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**Health Worker Motivation and the Role of
Performance Based Finance Systems in
Africa:**

A Qualitative Study on Health Worker
Motivation and the Rwandan Performance
Based Finance Initiative in District Hospitals

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Health Worker Motivation and the Role of Performance Based Finance Systems in Africa

A Qualitative Study on the Rwandan Performance Based Finance Initiative in Hospitals

Working Together for Health

Abstract

Health systems in Sub-Saharan Africa are currently coping with severe staff shortages, low work motivation, high rates of absenteeism and an under-performance, threatening the achievements of the Millennium Development Goals.

Against this background this dissertation assesses the role of Performance Based Finance (PBF) approaches in promoting quality health-care in developing countries, using the case of the Rwandan PBF initiative to illustrate strengths and weaknesses. Findings confirm that PBF systems can stimulate important changes and set incentives that improve health-care quality, yet institutional changes are not neutral and current strategies underestimate the multidimensionality of motivation and may even have adverse effects.

Key Words: Human Resource Crisis in Health in Africa; Performance Based Financing in Health; Intrinsic and Extrinsic Motivation; Performance Based Finance Initiative Rwanda

"This rush toward what some have termed the 'commercialization' of medicine and others have called the 'industrialization' of medicine has bewildered physicians, perhaps because we have instinctively sensed that although there have always been some business aspects to medical practice, medicine, in the most fundamental sense, is not a business."

"The Medical Practice in the Competitive Market" in the
New England Journal of Medicine, 2/5/87

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List of Abbreviations

BTC	Belgian Technical Cooperation
CAAC	Cellule Approche Contractuelle
DC	Developing Countries
ESP	Ecole Santé Publique
FHI	Family Health International
GTZ	German Technical Cooperation
HDP	Health Developments & Performance
HIS	Health Information System
HNI	Health Net International
HRH	Human Resources in Health
HRM	Human Resource Management
LSE	London School of Economic and Political Sciences
MDG	Millennium Development Goals
MoH	Ministry of Health
MSH	Management Sciences for Health
NGO	Non Governmental Organizations
PBF	Performance Based Finance
PBM	Performance Based Management
UN	United Nations
USAID	United States Agency of International Development
WB	World Bank
WHO	World Health Organization

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Introduction: The African Health Workforce Crisis

Today Sub-Saharan Africa is coping with 24% of the world's disease burden, while concurrently local health systems are unresponsive, inefficient, inequitable and even unsafe (WHO 2006). The reasons for this underperformance are multiple; nevertheless it has been suggested that motivation and performance of health workers, as the foundation for any health-care system, are a main determinant of health-care service quality, efficiency and equity (e.g. WHO 2006; Dieleman et al. 2006; Buchan 2005; Franco, Bennett & Kanfer 2002). However, African health systems¹ are not only experiencing one of the greatest staff shortages, but clinical staff is currently faced with weak institutional frameworks and distortive incentive structures, ineffective management practices and adverse work environments at systemic and organizational level, resulting in an overburdened health workforce with low levels of work motivation (Mathauer & Imhoff 2006; Ferrinho & Lerberghe 2000). It is believed that this underperformance has not only undermined the capacity of health-care organizations, but even threatens the achievement of the Millennium Development Goals (MDGs) to: "reduce child mortality; improve maternal health; and combat HIV/AIDS, malaria and other diseases" (UN 2007, WHO 2006; Dielemann & Harnmeije 2006).

Accordingly the African Human Resources in Health (HRH) crisis has been placed high on the development agenda and finding appropriate solutions has become a crucial task.

A vast theoretical literature and immense variety of approaches have been generated and applied in an attempt to scale-up and strengthen existing health-care systems in Africa and elsewhere. In particular strategies that aim at improving services and the performance of health facilities through optimizing scarce resources available through effective Human Resource Management (HRM) have attracted much attention (Martinez & Martineau 1996).

The current debate on HRM in the health-care sector is based on both concepts of motivation in the work context, in particular motivation of public health personnel, and Performance Based Finance (henceforth: PBF) approaches.

These literatures have been synthesized in the context of public health in developing countries, where the theoretical debate on work motivation and performance had far reaching policy implications for health-care providers. With increasing demand for accountability and 'value for money' of public services (Lerberghe et al. 2000) international agencies and governments have shifted their focus from expanding health systems to efforts that strengthen existing structures. This has been done through introducing HRM-strategies, such as performance based incentive systems aiming at motivating individual, team and organizational to achieve higher outputs efficiency and service quality (Custers 2008; Brown 2001; WHO 2006; Conway 2007).

Yet, these PBF approaches have not remained uncontested and motivational theorists as well as empirical evidence suggests that health workers are not primarily motivated by material incentives and

¹ African states are characterized by their extreme heterogeneity and neither health systems nor reform processes are homogenous, stressing the importance of using specific case studies to illustrate theoretical assumptions about consistent patterns as will be done in this dissertation.

that pure financial incentive systems are not sufficient and moreover have adverse effects on the quality of health-care services (eg. Mathauer & Imhoff 2006; Barr et al. 2005; Franco & Bennet, Kanfer 2002; Gauri 2001; Hicks 2001).

Accordingly the questions, whether PBF strategies in health are appropriate to motivate health workers and increase the quality of service provision in low-income countries remains controversially discussed. Thus with regard to the African HRH crisis a better understanding of what determines health worker motivation and behavior as well as how these are influenced by incentives set in PBF systems, is urgently needed (Luoma 2006).

The dissertation will be divided into four main parts. Part I will explore current background literature on health worker motivation and the role of PBF systems, a topic which is situated at the intersection of two literatures: The first deals with motivation² and motivation in the work context³ and particularly intrinsic motivation of public health personnel⁴. The second relates to performance based management and particularly Performance Based Finance (PBF) approaches⁵. With regard to space these concepts will be synthesized through presenting the debate between those believing that i) worker motivation and performance improvements can be achieved through linking financial rewards with performance criteria and ii) those that are concerned with the limitations and possible perverse outcomes of these financial incentive systems, thereby emphasizing alternate strategies to increase motivation.

Based on the findings from the literature in part II a research thesis and the empirical methodology will be developed.

In part III the theoretical base will be complemented with a case analysis of the Rwandan PBF initiative at district hospital level. Rwanda has received increasing attention as one of the most successful cases of PBF in health. Yet, while applying concepts of intrinsic motivation to the Rwandan case, shortcomings of such performance approaches in public health in resource poor environments solidify. As an interpretive case study the Rwandan initiative thus serves as a useful example to explore the strengths and complex challenges of performance strategies in health. The dissertation thereby aims at adding to existing research, hoping to provide valuable lessons learned for policy makers in the Rwandan context and elsewhere, which will be presented in part IV.

² Benabou & Tirole 2003; Frey & Jegen 2001; Ryan & Deci 2000; Deci & Ryan 1985, 2000; Frey 1997; Cameron & Pierce 1994; Titmus 1970.

³ Hicks & Adams 2001; Herzberg, Mausner & Snyderman 1999; Tang & Gilbert 1995; Kreps 1997; Vroom & Deci 1970; Vroom 1970.

