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## Results-based financing: evidence from performance-based financing in the health sector

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Deutsches Institut für  
Entwicklungspolitik



German Development  
Institute

Discussion Paper

6/2013

# Results-based Financing

Evidence from performance-based  
financing in the health sector

*Amanda Melina Grittner*

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## Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
BTC	Belgium Technical Cooperation
CCSS	Caja Costarricense de Seguro Social
CCT	Conditional Cash Transfer
CNC	Community Nutrition Centre
CNP	Community Nutrition Program
DANIDA	Danish International Development Agency
DFID	UK Department for International Development
DRC	Democratic Republic of the Congo
DTP3	Diphtheria-Tetanus-Pertussis (full immunisation)
EC	European Commission
GAVI	Global Alliance for Vaccines and Immunisation
GDP	Gross Domestic Product
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GPOBA	Global Partnership for Output-Based Aid
HIV	Human Immunodeficiency Virus
HRITF	Health Results Innovation Trust Fund
HSS	Health Systems Strengthening
IDA	International Development Association
ISS	Immunisation Services Support
MDG	Millennium Development Goal
MoH	Ministry of Health
MoPH-SM	Ministry of Public Health Strengthening Mechanism
NGO	Non-Governmental Organisation
OBA	Output-Based Aid
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
ORT	Oral Rehydration Therapy
P4P	Payment for Performance
PBC	Performance-Based Contracting
PBF	Performance-Based Financing
RBA	Results-Based Aid
RBF	Results-Based Financing
RCT	Randomised Controlled Trial
RPS	Red de Protección Social, Nicaragua
SIDA	Swedish International Development Cooperation Agency
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
VCT	Voluntary Counselling and Testing





## Summary

Results-based approaches have been a focus of recent discussions in international development. This paper is a contribution to answering the question if results-based approaches can help to make development aid and domestic funds more effective and to investigating the experiences made with results-based funding. It focuses on performance-based financing (PBF), which is a type of results-based financing (RBF), as opposed to results-based aid (RBA).

RBF is defined as any programme where the principal sets financial or other incentives for an agent to deliver predefined outputs or outcomes and rewards the achievement of these results upon verification (Musgrove 2010). In RBF in development cooperation, the principal is usually a national or sub-national government body of a developing country. The agent is an implementing agency (in the case of performance-based financing) or an individual (in the case of a conditional cash transfer – CCT). RBF may be funded by domestic funds, by donor funds or by a combination of both (Klingebiel 2012). If RBF targets the supply side, it is also called performance-based financing and aims at setting incentives for service providers to deliver good performance. Indicators are set by the principal – often together with the agent. Payment takes place against achievement of these predefined indicators.

The present paper evaluates the experiences made with PBF in the health sector in order to answer the following research question:

Can performance-based financing be an appropriate tool to make funding in the health sector more effective and efficient?

This paper tries to answer this question by investigating the targeting mechanisms, the incentive structure, the effectiveness and the efficiency of performance-based financing in the health sector. It studies the experiences and data from PBF programmes in 13 developing countries in Africa, Asia and South America.

It was found that from the 13 experiences studied in the present paper, five targeted explicitly poor areas or households, whereas seven had the more general goal of increasing access to and quality of basic healthcare services. The two most commonly used targeting mechanisms were geographic targeting and means-tested targeting. All in all, the experiences available illustrate that PBF has the potential to reach poor target groups and improve healthcare delivery and coverage, particularly for the poor. Nevertheless, more efforts (e.g. improving identification of the poor and reducing barriers to access) are needed in order to guarantee that schemes have pro-poor effects.

When setting monetary incentives for good performance, PBF tends to focus on outputs rather than on health outcomes, and on quantity rather than on quality. Most schemes set target indicators at the level of healthcare supply or healthcare coverage, but at least 5 out of the 13 schemes studied also used indicators capturing impact. In contrast, only three programmes set performance targets for good quality of healthcare delivery.

There is no sufficient evidence that monetary incentives trigger better performance of healthcare providers. On the one hand, observation and surveys suggest that non-monetary incentives, such as more empowerment and involvement of staff, more flexibility, or fear of reputation loss, may have played an important role concerning improvements in healthcare delivery. On the other hand, there are strong reasons to believe that PBF schemes will also set perverse incentives and have undesired effects, since there is evidence from other results-based approaches as well as from PBF in other settings for the existence of perverse incentives.

The available qualitative and quantitative evaluations of the schemes studied in this paper suggest that PBF may be more effective in improving healthcare supply and healthcare coverage than other funding schemes. This applies mainly to the targeted indicators. However, there is little evidence that these improvements in health outputs and outcomes are achieved through the results-orientation of the programmes as opposed to additional funding and other contextual factors, because rigorous impact evaluations are still lacking. Evidence of the impact of PBF on the quality of healthcare delivery and on the efficiency of PBF is also insufficient. Even though there is some suggestive evidence that PBF may be more cost-effective than other funding schemes, a lack of crucial financial information makes it difficult to evaluate the efficiency of PBF.

All in all, better and more monitoring of experiences as well as more research are needed in order to evaluate the potential of PBF in particular, and of RBF in general. In the future research agenda, efforts should particularly focus on investigating the incentive structure of RBF more thoroughly – including non-monetary and perverse incentives –, on evaluating the effectiveness and efficiency of schemes more rigorously, and on studying the long-term effects of RBF.

## 1 Introduction

*“Results-based approaches (RBA) to development financing have mushroomed in recent years” (Neal 2012). “[...] results based approach to aid is gathering steam in many contexts” (Friedman 2011). “Wow: Will This Results-Based Approach Change DfID Country Allocations?” (Birdsall 2010). “It’s wrong to assume results-based aid will lead to a culture of quick wins” (Mitchell 2010).*

Results-based approaches have been a focus of recent discussions in international development. Headlines of blogs and articles such as those cited above illustrate the importance the topic has gained over the last two years. They also give an idea about the discussion on the consequences and effectiveness of results-based approaches.

However, this discussion is not a completely new phenomenon. Instead, it has to be seen in the context of the aid-effectiveness agenda that started about 15 years ago, which has brought about international agreements such as the Paris Declaration on Aid Effectiveness in 2005 and the Accra Agenda for Action 2008, and which has manifested itself in meetings such as the Fourth High-Level Forum on Aid Effectiveness in Busan in 2011.

The introduction and increasing use of results-based funding is therefore a continuation and enforcement of international efforts to make development aid more effective. In the past, aid in general – and health funding in particular – has often failed to deliver the desired results. Healthcare coverage remains insufficient and improvements of health outcomes lag behind targets such as the Millennium Development Goals (MDGs) in many developing countries (Lozano et al. 2011). Proponents of results-based funding hope that it might deliver results that could not have been achieved by other aid modalities so far.

But the increasing theoretical and practical importance of results-based funding is also based on the hope that these approaches allow donors and domestic governments to link funding more closely to measurable results than other aid- and funding modalities do. This has gained particular importance in a time of political pressure on budget allocations in both high-income and developing countries. Donors have to provide evidence that money spent on development aid can achieve results in order to retain support from their electorates (Pereira / Villota 2012). Developing-country governments need to justify the allocations of domestic budgets that have been negatively affected by decreasing revenues from foreign trade, falling remittances and other sources (Beck et al. 2011; Meyn / Kennan 2009; Wolff 2008).

This paper is a contribution to answering the question of whether results-based approaches can help to make development aid and domestic funds more effective and to investigating the experiences made with results-based funding. It will focus on results-based financing (RBF) as opposed to results-based aid (RBA) (see Section 1 for definitions). This paper intends by no means to be exhaustive. It is rather one piece in the big puzzle of the aid-effectiveness discussion and can be considered as a complement to already existing reviews and discussion papers on results-based approaches (see for instance Klingebiel 2012; Pereira / Villota 2012; de Hennin / Rozema 2011; Pearson / Johnson / Ellison 2010; Mumssen / Johannes / Kumar 2010).

Two main types of RBF can be distinguished. Performance-based financing (PBF) targets the supply side, whereas conditional cash transfers target the demand side of a given market. There are a number of comprehensive reviews and studies on CCTs (see for instance Glassman / Todd / Gaarder 2007, 2009; Fiszbein / Schady / Ferreira 2009). But performance-based financing has received less attention. Hence the present paper aims at summarising and evaluating the experiences made with performance-based financing. It will focus on the health sector for three main reasons.

First, the health sector has often pioneered efforts to improve the effectiveness of aid. Development aid that targets the health sector is significant, it illustrates many of the challenges for aid effectiveness, and it has pioneered efforts to improve aid effectiveness. One of these efforts has been the increasing use of results-based approaches in recent years. Second, elements of results-based and performance-based financing have been used in different forms in the health sectors of many low- and middle-income countries before, and these experiences can provide insights into the working mechanisms of results-based financing. Finally, most RBF experiences in developed countries have been made in the health sector.

All together, these experiences from the health sector allow us to gain insights into the working mechanisms and challenges of RBF schemes and provide valuable lessons regarding other sectors. This paper will analyse the experiences made in order to answer the following research question:

Can performance-based financing be an appropriate tool to make funding in the health sector more effective and efficient? This question triggers four sub-questions:

1. Does PBF in the health sector succeed in benefitting the groups and individuals it targets? In particular, does it succeed in benefitting the poor?
2. What is the role of incentives set by PBF schemes? Do they generate the intended effects? Which unintended or perverse effects do they generate?
3. How successful have PBF schemes been in achieving the targeted results?
4. What can be said about the efficiency of PBF?

This paper will strive to answer these questions by providing insights into the experiences gained and the evidence gathered on PBF programmes. Moreover, it will also work out the areas where more experience and research are needed to answer these and related questions on PBF and RBF.

The structure of the paper is as follows. Section 1 defines results-based financing and distinguishes it from other forms of results-based funding. Section 2 presents the sample cases of PBF in developing countries that are analysed in this paper. Section 3 explains which criteria are used to analyse these experiences. Section 4 conducts the analysis in order to evaluate the experiences with RBF in development cooperation and to attempt to answer the research questions. The conclusion summarises the findings and provides an outlook on what remains to be done.

## **2 Definition and importance of results-based financing**

### **2.1 Why do we talk about RBF in development cooperation?**

Results-based funding is a form of funding for project implementation or service provision, where the principal, who provides the funding, pays the agent, who implements the project or provides the service, upon achieving predefined results.

Results-based funding is used as an attempt to solve the principal-agent problem. It strives to align the goals of the principal with those of the agent through setting a monetary incentive for the agent to pursue the goal of the principal as her own goal. In the pure form of results-based funding, the principal defines exactly and ex-ante which results achieved by the agent she will pay for, that is she sets performance targets. She will only release the payment if these predefined results are achieved (Pearson 2011). If the agent fails to fulfil the performance targets, the payment will be affected – often automatically, without considering the reasons for the failure.

In the development aid context, the introduction and increasing use of results-based financing are part of international efforts to make aid more effective, and to link funding more closely to results than other aid- and funding modalities do. The goal to improve the effectiveness and efficiency of development aid is not a recent phenomenon. Donors and partner countries have been increasing efforts to make aid more effective for the past 15 years. Several international declarations that promote good practice and principles of aid effectiveness attest to this. The Monterrey Consensus on Financing for Development in 2002 was one of the first statements that aimed at enhancing the coherence and consistency of international development cooperation (UN 2003). In the Rome Declaration on Harmonisation 2003, donors committed further to improve development effectiveness and promote good practice standards and principles (OECD 2003).

Probably the most important declaration was the Paris Declaration on Aid Effectiveness in 2005, which set out five principles that donors, recipient countries and multilaterals had agreed upon in order to improve the effectiveness of aid (Acharya / Alvarez 2012). These aid-effectiveness principles are: ownership; alignment of donor support with partner country national strategies; harmonisation of donor actions; mutual accountability of donors and partners; and results-based management (OECD 2012). The mid-term evaluation of the Paris Declaration found that the speed of progress towards these goals was not sufficient (OECD 2008). Therefore, donors and partner countries signed the Accra Agenda for Action in 2008 in order to further endorse these aid-effectiveness principles and to accelerate the progress (OECD 2012; Acharya / Alvarez 2012). The Accra Agenda for Action reinforced the focus on delivering results. At the Fourth High-Level Forum on Aid Effectiveness in Busan in 2011, donors and partner countries agreed on best-practice principles that connected to previous agreements and continued the trend of focussing on ownership, results, transparency and accountability (OECD 2012; Acharya / Alvarez 2012).

These efforts have two main underlying reasons. First, since aid in general – and health funding in particular – has often not delivered the desired results in the past, healthcare coverage remains insufficient, and improvements of health outcomes in many developing countries lag behind targets such as the MDGs. Although many developing countries have experienced declines in maternal and child mortality rates, only 31 out of 137 are predicted to reach MDG 4 of reducing under-five mortality by two-thirds by 2015 (Lozano et al. 2011). Thirteen countries are likely to achieve MDG 5 of reducing maternal mortality by three-quarters until 2015 and only nine are estimated to reach both goals.

Second, in a time of political pressure on budget allocations in high-income countries, donors have to provide evidence that money spent on development aid can achieve results in order to retain support from their electorates (Pereira / Villota 2012). It is therefore more important than ever that aid translates into improved health outcomes and that these results can be measured.

Finally, the economic and financial crisis has also restricted the domestic budgets of many developing countries, due to decreasing revenues from foreign trade, falling remittances from high-income countries and other sources such as tourism (Beck et al. 2011; Meyn / Kennan 2009; Wolff 2008). Across regions, 20 countries remain at high risk of – or are already in – debt distress (UN 2012). In 2010, 60 countries maintained public debt-to-Gross Domestic Product (GDP) ratios of more than 40 per cent. Seventeen of them are in low-income countries, twenty-two in lower-middle-income countries and twenty-one in upper-middle-income countries (IMF 2011). Therefore, the need for using limited resources more effectively and for demonstrating this also applies to domestic funds.

