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INSTITUTIONS FOR HEALTH CARE DELIVERY
A FORMAL EXPLORATION OF WHAT MATTERS TO HEALTH WORKERS
EVIDENCE FROM RWANDA

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Abstract[2]

Most developing countries face important challenges regarding both the quality and quantity of health care they provide and there is a growing consensus that health workers play an important role in this. Although contemporary analysis of development emphasizes the central role of institutions, surprisingly little work looks at how institutions matter for health workers and health care delivery, which is the focus of this paper. One reason for the scarcity of work in this field is that it is unclear what the relevant theory is in this area. We carry out a formal exploratory analysis to identify both the problems and the institutional factors that offer an explanation. Using qualitative research on Rwanda, a country where health care problems are typical but where the institutional environment is dynamic enough to embody changes, we find that four institutional factors explain health worker performance and career choice. Ranked in order of ease of malleability they are: incentives, monitoring arrangements, professional norms and health workers' intrinsic motivation. We discuss their role and the implications for future research.

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1. Introduction

Many developing countries face serious problems regarding the quality of health care. There is an increasing consensus that many of these problems have to do with both the performance and career choices of health workers, as they form the foundation for health service delivery and issues like poor attitudes towards patients, absenteeism, corruption and embezzlement have been well documented for a number of countries.[3] But although recent work on development emphasizes the central role of institutions[4], surprisingly little work looks at institutions for health service delivery, which is the focus of this paper.

At least one reason for the scarcity of work on this is that it is unclear what the relevant theory is in this area. Under these circumstances, it is useful to start with careful exploratory analysis, as suggested by Mookherjee (2004)[5], to identify the problems and to characterize the institutional factors that offer explanations; it may also serve as a base for the future formulation of theory and hypotheses.

We use qualitative research, which has been successfully applied for this purpose in medical and anthropological research[6] and focus on one country, Rwanda, where health care problems are typical but where the institutional environment is dynamic enough to identify changes. To

[3] See for example Olivier de Sardan and Yaffré (2003) who provide elaborate evidence for urban areas in much of Francophone Africa; McPake et al (1999) who provides evidence on coping strategies; Ferrinho et al 1998 who illustrates dual practice; Belli et al (2004) on informal charging and corruption; Franco et al (2004) on motivation, and Lindelow and Serneels (2005) on performance problems of health workers in Ethiopia more general. There is also quantitative evidence, for example Chaudhurry et al (2006) on absenteeism.

[4] For a more elaborate treatment of institutions, see Hodgson (1998), Acemoglu, Johnson and Robinson (2005). In this paper we broaden the definition of contracts by also taking into account implicit contracts (norms) and internalized norms. The fourth factor has more to do with market design.

[5] As argued by Banerjee et al. (2005), exploratory research is often not formalized in economic analysis but has an important role to play as it typically is the first stage, followed by the formulation of theory and hypothesis, and their empirical testing. Such exploration becomes even more important in areas where it is not clear what the relevant theory is, 'as is the case in most areas of economics' according to Mookherjee (See Mookherjee 2004, p7.)

[6] In practice, exploratory analysis in economics is typically quantitative in nature, adhering to the bias of the economics discipline towards quantitative research. As an illustration we carried out a search on the term "qualitative research" in two high ranked economic journals that specialize in overview articles: the Journal of Economic Literature (JEL) and the Journal of Economic Perspectives (JEP) and find that neither of the two has published a paper that uses this term (in title, abstract or body of text) over the last ten years, having issued around 960 and 760 papers respectively over the same period. Although other more specific terms may be used, this is a strong indication that, although there is some very good qualitative work (see for example Bewley 1999), the methodology seems to receive limited recognition within the economic literature.

that end we conduct semi-structured group discussions with health workers and users of health services in both rural and urban areas.