⁴ Custers et al. 2008; Buetow 2007; Rodway 2002; Franco, Bennett & Kanfer 2002; Hicks & Adams 2001; Johnson & Hornby 1988.

⁵ Saltmarshe, Ireland & McGregor 2003; Armstrong 2000; Mendonca & Kanungo 1990.

Part I) Work Motivation and Performance Based Financing in Health

The literature and theoretical arguments that will be subsequently explored have been selected because in one way or another they reflect or challenge the assumptions of the dissertation namely that: PBF systems in resource poor environments can stimulate necessary changes in health-care provision through motivating staff by rewarding them with financial incentives linked to a set of performance criteria, while at the same time a restriction to allocating financial incentives as motivators can produce adverse effects that risk health service quality.

The scale of this dissertation does not permit to fully present the abundance of often overlapping theories explaining motivation or performance approaches; hence a synthesis of motivation and performance approaches will be provided drawing on a combination of these literatures and on a small but growing body of qualitative work on motivation and PBF systems in the context of public health in developing countries⁶.

The following part will introduce the debate on whether PBF approaches are appropriate to solve the African HRH crisis. To begin with the importance of work motivation in health will be explained (Part I.1) to then demonstrate how PBF systems in health can motivate employees (Part I. 2). While evidence indicates that such approaches produce valuable results, there is also skepticism and the subsequent part (Part I.3) will show how PBF systems can crowd-out intrinsic motivation in general (Part I.5.1) and health worker motivation in particular (Part I. 5.2). The last chapter of will deal with the adverse consequences of this effect (Part I. 5.3).

1. Work Motivation in Health

The issue of motivating employees is as old as organizational activity (Vroom 1970) and motivational theories, approaches and definitions are numerous with disciplines overlapping (Franco, Bennett & Kanfer 2002). For the purpose of this dissertation the widely used definition by Deci and Ryan will be deployed:

“To be motivated means to be moved to do something. A person who feels no impetus to act is thus characterized as unmotivated, whereas someone who is energized or activated towards an end is considered motivated” (2000, 54).

With motivation determining form, direction, intensity and duration of behavior the study of motivation can be considered as an exploration into the *why* of behavior (Deci & Ryan 1985, Buetow 2007) and while the correlation between motivation and performance is difficult to measure, evidence supports that workers performance depends mainly on the level of motivation (e.g. Garcia-Prado 2005; Rowe 2005; Marsden, French & Kubo 2000; Vroom 1970).

Health professionals are at the heart of any health system and a well-motivated workforce is the prerequisite for a functioning health system (Barr et al. 2005; Garcia-Prado 2005; Rowe et al. 2005;

⁶ Buetow 2007; Dieleman & Harnmeje 2006; Dieleman et al. 2006; Mathauer & Imhoff 2006; Luoma 2006; Barr et al. 2005; Garcia-Prado 2005; Rowe et al. 2005; Leonard, Masatu & Vialou 2005 ; Bach 2003 ; Dieleman et al. 2003; Gauri 2001; Bennett et al. 2001; Lerberghe et al. 2000, Pangu 2000; Van Lerberghe at al 2000; Martinez & Martineau 1996, 1998.

Buchan 2004; Dieleman 2004, 2003; Franco, Benett & Kanfer 2002; Segal 2000, Lerberghe 2000; Pangu 2000).

Yet, issues around staff shortages, brain-drain, low work motivation and poor performance of HR in health in Sub-Saharan Africa are so enormous that it has been termed the 'African health workforce crisis' (WHO 2006; JLI 2004). A body of evidence confirms the relation between health worker numbers and output such as increased immunization coverage or infant, child and maternal survival (WHO 2006; JLI 2004). To achieve MDGs in health, however, the region would require a 139% increase in health workers (WHO 2006, 8). Apart from the severe staff shortage there is a common understanding that as health workers are faced with inadequate institutional and organizational arrangements health services perform less well than they should do (Meessen 2007; Van Lerberghe et al. 2000). Moreover de-motivation of health workers has been identified as a central problem that has led to poor work attitudes, and absenteeism and shirking are widely observed (Dieleman & Harnmeje 2006; Garcia-Prado 2005).

Hence, the development of an adequate, capable, motivated and well-supported health workforce is crucial to achieve health goals (WHO 2006, xv). Yet, while overcoming health worker shortages is one of the greatest challenges, training of new staff will not be solved in the short term, thus a consensus has emerged that there needs to be a shift from service expansion towards new approaches that manage and optimize the use of available resources.

Disappointing results of conventional input based financing approaches especially in the poorer countries in Africa underline the need for new strategies (Moore 1996). In addition, donor resources are gradually becoming scarce, thereby increasing the pressure for accountability and value-for-money (Saltmarshe, Ireland & McGregor 2003; Van Lerberghe et al. 2000; Hornby & Sidney 1988).

Staff motivation has become a central focus of these new approaches, assuming that a well motivated workforce can overcome obstacles such as poor working conditions and is apt to be strong and sustainably performing, i.e. a workforce that is actually at work, competent and productive, and given existing resources and circumstances works in ways that are responsive, fair and efficient (WHO 2006; Dieleman & Harnmeje 2006; Luoma 2006).

2. Performance Based Finance Systems and Work Motivation in Health

Standard principal-agent theory (e.g. Alchian & Demsetz 1972) assumes that all else being equal, agents as rational utility maximizers will always find it more profitable to shirk. Therefore the goal of the principal is to get the institutions, as "the humanly devised constraints that shape human interactions" (North 1990, 3), right: i.e. establish progressive institutions that supply agents with incentives that reward good performance and provide principals with enforceable sanction mechanisms that punish bad performance.

The problem of underperformance and de-motivation of health workers has often been explained in terms of an asymmetric principal-agent relationship where agents (health workers) lack incentives to perform and principals (employers and patients) lack sanction and accountability mechanisms.

Many health systems in Sub-Saharan Africa are locked in these low equilibrium institutional settings and a primary objective of health reforms has been to create new institutional frameworks that break up these locked relationships. Against this background PBF systems in health have received increasing attention and a number of countries have applied performance approaches to reinforce work behavior through establishing institutional systems that reward organizations and staff with financial incentives for performing according to set norms and standards and provide management with enforceable sanction mechanism. Financial incentives are chosen as they are among the most important influences over organizational and individual behavior and regarded as the key motivator in the work context (Roberts et al. 2004) and evidence suggests that indeed such approaches reinforce existing health systems (Custers et al. 2008).

3. The Hidden Costs of Rewards

While proponents of performance strategies in health have convincingly argued that monetary incentives are the most effective motivator, this has been questioned and a body of empirical evidence indicates that PBF approaches have been too uncritically used.

A number of scholars (i.e. Lepper & Greene 1973, 1978; Deci & Ryan 1985; Deci, Koestner & Ryan 1999) have closely examined the issue of motivation, distinguishing not only between various factors but also different types of motivation and attitudes towards money, pointing out that monetary incentives are not the only motivating determinant of work behavior. Yet, more important these scholars suggest there can be 'hidden cost' in such reward systems (Lepper & Greene 1978).