Proponents of results-based funding among donors, partner countries and other actors of the international development community hope that this funding approach can fulfil these goals. They believe that results-based funding might have the potential to be more effective and efficient in improving health outcomes in developing countries than other funding modalities that have been used before. At the same time, donors and domestic governments hope that the impacts of results-based programmes can be measured more easily, such that expenditures can be directly linked to results in order to demonstrate to voters and donors that their contributions are making a difference. By doing so, results-based funding could generate progress on aid-effectiveness principles and commitments that has not been – or only slowly been – achieved by the aid-effectiveness agenda described above.

At this point, it is important to clarify that results-orientation of aid funds is not a new concept. Donors have always cared about results and some tools, such as performance tranches in budget support, have been used in order to connect funding more directly to results (Pearson 2011; Klingebiel 2012). However, funding for development in general – and for health in particular – has traditionally been linked to inputs or processes, and in some cases to outputs (Eichler / Levine and the Performance-based Incentives Working Group 2009; Klingebiel 2012). In the case of health funding, inputs and processes are salaries and training of healthcare workers, construction of healthcare facili-

ties and provision of healthcare equipment and medicine. The assumption was that improvements in health outcomes would automatically follow the provision of more and better inputs and the improvement in processes. But this has not been the case in many developing countries that are still experiencing a substantial lack of healthcare coverage and have fallen behind in attempts to reach the health-related Millennium Development Goals. In this context, the distinguishing feature of results-based funding is that it defines results that have to be achieved with the funding ex-ante, and it also establishes a method of paying for achieving these results (Pearson 2011).

Results-based funding comes in different forms. The two main forms that can be distinguished are results-based aid and results-based financing. The following section defines these types more formally and distinguishes between them.

## 2.2 Results-based financing versus results-based aid

Definitions of and differentiation between results-based financing and results-based aid vary across institutions, agencies and scholars. I will follow the definitions used by Pearson (2011) and Klingebiel (2012), which also correspond closely to those of the Deutsche Gesellschaft für Internationale Zusammenarbeit and the UK Department for International Development (DFID). RBA and RBF are mainly distinguished by funding sources and the contracting arrangement. Table 1 illustrates the differences between results-based aid and results-based financing.

### 2.2.1 Results-based financing in development cooperation

The World Bank defines RBF as *“any program that rewards the delivery of one or more outputs or outcomes by one or more incentives, financial or otherwise,”* after the principal has verified that the agent has delivered the agreed-upon results (Musgrove 2010).

This paper will focus on RBF used in development cooperation. Nevertheless, it will include experiences and evidence from other contexts whenever this may contribute to a better understanding of RBF in developing countries.

In RBF in development cooperation, the principal is a national or sub-national government body of a developing country, such as the Ministry of Health (MoH) or a district health authority. The agent is an implementing agency in the case of a performance-based financing approach, or an individual in the case of a conditional cash transfer. The implementing agency can be a private non-profit organisation, such as a non-governmental organisation (NGO), a private for-profit provider or a sub-national government level (Pearson 2011).

RBF may be funded by domestic funds, by donor funds or by a combination of both (Klingebiel 2012). RBF in health can target the supply side or the demand side of healthcare services, as is explained in the following.

### *Supply-side mechanisms: performance-based financing*

If RBF targets the supply side, it is also called performance-based financing (PBF) and aims at setting incentives for service providers to deliver good performance of healthcare service. The principal – often together with the agent – establishes performance indicators that aim to capture her goals as clearly as possible (Eichler 2007, Eichler / Auxila / Pollock 2001). Payment takes place against achievement of these predefined indicators. These mechanisms allow aligning the agent's goals with those of the principal, since it is in the agent's best interest to reach the targeted results.

The terms “performance-based financing”, “payment for performance” (P4P) and “performance-based payment” will be used synonymously in this paper.<sup>1</sup> Performance-based contracting (PBC) can be considered as a specific case of PBF. PBC involves a more detailed contract that specifies a fixed price for a desired output and adds a variable component that can reduce payment if performance is below a standard set in the contract or increase the payment if performance is above the standard (Musgrove 2010). In the health sector, PBC is usually used to contract private providers for the delivery of specified packages or single interventions of healthcare services. The present paper considers PBF and PBC together, since contracting partners and incentive structure are similar across schemes.

### *Demand-side mechanisms*

Demand-side mechanisms of results-based financing target individuals. Conditional cash transfers are a typical demand-side RBF tool. They pay a predefined amount to targeted beneficiaries against complying with specific requirements, such as taking their children to preventive health check-ups or having them vaccinated. CCTs aim at achieving the double objective of relaxing the demand-side budget constraint and setting incentives for investments into human capital that have positive long-term effects on poverty reduction.

### *Mixed mechanisms*

Results-based supply- and demand-side mechanisms can be combined. For instance, the social security programme Red de Protección Social (RPS) in Nicaragua combines the demand-side incentives of CCT with performance-based payment for healthcare providers (Regalía / Castro 2007; Maluccio / Flores 2005).

In addition, there are results-based mechanisms that contain both supply- and demand-side elements. Voucher systems for healthcare services can be classified as such a mixed approach. These schemes first deliver vouchers for free or against subsidised fees to the target-group individuals and households (Pearson 2011). Individuals can use the vouchers to obtain healthcare services from accredited providers. Providers are then reimbursed for the services delivered. Accreditation and competition for voucher patients are expected to foster the quality of healthcare service delivery.

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1 Note that the World Bank uses another differentiation; see <http://www.rbhealth.org/rbhealth/news/item/387/financial-and-other-rewards-good-performance-or-results-guided-tour-concepts-and-terms>.



### 2.2.2 Results-based aid

In a results-based aid relationship, the principal is usually a bi- or multilateral donor, whereas the agent can be a national or sub-national government body of the partner country (Pearson 2011; Pearson / Johnson / Ellison 2010; Klingebiel 2012). The donor disburses the funds once the agent has achieved the results that have been defined in a contract beforehand and after the achievement of results has been verified. Examples of results-based aid approaches in the health sector are the European Commission Millennium Development Goal Contracts (EC MDG Contracts), the Health Systems Strengthening support (HSS) and the Immunisation Services Support (ISS) of the Global Alliance for Vaccines and Immunisation (GAVI Alliance), the Cash on Delivery approach developed by the Center for Global Development, or the Millennium Challenge Account, which is operated by the US Millennium Challenge Corporation (Pearson / Johnson / Ellison 2010; Pereira / Villota 2012). Results-based aid often cannot be clearly distinguished from results-based finance. Therefore, there are a number of hybrid schemes that combine characteristics of both approaches. The following subsection provides examples of international hybrids.

### 2.2.3 Financing hybrids

Financing hybrids combine aspects of both RBF and RBA and use aid funds to contract local or international NGOs or private sector providers directly. Examples of hybrids in the health sector are the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM), the Health Results Innovation Trust Fund (HRITF) and the Global Partnership for Output-Based Aid (GPOBA) (Pearson et al. 2010). The GFATM provides successive funding for three to five years, depending on the overall performance achieved with funding used in the first two years of the grant implementation.

The World Bank created the HRITF as a multi-donor trust fund in 2007 to support results-based financing approaches in the health sector in order to achieve health-related MDGs (World Bank 2012). The HRITF provides country pilot grants, knowledge- and learning grants, and evaluation grants. Country pilot grants contribute to financing design, implementation and evaluation of RBF pilots in Afghanistan, Benin, Burkina Faso, Burundi, the Central African Republic, the Democratic Republic of the Congo (DRC), India, Laos, Nigeria, Rwanda, Zambia and Zimbabwe. The core funding for these programmes comes from the World Bank's International Development Association (IDA). Knowledge- and learning grants support the collection, exchange and distribution of knowledge on RBF design and implementation in IDA-eligible countries. Evaluation grants are used to improve efforts to evaluate RBF programmes and learn from experiences as well as to contribute to local and global evidence-based policy-making.

The GPOBA is a multi-donor partnership and trust fund that has been established to fund and facilitate the preparation of output-based aid (OBA) projects. According to the World Bank, output-based aid is used to deliver basic infrastructure and social services to the

poor (Mumssen / Johannes / Kumar 2010). OBA is results-based, since the principal only disburses funding if the agent has achieved predefined results that contribute directly to improving the access to basic services for the poor. The principal is an aid donor, whereas the agent can be a recipient government, a public agency, an NGO or a private for-profit organisation, with the emphasis on the public sector (Musgrove 2010). Basic services include education, healthcare, water and sanitation, energy, communication, and transport.

In practice, the different types of RBF often cannot be clearly distinguished. In order to shed light on the experiences with RBF in developing countries, this paper considers examples that can be broadly characterised as PBF. Some of the examples include also demand-side mechanisms (e.g. RPS in Nicaragua or the health reform in Rwanda), whereas others could also be classified as hybrids, since donors contract service providers directly together with the partner country government (e.g. paying NGOs for performance in Afghanistan).

### 2.3 Results-based financing in the health sector

The present paper will focus on PBF schemes that have been implemented in the health sectors of developing countries. The reasons for choosing this sector are manifold.

First, the health sector has often pioneered efforts to improve the effectiveness of aid. Official development assistance (ODA) targeted at improving health in developing countries has increased considerably, as Figure 1 illustrates, and reached US\$ 19.9 billion in 2009. But the aid architecture in the health sector is also complex and subject to rapid changes due to the complexity of the health sector itself and the multiplicity of national and international donors and initiatives, which is incomparable to other sectors. The health aid architecture is characterised by a high number of development partners, including bilateral donors, multilateral funding organisations, international and national implementing organisations, private foundations and research institutes. Figure 2 (s. Appendix, p. 53) illustrates this structure. Hence, the health sector illustrates many of the challenges for aid effectiveness. But it has also pioneered activities to improve aid effectiveness, one of them being the implementation of results-based approaches.

Most international RBF schemes target the health sector. The best-known examples are the GFATM, Gavi's HSS and ISS, and the HRITF. In OBA, the health sector receives the second-most funding with US\$ 865,777,264 after the transport sector, which receives US\$ 2,033,614,000 (Mumssen / Johannes / Kumar 2010). Other sectors follow far behind, with energy leading with US\$ 204,130,000. In the EC MDG Contracts, about three-quarters of the financial weight of the different performance indicators is attributed to health or education (European Commission EuropeAid 2012). Moreover, the number of performance-based financing programmes for healthcare in low- and middle-income countries has increased in the last 15 years, particularly in Africa (Fryatt / Mills / Nordstrom 2010). This is mostly due to the fact that target indicators are more easily defined and monitored in

health than in other sectors. The increasing number of sample cases provides new evidence and insights on performance-based financing in developing countries, thereby enabling us to analyse the mechanisms and evaluate the success of such programmes.

Second, results-based and performance-based financing are not completely new approaches for funding healthcare in developing countries. In many low- and middle-income countries, paying for performance by individuals – including in the form of user fees – remains a major form of health financing (Witter et al. 2012). But even for public healthcare funding, linking funding amounts to results is not a completely new concept, with the first approaches in this direction having been made in Costa Rica in the early 1990s (Cercerone / Briceno / Gauri 2005). These experiences provide valuable lessons on the working mechanisms of incentives and the challenges faced when linking payment to performance and results.

Finally, most RBF experiences in developed countries have been made in the health sector. For instance, the UK Department of Health started introducing Payment by Results in 2003 as a new payment system for secondary care (Boyle 2007). Under this system, commissioners pay healthcare providers a fixed amount, based on the national average unit cost, for delivering a specific health output (Pearson 2011). Similarly, under the Quality and Outcome Framework introduced in April 2004, the National Health Service of the United Kingdom pays general practitioners against performance, as captured by more than 100 quality-based indicators (Pearson 2011). Many other high-income countries have made similar experiences with RBF in the health sector, including Australia, Canada, Denmark, Germany, Ireland New Zealand, Scotland, and the United States (see, for instance, Oxman and Fretheim (2008) for an overview).

All in all, the experiences made with results-based financing in the health sector allow us to gain insights into the working mechanisms and challenges of RBF schemes and provide valuable lessons regarding other sectors. The following section will briefly introduce the most important examples of performance-based financing for health in developing countries in order to provide the background for the analysis conducted later.

### **3 Examples of PBF in developing countries**

The following examples were chosen after carefully studying a number of reviews on results-based financing and contracting of health services (Canavan / Toonen / Elovainio 2008; Lagarde / Palmer 2009; Liu / Hotchkiss / Bose 2008; Loevinsohn / Harding 2005; Oxman / Fretheim 2008, 2009a, 2009b; Witter et al. 2012).

Health services may be contracted-in or contracted-out. Contracting-in means that contractors provide only management support to healthcare staff, but recurrent operational costs are covered through the normal government channels (Bhushan / Keller / Schwartz 2002). In contrast, contracting-out implies that contractors have full responsibility for the deliv-

ery of predefined services in an operational district. Contractors also employ their staff directly and have full management control.

Cases of contracting-in or contracting-out where providers were not paid based on performance were excluded from the analysis. This applies, for instance, to an urban primary healthcare service programme in Guatemala (Danel / La Forgia 2005), a nutrition programme in Bangladesh (Khan / Ahmed 2003; Pelletier et al. 2005), a treatment of childhood diseases programme in India (Chakraborty / d'Souza / Northrup 2000), a rural primary healthcare programme in Pakistan (Ali 2005; Loevinsohn / Couffinhal / Pande 2009) and a primary healthcare programme in South Africa (Mills et al. 2004).

After applying these criteria, the examples reviewed and analysed here cover the most important and most studied cases of PBF in South America, Africa and Asia. This allows for a broad analysis. Nevertheless, this review does not claim to be exhaustive. Since the experiences with RBF are constantly evolving, this paper can be considered as a snapshot of the evidence base available today. Further evaluation and research will be necessary in order to complement the picture.

