizational and health worker motivation to improve. Researchers and evaluators seem to express divergent views on this issue.**

- 6 Concerns were raised that the initial incentive payments (though welcomed) become seamless with the monthly salary of the health worker over time. This may suggest that the payments need to be accompanied by continued technical assistance and build in supervisory support while the organization fosters a results oriented culture that goes beyond meeting the specified service based targets. **Can PBF be a catalyst for organizational change in the public health sector; reviewers allude to this possibility in the literature but more conservative writers caution that its still relatively early stages to suggest the future potential of PBF.**

Research Agenda; A question of institutional strengthening?

- *What are the effects on health system and does PBF have implications for wider health systems performance. What are the unexpected effects or outcomes of PBF?*
- *Does the PBF approach really change the behaviour of institutions and individuals or are we going to see a drop of performance (to previous level?) if we erase the incentives?*
- *If there is evidence of a sustained behavioural change, could a phase out strategy be possible and could there be a switch to other financing mechanisms?*
- *Should PBF be seen as a permanent way of financing/organizing a health system?*
- *Should the subsidy structure (e.g. with escalating subsidies) be different for activities with 'natural' different coverage rates such as the high achievement in Rwanda in terms of EPI and the very low coverage with family planning.*
- *To what extent other than financial incentives are responsible or hold a potential for increased performance – such as increased autonomy, training opportunities, career perspectives,*
- *To what extent does PBF stimulates retention of HRH in their health facility and may, this way, contribute to an equitable and appropriate distribution of human resources in the country, leading to a right-size and right skill-mix in the facilities*

5.2 PBF results;

- 1 PBF results show remarkable improvements in health indicators (utilization, coverage and emergency referral) with associated enhanced quality of health provider performance. Such encouraging results have been noted in diverse settings (DRC, Rwanda, Burundi, Haiti, Afghanistan). All projects use output indicators as a means of target setting and rewards for performance; outcome and impact indicators are not measured due to cost of household level surveys and non-feasibility in most cases. **Impact studies (3-5 years) are vital to determine the contribution of PBF to health status indicators.**
- 2 Criticism is levelled at the biased selection of indicators which are facility based targets with few projects attending to community based health seeking behavior and community health promotive interventions. Singling out key interventions also gives rise to perverse incentives where health workers overly focus on achieving targets and neglecting non-incentivised activities in the health facility. **Risks have been noted but not routinely measured, reviews point to monitoring and community audits as a method of ensuring equitable and balanced healthcare provision. More attention needs to be paid to this issue in future studies.**
- 3 While PBF is costly to introduce and labour intensive to monitor all targeted health facilities on a monthly basis; there is a danger of neglecting remote facilities and hard to reach populations. The question of equity has been addressed in recent socio-economic studies through willingness to pay and perceived affordability of

services while attention is also given to user fee reduction in select reviews. **The question of access by the poor and vulnerable requires more research in the current literature; how do we know we are reaching the poor and vulnerable?**

- 4 While service utilization shows notable increase across all PBF projects, quality of care has not been given equal attention. More recent efforts by implementing NGOs to include quality of care indices is noted (compliance with protocols and procedures, drug management, staff discipline and administrative efficiency), in Afghanistan, balanced scorecards per facility includes qualitative measures while in Haiti and Great Lakes projects, community participation includes exit surveys for consumer satisfaction. **Increased attention to quality of care is required, iif healthcare is linked to ownership by the community and promotion of consumer voices for the users of health facilities.**

Research Agenda - A question of impact on health status;

- Can PBF lead to an improved health status – in terms of impact prevalence rates and mortality rates in particular for lowering of infant, child and maternal mortality?
- How to ensure that non-incentivised services are not neglected by staff?
- Are the poor and most vulnerable receiving treatment in facilities with PBF?
- What are the best mechanisms to ensure that PBF contributes positively to quality of care?