Titmus (1970) was one of the first to argue that giving financial incentives for certain tasks can set incentives that lead to adverse outcomes. Using the example of blood donation he claimed that a 'blood market' would be inefficient and carry several risks because through setting financial incentives, altruistic and intrinsically motivated behavior will be replaced by opportunistic behavior. Titmus observed two effects that paying for blood would i) undermine social values and eliminate the willingness to donate, leading not only to a shortage in blood, ii) but to a shortage in 'good blood' since monetary incentives encourage to conceal one's blood status. The first effect has become known as the 'crowding-out' effect, while the second falls under the concept of 'gaming'.

3.1 Crowding-Out Theory and Intrinsic Motivation

One key distinction in the field of motivation is drawn between extrinsic and intrinsic motivation assuming that "human beings act [both] on their internal and external environments to be effective and to satisfy the full range of their needs" (Deci & Ryan 1985, 8).

"When people are intrinsically motivated, they experience interest and enjoyment, they feel competent and self-determining" (Deci and Ryan 1985, 34), the 'locus of causality', i.e. the *why* of behavior, is based internally and choices are made on the basis of one's own values and desires. In contrast extrinsic motivation applies to behavior where the locus of causality is external and the reason for doing a task is not the interest in the activity itself, but behavioral choices are determined mainly by control, pressures or rewards (Deci & Ryan 1985). In the context of motivation and financial incentive

systems a central question concerns what will happen to a person's intrinsic motivation if they begin receiving extrinsic rewards for doing an intrinsically interesting activity (Deci & Ryan 1985, 43).

The first effect of financial incentives on intrinsic motivation has become known as the 'crowding-out effect' and has been examined by a group of cognitive psychologists demonstrating that under particular conditions:

"When subjects receive monetary rewards for working on a variety of activities under a variety of circumstances (...) their intrinsic motivation for the rewarded activity decreased" (Deci and Ryan 1985, 48).

Frey (Frey & Jeger 2001; Frey 1997) made two psychological processes responsible for this. Impaired self-determination happens when the actor feels that an outside intervention is restricting their autonomy. The perceived locus of causality changes from internal motivation to external control and as a result the actor feels that rather than themselves, the person undertaking the external intervention is responsible. Likewise impaired self-esteem takes place when an agent feels that an external interference does not acknowledge his or her motivation and consequently lessens efforts.

Outside interventions can crowd-out intrinsic motivation when it is perceived as controlling, thus not only financial rewards, made conditional on performance, can crowd-out intrinsic motivation but also threats, competitive pressure, or regulations together with negative sanctions (Frey & Jegen 2001, Deci & Ryan 2000).

3.2 Crowding-Out in Health

PBF systems are based on the assumption that as rational utility maximizers health workers are primarily concerned with their own private benefit, yet this do not take the existence of intrinsic and altruistic motivation into account. In order to decide whether the effect of crowding-out poses a risk in the context of PBF systems in health the question needs to be answered whether health workers are intrinsically motivated in the first place.

Institutions such as the Hippocratic Oath, one of the oldest ethical codes of conduct traditionally signed by medical professionals around the world, are one confirmation for the assumption that professional values and a strong service ethic form the basis of health worker motivation. Indeed health professionals are not only said to be intrinsically motivated but many consider their dedication and inner motivation as the most precious possession of a health system and the ultimate guarantor of patient centered behavior (Segal 2000; Van Lergerghe et al. 2000). Based on the ideas about intrinsic motivation made above, we can thus assume that the inconsistency of PBF with such norms and values is likely to be problematic (Franco, Bennett & Kanfer 2002; McPake et al. 1999).

3.3 Gaming and Multitasking in Health

While evidence suggests that PBF systems are efficient in dealing with shirking and absenteeism and motivate to increase production (Custers 2008; Garcia-Prado 2005; Adam & Hicks 2000; Segall 2000), it has been suggested that this is due to a transformation from intrinsic motivation, to extrinsic motivation that encourages self-interested behavior.

A major consequence of undermining intrinsic motivation has been recognized as 'gaming'. Paying medical staff that is intrinsically motivated to do their work financial incentives can promote opportunistic behavior. Health workers are encouraged to hide or distort information and find methods to maximize results without necessarily bringing about the desired impact (Custers et al. 2008).

In addition, linking payments to specific indicators provides an incentive to concentrate on what is being measured thereby diverting resource away from what is unaccounted for in the indicators. An example for such 'multitasking' behavior is "pay more for cesarean sections and the rate goes up and the rate of normal deliveries will go down" (Roeberts et al. 2004, 190-191). Similarly, if rewards are based on completing clinical reports on time health workers may neglect treating patients in order to finish reports (Luoma 2006, 3). Likewise where performance measures are based on quantitative indicators health-care quality might suffer, while when based on quality criteria, workers may not concentrate on achieving quantitative targets (Armstrong 2000, 167).

Monitoring and evaluation systems to avoid such adverse outcomes are costly and realistic performance measures in health-care are complicated to design, hence evaluation might be perceived as unfair or subjective (Armstrong 2000). Meanwhile the tighter the control the more self-esteem and self-determination become impaired and intrinsic motivation undermined.

While above problems have been identified in developed as well as developing countries some of these issues are particularly problematic in resource poor environments as "it is somewhat academic and futile to evaluate the performance of public health staff when they do not have the minimum of supplies or equipment" (Van Lerberghe et al. 2000, 3). PBF systems that are only based on providing financial incentives without increasing capacities and competencies, risk exploiting and controlling rather than supporting health personnel and hence can be discouraging, lead to a reduction of work efforts and increase the risk for data manipulation.

Consequently, there needs to be careful consideration not only to the circumstances in which incentives are set but also what type of incentives are established in order to avoid unintended and adverse outcomes.

4. Major Findings from Literature

As the literature illustrated in order to solve the HR crisis in Africa and improve health care quality, health workers need to be motivated and performance approaches can achieve important efficiency changes. Yet, while theoretically PBF systems provide the appropriate institutional setting, it was demonstrated that the reality is far more complex. Motivational theories suggest that if performance approaches are based on financial incentives these can produce adverse effects, crowd-out intrinsic motivation and provide incentives for gaming and multitasking, which has been shown to be particularly problematic in resource poor settings. While this is not saying that health workers should not be rewarded more for extra work or working under difficult conditions, or that PBF systems are generally not advisable, finding the right balance in creating institutional arrangements that target both intrinsic and extrinsic motivation are required.

On the basis of this knowledge the second part of the dissertation will briefly explain the background considerations for the case study choice and formulate assumptions highlight methodological choices, procedures, analytical framework and the limitations of the research.

Part II) Research Hypotheses, Design and Methodology

Case Study Choice and Assumptions

In the context of developing countries PBF systems in health are relatively new. Only a few examples have been researched and evidence as to their effectiveness is limited. Hence much further insight is needed on what motivates health personnel and how PBF systems affect this motivation (Dieleman & Harnmeje 2006; Luoma 2006; Franco, Bennett & Kanfer 2002).