The discussions underline, first of all, that health workers make conscious, albeit constrained, choices about where, when, and how to work.[7] It also reveals that these choices mostly depend on four institutional factors: extrinsic incentives, monitoring arrangements, norms, and how to attend to intrinsic motivation. All four factors affect both the performance and career choice of health workers.[8] In what follows we briefly discuss each factor in turn.

Our analysis suggests that extrinsic incentives - the traditional focus of economics - are important, but that health workers take a much broader set of incentives into account than the ones that are usually considered. Apart from salaries and financial benefits - like free housing, free access to health care for their family, etc. – they also consider less tangible job attributes like access to training, chances of promotion, opportunities for holding a second job, etc., and more general factors, like whether the location of the job comes with access to good schools for their children and access to general infrastructure like electricity, water, quality housing, food markets, roads and transport, etc. Incentives in a more general sense seem to be important to help explain health workers' career choice and performance, probably more so than existing empirical research - which typically focuses on earnings in narrow sense, indicates. [9]

A second factor is about the arrangements regarding monitoring and accountability, which often tend to be weak. Sanctioning, for example, is usually absent or lacks credibility. However, given the wide range of tasks in which a health worker is typically involved. The need for monitoring is high, but the very nature of the work makes monitoring a challenge at

[7] Although this may seem obvious, it is in contrast with most work on human resources in the health sector, which typically views health workers are passive actors and assumes that they have uniform preferences.

[8] We distinguish these two groups of decisions: those related to the level of performance and those related to career choices. The former have to do with how many hours to work, to remain absent from work or not (for example in order to carry out a second job), what quality of health care to provide, whether to engage in inappropriate activities such as pilfering drugs and informal health care, etc. Career choices have to do with the type of job, sector and location to work in: the choice between working in the public, private-for-profit or faith-based sector, between working in an urban or a rural setting, between clinical care and public health, whether to move abroad and even whether to stay in the health sector or not. The quality of health care provided by health workers are determined by both performance and career related choices. The latter affects the former since a job that matches better with the health worker's preferences typically leads to better performance.

[9] Existing research suggests that earnings in a narrow sense has limited effect on performance (see for example Van Rijkeghem and Weder (2001), Barr et al (2004)).

the same time, calling for more innovative approaches, like performance pay and community monitoring.[10]

This brings us to a third factor, namely norms. The discussions suggest that health workers who are surrounded by a culture of poor performance, for example those in the public sector, are more likely to also perform poorly, while those working in a place encouraging performance - for example in the faith based sector - perform much better while receiving the same salary. That norms directly affect a worker's performance and career choice confirms both existing theory and evidence, suggesting that workers internalize norms over time – be it at the level of the work place culture, the profession or society at large – to guide their own behaviour (Deci 1975). [11]

A final factor is the role of intrinsic motivation, or the inclination to provide medical care for its own sake - without taking into account external incentives like earnings or social status. Health workers as well as patients talk about the importance of 'vocation', and how 'commitment' may be different across sectors. It underlines the importance of intrinsic motivation for both performance and career choice, as suggested by theory[12], and calls for an analysis of how institutions take differences in intrinsic motivation into account.[13]

In the next section we describe the data and methodology, while Section three discusses the performance problems of health workers and the wider context in Rwanda. Section four discusses the institutional factors, while Section five considers two institutional innovations; Section six concludes.

[10] The need for monitoring is usually considered in a principal-agent framework, stemming from information asymmetries between employee and employer.

[11] Bartel et al (2003) for example show in their study of a US bank that differences in norms and attitudes in different braches have a direct effect on performance. Barr and Serneels (2008) show that workplace norms are related to firm performance among Ghanaian Manufacturing firms. Bowles (2001) discusses how norms also affect career preferences.

[12] See for example Deci (1975), Krepps (1997), Benabou and Tirole (2003). Intrinsic motivation is usually seen as an individual characteristic that is a long term product of both nature and nurture, and that cannot be changed in the short term.

[13] One example is the allocation of health workers to rural jobs: do those who want to work in rural areas, get a chance to do so?