#### *Afghanistan: paying NGOs for performance in a post-conflict setting*

In 2002, the World Bank, United States Agency for International Development (USAID), the European Commission (EC) and the Afghan Ministry of Public Health launched a primary healthcare project in Afghanistan (Sondorp et al. 2009). Government and donors contracted competitively recruited NGOs to deliver a defined package of essential healthcare services. The World Bank also signed contracts with the Ministry of Public Health to deliver services in three provinces in the framework of the Ministry of Public Health Strengthening Mechanism (MoPH-SM). The programme was implemented from 2003 to 2005, included 55 contracts worth \$155 million and targeted 77 per cent of the Afghan population. The World Bank programme consisted of paying NGOs and the MoPH a fixed amount plus a performance bonus, whereas the EC and USAID reimbursed for expenditures on inputs. United States Agency for International Development (USAID) can withhold payment if deliverables outlined in the contract are not achieved, but it does not offer any bonus. The per-capita cost was US\$ 3.80 for the World Bank programme, US\$ 4.82 for USAID and US\$ 5.22 for the EC (Canavan / Toonen / Elovainio 2008). However, the catchment area of the three programmes also varied significantly. Whereas the USAID programme covered 6.17 million people and the EC programme covered 5.22 million, the World Bank programme only reached about 3.8 million (Canavan / Toonen / Elovainio 2008).

#### *Bangladesh: subcontracting urban primary healthcare*

In Bangladesh, the government, with funding from the Asian Development Bank, contracted four NGOs to provide primary care services – including immunisation, prenatal and obstetric care, family planning, and disease treatment – in four large cities in 1998

(Liu / Hotchhiss / Bose 2008; Loevinsohn 2008). All four NGOs were Bangladeshi and had won a previous bidding contest. In each city, between 250,000 and 400,000 people and five to eight project-financed health centres were covered (Loevinsohn 2008). The average cost per capita was US\$ 0.65 per year (Loevinsohn 2008; Loevinsohn / Harding 2005). The contracts specified coverage targets and provided the NGOs with considerable autonomy. The programme was scaled up in 2005 with funding from the Government of Bangladesh, the Asian Development Bank, DFID, the Swedish International Development Cooperation Agency (SIDA), the United Nations Population Fund (UNFPA) and the international NGO ORBIS International (Government of Bangladesh 2010). An evaluation is available for the pilot project.

*Bolivia: subcontracting primary healthcare*

In Bolivia, the MoH, the department of La Paz and the municipality of El Alto contracted an NGO to manage one of the health service networks in El Alto, an urban poor district next to La Paz, in 1999 (Lavadenz / Schwab / Straatman 2001). The goal was to expand coverage and improve the quality of primary healthcare services. Contracting was based on achieving process and outcome indicators and can hence be considered as a PBF scheme. The scheme started at one hospital and was expanded to eight health centres. It covered about 250,000 people (Loevinsohn / Harding 2005). Cost data was not available. The public sector continued to manage health networks in the control area.

*Burundi: subcontracting primary healthcare*

In 2006, the international NGO Cordaid, supported by funding from the Dutch government and the European Union, implemented a pilot PBF scheme aimed at improving primary healthcare in two provinces of Burundi (Witter et al. 2012). The scheme covered 40 primary healthcare facilities. Facilities received a fixed amount per targeted action plus a bonus of up to 15 per cent for good quality. The total cost per capita was US\$ 4.30, including the payment for the basic package, for administrative costs and a subsidy from the MoH for providing free care. Thanks to encouraging results from the pilot, the Government of Burundi decided to scale up the project nationwide in April 2011.

*Cambodia: contracting rural primary healthcare and district hospital services to NGOs*

As part of the health reform plan in 1998, the Cambodian MoH, supported by a loan from the Asian Development Bank, contracted NGOs to improve the delivery of rural primary healthcare and district hospital services (Loevinsohn / Harding 2005; Soeters / Griffiths 2003). The pilot included eight districts covering 1 million people (Soeters / Griffiths 2003; Bhushan / Keller / Schwartz 2002). Based on results of a formal competitive selection process, eight NGOs were contracted, from which three were contracted-in, two were contracted-out and three were in the control group. Contracted-in NGOs received only a small additional budget supplement of US\$ 0.25 per capita (Bhushan / Keller / Schwartz 2002). In contrast, contracting-out implies that contractors have full responsibility for the

delivery of predefined services in an operational district (Bhushan / Keller / Schwartz 2002). The per capita cost for contracting-out are reported to lie between US\$ 2.94 (Bloom et al. 2006) and US\$ 4.50 (Bhushan et al. 2002; Loevinsohn / Harding 2005). The control districts received an operating budget supplement comparable to that of contracting-in districts, but continued to operate under traditional government structures. This set-up enables researchers to conduct a controlled comparison of performance-based financing.

*Costa Rica: subcontracting primary healthcare services to cooperatives*

In 1988, health workers in Costa Rica started forming cooperatives in three primary care clinics that were previously managed by the public-sector Caja Costarricense de Seguro Social (CCSS) (Loevinsohn 2008). The cooperatives assumed responsibility for managing the clinics and decided autonomously over the use of the funds received from the CCSS, as well as the contracting and management of staff and resources. In the beginning, the CCSS paid the cooperatives based on the population of their catchment area. Later on, cooperatives had to meet targets for service production and coverage. Each clinic covered between 50,000 and 100,000 people (Loevinsohn 2008). Thanks to positive results in the pilot clinics, the CCSS transferred responsibility for other health facilities and health centres to private providers, the University of Costa Rica and other cooperatives. In 2000, the CCSS asked non-state providers for proposals to provide extended coverage to about 110,000 people living in the metropolitan area (Cercerone / Briceno / Gauri 2005).

*The Democratic Republic of the Congo: performance-based payment for health facilities*

In 2005, the health authority of South Kivu, the international NGO Cordaid and the local NGO Bureau des Oeuvres Médicales started a PBF scheme in two districts covering together a population of 300,000 in order to improve preventive care as well as tuberculosis and HIV/AIDS testing and care (Soeters et al. 2011). Based on a performance contract, health facilities received a fixed amount per targeted action per month plus a bonus of up to 15 per cent for quality (Witter et al. 2012). Remote facilities received an additional 15 per cent. The cost was US\$ 2.4 per capita (Witter et al. 2012).

*Haiti: contracting NGOs for primary health services*

In Haiti, USAID launched the Haiti Health Systems 2004 Project to Management Science for Health (HS-2004) in 1995 in order to deliver basic healthcare services (Eichler et al. 2007). Initially, the project reimbursed contracted NGOs for documented expenditures up to a ceiling. In 1999, the payment structure was changed and a performance component was introduced. NGOs still received a basic, fixed-funding amount accounting for 95 per cent of the budget of the existing expenditure-based contract. In addition, NGOs could complement this amount with gains of up to 10 per cent of the original budget by achieving predefined targets. This new approach was first applied to three pilot NGOs, which together served 534,000 people. Due to positive results in the pilot phase, the project was

expanded and included 25 NGOs by 2005, covering 2.7 million people by 2007. NGOs were included when assessed as “ready” for performance-based payment. In order to be assessed as “ready”, they had to offer a predefined minimum service package; reach a defined target population; have a sound technical performance as well as a record of good audit reports and financial review results; and have sufficient accounting, monitoring, data and MIS capabilities. Cost data was not available.

*Nicaragua: Red de Protección Social*

In Nicaragua, the social security programme Red de Protección Social combined the demand-side incentives of CCT with performance-based payment for healthcare providers (Regalía / Castro 2007; Maluccio / Flores 2005). The programme was implemented by the Nicaraguan Emergency Social Investment Fund and was supported by the Inter-American Development Bank. The PBF component consisted of contracting NGOs and private for-profit healthcare providers to extend coverage of healthcare services in remote and underserved areas. Providers were paid against the achievement of predefined targets.

The pilot phase stretched more than three years from 2000 to 2002 and had a budget of US\$ 11 million. During that phase, the focus was mostly on child health. Due to positive results of the pilot, the programme was expanded to other targets, including reproductive health and maternal health and received a Phase-2 budget of US\$ 22 million. Whereas the supply side programme was extended for another five years, the demand-side programme was only prolonged for another three years. In addition, CCT was reduced by 30 per cent.

*Rwanda: performance-based financing in the public sector*

Rwanda first tested PBF for the public sector in three pilot districts. Dutch and international NGOs and the Belgium Technical Cooperation (BTC) paid public and private non-profit healthcare facilities based on performance in order to improve curative, maternal and child healthcare as well as HIV/AIDS services. Targeted services included immunisation, prenatal care and assisted deliveries. The primary goal was to increase the use of health services by motivating healthcare providers through incentive payments for a set of predefined services (Rusa et al. 2009). The goal of quality improvement was introduced only later.

The Dutch NGO HealthNet International launched the schemes with a baseline study in February 2001 in the district of Butare, supported mainly by funding from SIDA. In January 2002, the international NGO Cordaid launched a scheme in Cyangugu with financial support from Cyangugu Province, Community Development Funds, UNFPA and the World Bank (Soeters / Musango / Meessen 2005). Butare has a population of 0.4 million and Cyangugu has 0.6 million inhabitants (Canavan / Toonen / Elovainio 2008). The per-capita costs were US\$ 0.3 in Butare and US\$ 2 in Cyangugu (Canavan / Toonen / Elovainio 2008). BTC started the third pilot project in Kigali in 2005, covering a population of 1.6 million (Rusa et al. 2009). Per capita cost was not available for the Kigali project.

In 2005, the MoH of Rwanda adopted the performance-based approach as a national policy while scaling up the pilot projects, supported by Belgium, the President's Emergency Plan for Aids Relief and the World Bank. A standardised set of core services, fee structure and contracts was developed.

*Senegal and Madagascar: contracting NGOs for nutrition services*

In Madagascar and Senegal, NGOs were contracted to provide nutrition services in areas where public healthcare was irregular or unavailable. The Community Nutrition Project (CNP) in Senegal targeted poor peri-urban areas and started in 1996 with a six-month pilot phase and 23 Community Nutrition Centres (CNCs) in three cities. It was expanded nationwide to 176 CNCs in 14 cities and covered 99,664 children up to three years and 131,026 women by mid-1998 (Marek et al. 1999). The cost per capita was estimated at US\$ 15 (Loevinsohn / Harding 2005). The government funded 5 per cent of the project costs, whereas communities contributed about 4 per cent. The remaining amount was financed by the World Bank, the World Food Programme and the German development bank KfW (Marek et al. 1999).

In Madagascar, the project Secaline started in 1994 and targeted rural areas in the two most vulnerable regions of the country. By 1997, it had reached 241,000 children younger than five years and their mothers in 534 villages. The per-capita costs were about US\$ 48 (Loevinsohn / Harding 2005). Similarly to the CNP, the Malagasy government funded 5 per cent of Secaline and the Malagasy people paid for 4 per cent of the project costs. The remaining funding came from the World Bank, the World Food Program, Japan and United Nations Children's Fund (UNICEF) (Marek et al. 1999).

*Tanzania: payment for performance*

In Tanzania, the international NGO Cordaid implemented a performance-based financing scheme from 2006 to 2008 in order to improve equity, accessibility and quality of healthcare, and subsequently to foster improvements of the population's health status. Cordaid contracted 64 faith-based healthcare facilities in five dioceses covering a population of 2,250,000 (Canavan / Swai 2008). Health facilities received a guaranteed payment of 50 per cent and a performance-based payment of 50 per cent. The performance bonus is paid every six months if the corresponding part of the performance targets is met. The entire budget of the project was €1.85 million plus top-up allocations in 2007. This translated into a per capita funding of €0.50. However, the performance-based Cordaid contribution is only one of many funding sources. Faith-based health facilities included in the PBF scheme continue to receive substantial funding from the MoH. Contributions from the MoH account for 35 to 70 per cent of the total budget, whereas contributions from Cordaid only make up 8 to 10 per cent. This results in a small financial incentive accounting for only 4 per cent of the entire budget. Government-supported healthcare facilities continued to be paid based on inputs and were used as controls in the programme evaluation conducted by Canavan / Swai (2008).



A previous performance-based scheme implemented by the Danish International Development Agency (DANIDA) from 2004 to 2006 that targeted only senior-level management staff is considered to have failed, mainly due to problems of accountability and transparency (Canavan / Swai 2008). In the future, a partnership initiative of Norway and Tanzania aims to introduce results-based financing nationwide. The “bonus for results” initiative plans to disburse financial lump-sum awards to district councils that can then allocate funding to health facilities based on performance targets.

The present paper considers the experiences and evidence gained from the PBF schemes described above with the goal of answering the following question: Can PBF be an appropriate tool to make funding in the health sector more effective and efficient? In order to answer this question, this paper will evaluate the experiences made using four main criteria:

1. Targeting: Which groups does PBF target? How do programmes target these groups? Do programmes succeed in reaching their target groups, especially the poor?
2. Incentives: What is the role of monetary and non-monetary incentives? Do they generate unintended effects?
3. Effectiveness: How successful has PBF been in achieving targeted outcomes?
4. Efficiency: What can be said about the efficiency of PBF?

The following section briefly describes the theoretical background of these criteria. Section 4 analyses the evidence available from the experiences described above.

## **4 Evaluation criteria**

### **4.1 Targeting**

#### **4.1.1 Definition and importance**

Targeting involves choosing the beneficiaries of the RBF scheme. Target groups can be defined based on gender, age, economic status, health status and disposition or geographical dimensions. Target criteria can also be combined. For instance, RBF programmes might target the rural poor (economic plus geographic dimension), poor pregnant HIV-infected women (health status plus disposition plus economic status), teenage girls living in rural areas (age plus gender plus geographic dimension). Targeting could also involve choosing a certain type of service provider in performance-based financing schemes.