Against this backdrop the Rwandan national PBF initiative has been chosen as the basis for a qualitative research study that was conducted in June 2008 (Annex).

The country choice is based on previous work experience in the country and the financial and technical assistance from the German Technical Cooperation (GTZ). Yet, more importantly the Rwandan PBF system serves as an interesting example as it has achieved increasing attention as a role model for PBF systems in the region. Furthermore, the World Bank (WB) and the Rwandan School of Public Health (ESP) are currently carrying out an extensive longitudinal study focusing on the impact of PBF at health centre and household level, which will also be the first PBF impact evaluation in the African context (WB 2006). While the PBF system at health centre level has been well established and documented (e.g. MoH 2008a; Soetart 2007; Fritsche 2006; WB 2006), in contrast the district hospital PBF model is less well covered. In addition there has been little research on the issue of health worker motivation. Aiming to provide complementary information, the study selected the PBF initiative at district hospital level to explore the following assumptions:

- A) PBF systems, such as the PBF initiative Rwanda, that aim at motivating health worker in order to increase the quality of health-care services:
- i) help to improve the quality of health-care services through linking to performance payments to quality indicators and*
 - ii) increase health workers motivation to perform according to these standards; thereby improving service quality through making use of unused capacities.*
- B) However, PBF systems, such as in Rwanda, that are primarily based on the provision of financial incentives as motivators also:
- i) risk crowding-out intrinsic motivation and*
 - ii) consequently foster self-interested behavior, set incentives for gaming and multitasking and risk the quality of health-care services.*

Methods/Tools

The analysis will be based on i) primary resources i.e. published and unpublished documents and guidelines collected from the Ministry of Health (MoH), partner organizations and target hospitals as well as ii) findings from the qualitative study on the Rwandan PBF initiative.

Target groups were chosen through stakeholder analysis and in relation to availability, comprising three different levels: Government/MoH, international partner organizations and district hospitals.

Level	Category	Number
MoH	Celulle Approche Contractuelle (CAAC)	1
International Organizations	German Technical Cooperation (GTZ), Belgian Technical Cooperation (BTC); 8 Management Sciences for Health (MSH), World Bank (WB); United States Agency of International Development (USAID); Cordaid/Health Development & Performance (HDP); Family Health International (FHI); IntraHealth	8
District Hospitals	Management and Administration	8
	Medical Staff	9
	Doctors A0	5
	Nurses A1	10
	Nurses A2	1
	Nurses A3	15
	Patients	15

Table 1: Number and Profile of Respondents

A qualitative approach was selected as there is little written about the issue of the PBF initiative at hospital level and as such methods are helpful in gaining an endemic understanding, for exploring contextual factors and for understanding those components of interventions that work well or not (Rowe 2005, Maier et al. 1994, Field & Morse 1985). Qualitative approaches are further deemed useful in exploring people's beliefs and perceptions in relation to motivation (Maier et al. 1994).

Category	Data Collection Method	Reason for Method	Sampling Strategy
MoH International Organizations	Exploratory interviews	Sequences and wording of questions can be decided in the course of the interview (Maier et al. 1994), making the interview a guided discussion and flexible to the situation and knowledge of the respondents	Sampling according to availability of organizations and involvement in the in planning and design of the PBF Initiative
District Hospitals	Three target districts and its corresponding district hospitals: Kabutare District Hospital, Byumba District Hospital and Ruhengeri District Hospital		
Management & Administration	Semi-structured interviews	Keep the flow of information flexible and receive comprehensive data	Respondents were chosen according to availability and willingness to talk (Field & Morse 1985).
Medical Staff	Standardized questionnaire	Questionnaires were not meant to provide numerical data for statistical analysis but to provide information on clinical staff tendencies and check the reliability of the interviewed organizations and hospital management.	
Patients	Structured questionnaire	Complementary information to avoid bias	Medical staff presented two stationary cases per department of patients that had come more than one time and best in a time span larger than one year

Table 2: Data Collection Approaches

Additional Sources

Informal discussions with an expatriate doctor at one hospital gave further insight into the PBF. In addition, participatory observations were made during a quarterly PBF evaluation at one of the hospitals.

Procedures

Time limitations only allowed pilot testing of the health worker questionnaire, the others were sent to the GTZ for technical advice. Questions were slightly adopted during the research according to circumstances. All interviews were conducted by the researcher herself, during which notes were taken. In order to avoid disrupting the interview full details were recorded after each interview. Prior to the interviews the research aim was explained and anonymity of the respondent guaranteed.

Most of the interviews were conducted in French language and were translated by the author. Patients' questionnaires were conducted in Kinyarwanda for which an external translator was employed. Interviews were carried out in separate rooms (where possible) in order to guarantee confidentiality and make respondents more comfortable in replying about sensitive issues. Their length and depth depended on the availability of the respondents.

Analysis

The results of the explorative interviews with CAAC and the international organizations were mainly used as background information. Guideline interviews with the hospital management and administration⁷ were analyzed and systematized according to categories identified prior to the interviews. Responses to open questions in the clinical staff questionnaire were analyzed according to recurring themes, while closed questions were managed using the descriptive functions of the statistical analysis program SPSS 15.0. Patients' interviews will be only briefly used to support some of the statements made by other respondents. With regard to space limitations large amounts of data cannot be presented and explicitly analyzed in this study.

Limitations

Due to time restrictions both samples are small and are neither representative for all 35 Rwandan district hospitals nor for the hospitals themselves.

The topic of motivation contains certain methodological constraints. Motivation is an internal state that can hardly be measured, it is subjective and influenced by many levels. In addition, questions about motivation of health personnel are prone to involve a bias in terms of socially accepted responses. An attempt has however been made to reduce these effects through including 'counter referential' questions.

Rwanda in general and its health system in particular have experienced several changes in the past; hence whether results can be directly attributed to PBF is questionable. Moreover the Rwandan PBF system is fairly recent and in a constant process of amendments.

⁷ While the hospitals have introduced PBF at different stages data will be presented as a whole.

In addition the researcher herself can be considered to be a bias since she was associated with an international organization providing funds, and some respondents might have been hesitant to express their feelings.

Nevertheless this dissertation hopes to contribute to a better understanding of which institutional structures can sustainably motivate health personnel to provide better quality care in resource poor environments and in particular in the Rwandan health sector.

Based on the research results the third part of the dissertation will briefly outline the Rwandan PBF background (Part III.1) and the new institutional arrangements introduced at district hospital level (Part III.2). Subsequently, the impacts of the PBF initiative will be assessed, first exploring the improvements in the motivation of health workers and functioning of the hospital (Part III.3) and then, in a second step, look at the risks and challenges encountered (Part III.1).