2. Method

Qualitative research offers an appropriate tool for exploratory analysis. Group discussions in particular are useful as they reveal and contrast a multitude of perceptions and opinions, and have been used with success in both medical and market research. The factors described above emerged from analysing the qualitative data we obtained from semi-structured group discussions with health workers and users of health services in Rwanda. Following a strict methodology in the preparation, implementation and analysis of the discussions, we heard the opinions of 73 individuals, 48 health workers and 25 users of health services. In order to have an open discussion we held six separate group discussions with different levels of health workers - doctors, nurses and auxiliary health workers, half of them in an urban area, the other half in a rural town; and three group discussions with users: one in an urban area, one in a provincial town, and one separate discussion with Persons Living with HIV/AIDS (PLWHA). To allow for a richer exploration we tried to maximize within-group heterogeneity by selecting the participants using a number of criteria that affect performance and career choice, like age, gender, having children or not, the sector of activity (private for profit, private not-for-profit, public), the type of facility (hospital, clinic, health post), having multiple jobs or not, and working at a facility with a performance initiative.[14] Table 1 presents the set up of the groups and the profile of the participants.

[14] We also took into account technical criteria to facilitate group dynamics (like selecting participants who are not shy and who do not knowing any of the other group members). Some challenges arose with identifying health workers employed in rural private facilities – which are very scarce- and female doctors working in rural areas.

Table 1: Discussion Groups and Participants

	Kigali	Provincial Town	Total	Percent of total
Focus groups	**5**	**4**	**9**	**100.0%**
Auxiliary nurses (A3 & A4)	1	1	2	22%
Nurses (A1 & A2)	1	1	2	22%
Doctors (A0)	1	1	2	22%
Health users	1	1	2	22%
Persons living with HIV and AIDS	1	0	1	11%
Health workers	**24**	**24**	**48**	**100.0%**
of which: Auxiliary nurses	8	8	16	33%
Nurses	8	8	16	33%
Doctors	8	8	16	33%
Female	17	8	25	52%
With children	22	19	41	85%
below age thirty-six	15	10	25	52%
Public	18	20	38	79%
Private for profit	13	2	15	31%
NGO	1	2	3	6%
has formal second job	3	2	5	10%
with performance initiative	11	16	27	56%
Users	**17**	**8**	**25**	**100.0%**
of which: Persons living with HIV/AIDS	9	0	9	36.0%
Other patients/users	8	8	16	56.0%
Female	10	3	13	52.0%
With children	17	8	25	100.0%
last visit in health centre	7	7	14	56.0%
last visit in hospital	10	1	11	44.0%
last visit in public sector facility	13	5	18	72.0%
last visit in private for profit sector facility	2	0	2	8.0%
last visit in NGO/faith based facility	2	3	5	20.0%

The study was implemented in November 2005 and the discussions took place in a meeting room in a health facility[15], were semi-structured using detailed scripts, lasted on average two hours and a half, and were held in French for the doctors, nurses and pharmacists and in Kinyarwanda for the auxiliary health workers and the users. All discussions were recorded and transcribed in French.

The transcripts were then coded, which means that a label was attributed to each unit of text or quotation, reflecting the underlying content of the topic discussed.[16] A quotation can be given different codes when it refers to different topics at the same time. Where this occurs, the association of codes can be analysed. In total 1,203 quotes have been examined and 35

[15] Except for the discussion with PLWHA, which took place at the headquarters of the Rwanda Network of PLWHA

[16] This is a coherent entity of text varying from one sentence to a number of sentences.

codes have been used, reflecting the diversity of the issues of interest in the study. The quotes reported in this paper are selected because of their salience and because they reflect themes and issues recurrently brought up by participants. The text was analysed with QSR NVIVO 2.0, which also allows for a limited quantitative analysis relating to the associations between quotations, which we include in the text.[17]

