



Review of Pay for Performance - Overview and Key Findings

This report was completed for the inSCALE project by Meredith Moore & Lesong Conteh

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inSCALE – Innovations at Scale for Community Access and Lasting Effects

The inSCALE programme, a collaboration between Malaria Consortium, London School of Hygiene and Tropical Medicine (LSHTM) and University College of London (UCL), aims to increase coverage of integrated community case management (ICCM) of children with diarrhoea, pneumonia and malaria in Uganda and Mozambique. inSCALE is funded by Bill & Melinda Gates Foundation and sets out to better understand community based agent (CBA) motivation and attrition, and to find feasible and acceptable solutions to CBA retention and performance which are vital for successful implementation of ICCM at scale.

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Preface

This document was prepared for an internal meeting of the inSCALE project. It does not aim to be a comprehensive systematic review of the topic. Rather, it pictures the landscape based on review articles and informal discussions with expert colleagues. This document is not an official inSCALE publication but rather an internal working document.

None of this document may therefore be quoted, copied or referenced.

Discussions about the content of this document are welcomed.

Research focus

This review provides a summary of the evidence surrounding programs that link individual health worker payment to performance and serves to increase the Malaria Consortium's understanding on the potential use of these types of incentives in its iCCM program. Traditionally termed pay-for-performance (P4P), this incentive model is defined in the literature as the *“transfer of money or material goods conditional on taking a measurable action or achieving a predetermined performance target.”* Over time the terminology for P4P schemes has morphed to include the terms performance-based reimbursement, performance-based financing, performance-based incentives, and output-based financing. Given the goals in LIMCs to not only improve the quality of services provided but also increase service utilization, many LIMC P4P schemes include incentives that tie performance to the number of patients seen or treated, which, in essence, is a form of fee-for-service (FFS) financing. With this in mind, leading organizations in this area (e.g. The Norwegian Aid Agency NORAD and The World Bank) have shifted to using the term results-based-financing (RBF) which includes a broader range of output-based financing models including service delivery contracts, fee for payment, and fee for case. Given the inclusion and successful use of FFS approaches in RBF schemes, this paper will use the term results-based-financing in lieu of P4P going forward, but remains focused on supply-side incentive programs.

Programs were identified via a systematic search of the published literature catalogued in PubMed, Embase, Global Health, and EconLit and supplemented by a citation search of relevant articles and a website review of the major NGOs and fund holders mentioned in the literature - namely the World Bank, The World Health Organization, USAID, NORAD, Cordaid, HealthNet TPO, and the Royal Tropical Institute in the Netherlands. Programs were only included in the analysis if they met the following criteria:

- 1) The scheme had to take place in a low- or lower-middle-income country,
- 2) The performance based payments had to be used (at least in part) to pay individual providers,
- 3) The health outcomes being targeted were described in addition to any intermediary process targets, and
- 4) Details on either:
 - a. The amount of money providers received for achieving the performance measures was included, or
 - b. The feedback loop used to collect and report on the measures being assessed was outlined, or, ideally,

- c. Both of the above.

The initial literature review only turned out a small number of programs that targeted CHWs, therefore the decision was made to broaden the search to include all healthcare worker including physicians, nurses, midwives, and other professional carers (see Search Terms for full list of concepts used).

As the research focuses on understanding how financial incentives motivate individual health workers, programs that described performance-based incentives, but did not describe how, or whether, payments were disbursed to individual providers are not included in this analysis¹. In addition, in cases where the program included upstream performance measures (e.g. additional performance targets for regional authorities) or additional demand-side incentives, this analysis only addresses the portion of the program that describes the portion of the scheme that affects the individual supply-side providers.

Summary of Findings

Below is a table summarising the key aspects of the review.

Column 1 – Description of innovation including key features

Column 2 – Program or theoretical source of innovation

Column 3 – The methodological approach that has been used and the type of evidence that is available

Column 4 – The specific tools used for the measurement of the innovation

Column 5 – The available evidence for the impact of the innovation

Column 6 – Aspects of innovation which may impact on feasibility, acceptability and scalability. These may include but not be limited to issues of cost, political and cultural sensitivity, required resources and logistics of implementation

Column 7 – Lessons from other settings that indicate factors which may moderate impact

¹ This resulted in the exclusion of some of the more commonly cited LIMC RBF schemes such as the contracting of NGOs or other private providers in Afghanistan, Haiti, and Cambodia.