Part III) Rwanda's Performance Based Initiative

1. Background

Even though Rwanda's basic health-care infrastructure has considerably developed since the devastating events of 1994, challenges remain (MoH 2005b). In order to address some of these problems and under the overall objective to improve the populations health status through developing a well performing health system, the Rwandan government has undertaken several reforms: the health sector has been decentralized, a universal community health insurance scheme (*Mutuelle de Santé*), a quality assurance policy (*National Policy for Quality of Health-Care*) and the national Performance Based Finance initiative (*Approche Contractuelle*) have been introduced.

Meeting less than 30% of the required clinical staff norms (as set by the WHO) and with on average 1 medical professional per 1640 inhabitants (Paul 2006), the issue of health worker shortages is of major concern (CapacityProject 2007; MoH 2006; Furth 2006). In the short term however strategies focus on the de-motivated workforce, high rates of absenteeism and a system that is performing under the available capacity (MSH 2008⁸; CAAC 2008; Meessen 2006). Reasons for this underperformance relate to high workload, systemic inefficiencies and an inadequate institutional environment with lack of incentives such as low salaries⁹. Yet, previous approaches and financing mechanism have not been able to efficiently address the problems and even though big financial inputs were made, only a small proportion of health funds seem to actually reach the providers (McMennamin, Fellow&Fritsche 2005; Kalk et al.2005; Cordaid 2008).

⁸ Interviews with organizations are quoted based on the organization name; individual interviewees are not mentioned for reasons of confidentiality.

⁹ A study conducted by Furth et al (2004) showed that doctors employed in the NGO sector earn around six-times more than a public service worker.

Already in 2001 PBF was introduced by two Non Governmental Organizations (NGOs) and following the success of these pilot programs¹⁰ in 2006 the Rwandan MoH rolled out a national PBF initiative. The initiative was designed and is coordinated by the PBF technical working group including various stakeholders, covering three levels of the Rwandan health system from community, to health centre, to district hospital (MoH 2008a; Fritsche 2007, 2006).

Based on the explorative interviews conducted in 2008 the following part will illustrate the new institutional arrangements and goals of the PBF system at district hospital level, to later on identify strengths and possible crowding factors.

2. Institutional Changes in District Hospitals

PBF is a strategy that aims at making delivery of health-care services more efficient and improving quality and quantity of care through awarding a subsidy to providers on the basis of contractual arrangements between health service providers, a purchasing organization and regulators as well as individual performance contracts for medical personnel. It provides hospitals with incentives to perform according to set standards on the one hand, but also to apply entrepreneurship and ownership on the other.

At district hospitals the emphasis has been placed on quality assurance through linking performance payments to quality norms and standards. Central to the PBF district hospital model is the peer-evaluation procedure based on nationally standardized indicators that are grouped into three categories: clinical services, functioning of the hospital and supervision of health centers (MoH 2008b). Data on a fourth category regarding HIV indicators is collected separately. These indicators do not introduce new aspects, but are based on what should be normal practice, thereby reinforcing the existing system rather than altering it. Standardization of indicators has been chosen in order to assure equity and transparency.

The organization of internal evaluation for staff is done by the hospitals themselves and aims at providing feedback about performance and an opportunity to improve responsiveness and increase skills and capacity. The same applies to the standardized external peer-evaluation carried out on a quarterly basis. For the peer review mechanisms all district hospitals have been grouped in clusters, which in turn review each other's performance, thus the system can be understood as a horizontal learning process that aims at facilitating knowledge spillovers.

Results from all working groups are digitalized, determining the award the hospital receives, whereby in relation to the scale and capacity of hospitals the maximum reward varies. Awarding the hospital as a team should increase feelings of responsibility and enforce accountability structures.

The funds made available through this process are then divided and used to reinforce the institutional environment through: i) motivating health personnel by paying performance based incentives (primes)

¹⁰ For further information on the pilot programs see for example Rusa & Fritsche 2007; Meessen, Musango & Kashala 2004, 2007; Meessen et al. 2006; Fritsche 2006; Soeters, Musango & Meessen 2005; Kalk et al. 2005.

(70% of funds) and ii) improving the functioning of the district hospital through a better management of resources and providing supervision to health-care centers (30% of funds).

Primes are paid based on qualification as well as performance. Most hospitals do not yet assess individual performance, but determine rewards based on departmental or hospital performance, this way aiming to avoid unwanted competition and to promote teamwork and internal accountability. While rewards are not determined by individual performance the system includes a formalized individual sanction mechanism, whereby in case of misbehavior or absenteeism workers do not receive the full reward.

The PBF initiative is revised regularly in cooperation with CAAC, collaborating partners and service providers in order to create a flexible system that can adapt to changing contexts and needs.

3. Assessing the Impact of the Performance Based Initiative

So far evidence on the impact of PBF on motivation and performance of staff and quality improvements is still scarce and often based on perceptions. From this limited experience, however, a general consensus emerged and quality scores from evaluations at hospitals demonstrate that there is a steady improvement. The results of this research support this perception and confirm the first assumption made above that PBF systems in developing countries can increase the motivation of health workers to perform and stimulate necessary changes in the quality and quantity of health service provision.

3.1 Improvements

3.1.1 Perceived Motivation and Performance

Findings of the research indicate that both motivation and performance have increased as a result to PBF and organizations and hospital management agree that staff is more motivated to work, to take over responsibility and to participate actively in improving health-care services. PBF further seems to have introduced a spirit of progress and engagement. 56%¹¹ of the interviewed health workers stated that PBF gives them a feeling that their work is appreciated more and that the salary increase is motivating to them. In fact if other colleagues get rewarded 88% of respondents feel inspired to increase their own efforts.

This enhanced motivation is reflected in the perception that availability of health workers and willingness to work supplementary hours, even though they are not paid for, have improved and as 88% agree the system has made it more difficult to misbehave and be absent since sanctions, i.e. reducing the reward, are clear and frequently enforced.

One of the administrative directors summarized this as following:

“Before there has been an environment of ‘laissez faire’, everybody worked when they wanted to. Today with PBF control is not necessary, the system controls itself and hence the availability of

¹¹ In case where percentages are cited, these originate from the health workers questionnaires.

staff, supplementary hours and the respect of rules has improved. This is mainly due to the financial incentives offered”.

Moreover, performance appears to have improved and since PBF has set incentives to work according to introduced norms and values staff is “reminded about what they should be doing” (IntraHealth 2007) and 96% of the staff believes that PBF has encouraged them to work better.

The initiative further intended to make the organization at all levels more responsible through for example clarifying descriptions and responsibilities. In consequence 96% of medical staff pointed out that PBF has increased their feelings of responsibility for the service quality.

3.1.2 Quality and Quantity

The research further revealed improvements in quality and quantity indicators that support the above perception.

Findings of the interviews with hospital management and staff suggest that through tying the performance payments to indicators involving infrastructure and functioning of the hospital, these criteria have developed. The pharmacist at one hospital explained:

“Evaluation happens in all areas and if the infrastructure is not according to the norms we will receive fewer points and hence we need to find ways to improve for the next time”.

For example new buildings have been built and particularly water and sanitation facilities are more abundant. The same applies to hospital equipment such as mattresses, bed covers and mosquito nets. Moreover, the hygiene of hospitals has been enhanced since hospitals have contracted external associations and staff educates patients on hygiene issues, which has also been noticed by patients.