3. Health Service Delivery in Rwanda: Context and Challenges

Despite substantial economic growth and significant financial resources allocated to the health sector, Rwanda's health outcomes remain poor.[18] Major health indicators including infant, child and maternal mortality as well as life expectancy at birth remain below the Sub-Sahara African average (WHO, 2006). The Government of Rwanda has done major efforts to rebuild the health system since the 1994 war, and this has resulted in important improvements in health infrastructure. Nevertheless, the utilization of health services remains low at 38%, with a declining trend in utilisation between 1997 and 2003 (Ministry of Health, 2005). This low utilization occurs despite a high population density - a stark contrast with most Sub-Sahara African countries - and a traditionally mixed public private health sector, which could both work in favour of utilization.[19] Analysts agree that human resources for health form the main explanation for this poor performance and are a key constraint for better health service delivery in Rwanda.

What are the problems with human resources for health in Rwanda? As for many other Sub-Sahara African countries, the challenges can be divided into those related to the size and distribution of the workforce, and those related to health workers' on-the-job performance.

With respect to workforce size, Rwanda has a low health worker to population ratio, even by Sub-Sahara African standards: for eight out of nine staff categories Rwanda scores below the

[17] Since the discussions followed a preset script, we can compare the number of quotes for a topic. A large number of quotations is seen as suggestive of the relative importance of that topic to health workers. A low number of quotations corresponds to the situation where the interviewer has prompted health workers about a topic but gets very few replies because the topic is not an issue.

[18] Economic growth has been 7% per year since 1996 (IMF, 2008) and public resource allocated to health reached 12% of the national budget in 2004 (WHO, 2008).

[19] The health sector in Rwanda has been characterized by a mix of public and private sector for most of its recent history. However, while in the past not-for-profit and faith based organizations dominated the private sector, for-profit health facilities are increasingly put in place, especially in the capital. The not-for profit sector has also undergone change in recent years due the increased presence of donor funded public health programmes, such as the Global Fund, the Bill and Melinda Gates Foundation, etc.

regional average.[20] Community health workers are the only exception, as Rwanda has comparatively more of them.[21]

While health workers who participated in the discussions recognize this picture, they also point at shortcomings in human resource practices and education policies that exacerbate the situation. Facilities that have been mandated to recruit staff directly often seem to lack the resources to do so. As a consequence especially junior nurses often have to wait before they can take up their first job. On the education side it is a mystery to most health workers why there is still a numerous clausus for medical students, while the limited access to secondary education in general restricts the number of students who can enrol for either nursing or medical studies.

Since health workers can choose where to work, the least popular positions tend to be understaffed. This is especially the case for higher educated health workers who are more scarce and can therefore be more picky about their place of work. A good example is the shortage of health workers in rural areas. In 2006 only 17% of health workers in the public sector took up a job in a rural area (Ministry of Health, 2006). When health workers in our research talk about frustration and dissatisfaction in the profession, they frequently relate this to rural postings (in 15% of the cases). Private sector positions are often more popular than public sector ones, while jobs in public health seem to be more popular than those in clinical care, because they are often better paid, but also because they involve no health risks. Still, when a job compensates for this kind of risks, it manages to attract health workers.[22] Our research suggests that higher earnings definitely contribute to the higher popularity of private sector jobs: when health workers talk about high pay, in 15 out of the 17 cases they refer to the private sector, for-profit or NGO's, and often mention HIV/AIDS services.

[20] It has less than one fourth physicians per 1000 inhabitants compared to Sub-Sahara Africa as a whole, less than one half nurses and midwives, less that a sixteenth dentists and technicians, about half the pharmacists and technicians,etc. (WHO 2006). Although the differences may to some extent be justified by the fact that population density is much higher and as a consequence less health workers per population are needed, this does not justify the large difference, as the figures remain very low to equally populated areas elsewhere. Rwanda does, however, have three times as much community health workers per 1000 inhabitants.