Conclusions

Given the ongoing interest and investment being made in result-based financing schemes in low to middle income countries, gaining a better understanding of how these schemes influence health worker performance is critical. While the evidence for supply side RBF schemes in LIMC remains sparse, the limited evidence to date does suggest that these programs, when properly designed and implemented, can have a positive effect on health outcomes. The connection between programs' design links and health worker behaviour, however, remains an unanswered question. Peer-reviewed publications on the majority of the programs are missing, and few of the programs are set up to provide additional understanding in the future on how different approaches to target setting and payment influences health workers' motivation levels.

One of the most salient questions arising from this research is whether it is the monetary remuneration that is driving health care workers to provide better care or if there are other intrinsic and extrinsic factors at play. While the predominant focus of RBF schemes is to shift the financing of health services from an input to an output model, the process of doing so can create other changes that also improve worker performance and morale. Increased autonomy, improved supervision, direct feedback, and community engagement are all features of a well-designed RBF program, but they are also important drivers of worker performance irrespective of financial rewards.

Information supporting the use of RBF schemes to motivate CHWs is particularly lacking. Although only four programs were identified in which CHWs were used they were remarkably consistent in their design. All used a FFS scheme to pay CHWs for specific services and most targeted MNCH interventions. Additionally, there were all viewed to have a positive effect on health outcomes, with some even proving to be more cost effective than the standard approach used by the government to manage the same conditions.

From a policy perspective, this analysis has identified some important lessons to the successful implementation of an RBF program:

- Before launching an RBF scheme governments must consider how it will be received in the context of other inter- and intra-sector workers
- RBF schemes are best suited to countries that are comfortable decentralizing their health services and allowing local government and other actors to take control over the organization and financing of health care delivery

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- Each country's situation is unique and program designers will benefit from rolling programs out slowly to ensure the appropriate resources are in place and allow for pilot programs to provide initial feedback before spending a lot of money on a national program
- Investments in HMIS systems and validation processes are critical to the smooth running of a RBF system and the timely delivery of incentive payments
- The types of targets used should be aligned with country's overall strategic plan to ensure buy-in and suitable resource allocation (especially for supervision and training)
- Performance metrics should be selected in conjunction with the local governments and health workers to ensure they are achievable and relevant to the communities being served
- Performance metrics should be set at multiple levels to ensure individuals and organizations are aligned in their priorities and distribution formulas should be transparent to all parties involved
- Supply-side performance metrics should target services that providers have significant control over
- Incentive levels should be set at a level that is proportional to the efforts required by health workers, but also sustainable over the long term and equitable across workers, facilities, and regions

Going forward researchers should continue to seek information on the relationship between programs design and provider behaviour, with a particular emphasis on the role of incentives versus other intrinsic and extrinsic sources of motivation. As much as possible, given resource constraints, program designers can contribute to this dialogue by prospectively including control arms into their implementation plans and including measurements of non-targeted health outcomes to see if there are changes in those areas that may be attributable to the organizational changes RBF programs create versus the monetary compensation received. Finally, significantly more work could be conducted on the cost-effectiveness of these schemes to further assess their value in addressing the pressing health care needs of low- and low-middle income countries.

Search terms used

Concept 1: Pay for performance (plus synonyms / specific forms)

"pay for performance" OR "pay-for-performance" OR "results based financ*" OR "performance based financ*" OR "performance-based financ*" OR "performance based incentiv*" OR "performance-based incentiv*" OR "performance incentiv*" OR "performance bonus*" OR "performance management" OR "output based pay*" OR "output-based pay*" OR "output based financing" OR "output-based financing" OR "output based incentiv*" OR "output-based incentiv*" OR "cash incentiv*"

Concept 2: Health workers (plus synonyms / specific forms)

"personnel" OR "health worker*" OR "doctor*" OR "nurs*" OR "community health worker*" OR "traditional birth attendant*" OR "village doctor*" OR "village health worker*" OR "community health agent*" OR "community health volunteer*" OR "health volunteer*" OR "health agent*" OR "facilit*" OR "hospital*"

Concept 3: Low- and low-middle income countries (plus synonyms / specific forms)