Evidence from the study further indicates that relationships between management and staff, amongst teams, as well as between clinical staff and patients have improved and an environment of participation, creativity, leadership and responsibility has been created.

The management of hospitals feels and 75% of clinical staff confirm that the collegial work climate has improved since the introduction of PBF. Indeed, most think that management has become more supportive and responsive to the needs of the staff and 80% of respondents agreed that with PBF it has become easier to voice complaints to the management.

The evaluation mechanisms has initiated a feedback loop that gives management information on what is needed on the ground, while the reward system provides the necessary incentive to take action and develop entrepreneurship. Health workers similarly feel that evaluation is formative and supportive and gives them the opportunity to know where they stand and what they should be improving.

Rewarding the hospital as a team has made everyone depended on each other and established a feeling of being “all together in the same boat” as one administrative director phrased it. Medical staff confirms (96%) that PBF has reinforced team spirit. As management and staff agree, awarding staff individually is not productive as it could bring jealousies into the team and one head nurse declared “it is better if the prime is general and we can arrange things in our team ourselves”.

Hospital management is aware that the relationship between health workers and patients and the feeling of responsibility towards patients has increased because indicators standardize treatment procedures. This feeling is reflected in patients' opinion that they are treated with more respect and the way they are received has improved.

Meetings have also increased creating more opportunity for cooperation and information exchange. Likewise, participation and communication structures improved through establishing a formalized reporting system. As the management affirms before reports, registers and patient records were often not obtainable but now since hospitals are evaluated on availability and completeness of documentation, these documents not only exist but there is an understanding of their importance. Furthermore, as a positive side effect several evaluation results have created a 100% availability of data on hospitals.

In addition, developing the quantity plays an issue and organizations interviewed suggested that there has been an increase in the number of services provided. At hospital level this impact is most noticeable as all stated they can now contract more personnel and that staff seems to be more attracted to work in public hospitals because of the prime. Indeed, it has been suggested that through PBF salaries have doubled (MSH 2007).

3.2 Risks and Challenges of the Performance Initiative

As the above data demonstrated, in relation to the new PBF system important developments have been achieved, yet it was also assumed that PBF systems can crowd-out of intrinsic motivation and introduce incentives for gaming. The research findings verify this second assumption and drawing mainly on the results from the health worker interviews part III.3.2 will illustrate that Rwandan health professionals are driven by a strong professional work ethic and that the current institutional arrangement risks crowding-out, contains incentives for gaming and hence threatens the sustainability previous achievements.

3.2.1 Intrinsic Motivation and Rwandan Health Workers

The majority of medical professionals interviewed chose their career because of a desire to help and treat people. Others mentioned scientific interest (17%), intellectual challenge and interesting work (10%) as both reasons for career choice as well as intrinsically motivating factors.

Statements such as "helping people that suffer gives me joy" and the feeling of being needed were frequently mentioned. Most feel that the medical profession is a noble one and 76% instantly agreed that saving lives to them is more important than having a high salary and some pointed out that:

"The medical profession is not just a job, it is a dedication to life. If we would look after money we would have gone into business".

As another 80% asserted, receiving the respect and appreciation by their patients is the highest remuneration they can receive, as one doctor illustrated:

"Saving somebody's life and seeing that saved person alive and thanking you on the next day, that gives more pleasure than if we get money".

Results also revealed a strong dedication to society. 76% felt most responsible to their patients and all felt very strongly about making a contribution to the development of their country and making up for the past. Indeed some mentioned that because they have seen so much misery in their childhood they have a strong desire to help reduce suffering.

If asked how one could define work motivation, 56% stated that being motivated means providing quality work, respecting the work and enjoying it.

3.2.2 Crowding-Out Intrinsic Motivation

Literature on crowding suggests if external interventions are felt to be controlling, unjust and impair self-determination, they can have adverse effects on intrinsic motivation, de-motivate and lead to a reduction of work effort or transfer of responsibilities. The following results suggest that the current institutional arrangement of the Rwandan PBF system contains factors that pose a risk to crowding-out.

If asked for the underlying reasons for introducing PBF half of the health workers interviewed understand it as a control mechanism. Only 24% believe PBF has been introduced so that management can be more responsive and supportive and 32% agree that PBF is an unnecessary control and one should trust medical staff instead. In addition, 64% of staff feels that support from the management concerning their personal and psychological needs is insufficient.

Supervision is usually done on an irregular basis and in most cases set equal to the internal and external evaluation carried out as part of PBF. While this is nevertheless perceived as helpful, 40% feel that supervision is unsatisfactory and particularly doctors receive little professional supervision.

The inadequately capacitated work environment, in particular the lack of human resources, is regarded as the biggest constraint. Only 4% of staff agrees that the hospitals infrastructure is adapted to work and they complain about a lack of space and privacy, old buildings, missing equipments and instruments and a lack of beds, sanitary facilities and medication. More importantly, 60% of the clinical staff feels unsafe in their working environment due to a lack of protective materials.

PBF is not happening in a vacuum and for example scaling up of Rwanda's community health insurance has led to a sharp increase in frequentation of health services and increased the workload for an already strained workforce. The survey found that 72% of medical staff regularly works supplementary hours and constantly feels tired due to a high workload. Even patients have recognized this increased pressure on hospitals capacity, for example some claimed where now they sometimes share up to three, before beds were reserved for one patient.

One problem repeatedly raised concerns the standardization of evaluation criteria. Amongst hospital management this is perceived unfair since not all hospitals are equal in their target population, infrastructure or staff capacity. Besides, there seems to be some jealousy between doctors and nurses and 24% of nurses feel they receive disproportionately less.

There is furthermore a serious issue about the reliability of PBF payments since primes are sometimes up to three months late, which is perceived as very discouraging.

The 'excludability' of indicators while allocating points was also perceived as de-motivating i.e. if one criteria of a patients record is missing zero points are awarded even if the remainder has been completed well and patient was treated correctly.

One major difficulty relates to the common feeling of a lack of understanding. After the training of hospital management the remainder of hospital staff was informed in meetings. However, except of the indicator score card no other documents were distributed. This communication deficiency became evident during the quarterly evaluation, carried out at one of the hospitals, where on the next day a nurse expressed that:

"Before we had our evaluation yesterday the way the system works was not clear to us, we would have preferred that everybody was told how it works and received training in order to really understand it".

While the majority knows that PBF is a system that aims at improving the health-care quality, if asked about procedures and goals the understanding is very basic: 'evaluation = points = rewards'. Some staff likewise complained that their knowledge has not been recognized while designing the indicators and that no one has implicated them in the planning or implementation process.

In the context of these challenges both the necessity as well as the appropriateness of some of the indicators has been questioned. While evaluation criteria have recently been revised, both management and staff mentioned that some criteria do not correspond with their work on the ground. Hospital management expressed the concern that the decisions made on national level are not appropriate at the basis and one supervisor asserted:

"Hospitals should have much more flexibility; the system is too generalized and constrains the innovation and initiative of the staff".