According to Pearson / Johnson / Ellison (2010), targeting is an important aspect of design for many RBF and hybrids, since it has implications for effectiveness, efficiency and equi-

ty of an RBF scheme. The literature shows that there is a direct trade-off between precision and cost. Ensuring that a scheme reaches all individuals of a given target group is costly, and the marginal transaction costs are usually expected to increase, since, for instance, it is much more difficult to reach the remaining uncovered 10 per cent of the rural population that live in the most remote areas than the first 10 per cent that live closest to urban settlements.

#### 4.1.2 Targeting mechanisms

Most RBF schemes use an explicit targeting mechanism. The most common mechanisms are geographic targeting, self-selection targeting, means-testing targeting and community-based targeting (Mumssen / Johannes / Kumar 2010). Geographic targeting has been revealed to be useful when intended beneficiaries are concentrated in certain areas in which only very few people outside the target group live. However, geographic targeting might be more complicated and less effective in areas where poor and non-poor are relatively interspersed. Self-selection targeting uses a mechanism that constitutes a natural barrier for non-targeted individuals or providers. For instance, the requirement to fulfil (time-consuming) conditions of a CCT imposes an entry barrier that only the poor will overcome, since they have lower opportunity costs and a higher benefit from the transfer. Another self-selection mechanism is providing higher subsidies for more basic services or services that are less attractive to the rich.

Means-testing targeting measures the beneficiary's wealth to assess whether a subsidy is warranted. It often uses proxy-means testing wherein easily observable characteristics, such as the possession of indicative assets, are considered as proxies for income. Means-testing targeting can be highly precise but also requires more advanced administrative systems that are related to higher costs. Finally, community-based targeting consists of collaborating with local communities in order to identify the community members that are most in need of the services offered. This mechanism has the disadvantage that it is very time-consuming and can be used for special interests.

Comparing the different modes of targeting illustrates the trade-off between precision and cost. Geographic targeting is usually cheaper to implement than means-testing targeting. However, if a scheme aims at reaching the poor, for instance, means-testing will be more precise than geographic targeting in identifying all potential beneficiaries.

Once the target group or an RBF programme is chosen, the scheme has to be designed such that it sets incentives for targeted individuals or service providers to act in a way that supports reaching the programme goals. In the case of PBF in the health sector, the goal is to improve the quantity and quality of healthcare services. The following section will explain the role that the different types of incentives can play for PBF in healthcare.

## 4.2 Incentives

### 4.2.1 Definition and importance

Results-based financing schemes use incentives in order to motivate providers to provide health services of good quality and sufficient quantity to target groups (with performance-based financing) and to motivate individuals to adopt a desired behaviour, such as sending their female children to school (with conditional cash transfers).

Incentives are extrinsic sources of motivation. An individual or an organisation, led by one or more individuals, performs an action because this action is a means to achieving a valued resource (Flodgren et al. 2011). In contrast, if the action is performed because it has a value per se, the motivation is intrinsic. An incentive can be monetary or non-monetary. A monetary incentive consists of providing a cash reward for achievement of predefined performance targets or of withholding funds if targets are not reached.

### 4.2.2 Non-monetary incentives

RBF schemes usually use monetary incentives in order to encourage the targeted behavioural or performance changes. However, the theoretical literature on results-based financing suggests that there may also be important non-monetary incentives that can significantly influence the effect and success of RBF and that may engender unintended and undesired effects if they are neglected (Savedoff 2011). Intrinsic and extrinsic motivation may also influence each other and produce unexpected results.

There is a wide range of possible non-monetary incentives that may play a role when implementing RBF schemes, and it has proved difficult to consider them all. Individuals may react to non-monetary incentives such as status, professional recognition, quality of working conditions or praise (Savedoff 2011). Organisational entities such as healthcare facilities and sub-national or national governments might respond to public rankings and reputation.

### 4.2.3 Perverse incentives

The way performance is measured also influences the effect of incentives. The literature has argued that RBF might unintentionally set incentives that risk undermining the programme goals. These so-called perverse incentives might cause undesirable effects, including (1) ignoring unrewarded activities, (2) inducing unnecessary demand for remunerated services, (3) hampering sustainability, (4) deteriorating service quality, (5) gaming and fraud, (6) so-called cherry-picking or cream-skimming, or (7) reducing intrinsic motivation.

1. Incentives that are focussed on particular goals might divert effort and attention from goals that are not so easily measured as well as unrewarded activities (Savedoff 2011; Roberts et al. 2003; Pearson / Johnson / Ellison 2010; Oxman / Fretheim 2009b; Canavan Toonen / Elovainio 2008; Oxman / Fretheim 2008). If a PBF scheme measures perfor-

mance using very specific indicators or rewards the achievement of very specific performance targets, it can risk undermining the achievement of other important goals that are less easily captured by indicators and not explicitly targeted. Remunerating particular outputs might create the perception that only remunerated activities are valued and cause healthcare workers to shift their efforts away from unremunerated activities. For instance, if performance targets are predominantly set for curative healthcare services, providers may have an incentive to neglect important preventive care (Canavan / Swai 2008).

2. Making payment dependent on the delivery of certain predefined services may also encourage healthcare providers to induce unnecessary demand by users for these services in order to increase the revenue and performance bonus (Meessen / Kashala / Musango 2007).

3. RBF also encourages a short-term focus and may harm sustainability. First, since it is hard to establish long-term performance targets, providers may risk focussing too much attention on the short term and neglect long-term goals that are not immediately rewarded (Pearson / Johnson / Ellison 2010). Second, the pressure to achieve immediate results may also drive donors to only finance programmes that produce results that can be measured easily and immediately (OECD 2011a). Moreover, PBF often takes place in the form of contracting-out. This may encourage donors to bypass failing or fragile states and fail to support improvements of institutional capacity of MoH that could enable the state to deliver health services itself in the long term (Oxman / Fretheim 2008). This might harm long-term capacity development and sustainable impacts. Finally, RBF schemes may foster dependency on financial incentives (Oxman / Fretheim 2008). If providers have not internalised the behaviour previously fostered by monetary incentives, they may stop providing the desired services once the incentives end or a new focus is selected.

4. Financial incentives that reward a high throughput of patients may hinder a good quality delivery of care that requires more time and becomes less profitable under a PBF scheme (Meessen / Kashala / Musango 2007; Pearson 2011).

5. PBF offers opportunities for fraud because incentives can be gamed. Both principal and agent can find ways to exploit arrangements and benefit themselves while undermining the programme goals. For instance, health service providers might manipulate data or cheat on reporting in order to improve recorded performance artificially instead of improving the delivery of healthcare services (Custers et al. 2008; Witter et al. 2012; Oxman / Fretheim 2009b; Meessen / Kashala / Musango 2007). Some mechanisms built into PBF schemes might be able to reduce this risk to a certain degree, but they can usually not eliminate it completely (Savedoff 2011).

6. Cream-skimming or cherry-picking can occur in PBF if a particular service is rewarded at a fixed price per patient. This might incite service providers to accept and treat only patients who require less effort, which can have a detrimental impact on equity (Pearson / Johnson / Ellison 2010; Witter et al. 2012; Oxman / Fretheim 2008).

7. Finally, it has been argued that extrinsic motivation could crowd out intrinsic motivation of healthcare workers (Deci / Ryan 1985; Oxman / Fretheim 2008). This means that monetary incentives for healthcare workers who are driven by their intrinsic motivations might have their motivations lowered or even erased, in addition to other, often informal institutions being undermined, such as trust, medical ethics and ethos of public service. These institutions are particularly important for services and dimensions of quality that can hardly be quantified and measured, and hence cannot be components of contracts. Paying healthcare staff for specifically defined activities and targets might also raise the idea that any behaviour deserves a specified bonus (Meessen / Kashala / Musango 2007).

The incentives set by PBF schemes have important effects on the effectiveness and efficiency of these schemes. These concepts are presented briefly in the following sections.

### 4.3 Effectiveness of PBF

RBF is one of the international efforts being made to make aid more effective and to link funding closer to results. Therefore, a crucial question for evaluating the benefits of RBF in the health sector is if RBF programmes are effective. Effectiveness of (aid) funding can be defined from different perspectives.

For instance, the Paris Declaration of Aid Effectiveness sets out five key principles that donors, recipient countries and multilaterals had agreed upon in order to improve the effectiveness of aid (Acharya / Alvarez 2012). Aid is considered to be effective if it fulfils the principles of developing-country ownership; alignment of donor support with national strategies of the partner country; harmonisation of donor actions; mutual accountability of donors and partners; and results-based management (OECD 2012). In contrast, economists usually consider aid as effective if it can be shown that aid has a positive and statistically significant impact on economic or socio-economic outcomes, such as economic growth and human development – including education and health – as well as the quality of life (Boone 1996; Burnside / Dollar 1998, 2000; Collier / Dollar 2002; Dalgaard / Hansen / Tarb 2004; Kosack 2003; Papanek 1973).

In this paper, PBF schemes are considered to be effective if they can significantly improve targeted healthcare supply, healthcare coverage and health outcomes. In theory, this question seems straightforward. However, in practice, it is difficult to evaluate and prove the effectiveness of PBF programmes. This is because there are many potential confounding factors that may play a role between implementing a PBF scheme and observing its results, and that may have an impact on the targeted healthcare supply, healthcare coverage and health outcomes. Hence, in order to rigorously evaluate the effectiveness of RBF, we have to control for these confounding factors, for instance by using a counterfactual.

#### 4.4 Efficiency of PBF

Efficiency is a more concrete and more measurable concept than effectiveness. In general, a programme or an aid modality is considered to be efficient if it can achieve a bigger impact than any other programme or aid modality with the same amount of resources. If there is a predefined target, an approach is considered to be efficient if it achieves this target using fewer resources than any comparable approach. Resources can be funding, time or effort. In the context of results-based financing for healthcare, the primary resource is funding.

In this paper, a scheme is considered to be efficient if it can achieve a given result with less funding than other schemes, or if it can achieve a bigger impact with a given amount of funding. Cost-effectiveness is used synonymously with efficiency.

Switching from traditional funding modalities to RBF approaches only makes sense if RBF is more efficient than other aid modalities. Therefore, this paper will investigate if there are any experiences and evidence on the efficiency of performance-based financing.

### 5 Experiences and empirical evidence from the health sector

#### 5.1 Targeting and equity

This section will attempt to answer three main questions with respect to targeting in RBF: Which groups does PBF target? How do programmes target these groups? Do programmes succeed in reaching their target groups, especially the poor?

##### 5.1.1 Which groups does PBF target?

PBF schemes studied in this paper can be broadly divided into two groups. PBF schemes in the first group specifically target poor households or poor and/or remote areas that are neglected by conventional public healthcare services, whereas PBF in the second group aims at improving general coverage, quality of delivery and efficiency of healthcare services. From the 13 experiences studied in the present paper, five schemes explicitly target poor areas or households, whereas seven have the more general goal of increasing access to, and quality of, basic healthcare services. The target group of PBF in Burundi could not be identified.

The PBF schemes in Bangladesh and Cambodia specifically targeted poor households living in poor areas where publicly provided health services were hardly available or not available at all. The nutrition projects in Madagascar and Senegal also focussed specifically on very poor areas that were insufficiently served by the government or other providers. The CNP in Senegal targeted peri-urban areas, whereas Secaline in Madagascar focussed on rural areas. Both projects targeted children who were identified as malnourished or vulnerable as well as pregnant or lactating women (Marek 1999). RPS in Nicaragua also

targeted extremely poor households with children aged 0 to 14 years (Regalía / Castro 2007). The PBF component contracted private providers to deliver healthcare services in most underserved areas.

In contrast, the PBF schemes in Bolivia, Costa Rica, the DRC, Haiti and Tanzania had no specific poverty focus, but rather aimed at improving general coverage, quality of delivery and efficiency of healthcare services (Liu / Hotchkiss / Bose 2008; Canavan / Swai 2008; Bertone et al. 2011). The PBF approach in Rwanda also did not explicitly aim at targeting the poor, since this objective was primarily tackled by paying premiums for poor households to access the community-based health-insurance schemes (Rusa et al. 2009). Similarly, Cordaid intended to complement the PBF scheme in South Kivu in the DRC with an equity fund that reimburses health facilities for expenses for providing free services to poor patients. However, at the time of the evaluation, the Fund was not yet operational (Bertone et al. 2011). Finally, the PBF scheme in Afghanistan covered 77 per cent of the population and aimed at increasing general access to basic services. Nevertheless, particular attention was paid to the rural poor (Sondorp et al. 2009).

#### 5.1.2 How do PBF schemes identify and reach their target groups?

The two most commonly used targeting mechanisms are geographic targeting and means-tested targeting. This section will provide a brief insight into targeting methods used by describing the examples from Madagascar, Senegal and Nicaragua.

In Madagascar and Senegal, targeting was conducted in two stages. At the first stage, geographical targeting identified vulnerable regions and poor neighbourhoods. At the second stage, targeted children and women were identified through their nutritional status and their status of being pregnant or lactating, respectively (Marek et al. 1999).

RPS in Nicaragua used geographical targeting combined with household-level targeting based on poverty criteria to identify programme beneficiaries (Regalía / Castro 2007). Households owning substantial resources or businesses were excluded, as were households consisting of only a single adult or those that had omitted falsified information for the census. This selection resulted in 6,000 households chosen in 2000 and 4,000 additional ones included in 2001. During scale-up in the second phase, geographic targeting based on poverty maps was used more intensively.

#### 5.1.3 Have programmes reached the poor?

There is evidence that the PBF schemes in Bangladesh and Cambodia achieved their targeting goals and managed to improve access to basic health services and to reduce health spending of the poor (Liu / Hotchkiss / Bose 2008; Mahmud / Ullah Khan / Ahmed 2002).