"low income" OR "low-income" OR "lower middle income" OR "lower -middle income" OR "LIC" OR "LIMC" OR "develop* countr*" OR "emerging econom*" OR "emerging market*" OR "asia" OR "africa" OR "latin america" OR "central america" OR "south america" OR "afghanistan" OR "bangladesh" OR "benin" OR "burkina faso" OR "burundi" OR "cambodia" OR "central African republic" OR "chad" OR "comoros" OR "congo" OR "eritrea" OR "ethiopia" OR "gambia" OR "ghana" OR "guinea" OR "guinea-bissau" OR "haiti" OR "kenya" OR "korea" OR "kyrgyz" OR "lao*" OR "liberia" OR "madagascar" OR "malawi" OR "mali" OR "mauritania" OR "mozambique" OR "myanmar" OR "burma" OR "nepal" OR "niger" OR "rwanda" OR "sierra leone" OR "solomon islands" OR "somalia" OR "tajikistan" OR "tanzania" OR "togo" OR "uganda" OR "zambia" OR "zimbabwe" OR "Angola" OR "India" OR "Sao Tome and Principe" OR "Armenia" OR "Iraq" OR "Senegal" OR "Belize" OR "Jordan" OR "Sri Lanka" OR "Bhutan" OR "Kiribati" OR "Sudan" OR "Bolivia" OR "Kosovo" OR "Swaziland" OR "Cameroon" OR "Lesotho" OR "Syria*" OR "Cape Verde" OR "Maldives" OR "Thailand" OR "China" OR "Marshall Islands" OR "Timor-Leste" OR "Congo" OR "Micronesia" OR "Tonga" OR "Côte d'Ivoire" OR "Moldova" OR "Tunisia" OR "Djibouti" OR "Mongolia" OR "Turkmenistan" OR "Ecuador" OR "Morocco" OR "Tuvalu" OR "Egypt" OR "Nicaragua" OR "Ukraine" OR "El Salvador" OR "Nigeria" OR "Uzbekistan" OR "Georgia" OR "Pakistan" OR "Vanuatu" OR "Guatemala" OR "Papua New Guinea" OR "Vietnam" OR "Guyana" OR "Paraguay" OR "West Bank" OR "Gaza" OR "Honduras" OR "Philippines" OR "Yemen" OR "Indonesia" OR "Samoa"

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1	2	3	4	5	6	7
Innovation[1]	Source	Methodology			Issues which may impact feasibility, acceptability and scalability	Moderators of impact
		Approach	Tools	Evidence		
FFS payments for CHWs	Bangladesh - BRAC; India - ASHA; Nepal - SDIP	FFS approach for select MNCH and TB process indicators; payments made directly to individuals - timing of payments variable	Monthly CHW self reported numbers verified by supervisory staff	BRAC CHW TB program more cost-effective than comparable intervention using traditional government facilities; BRAC MNCH increased % of women receiving ANC from 79% to 94% and PNC from 21% to 79% over a two year period; poor implementation of Nepalese program resulted in limited / no visible effect of incentive - if anything created greater unrest among workers	Delays in payment viewed to pejoratively impact ASHA motivation (India); Target patient population for SDIP programs viewed as discriminatory by CHWs in Nepal resulting in gaming of the system	CHWs already well integrated into communities (Bangladesh - BRAC); Integrated with demand side incentive program (India); Bureaucratic delays in disbursement of funds, ineffective communication of policy, complexity / lack of clarity around program design (Nepal experience)
FFS payments for health teams, including CHWs	Philippines - 2nd Safe Motherhood	FFS for each facility based delivery; payments made to facilities and shared among individuals - formula for sharing	Delivery numbers verified using department of health regional records,	FBDs increased from 18 - 35% in one region, and 30 - 42% in another; but uptake considered slow by World Bank	Level of documentation required including concurrence of multiple budget processes and government departments	Ability to leverage PhilHealth (insurance scheme) to facilitate payment to facilities

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Innovation[1]	Source	Methodology			Issues which may impact feasibility, acceptability and scalability	Moderators of impact
		Approach	Tools	Evidence		
		among individuals varies / unclear	household surveys; independent verification agent			
FFS payments for health teams - CHWs not included as part of health team	Burundi - National; DRC; Rwanda - Pilot; Rwanda - National	FFS approach for MNCH indicators; payments made monthly to facilities and shared among individuals - formula for sharing among individuals varies / not clear; Total FFS payments multiplied by % of quality indicators achieved in Rwanda; Burundi offers additional quarterly bonuses of up to 25% of FFS payments made for quality of care measures;	Facilities report to public-private entity which is responsible for contract negotiation, data verification and validation (Burundi); Facilities report monthly to district steering committee, committee verifies reports using random audits and patient interviews (Rwanda - National)	Significantly increased provider motivation as a result of increased autonomy and average increase of 50 - 60% for each health indicator compared to baseline levels (Burundi); More proactive staff and increased utilization across all measures (Rwanda - Pilot); increased utilization across majority of measures - observed to vary with provider control over measure and in areas with higher incentives (Rwanda - National)	Rwanda is only example of successful scale-up of RBF scheme; multi-donor coordination needed for national scale-up; adequate inputs (e.g. infrastructure, equipments, drugs, staff, etc.) necessary PRIOR to RBF introduction; intensive technical support required during initial phases; valuable to involve local communities in determining key needs - especially if they are then surveyed to assess program performance; financial resources needed to run program expected to triple over three years (Rwanda - based on pilots), to take up ~20% of Burundi's total health budget (75% of government spending), and national roll-out in DRC	Use of pilots to test different models and gain experience prior to national scale-up; decentralized approach to delivery and management of health care; existence of computerized HMIS systems