The same issue partly applies to the departmental criteria. Indicators between the clinical departments are perceived to be very similar despite the different tasks and regardless of the different work conditions. Hence, staff feels that these criteria reflect only a small part of their day to day reality. In addition, 43% of staff responded that the new fix indicators limit their decision making autonomy such as this nurse who explained that:

"Fix rules constrain my decision making, there are tasks that are only to be done by doctors, but then sometimes I have to perform these tasks because doctors are occupied, yet I don't receive anything for this".

This lack of context specific adaption is furthermore accompanied by an evaluation method solely based on the control of patient files, providing a limited picture of clinical realities and one doctor suggested: "It would be better to evaluate the competence of staff through observation".

Nevertheless, in principal the criteria chosen are perceived as appropriate by 56% however, with regard to a lack in capacity many perceive the indicators as exaggerated and impossible to achieve which is discouraging. While some see the solution in reducing the indicators, others feel they are necessary but that capacities have to be increased if there is to be a real change in behavior. For example one doctor explained:

“The PBF evaluation is a good idea; it motivates people to work according to good standards. At the same time it should not be an excuse for the management. They [management] cannot expect heaven from us if they don't increase the capacities for us to be able to pursue these guidelines. So PBF should be like a process. Let it be a way of progress and not a way of judging and control only”.

While the above flaws in the system pose a serious risk to crowding-out intrinsic motivation leading to de-motivation and a reduction of work efforts, the following chapter will reveal indicators for gaming and multitasking.

3.2.3 Gaming and Multitasking

The scale of this dissertation did not allow a full exploration into the issue of gaming and multitasking, nevertheless this risk is well acknowledged by all stakeholders.

Both organizations and management recognized that since most service providers currently understand the system as being primarily about primes there is a risk that “motivation to do a good job will be replaced by the motivation to get a maximum amount of money” (GTZ 2008). A large number of health workers define motivation as financial encouragement, indicating a change in the understanding of motivation from a state of mind to that of an incentive.

This can be particularly difficult in relation to an overburdened and under capacitated workforce where staff find it difficult to comply to the time consuming procedures, here the risk that data is ‘made up’ and reports are completed a day before the evaluation is particularly big.

While few would openly acknowledge that evaluation sheets are manipulated, it was several times mentioned that ‘corrections’ to the registers are made and at two of the hospitals it was observed that one day before the quarterly evaluation staff would be busy completing and preparing registers. One doctor expressed it the following way:

“It is not the files that are used to cover for bad behavior, but sometimes indicators are not useful so we just insert something, for example why do I need to note down the size of a patient when his arm is broken, especially when there are many more patients with other pressing problems waiting?”.

The same issue was mentioned by another doctor who claimed:

“There is a 40-50 % chance that people will fill out the forms [patient records] as they want to. So if they [management] want things on the form to be real, they should give us the capacity i.e. the appropriate number of staff”.

With the new PBF system clinical staff is now obliged to fill out comprehensive patient record forms if they want to receive full rewards, while at the same time due to the higher frequentation of services they have to see more patients. Not only are many frustrated, but 20% of health staff feels since they have to complete these procedures they actually have less time for their patients. Staff complains that their work has become too administrative and instead of treating the patient many feel they now ‘treat the files’.

The results presented above reflect the perceptions of the stakeholders involved in the Rwandan PBF initiative, they are not based on an impact evaluation and need to be understood in this context. In addition the dissertation explored one particular case and the heterogeneity of other health systems limits generalized conclusions, nevertheless the last chapter (Part IV.1) will conclude with some conclusions on best practices and lessons learned that have developed from the Rwandan case study and literature.

Part IV) Lessons Learned and Best Practices

Most importantly both literature and the Rwandan case study have demonstrated that health worker performance depends on a large variety of factors starting at macro level, to the characteristics of the work environment such as availability of equipment, safety, leadership and communication and equally importantly are issues related the individual health worker, particularly those factors associated with professional values and ethical standards.

Results of this research support the idea that 'motivation is not the same as motivation'. As the Rwandan case confirmed health professionals are not primarily motivated by extrinsic and monetary factors, but intrinsic motivation plays an important role and helping patients reduce their suffering, saving lives, professional values and ethical standards such as responsibility and working for the public good are rated more important than receiving high salaries. The case study supports existing findings that performance systems based on financial motivators have a too narrow understanding of the term incentives, underestimate the multidimensionality of motivation and performance and thus can be counterproductive. While these effects are difficult to measure, the findings indicate that PBF systems can crowd-out intrinsic motivation, change work attitude towards money, can be a risk for data manipulation and divert energy used for completing measured procedures away from treating patients.

However, this is not saying financial incentives in PBF systems necessarily have to be negative reinforcers (Beanbou & Tirole 2003) an just as external interventions can crowd-out they can also crowd-in intrinsic motivation and raise motivation to perform (Frey & Jeger 2001). Crowding-in happens when an outside intervention is perceived as supportive in which case self-esteem and self-determination are fostered. Material incentives are important and crucial elements of motivation, yet they are only useful in enhancing performance when they are complemented by an institutional arrangement which is perceived as supportive rather than controlling, that reflects the values and goals of the health-care system and covers both tangible and intangible rewards.

While it is essential to view expenditures relating to health workers as an investment, multifaceted reward systems do not have to be costly and for example providing verbal praise, recognition and positive feedback can enhance intrinsic motivation. Establishing open and transparent communication structures through publicly acknowledging work effort and publicizing particular achievements can be an effective motivator.

As has been confirmed by the Rwandan case education, career development and the provision of supervision are important factors that can crowd-in intrinsic motivation. The way PBF in Rwanda currently operates seems to provide little support to medical professionals concerning their personal and professional needs. Yet, if not accompanied by increasing support and capacity, PBF can be felt as a control mechanisms rather than a way of progress. Hence, supervision and training are interventions that deserve special attention, as they are one of the most effective tools for professional development that can improve health workers job satisfaction and increase motivation (WHO 2006; Rowe et al. 2005).

The findings further indicate that the success of the new system is threatened by the lack of human, financial and technical resources. No matter how high financial incentives are, staff cannot work correctly if they are burnt-out and work in an environment that is unsafe, lacks adequate buildings, equipment and other supplies (WHO 2006). Thus ensuring the availability of appropriate resources and establishing a safe work environment is a crucial precondition.

While the Rwandan PBF evaluation process involves technical supervision for the hospital management, the findings suggest a lack of skills, understanding and acceptance. It is however a necessary condition that management responsible for implementing PBF has appropriate management skills (Armstrong 2000), thus providing sufficient and continuous technical advice and training should be an important aspect of any PBF system.

As the Rwandan case revealed if performance rewards are based on the evaluation of certain indicators these indicators will improve. If medical staff is awarded on the basis of how they treat their patients, they will change their behavior according to the norms and standards set. Similarly, if the hygiene situation of hospitals is evaluated and rewarded both management and staff will make an effort to improve the situation. The same applies for reporting and communication structures and other functioning of the hospitals that are part of the evaluation indicators. Depending on good leadership such a reward and evaluation system can also foster creativity and entrepreneurship, as service providers have to find ways increase efficiency with the resources available.