Studies on the Cambodia scheme revealed that when contracts explicitly included targets for reaching the poor, the NGOs contracted to provide healthcare services were generally

able to substantially improve service delivery to the poor and performed better than government providers in doing so (Loevinsohn / Harding 2005; Bloom et al. 2006). Households of low socio-economic status accounted for most of the increases in the usage of health services in contracted districts. Utilisation of curative health services by the bottom 50 per cent of the socio-economic group increased 12 times in contracted-out and six times in contracted-in districts, which constitutes a significant difference to the control groups (Bhushan / Keller / Schwartz 2002). This increased utilisation can be explained by better coverage of rural areas (and hence a reduction in distance) and by service-cost reductions, mostly through eliminating informal fees. The latter also led to a substantial reduction of out-of-pocket payments for health services, which were greater for the lower half of the socio-economic group, indicating a successful targeting of the poor. Expenditures of this group fell by 70 per cent, that is US\$ 35 per capita and year in contracted-out districts, and by 40 per cent in contracted-in districts that had established a user fee. In contrast, out-of-pocket expenditures of the poor increased by 7 per cent in control districts and by 36 per cent in contracted-in districts that had not established a user fee.

The impact evaluation of RPS Nicaragua reveals that this programme has also generated pro-poor effects. Extremely poor households benefitted over-proportionally from improved healthcare services, with an increase of 18.1 percentage points in children under three attending preventive health checks versus an increase of 13.1 percentage points for the average household (Regalía / Castro 2007). This indicates that the programme managed to successfully target the poor and increase healthcare equity.

Even though PBF in the DRC did not explicitly target poor households and individuals, data from household surveys reveals that this group reduced its health expenditures by 14 per cent, whereas the relatively wealthy part of the population sample had to increase its spending (Soeters et al. 2011).

It remains unclear which impact the PBF scheme in Rwanda had on the poor. The scheme did not explicitly target the poor, since this was done through demand-side programmes. Many of those treated were poor, but the additional incremental benefit for areas where coverage was already high is assumed to be small (Sondorp et al. 2009). Targeting of the CNP in Senegal seems to have been successful as well. A study indicates that 79 per cent of the costs were spent on service delivery in poor target neighbourhoods (Marek et al. 1999). There was no data available for Madagascar.

The experiences from the sample programmes also reveal that it is challenging to define indicators and contracts with service providers in a way that they have incentives to deliver healthcare services to the most remote and poorest parts of the population. For instance, in Afghanistan contracts nominally covered a high proportion of the population, but many remained *de facto* outside the catchment area of any facility (Sondorp et al. 2009). Even supporting the poor more directly is not easy. In the DRC, identifying those who are truly poor was the main barrier to implementing the equity fund (Bertone et al. 2011).



All in all, the experiences available illustrate that PBF has the potential to improve healthcare delivery and coverage, particularly for the poor, but that more efforts are needed in order to guarantee that schemes have pro-poor effects.

## 5.2 The incentive structure of performance-based financing

This section studies the role of incentives in PBF. Section 4.2.1 looks at monetary incentives set by PBF schemes, whereas Section 4.2.2 considers non-monetary incentives. Finally, Section 4.2.3 investigates whether there is evidence for perverse incentives.

### 5.2.1 Monetary incentives

#### *Which performance indicators are used?*

PBF schemes usually set performance indicators at the output or outcome level. They set incentives for providers to supply more and/or better healthcare services, and therefore increase healthcare supply, but often also to increase healthcare coverage through attracting more consumers of healthcare services. Morgan / Beith / Eichler (2011) review 17 PBF programmes and conclude that schemes still tend to focus on outputs rather than on outcomes and on quantity rather than on quality. For instance, PBF in Bangladesh only used output indicators to capture healthcare supply, such as the number of health centres providing immunisation, family planning and lab tests (Mahmud / Ullah Khan / Ahmed 2002; Liu / Hotchkiss / Bose 2008).

Similarly, the PBF scheme in Bolivia used healthcare coverage indicators such as the number of institutional deliveries and the number of outpatient visits (Lavadenz / Schwab / Straatman 2001). RPS in Nicaragua rewarded the achievement of group-specific performance targets in service utilisation (Regalía / Castro 2007). The PBF scheme in the DRC also focussed on healthcare coverage indicators targeting the minimum package of healthcare, reproductive health and HIV/AIDS treatment. Indicators included, for instance, the percentage of children fully immunised before the age of 12 months, the percentage of women fully protected against tetanus, the percentage of assisted deliveries or the percentage of HIV-positive patients treated with anti-retroviral therapy (Bertone et al. 2011). Similarly, the PBF scheme in Rwanda set incentives for increases in assisted deliveries, full child immunisation, tetanus immunisation of pregnant women, acceptance of family planning and HIV testing and treatment (Rusa et al. 2009; Meessen / Kashala / Musango 2007).

Many schemes combined performance indicators from several levels. The PBF scheme in Tanzania used target indicators capturing healthcare supply, such as the availability of essential drugs as well as healthcare coverage, the percentage of supervised deliveries, the number of new voluntary counselling and testing (VCT) patients and utilisation of inpatient and outpatient treatment (Canavan / Swai 2008). In the pilot phase, PBF in Haiti combined output indicators (percentage of clinics with at least four methods of family planning) with

outcome indicators, such as women using oral rehydration therapy (ORT) to treat children with diarrhoea, immunisation coverage or coverage of three prenatal visits. An additional indicator was used to capture the coordination with the Ministry of Health (Eichler / Auxila / Pollock 2001, Eichler et al. 2007). During scale-up, management indicators were added in order to prevent NGOs from focussing too much on short-term goals and neglecting improvements in key management functions that are crucial for long-term results.

Five of the PBF schemes studied used performance indicators at the impact level, combined with outcome-level indicators. In Madagascar and Senegal, indicators included the percentage of malnourished children and child anthropometry measures combined with the percentage of children weighed monthly and the percentage of women attending nutrition education sessions (Marek et al. 1999). In Cambodia, targets were set with respect to incidence of reported sickness, incidence of diarrhoea in children and infant mortality, and service utilisation (Soeters / Griffiths 2003; Liu / Hotchkiss / Bose 2008). PBF in Costa Rica rewarded improvements in service utilisation, and decreases in general mortality and in child mortality (Cercerone / Briceno / Gauri 2005). In Burundi, facilities could receive a bonus of up to 15 per cent for good quality of service delivery (Witter et al. 2012).

Three programmes used performance indicators that capture quality. The scheme in Bangladesh measured the percentage of clients reporting that waiting times were acceptable and the percentage of prescriptions provided with a specific diagnosis (Mahmud / Ullah Khan / Ahmed 2002), whereas PBF in Cambodia used the perceived quality of care as an indicator (Bhushan / Keller / Schwartz 2002; Bloom et al. 2006). After scaling-up the scheme in Rwanda, health centres were rewarded for quantity adjusted by quality (Rusa et al. 2009). The general experience was that it is particularly difficult to define and to measure quality objectively. For instance, PBF in Haiti initially used waiting time as an indicator for quality. However, this indicator was dropped during the scale-up of the pilot projects, since patients considered long waiting times as an indicator for good quality rather than for poor performance, since long waiting times could, for instance, be caused by waiting for lab tests (Eichler / Auxila / Pollock 2001, Eichler et al. 2007).

The preference for setting performance targets at the output and outcome levels instead of the impact level might be due to the complex relationship between inputs, outputs, outcomes and impact. It is also expected that impact, such as a decrease in mortality rates, can only be measured after some time. However, the complexity of this relationship also implies that achieving improvements in outputs or outcomes does not necessarily lead to improvements in impact. Hence it is not guaranteed that RBF that successfully improves healthcare supply and healthcare coverage also contributes to achieving long-term development goals in population health status.

#### *How are incentives set?*

Monetary incentives can be set through two main mechanisms. Bonuses can be used to reward good performance, or payments can be withheld if performance does not reach

predefined targets. Whereas the programmes in Bangladesh, Haiti and Rwanda as well as the World Bank programme in Afghanistan used performance bonuses, PBF in Bolivia, Burundi, Costa Rica, the DRC, Madagascar, Nicaragua, Senegal and Tanzania and the USAID scheme in Afghanistan withheld payments if performance did not reach established targets. PBF in Cambodia combined both mechanisms and also introduced user fees as a unit price for services. The following section elaborates on the incentive structure in more detail for selected country cases.

### Afghanistan

In the World Bank-financed PBF in Afghanistan, a performance-based component enabled NGOs to win a bonus worth 10 per cent of the contract value if specified targets were reached. The target could be achieved in stages, with the final 5 per cent paid at the end of the contract. Provincial health officers qualified for a bonus if the NGO did as well. In the three provinces where the MoPH-SM was implemented, the Ministry of Health could earn the bonus. However, interviews with NGO representatives suggested that the 10 per cent performance bonus exerted only limited pressure on large NGOs, since they had easy access to other funding sources (Sondorp et al. 2009). The incentive role of the bonus might also be questionable, since some field staff reported that the main office decided on the usage of the bonus. This implies that the bonus does not constitute a real motivation for the staff. However, anecdotal post-study evidence showed that field staff actually did benefit from bonuses. These findings underline the need for more rigorous and more systematic evaluation.

In the PBF scheme funded by USAID, payment could be withheld if the targets outlined in the contract were not met by the implementing NGOs (Sondorp et al. 2009). USAID could also terminate a contract if the NGO failed completely to perform. USAID has used this option once, but NGOs in the World Bank scheme also thought that their contracts could be terminated if performance was poor. This possibility put pressure on NGOs to perform in both schemes, since NGOs were aware of the risk of losing their funding and tarnishing their reputations.

### Cambodia

In Cambodia, the contracts with NGOs stipulated penalties for non-achievement of targets (Bhushan / Keller / Schwartz 2002; Bloom et al. 2006). Moreover, the MoH introduced official user fees. These constituted a source of revenue for health centres and were implemented with the hope of eliminating private profit-making from healthcare workers (Soeters / Griffiths 2003). In addition, contracts contained incentives for health workers individually or for entire health service providers. For example, in the district Pereang, during the pilot phase, each health worker received 55 per cent of her salary as a basic monthly incentive payment guaranteed for the three-month contract period, 15 per cent as a punctuality incentive for confirmed presence plus 30 per cent as a performance bonus if

the monthly financial targets of the department or the health facilities were fulfilled (Soeters / Griffiths 2003).

Since establishing individual contracts with each health worker proved to be too cumbersome during scale-up, sub-contracts were concluded directly with health centres, and health facility managers received authority to decide on incentive payments as well as on hire-and-fire decisions and resource allocation. This allowed managers to implement innovations directly. For instance, some managers paid a fixed incentive to traditional birth attendants if they succeeded in convincing women to deliver in health centres. Others established a probation system for new nurses with a starting salary that could be increased after a probation period (Soeters / Griffiths 2003).

### Haiti

In Haiti, payment for providers was initially based on expenditures. In 1999, a performance component was introduced. NGOs still received a basic, fixed-funding amount accounting for 95 per cent of the budget of the existing expenditure-based contract. In addition, NGOs could complement this amount and gain up to 10 per cent of the original budget by achieving predefined targets. Hence, NGOs took a risk of 5 per cent of the budget and could gain a bonus of 5 per cent (Eichler et al. 2007). For each indicator, a target was defined whose achievement triggered a percentage of the bonus payment. For instance, a 15 per cent increase in the percentage of mothers using Oral Rehydration Therapy (ORT) accounted for 10 per cent of the performance bonus. The effect of the incentives was that all pilot NGOs received more revenue than they would have received under the previous expenditure-based financing scheme (Eichler / Auxila / Pollock 2001). In addition, the flexibility of the budget enabled NGOs to set up bonus schemes for their staff.

The incentive system was slightly changed during scale-up. Instead of changes in performance, targets were defined in absolute levels, for example immunise at least 80 per cent of the children in their catchment area or provide at least 3 prenatal care visits to 50 per cent of the pregnant women (Eichler et al. 2007). When management indicators were added, those accounted for half of the award fee (i.e. 5 per cent of expenditure-based budget), whereas technical targets were reduced to 5 per cent. At the end of the expansion phase, the scheme was changed again. Payments were now linked to specific programme milestones, contract management functions or service delivery results. Whereas two indicators were common to all NGOs (vaccination coverage and prenatal care) and accounted for 1.5 per cent of the budget each, an additional indicator was randomly chosen from a list of seven and accounted for 3 per cent. This list included child weight control, attended deliveries, postnatal care, HIV tests for pregnant women and for tuberculosis patients, as well as two administrative goals. If all seven targets were met, the NGO would earn a bonus of 6 per cent.

### Madagascar and Senegal

In Madagascar and Senegal, the contracts of CNC and Secaline defined minimum thresholds for performance. If performance remained behind the minimum thresholds, contracts were terminated. This happened in both countries in some instances (Marek et al. 1999). Incentives were also set at the staff level. If the performance of a CNC in Senegal did not fulfil the standards, its supervisor was fired after a warning period. If community nutrition workers underperformed, project managers had to inform the community first before they could replace the worker.

### Nicaragua

In Nicaragua, the Ministry of Health signed annual management agreements with regional health authorities and health centres that specified actions, goals and budgets, but did not contain a systematic performance-based incentive. However, payment for performance was adopted for contracting private providers to deliver healthcare services in most underserved areas. For each specific service, for example one growth-and-development check, a unit cost was determined. The total payment to the provider equals the unit cost multiplied by the number of people served (Regalía / Castro 2007).

The provider received 3 per cent of the entire one-year budget before providing any services. Hence, the fixed component was very small in comparison to schemes implemented in other countries. The remaining amount was paid quarterly against achievement of coverage targets, which were split by groups. The target groups were: children aged zero to two, aged three to five, and aged six to nine; breastfeeding and pregnant women; and adolescents. The target was to reach 98 per cent of members in each group. If this target was missed for a specific group, the service provider was not paid for services targeted at this group in the given period, but payments for achieving targets in other groups would still take place. Hence this constituted an “all-or-nothing target” for each group separately. If the provider missed a target due to external reasons out of her control, she could use the available appeal system. In addition to this basic incentive, teams operating in particularly difficult terrain received additional economic incentives. During the scale-up in Phase 2, the all-or-nothing target was changed into payment according to the percentage of the population covered.