5.3 Human Resources:

- 1 The health workers reported improved work conditions, environment, salary and management. This seems to be a uniform result following the use of PBF as a means of rewarding workers for performance. **The question of whether this is a function of the intrinsic rewards that are also provided (training, autonomy, being accountable on results, quality improvement, focused management) or simply a result of the extrinsic benefit of increased pay is still questioned.** Each context and baseline condition needs to be explored independently as PBF is tailored to local context.
- 2 While we discuss pre-conditions for success of PBF, the issue of workforce ratios and skills of existing health workers are a general concern in developing countries, especially in fragile contexts where PBF has been instituted. The issue of migration of skilled health workers is currently a major concern, while PBF may encourage retention of local health workers. **More attention is required to how it impacts on human resource patters in rural and remote communities, particularly related to issues of retention?**
- 3 Capacity building is clearly the backbone of this initiative as certain skills are required to fulfil the administrative, technical and monitoring requirements. Do staff fully understand the philosophy behind PBF or is it just another form of incentive? Training and inservice support is provided in all projects but the level of understanding of PBF may well be limited among the health providers and public sector managers. **More attention to the rationale and likely impact of financing tools may lead to enhanced ownership and engagement by government and local authorities.**
- 4 PBF offers the opportunity for flexibility and more autonomy in managing projects, capacity building and sustained motivation to perform. This sounds highly encouraging and leads the enquiry a step further to explore if attribution of success has been over stated in this context. **If PBF as a tool can be a catalyst for such**

improvements, then studies need to document the outcomes and disseminate results more widely.

Research Agenda; A question of human resources:

- *Are the human resource policies aligned with the assumptions for establishment of PBF approach in district level facilities; it assumes qualified staff and replacement/retention are a major concern.*
- *Are Training and capacity building adequate and appropriate to the needs of the service providers and managers? Are there sufficient resource inputs for TA?*
- *How do we involve health staff in the design and delivery of the system?*
- *How to ensure an inclusive and comprehensive approach to capacity building and service delivery while the major emphasis is on output based performance and incentives associated with targets.*
- *How to make better use of intrinsic motivation factors, and on extrinsic motivators, other than monetary ones.*

5.4 Sustainability:

1. With costs of a basic package of healthcare quoted at \$5 per capita (Afghanistan) while the Commission for Macroeconomics suggest a benchmark of \$34 per capita for a full package of healthcare (basic and emergency referral provision), will governments in developing countries be prepared to commit such extraordinary levels of resources in the future?. Based on the PBF projects, the average cost of incentives is in the range of \$0.4 - \$2 depending on transaction costs and context variables. Is this sustainable if external aid is withdrawn? How do NGOs propose an exit strategy or is this a long term investment (10-15 years) to ensure that health care is provided to underserved populations?

2. While Rwanda has demonstrated potential for scale up of PBF approaches, other countries continue to rely on external agencies for both financial and technical expertise with nonetheless impressive results to date. The issue of how replicable the approach is in areas where the pre-conditions cannot be so readily met (eg, functioning health facilities, skilled health workers, health information systems), what are the minimum conditions to introduce PBF?

3. PBF is alleged by critics to be an artefact of external aid provision, while the money is invested, you will gain results. Can the government afford the high transaction costs associated with introduction and sustaining PBF? The literature does not provide the full picture on sustainability and more formative research needs to focus on the attitude and response of MOH to early results of PBF.

Research Agenda- A question of sustainability:

- *To what extent is PBF sustainable and how can it be mainstreamed into the wider health system and consider issues of ownership, institutional embedding and financial viability?*
- *Replicability? What is the feasibility of replicating the model, how much TA is required and to what extent is the model replicable in heterogenous geographic locations.*
- *Do transaction costs out weigh the results and explore scale up costs – at what point does PBF reach its optimal budgetary conditions in terms of transactions costs versus gains?*

Question would be – what does PBF cost more than 'input planning approach' (IPA) to obtain a certain increase of performance. Much of the investment costs necessary to make PBF a success will also be needed for "IPA" – except for TA and training needed to learn specific PBF skills (although for IPA again other skills will be needed). PBF will bring extra administrative costs (verification, financial incentives) while others (administration, M&E) will be necessary for IPA, too. On again another hand – PBF will bring savings, e.g. as a consequence of increased autonomy and decentralization: less bureaucracy (management at levels superior to the service delivery) is needed – although it will never be sure that this indeed will happen. A comprehensive economical evaluation is needed here.

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