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Innovation[1]	Source	Methodology			Issues which may impact feasibility, acceptability and scalability	Moderators of impact
		Approach	Tools	Evidence		
					expected to require 30% of national health expenditures	
Bonus payments for health teams based on targets met (binary) - CHWs not included as part of health team	Tanzania - National Plan (proposed) ;	Targets set at facility level for five indicators including immunization rates, facility based deliveries, IPT treatment, and timely reporting; Bonuses paid to facilities on annual basis only if targets are achieved; Disbursement to workers based by facility - specific worker	Performance monitored through routine HMIS data reported monthly to regional authorities; Data validated by regional authorities using routine supervision	n/a - program yet to launch	No pilot period to test approach (MoH deemed use of pilot program inequitable as some regions would be 'benefiting' from P4P scheme while others wait for roll-out); Use of internal validation system raises potential for conflict of interest as regional authorities receive bonuses based on % of facilities achieving targets;	"Strengthened" HMIS system; Decentralized approach to delivery and management of health care

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Innovation[1]	Source	Methodology			Issues which may impact feasibility, acceptability and scalability	Moderators of impact
		Approach	Tools	Evidence		
		allocation formula unclear	visits and spot audits			
Bonus payments for health teams based on % of target(s) met (proportional) - CHWs not included as part of health team	Cambodia; Tanzania - Cordaid; Zambia - Cordaid, DRC	Targets set at facility level for range of MNCH, contraception, and overall utilization levels as well as select 'quality' indicators such as implementation of recommendations from supervisory visits, timeliness of HMIS reports and match between actual and planned drug stocks (DRC only); Bonuses paid quarterly(Cambodia) or biannually (Cordaid programs) to facilities based on % of targets met or on relative improvements to baseline (Cambodia),	Payment made based on combination of HMIS data (Tanzania - Cordaid and Zambia - Cordaid) or HMIS plus and assessment of qualitative indicators during supervisory visits (DRC); data validated by external M&E firm	Service delivery levels increased across indicators, but greater increases seen in areas requiring lower levels of behavior change e.g. immunizations versus assisted deliveries (Cambodia); Assessment of Cordaid programs effects not possible based on lack of baseline data and/or other confounding factors impacting changes in utilization (e.g. concomitant elimination of user-fees in Zambia); no data available for DRC	Collection of baseline data expensive and time consuming; poor population data makes population based targets (denominators) challenging and controversial among workers; programs must be integrated with overall MoH objectives and stated strategies so as to not confuse health workers; bonus levels must be viewed as meaningful to have impact - levels in Cordaid cases were viewed as too low to motivate changes in behavior or unfairly allocated among staff creating resentment	No evidence of impact in Cordaid cases; DRC impact data unavailable; Impact in Cambodia attributable in part to longer term experience with performance-based contracting between NGOs and government

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Innovation[1]	Source	Methodology			Issues which may impact feasibility, acceptability and scalability	Moderators of impact
		Approach	Tools	Evidence		
		Output and process indicators (mostly quantitative) weighted differentially in DRC and total bonus capped at ~40% of base pay (ie 70% = basepay, up to 30% = bonus); Disbursement to workers based by diocese (Cordaid cases) or facility allocation formulas (Cambodia, DRC) - individual worker allocation formula unclear in Cambodia, Tanzania - Cordaid, Zambia - Cordaid; bonus divided 'equally' among workers based on basepay in DRC				
<i>Unclassified based on lack of data</i>	<i>Cameroon; Ethiopia</i>					
<i>Unclassified based on limited pertinence to</i>	<i>Bangladesh NSDP</i>					

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Innovation[1]	Source	Methodology			Issues which may impact feasibility, acceptability and scalability	Moderators of impact
		Approach	Tools	Evidence		
<i>iCCM effort</i>						

[1] Innovation here refers to an activity, approach or underlying concept which may contribute to the performance and retention of CBAs.

Notes

Column 1 – description of innovation including key features

Column 2 – program or theoretical source of innovation

Column 3 – the methodological approach that has been used and the type of evidence that is available

Column 4 – the specific tools used for the measurement of the innovation

Column 5 – the available evidence for the impact of the innovation

Column 6 – aspects of innovation which may impact on feasibility, acceptability and scalability. These may include but not be limited to issues of cost, political and cultural sensitivity, required resources and logistics of implementation

Column 7 – lessons from other settings that indicate factors which may moderate impact