### Rwanda

During the pilot phase, health facilities received financial payments for incremental increases in the quantity of health services provided. Payments were made on a case-based reimbursement basis, that is each additional output received a payment. This set incentives for additional efforts (Rusa et al. 2009). During the scale-up, health centres were reimbursed for quantity of service provided according to a standardised fee structure and adjusted for quality. In addition, hospitals that offered predefined HIV/AIDS services could generate additional revenue.

Depending on the province, a varying percentage of the bonus was forwarded to the staff. In Butare, 95 per cent of the performance-based subsidies were forwarded to staff, whereas this was the case for 40 per cent of the subsidies in Cyangugu. The difference was due to different degrees of autonomy given to the health centre managers and different total amounts transferred to the health facility under performance-based contract. In Cyangugu, more money was spent on items other than salary, such as maintenance, training, construction or sub-contracts with private dispensaries, etc. (Soeters / Musango / Meessen 2005).

In contrast to Afghanistan, the majority of health workers interviewed in Butare (81 per cent) and Cyangugu (63 per cent) found that there was a relationship between performance and income (Soeters / Musango / Meessen 2005). In contrast, none of the employees in the control districts said that they saw a connection between working harder and receiving a higher income.

### Tanzania

In Tanzania, health facilities received a guaranteed payment of 50 per cent and a performance-based payment of 50 per cent. But since the performance-based Cordaid contribution was only a small part of the total funding, this incentive only accounted for 4 per cent of the total budget (Canavan / Swai 2008). Surveys conducted by Canavan / Swai (2008) showed that fewer than 50 per cent of health workers were satisfied with the performance bonus. They reported that the bonus was often insufficient and that they received it either too late or that there were long intervals in between, such that they did not feel directly motivated by it.

Overall, the PBF scheme is unlikely to have produced significant positive effects on staff motivation. But it managed to contribute to small-scale innovations that rewarded health workers in a non-monetary way. The importance of such non-monetary incentives is discussed in the following chapter.

#### 5.2.2 Non-monetary incentives

Surveys of health workers and direct observation by the authors of the evaluation study showed that the PBF scheme in Tanzania might also set non-monetary incentives for good performance (Canavan / Swai 2008). Surveys of both performance- and input-based paid staff revealed that health workers rated intrinsic factors such as teamwork and empowerment of the individual health workers consistently higher than monetary factors such as salary. By empowering healthcare workers and involving them in daily planning activities, the PBF scheme increased staff motivation. Health workers also appreciated that the scheme allowed them to decide on the allocation of the performance bonus and therefore improved communication and decision-making. Nevertheless, staff in performance-based facilities was not more satisfied with the number of skilled workers, salary, working hours and work conditions than staff in input-based paid facilities.

The evaluation of PBF in Haiti also suggests that non-monetary incentives might have played a role for NGOs (Beith / Eichler / Weil 2007). The fixed portion of the payment under the performance-based scheme was paid quarterly and did not require documenting expenditures. This payment modality reduces the burden of financial reporting, offers NGOs more flexibility on how to spend the funds provided and can promote strategic and operational innovation. Interviews with representatives from the three pilot NGOs revealed that NGOs appreciated these characteristics. This may have formed an incentive for NGOs operating under the expenditure-reimbursement scheme to improve their performance in order to become “ready” for inclusion in the performance-based scheme.

In Afghanistan, autonomy and flexibility in the use of funds and reduced requirements to report on inputs were considered as non-monetary incentives that might have encouraged NGOs that had not yet been included in the programme to improve performance in order to qualify for the PBF scheme (Sondorp et al. 2009). The evaluation also suggests that monitoring performance and the possibility of ending the contract upon poor performance may set non-monetary incentives for NGOs in both the World Bank and USAID schemes. Since NGOs feared losing their contracts or tarnish their reputations, they felt under pressure to deliver good performance.

In Rwanda, informational interviews with NGO workers revealed that the PBF approach helped to generate team spirit and enhanced supervision by district health teams. Both results might have positive effects on healthcare delivery (Rusa et al. 2009).

Apart from encouraging the desired behaviour, both monetary and non-monetary incentives set by PBF schemes may also have unintended effects that may endanger the success of the schemes. The following section takes a closer look at the evidence for such perverse incentives.

### 5.2.3 Evidence for perverse incentives

Most literature reviewed for this paper mentions that RBF in general and PBF in particular can have undesirable or perverse effects (Oxman / Fretheim 2009b, 2009a; Meessen / Khashala / Musango 2007; Oxman / Fretheim 2008; Rogerson 2011). However, in practice, little attention has been paid to perverse incentives in both programme design and programme evaluation and research. In the experiences studied in this paper, the monitoring of possible perverse incentives was not built into the design of PBF schemes from the beginning. Hence, these country studies provide a very incomplete picture on the importance of perverse incentives in PBF in developing countries.

From ten PBF studies reviewed by Liu / Hochkiss / Bose (2008), only one of them studies potential system-wide effects. Bloom et al. (2006) investigate if the PBF scheme in Cambodia diverted efforts from health services not explicitly targeted by the programme. They find that contracting-out did not specifically affect non-targeted healthcare services after controlling for other factors. In contrast, diarrhoea treatment had actually significantly

increased, despite not being a targeted outcome. This does not provide evidence for perverse incentives or neglect of non-targeted outcomes.

Toonen et al. (2009) were unable to observe perverse incentives in PBF schemes implemented in Burundi, the Democratic Republic of the Congo, Tanzania and Zambia. Similarly, Morgan / Beith / Eichler (2011) were unable to document any perverse incentives when evaluating 17 PBF schemes.

In contrast, PBF in Rwanda provides ambiguous findings. On the one hand, programme managers did not note a decline of other services after introducing incentive payments for HIV testing and treatment (Rusa et al. 2009). The concern was that this might shift too much focus on HIV/AIDS while health workers neglect other services related to important maternal and childcare needs. On the other hand, PBF in Rwanda also provides some suggestive evidence for perverse incentives. Interviews conducted by Kalk / Paul / Grabosch (2010) showed that some healthcare workers found themselves in an ethical conflict created by rewards. Since their working time was limited, they had to choose to allocate it between activities considered as necessary, such as intensive care, and activities that were required in order to obtain monetary rewards. This often led to frustration among health staff.

The evaluation of the PBF scheme in Tanzania also raised concerns that the scheme may create perverse incentives. The scheme may lead to neglecting preventive services and the quality of healthcare because performance targets focus on the quantitative supply of curative services and pay little attention to preventive health indicators, such as antenatal care or health education. Moreover, the scheme does not include a tool for measuring the quality of healthcare services, except for monitoring the availability of certain essential drugs (Canavan / Swai 2008). Since indicators only target the supply side, the scheme may also induce unnecessary demand for services instead of focussing on improving health outcomes and reducing the burden of disease. However, the authors of the evaluation were unable to refute or support these concerns. They emphasise that perverse incentives are difficult to measure.

Even though there is little documented evidence for perverse incentives from PBF schemes in developing countries, there are strong reasons to believe that such schemes will have undesired effects, since there is evidence from other results-based approaches or PBF in other settings.

First, CCTs that are currently better monitored than PBF provide examples where RBF has set perverse incentives. Morris et al. (2004) study the impacts of Brazil's nutritional CCT programme Bolsa Alimentacao. They find that the programme had a significant negative impact on weight-for-age and a borderline significant negative impact on height-for-age of children, although the programme also significantly increased the availability of nutritious food for poor households. The authors suggest that one reason for these findings might be perverse incentives. Since an earlier programme (Incentivo para o Combate de Carencias Nutricionais) made powdered milk available to mothers if



their children were underweight, the participating mothers of Bolsa Alimentacao may have believed that they needed to keep one child undernourished in order to remain eligible for the cash transfers. Along similar lines, Stecklov et al. (2006) find that a CCT in Honduras may have increased fertility by 2 to 4 per cent, since only pregnant women were eligible for a subsidy.

Experiences from RBF-RBA hybrids also support the concerns about perverse incentives. For instance, the evaluation of the GFATM found that focussing the fund's performance-based funding system on numeric output targets had negative impacts on the quality of service delivery. Implementers in more than half the countries of one study area reported that they had neglected the quality of service delivery on at least one occasion in order to fulfil a quantitative target of the PBF scheme (Macro International 2009).

Second, perverse incentives of PBF schemes implemented in middle- and high-income countries have been widely documented in the literature. For instance, in the United States, performance-based contracting was used to care for most severely ill patients being treated for substance abuse. Failure to reach targets resulted in a reduction of funding in the following year. Shen (2003) finds that under PBC, the likelihood of a programme participant being in the most severely ill group decreased significantly. This experience provides evidence for cherry-picking. Similarly, Norton (1992) finds that nursing homes had incentives to claim that they would admit extremely disabled patients who then recovered within a short period. This suggests that providers have gamed the scheme. Roski et al. (2003) study a programme paying for the identification of tobacco-related disorders and providing tobacco-cessation advice. They find that the programme was associated with increased documentation of tobacco status but not with more provisions for advice on how to quit smoking. This experience also provides some evidence for gaming.

In the United Kingdom, the introduction of fees for services created abuses of certain diagnostic practices and resulted in unnecessary invasive surgeries. For instance, 29 per cent of angiographies were found to be unnecessary and Caesarean sections were performed where non-invasive options were feasible (Canavan / Toonen / Elavainio 2008). Even Norway, which ranks 11 in the Transparency International Corruption Index, has experienced cases in which data provided to the payment system was systematically falsified in order to increase resources to hospitals (Pearson 2011).

All in all, there is only a small evidence base on the perverse incentives of PBF in developing countries that could be evaluated. Any available evidence is anecdotal rather than able to be proved by data.

This has to be changed in the future if we want to know the broader and system-wide impacts of PBF on the health systems of developing countries. Monitoring of perverse incentives has to be built into the design of PBF schemes from the beginning. In addi-

tion, there is a substantial need for further evaluation and research on perverse incentives of PBF specifically, and RBF in general. Until then, the approach towards results-based financing has to be a positive, but careful one, as Pearson (2011) concludes.

Further evaluation and research is also needed in order to assess the effectiveness and efficiency of PBF, as the following section illustrates.

### 5.3 Effectiveness and efficiency of PBF

There are only a few rigorous evaluations, such as randomised controlled trials (RCTs), of PBF and other results-based approaches that target the supply side. This makes it difficult to disentangle the effect of the performance-based component from other influences and to establish a causal relationship between results-orientation of a programme and observed improvements in health outcomes. There is also a lack of studies investigating the cost-effectiveness of PBF, which is mostly due to the limited availability of financial data.

Nevertheless, the following sections collect the available experiences and evidence and attempt to shed more light on the effectiveness and efficiency of PBF. Section 4.3.1 investigates whether the PBF schemes studied in this paper succeeded in reaching their targets of improving healthcare coverage and health outcomes. It also considers if there is evidence for a causal relationship after taking other influential factors into account. Section 4.3.2 considers evidence for improvements in quality of healthcare service delivery and utilisation. Finally, Section 4.3.4 studies the evidence for efficiency of RBF.

#### 5.3.1 Effectiveness of PBF

The available qualitative and quantitative evaluations of a number of experiences that range from South America to Africa and Asia suggest that payment incentives contributed to improved healthcare supply and healthcare coverage – mainly for the targeted indicators – even after controlling for other factors (Liu / Hotchkiss / Bose 2008). For example, there was an increase in health service utilisation for almost all targeted indicators, including the quality of care, as perceived by patients in PBF in Burundi, the DRC, Tanzania and Zambia. However, there is no evidence for a causal relationship due to a lack of rigorous impact evaluation (Toonen et al. 2009). In the following, the effectiveness of selected PBF schemes is studied in more detail. The last subsection provides examples of non-performance of PBF schemes.

#### *Afghanistan*

The overall impact of all three programmes implemented in Afghanistan was a rapid expansion of health service delivery. By mid-2006, the basic package of healthcare services covered 82 per cent of the population (Sondorp et al. 2009). The relative density of facilities increased from 1 per 34,000 people to 1 per 20,000 people. Facilities recruited significantly more female staff. Healthcare coverage also increased. The number of women de-

livering in healthcare facilities increased by 100 per cent from 2004 to 2005, as did the number of women receiving a first antenatal care visit. The rate of Diphtheria-Tetanus-Pertussis (DTP3) immunisations also grew.

These were general trends in all programmes, but the World Bank's and USAID's performance-based schemes seem to have outperformed the EC programme, which was not performance-based. For instance, DTP3 immunisation rates grew from about 55 per cent to 70 per cent in World Bank-NGO areas, from about 53 per cent to more than 80 per cent in MoPH-SM provinces, and from about 65 per cent to more than 80 per cent in USAID provinces, whereas provinces under the EC programme only experienced a very small increase from about 68 to 70 per cent (Sondorp et al. 2009). Evaluators used scorecards comprising a number of components covering capacity for service provision; quantity and quality of care; financial systems; and other factors in order to monitor and evaluate the programmes. The World Bank-NGO programme scored best on these scorecards, followed by USAID, with the MoPH-SM scheme only placing third. Hence, the PBF scheme seems to outperform other approaches only slightly. However, we should remember that scorecards might not be appropriate tools for comparing performance across programmes.

There are several limitations when interpreting these results. The MoPH-SM provinces are centrally located (near Kabul). They enjoyed good security conditions, were already well established, and had the authority to hire and fire provincial health staff. Different monitoring and evaluation tools across programmes further limit comparability. Moreover, other factors, such as increased autonomy and flexibility in use of funds, might have contributed to improving performance. However, since this is a characteristic of most performance-based approaches – in fact, it can be considered as a non-monetary incentive (see Section 4.2.2) – these effects can be attributed to the general benefits of PBF approaches.