Yet, while the indicators chosen for the Rwandan PBF are according to international standards and essential in order to guarantee highest quality care, it was demonstrated that in the context of resource poor environments such standards can be difficult to achieve. Knowing that one cannot achieve full points no matter how hard one works can not only be discouraging, impair self-determination and in the long term lead to reduction of work efforts, but as the Rwandan case shows the appropriateness of such indicators will be questioned.

This is particularly evident in relation to the standardization of indicators. While in Rwanda the reason for standardization was to assure equity and transparency service providers feel that indicators are not adapted to their work environment. The system was to leave hospitals room to maneuver in the implementation of the PBF initiative, but as has been demonstrated this is felt impossible where indicators are standardized and fixed, which can also be perceived as controlling. Feelings of injustice, control and impaired self-determination should be taken seriously as they can crowd-out intrinsic motivation and have adverse effects. Likewise, the excludability of criteria was chosen to

ensure equal treatment of patients, yet medical staff perceives this does not acknowledge their work effort and is discouraging. It was additionally shown that not being implicated into design and implementation can induce feelings of lack of recognition.

It can thus be concluded that there are no packaged solutions and policy makers have to be aware of the complexity of the contexts they operate in and thus develop organizational goals and criteria frameworks specifically for each organization. Within health organizations capacity is also often unequally distributed and context specific goals that are consequently more attainable and more motivating should be deployed.

This could be done most efficiently through including medical staff in problem analysis and generation of solutions, thereby creating ownership that not only helps to reduce the risk of data manipulation and prevents the system from becoming a production of results rather than impacts, but also gives staff an opportunity of choice and fosters feelings of self-determination that can lead to crowding-in. In addition if rules and regulations are created in participation this will facilitate the acceptance and internalization of the new rules and norms and they will not be perceived as controlling.

The Rwandan case further served as an example to show that establishing common objectives through rewarding the organization as a team can promote team spirit and improve the work climate. Awarding the hospital as a whole and determining individual rewards according to the success of the entire hospital, means that only through working together they can succeed. This can improve participation mechanisms, reinforce feelings of responsibility and promote internal accountability and self-monitoring. In addition this interdependence can enhance interorganizational relationships.

Furthermore, as suggested by findings from the case study a lack of clear communication and transparency can lead to misunderstandings and can thus be discouraging. Hence new institutional arrangements should be complemented through clear communication structures, training all stakeholders involved and disseminating written guidelines. It was also demonstrated that the clarification of tasks and distribution of clear responsibilities can increase feelings of accountability. If procedures are further carried out transparently and processes are fair and consistent they can increase motivation. In this context it was shown that unreliable payment of rewards is de-motivating and compensation should be adjusted to the reality of workload and paid timely.

The findings from the study illustrate that effective performance evaluation is more complex than measurement of outputs by means of controlling reports. Evaluation on the basis of inspecting documents can be experienced as unfair since it reflects only a small part of clinical reality and the difficulties that staff have to deal with, which can be discouraging. In addition extensive report writing can be perceived as altering and devaluating the task of medical professionals.

Nevertheless as the Rwandan case confirms, regular evaluation can provide management and staff with essential information on their strengths and weakness and can also be formative and supportive. To avoid an evaluation system from becoming a system that mainly controls reports, including observatory visits to each department could provide a more comprehensive picture of the work condition and hospital realities. This could also give medical staff the opportunity to express and

illustrate their opinions and needs, thereby also improving the feedback mechanisms. Such evaluation systems could further be enhanced through including direct supervision and training for medical staff into each clinical visit.

In the context of the evaluation the Rwandan peer-review mechanism has proved to be a strong institutional arrangement. The fact that evaluators themselves are implicated into PBF at their own hospitals facilitates the team in advising their peers, while concurrently creating a sense of ownership. More importantly peer-evaluation can generate important knowledge spillovers and facilitate the exchange of best practices and lessons learned.

Conclusion

The present dissertation was designed to explore the debate around Performance Based Finance systems in health and their role in solving the Human Resource Crisis in Health in Africa and using the case of the Rwandan PBF district hospital model illustrated the strengths and challenges of such systems. The findings confirm the assumptions made on the basis of the literature review that PBF systems can be effective in low-income countries in stimulating important changes in service efficiency and organizational accountability and setting incentives at organizational and individual level to change attitudes towards work and improve the quality of health-care. It was further illustrated that institutional changes are anything but neutral and experiences in Rwanda confirm that current strategies underestimate the multidimensionality of motivation and behavior and may even crowd-out intrinsic motivation and thus have adverse effects on the performance of health workers, thereby risking the quality of health-care and previous achievements.

The results from the Rwandan case indicate a need for an appreciation of systemic thinking while aiming to improve the quality of African health systems and demonstrates that PBF systems in health should adopt a more holistic approach to performance management, include multifaceted incentive and sanction mechanisms that are adapted to the systemic, organization and individual contexts, if they want to achieve sustainable results. While it has been demonstrated that it is impossible to develop blue print solutions and more rigorous research on the long-term impacts of PBF systems on motivation and health service quality is needed, the Rwandan case study provided important lessons and it can be hoped that the findings portrayed in this dissertation assist policy makers in Rwanda and elsewhere in developing appropriate solutions.

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Annex

**Qualitative Study on Performance Based Finance Systems
Procedure + Timeframe**

Main Topic	Sub-Topic	Activity	Time Frame
Phase 1: Preparation of Study	Step 1: Planning of fieldwork	▪ Choose target districts and hospitals and within targets	26 th June
		▪ Choose interviewees Kigali Partners of PBF	
		▪ Inform and arrange interviews	
Phase 2: Data Collection/ Situation Analyses	Step 1: Kigali Partners	▪ CAAC ▪ WB, BTC, MSH, HNI; IntraHealth, HDI, USAID, Cordaid, ESP, GTZ	27 th June; 30 th July
	Step 2: Kabutare Hospital	▪ <u>Hospital:</u> Hospital Management, Supervisors, Doctors, Nurses, Expats	03rd - 06th July
	Step 3: Kigali Partners	▪ CAAC ▪ WB, BTC, MSH, HNI; IntraHealth, HDI, USAID, Cordaid, ESP	7th – 09th July
	Step 4: Byumba Hospital	▪ <u>Hospital:</u> Hospital Management, Supervisors, Doctors, Nurses, Expats	10 th -11 th July
	Step 5: Ruhengeri Hospital	▪ <u>Hospital:</u> Hospital Management, Supervisors, Doctors, Nurses, Expats	14th – 19th July
	Step 6: Kigali Partners	▪ CAAC ▪ WB, BTC, MSH, HNI; IntraHealth, HDI, USAID, Cordaid, ESP, GTZ	21th- 23th July
Phase 3: Data Analysis and Report	Step 7: Analysis Report	▪ Analyse data and write comprehensive report	Ongoing – 21 August