All in all, the data indicates that performance-based approaches might have been more effective in improving healthcare coverage in Afghanistan, but this is not a very robust result, since the simple comparisons conducted do not take the limitations mentioned above into account. Apart from the effect on healthcare supply and coverage, PBF may have had other positive impacts. According to qualitative interviews, NGOs became more decentralised, improved monitoring capacity, and made other management and organisational changes that strengthened capacity (Sondorp et al. 2009).

### *Bolivia*

For Bolivia, Oxman / Fretheim (2009a, 2009b) find that access to – and use of – general healthcare services improved after implementing the PBF scheme. The targeted outcomes of outpatient consultations and institutional deliveries increased significantly (Liu / Hotchkiss / Bose 2008; Lavadenz / Schwab / Straatman 2001). However, this result was evaluated without using a control group to control for other factors, such as higher technical and financial inputs, which may have also contributed to the effect.

### *Cambodia*

Oxman / Fretheim (2009a, 2000b) also find that Cambodia witnessed an improvement in access to – and use of – general healthcare services. Again, this might be due to effects other than the performance-based component, such as higher technical and financial inputs. But thanks to a randomised implementation of the PBF scheme in Cambodia, there is also more rigorous evidence for significant improvements in health facility management and for increases in the utilisation of public sector healthcare facilities and of qualified public providers (Bloom et al. 2006). Vitamin A intake in children also increased significantly. Other outcomes, such as full immunisation, antenatal care or institutional delivery, were also positively affected, but the impact of the PBF scheme is not statistically significant. Moreover, the impact evaluation did not detect a significant impact of PBF on final health outcomes, which was measured as the chance of an individual reporting ill during the past month, diarrhoea incidence in children under five, and the probability of a child born in the past year remaining alive. The impact of PBF on all three indicators is positive, but not significant.

### *Haiti*

Like Bolivia and Cambodia, Haiti also experienced an improvement in access to – and use of – general healthcare services after the implementation of the PBF scheme (Oxman / Fretheim 2009b, 2009a).

But in contrast to Cambodia, there was no rigorous impact evaluation study on PBF in Haiti to disentangle the effect of performance incentives from other factors. But descriptive evidence and simple panel estimation provide some support for the thesis that performance-based payment improved outcome effectiveness. During the pilot phase, child immunisation coverage and ORT coverage increased substantially. In contrast, performance in prenatal visits and contraceptive coverage was relatively weak (Eichler et al. 2007). All three NGOs substantially exceeded their performance targets with respect to immunisation. The proportion of mothers using ORT increased in two of three service areas, as did the proportion of mothers using ORT and doing it correctly.

Simple observation suggests that performance-based-paid NGOs outperformed NGOs paid based on expenditure during the scale-up phase. However, this result might stem from a selection bias, since NGOs are included in the performance-based scheme only once they are “ready”, that is once they are already performing better than their peers. Hence, superior performance of NGOs in the performance-based scheme might be explained by characteristics inherent to these NGOs and not by the payment incentive itself. Data exploration and panel data regressions indicate that the performance component significantly contributed to increasing immunisation coverage (by 13 per cent to 24 per cent) and the number of attended deliveries (by 17 per cent to 27 per cent), even after controlling for NGO- and period-fixed effects (Eichler et al. 2007). However, the effect of payment incentives on the coverage of prenatal and postnatal care is smaller and insignificant after controlling for fixed effects. This might be due to the fact that the indicator was only

introduced later. It might also be due to a strong patient behavioural element in maternal care coverage that cannot be influenced by the actions of providers.

In addition to improving healthcare coverage, performance-based payment may also have contributed towards improve organisational development in the institutions involved, including data management and human capacity development, according to anecdotal evidence (Eichler et al. 2007).

### *Nicaragua*

The government of Nicaragua and the International Food Policy Research Institute evaluated the impact of Red de Protección Social using an RCT design with difference-in-difference estimators for Phase 1 and a quasi-experimental evaluation design in Phase 2 (Regalía / Castro 2007). A baseline survey was conducted in 2000 and follow-up surveys were done in 2001, 2002 and 2004. This suggests that the impact evaluation was done relatively more rigorously for RPS Nicaragua than for other comparable RBF schemes. Nevertheless, we have to keep in mind that RPS constitutes a combined programme including both CCT and PBF. It is impossible to completely disentangle the effects of these two interventions. Hence, we can hardly extrapolate from these findings to “pure” PBF schemes.

The evaluation of Phase 1 was completed after two years. Hence the results still reflect only short-term impacts, especially since the healthcare component was not initiated until June 2001 (Maluccio / Flores 2005). The evaluation revealed that healthcare coverage of targeted households improved significantly (Regalía / Castro 2007). Treated households experienced a 13.1 percentage point increase in the percentage of children under three who attended preventive health checks from 2000 to 2002. The effects were clearly pro-poor with an increase of 18.1 percentage points in extremely poor households. The evaluation also found a significant increase in children under three who were taken to health control and weighed, and similar improvements in other healthcare coverage measures such as receiving vitamins. Improvements in vaccination coverage could not be disentangled from a general positive trend, which is likely due to the improved coordination of the Ministry of Health.

RPS Nicaragua is one of the few RBF schemes for which a significant improvement in health outcomes could be measured. Stunting of children under five decreased significantly by 5.5 percentage points (Maluccio / Flores 2005). The underweight factor of the same target group dropped significantly, by 6.2 percentage points. The impact on maternal care services has been rather weak and statistically insignificant due to similar improvements in treatment and control groups, but the coverage of post-natal controls increased significantly (Maluccio / Flores 2005).

Healthcare utilisation remained high in Phase 2 and improved further in some cases (Regalía / Castro 2007). This suggests that the programme may have sustainable effects. The evaluation also showed an increase in the use of modern family-planning methods by

women aged 12 to 49. Even though the demand-side programme (CCT) was discontinued after three years, health indicators remained high. This can have two implications. Either the impact of the CCT was lasting even after the programme stopped, or demand-side subsidies are not necessarily needed to sustain high healthcare coverage and good health outcomes, and setting up a functioning supply system matters more (Regalía / Castro 2007).

We have to keep in mind that these effects were not solely generated by the PBF scheme, but were brought about by the combination of CCT and PBF. Additional factors that might explain the success of RPS are good monitoring of household compliance and provider performance combined with substantial threats for non-compliance – including exclusion – for households and high budget risks for non-achievement of targets in the form of an all-or-nothing payment for providers (Regalía / Castro 2007).

### *Rwanda*

For the evaluation of PBF in Rwanda, it is important to know that at the same time it adopted the performance-based approach, the government also implemented a number of demand-side interventions to foster the use of healthcare services by individuals and households. This makes it more difficult to disentangle the effect of the performance-based payment, especially since results are not based on a rigorous evaluation with control groups, but on simple before-and-after comparisons with relatively small sample sizes and within a time period that might be too short to observe longer-term trends.

Nevertheless, the available evidence suggests that the performance-based payment created opportunities to quickly improve the delivery of healthcare services (Rusa et al. 2009). The pilot areas experienced improvements in coverage, quality and impact of healthcare services.

Provinces with performance-based financing had the largest increases in quantities of curative and preventive care services and institutional deliveries.

For instance, in Cyangugu, the number of new users of primary consultations per year increased from 0.31 in 2002 to 0.75 in 2005. Coverage of institutional deliveries increased from 27 per cent in 2002 to 40 per cent in 2005. The percentage of fully vaccinated children rose from 70 per cent (2002) to 77 per cent (2005). The contraceptive prevalence rate grew from 0.44 per cent in 2002 to 7 per cent in 2005 (Rusa / Fritsche 2007). Furthermore, Soeters et al. (2006) report that two household surveys in January 2003 showed that out-of-pocket expenditures had decreased.

Similar improvements had been observed in the two districts in Butare between 2001 and 2005. Institutional deliveries increased by 17 and 26 percentage points; new consultations rose by 0.29 and 0.38 per year; and the percentage of women with two to five tetanus vaccinations increased as well (Rusa / Fritsche 2007). Moreover, Meessen / Kashala / Musango (2007) find that individual productivity of healthcare workers increased substantially by 53 per cent on average for the entire district after performance-based payment was in-

troduced. Health centre production grew as well, at least if it is measured in outputs that were remunerated. All together, this led to an 80 per cent increase in total valued output observed.

There is also suggestive evidence that the performance-based approach contributed to increasing HIV testing and couple testing, most likely due to facilities using innovative strategies to reach more patients. In contrast, there was no difference in the number of patients on anti-retroviral treatment (Rusa et al. 2009).

### *Senegal and Madagascar*

Steady increases in service coverage and decreases in malnutrition rates followed the implementation of projects in both countries. A community-based study in Senegal showed that severe malnutrition among children aged 6 to 11 months dropped from 6 per cent to 0 per cent within 17 months of project implementation (Marek et al. 1999). Even though this result has not been confirmed by a rigorous study with control group, the impact seems to be closely linked to the project, since socio-economic characteristics have not changed significantly between the baseline survey and follow-up. In addition, malnutrition rates of children who benefitted from the programme in the past were lower than those of children who never benefitted.

### *Examples of non-performance of PBF schemes*

Not all PBF schemes could be shown to have had effects on healthcare delivery or health outcomes. For instance, there is no evidence that general or infant mortality rates had decreased in Costa Rica (Cercerone / Briceno / Gauri 2005). Morgan (2010) finds no effect of performance-based contracting on the utilisation of maternal and child healthcare services in Uganda.

PBF in Tanzania also had not notably contributed towards improving health systems (Cavanaugh / Swai 2008). This is likely due to the limited level of resources and technical assistance at the level of dioceses and healthcare facilities. The evaluation was also unable to identify improvements in the quantity of health service delivery, as measured by the number of inpatient admissions, institutional deliveries, VCT for HIV, antenatal care visits and health centre consultations. Perceived quality of services had not improved either. Patient surveys show no significant difference in client satisfaction with the quality of healthcare services between facilities paid based on performance and control facilities. However, the authors of the study warn that further analysis is necessary to determine if the scheme had effects on access and utilisation of health facilities. Similarly to Tanzania, a PBF implemented in Zambia also had no effect on the utilisation of maternal and child health service utilisation and maternal health indicators (Vergeer / Chansa 2008).

### 5.3.2 Quality improvements

During the pilot phase in Haiti, quality was captured by measuring waiting time. Eichler Auxila / Pollock (2001) find an improvement in this indicator. Note, however, that this indicator was not found to be suitable and was dropped before scale-up. In Bangladesh, contracted NGO providers performed better than public providers with respect to waiting time deemed acceptable by clients (Mahmud / Ullah Khan / Ahmed 2002).

For PBF in Cambodia, Bloom et al. (2006) find a decrease in perceived quality. One reason the authors cite is that the improvement of access to healthcare services attracted clients who otherwise would have visited drug sellers and other non-qualified providers, where the waiting time is shorter than in health centres. These clients might have perceived the quality of care offered at health centres as inferior only because the waiting time is longer. This experience illustrates that there are different ideas about what constitutes good quality and that it is very difficult to measure quality objectively. This can also explain why a study conducted by Bhushan / Keller / Schwartz (2002) finds that contracted performance-based-paid providers perform slightly better than public providers. In contrast to Bloom et al. (2006), the authors used a set of indicators to construct a healthcare quality score, which results in a more objective measurement than perceived quality.

The PBF scheme in Rwanda recorded improvements in quality as well. A composite quality score in PBF provinces was 73 versus a score of 47 in non-PBF provinces (Rusa et al. 2009). Most of the difference was due to better management of deliveries and referral systems. There were no detectable differences in other services, such as immunisation. Qualitative interviews also suggest improvements in management, motivation and quality.

All in all, the evidence of the impact of PBF on quality of healthcare delivery is insufficient and more research is needed to shed light on this relationship.

### 5.3.3 Efficiency of PBF

As mentioned above, crucial financial information on PBF schemes, such as data on transaction costs, is very limited to date. Hence, there is also a lack of studies investigating the cost-effectiveness of PBF. This section summarises the sparse evidence available. Taken together, the evidence is mixed.

In PBF in Bangladesh, the costs of private NGO services that were paid based on performance were found to be comparable to public services (Mahmud / Ullah Khan / Ahmed 2002). Since performance-based contracted NGOs performed much better than the public sector, there is suggestive evidence that the PBF scheme is more cost-effective than traditional healthcare delivery through the public sector.

In Cambodia, the public cost per capita increased through the PBF scheme. PBF cost US\$ 2.49 per capita in 2003, against US\$ 1.59 for the comparison mean. However, private costs, that is household out-of-pocket expenditures, decreased significantly, such that total costs either decreased or remained the same (Bhushan / Keller / Schwartz 2002; Bloom et



al. 2006; Liu / Hotchkiss / Bose 2008). Since the PBF scheme has brought about better performance in healthcare delivery than conventional approaches, it can be considered more cost-effective.

The sample case from the DRC also provides some suggestive evidence for the efficiency of PBF. External assistance was about US\$ 2.40 per capita per year in the districts under the PBF scheme and between US\$ 9 and US\$ 12 in the control districts, but results were comparable or better in the health districts participating in the PBF scheme (Soeters et al. 2011).

In contrast, experiences in Costa Rica do not suggest that PBF is more cost-effective than other funding forms. Expenditures per capita in contracted clinics were 30 per cent lower than in non-contracted clinics (Cercerone / Briceno / Gauri 2005). However, since there is no evidence that general or infant mortality rates have decreased, the PBF scheme does not appear to be efficient.

In their review of 13 programmes in 12 countries, Liu / Hotchkiss / Bose (2008) find that if services are contracted to private providers, such as NGOs or faith-based organisations, performance-based paid programmes perform on average better than programmes that pay a fixed price. Soeters et al. (2006) indicate that the efficiency of PBF may depend on the scale of the schemes. The authors suggest that fund holders should contract a minimum of 25 to 50 health facilities targeting a population between 300,000 and 1 million. PBF with small target populations under 300,000 are not viable due to high transaction costs.

In many cases, it was impossible to evaluate the efficiency of the PBF scheme, since crucial financial information was missing. For instance, Canavan / Swai (2008) point out that more financial information and an additional review at the end of the following project period would have been required in order to determine the efficiency of the PBF scheme in Tanzania. All together, better monitoring of transaction costs and other vital financial data is necessary in order to enable more studies on the efficiency of PBF.

## **6 Conclusion: main research gaps**

Can performance-based financing be an appropriate tool to make funding in the health sector more effective and efficient?

The present paper tried to answer this question by reviewing and evaluating evidence from PBF schemes implemented in 13 developing countries worldwide. In particular, this paper investigated the targeting, incentive structure, effectiveness and efficiency of PBF schemes.

It was found that from the 13 experiences studied in the present paper, five targeted explicitly poor areas or households, whereas seven had the more general goal of increasing access to and quality of basic healthcare services. For one case, the target group could not

be identified. The two most commonly used targeting mechanisms were geographic targeting and means-tested targeting. All in all, the experiences available illustrate that PBF has the potential to reach poor target groups and improve healthcare delivery and coverage, particularly for the poor. Nevertheless, more efforts are needed in order to guarantee that schemes have pro-poor effects.

When setting monetary incentives for good performance, PBF tends to focus on outputs rather than on health outcomes, and on quantity rather than on quality. Most schemes set target indicators at the level of healthcare supply or healthcare coverage, but at least 5 out of the 13 schemes studied also used indicators capturing impact. In contrast, only three programmes set performance targets for good quality of healthcare delivery.

There is no sufficient evidence that monetary incentives trigger better performance of healthcare providers. On the one hand, observation and surveys suggest that non-monetary incentives, such as more empowerment and involvement of staff, more flexibility or fear of reputation loss, may have played an important role concerning improvements in healthcare delivery. On the other hand, there are strong reasons to believe that PBF schemes will also set perverse incentives and have undesired effects since there is evidence from other results-based approaches as well as from PBF in other settings for perverse incentives.

The available qualitative and quantitative evaluations of the schemes studied in this paper suggest that PBF may be more effective in improving healthcare supply and healthcare coverage than other funding schemes. This applies mainly to the targeted indicators. However, there is little evidence that these improvements in health outputs and outcomes are achieved through the results-orientation of the programmes as opposed to additional funding and other contextual factors, because rigorous impact evaluations are still lacking. Evidence of the impact of PBF on the quality of healthcare delivery and on efficiency of PBF is also insufficient. Even though there is some suggestive evidence that PBF may be more cost-effective than other funding schemes, a lack of crucial financial information makes it difficult to evaluate the efficiency of PBF.

These findings illustrate that better and more monitoring of experiences as well as more research are needed in order to evaluate the potential of PBF in particular, and of RBF in general.

First, more attention has to be paid to the incentive structure of results-based funding in both programme design and programme evaluation. The monitoring of possible perverse incentives should be built into the design of PBF schemes from the beginning in order to enable more research on unintended effects. Particular attention should be paid to the risk of crowding-out intrinsic motivation through setting monetary incentives. Along the same lines, the importance of non-monetary incentives has to be studied more systematically. Insights gained from this research agenda will be very valuable for further discussions on results-based funding and aid effectiveness in general.

Second, more rigorous evaluations of effectiveness and efficiency of PBF in particular – and RBF in general – are needed. This requires not only better monitoring and data collection, but also re-thinking approaches for evaluating RBF. RBF is highly complex and investigating all its positive and negative effects and impacts as well as its interrelated mechanisms is a very difficult endeavour. Therefore, using only established but rather simple methodologies such as RCTs may not be the right way to evaluate RBF.

Finally, we still know very little about the long-term effects of PBF and RBF. This is partly due to the lack of monitoring and rigorous evaluation of existing schemes described above. But it simply also takes more experience and time to gather the necessary insights on long-term effects. It will, however, be important to build a good monitoring and evaluation system into PBF schemes in order to be able to learn from future experiences.



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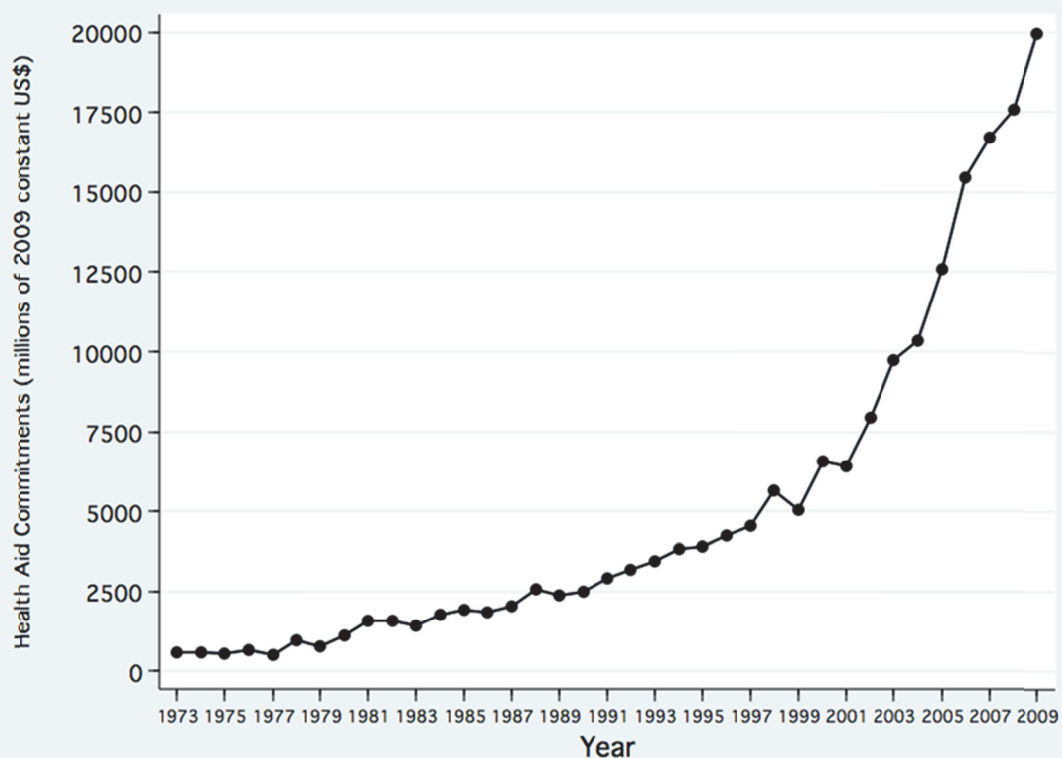
## Appendix



**Table 1: Results-based aid vs. results-based financing**

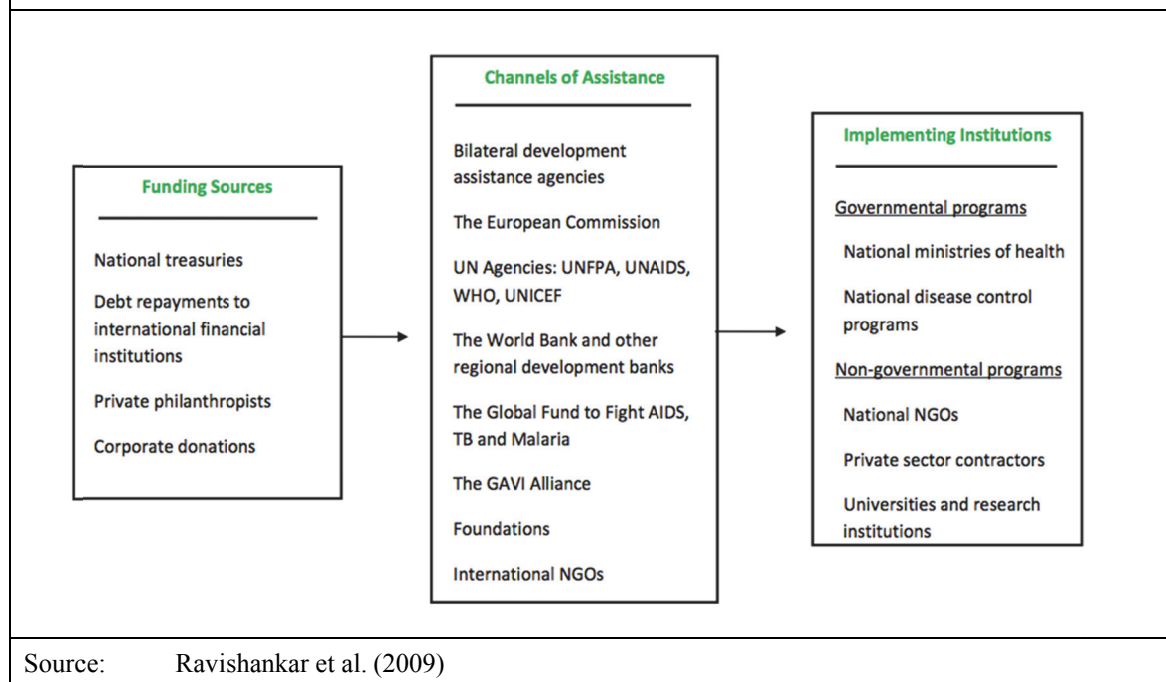
	Results-based aid	Results-based financing
<b>Principal</b>	Donor	National or sub-national government body
<b>Agent</b>	National government	Implementing agency (private, NGO, sub-national government) or individual
<b>Funds</b>	Donor funds	Domestic or donor funds
<b>Relationship</b>	Aid partnership	Contract or incentive relationship
<b>Examples</b>	EC MDG Contracts, Cash on delivery, Millennium Challenge Account	Performance-based payment, Payment by results, CCTs, Vouchers

Source: own compilation, based on Pearson (2011) and Klingebiel (2012)

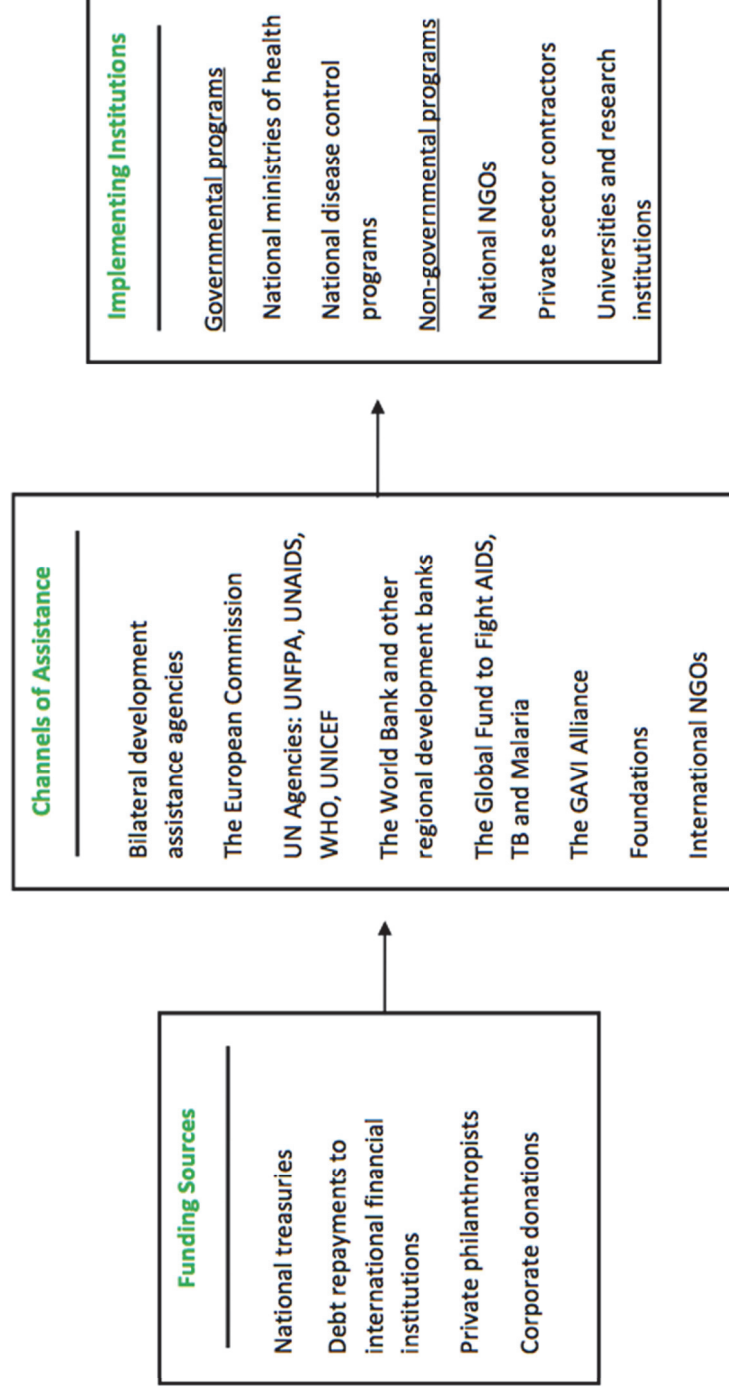
**Figure 1: ODA to the health sector 1973–2009**

Numbers represent commitments for the OECD sectors Health (Sector 120) and Population Policy / Programs and Reproductive Health (Sector 130)

Source: Data from OECD Creditor Reporting System (OECD 2011b), graph based on own compilation

**Figure 2: Architecture of development assistance for health**

**Figure 2: Architecture of development assistance for health**



Source: Ravishankar et al. (2009)





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