[21] To address these shortages, the Ministry of Health has set up staffing norms for each type of facility. Actual staff numbers remain far below these targets with less than 30% filled (Ministry of Health, 2006).

[22] An illustration is the premium many NGO's pay to physicians involved in HIV/AIDS medical services, paying 6 times as much as the public sector for similar services (MMinistry of Health, 2006).

While shortages in some positions - for instance in rural areas - are a fact, they should not be taken as a fait accompli. Job attributes, including earnings, can be changed in order to make these positions more attractive. It is also important to bear in mind that health worker preferences are heterogeneous, with some health workers choosing to provide health care where it is needed most, and that preferences can be moulded to some extent as we will discuss later.

Box 1: Unbalanced allocation of Health Workers

Rural areas are intolerable; life is difficult. If you want your child to grow, you cannot accept to work in a rural are. When you go there, you will plunge yourself in a routine, will not be able to increase your living standard, and you eventually become a peasant. Auxiliary worker in Kigali

It is Siberia! Doctor in Kigali

In a rural area, a doctor kills himself. He looses all elements that make up a real doctor, and will end up with 25% of what he knew A doctor in a rural district

Nurses working in the rural areas are not satisfied and insult the patients; while doctors working in the rural areas become bitter to the point they don't take hitchhiking patients, and all that because they're stuck in the rural areas. User in Kigali

(...) there's no plan of development for a doctor working in the rural areas; once you're affected to the rural areas, it's as if you're lost in the rural areas. The lack of this career development for the doctor in a rural area means that once you're affected or mutated, it's like a punishment. Doctor in a rural district

Apart from shortages in some types of posts, a second type of problem is health workers' on-the-job performance. In the discussions, health workers themselves as well as the users of health services identified a number of problems, which can be summarized in four categories. Firstly, many health workers have poor attitudes towards patients and seem to have weak patient management skills. They are frequently impolite and rude, favour some patients above others and often care little about the long waiting times for patients. The importance of this issue for users is underlined by the fact that 61% of the quotes from users are about the reception of patients and health worker attitudes. Absenteeism among health workers is a second problem. Many health workers stay absent from work during parts of the day, or sometimes the entire day, and this appears to be mostly related to a second job and particularly high among health workers in urban areas and doctors. About 40% of the quotes on absenteeism (26) refer to doctors, underlining that they can organise their own time schedule freely. A third problem is the presence of corruption and embezzlement among health workers. Corruption varies from asking bribes to helping patients jump the queue or escape high bills, to asking extra payment for services outside working hours, or in some

cases falsification of documents. Sometimes monetary gifts are perceived as a token of gratitude. Embezzlement of drugs and materials also occurs, as materials are taken away from the facility to be used in the provision of informal care, while drugs are often sold on in the market. We collected 73 quotes on inappropriate behaviour, indicating that it is firmly present. Interestingly, examples almost exclusively refer to unorganized and petty corruption. A final problem is the lack of medical skills among health workers, especially among nurses and auxiliary health workers, who are themselves concerned about their own lack of knowledge, for instance in how to deal with HIV/AIDS. The latter is confirmed by people living with HIV/AIDS, who complain about the lack of knowledge among health staff.

All four types of performance problems turn out to be far more important in the public than in the private and faith-based sector. Patients emphasize that health worker attitudes are better in private-for-profit and faith-based facilities; health workers point out that absenteeism, corruption and embezzlement are lower in the private sector. Both patients and health workers suggest that this has to do with the higher pay, the superior monitoring and accountability mechanisms, and the difference in work culture in the private sector, while health workers in faith-based facilities are moreover perceived to be more committed. But the respondents suggest that the situation in public facilities is improving with both absenteeism and embezzlement of drugs apparently falling. The implementation of performance related premiums, the training of health workers on quality assurance and the increased monitoring of health workers by community representatives are perceived as playing an important role in this and this.

Although our research focuses on Rwanda, all the problems we identify seem to arise in other countries. Explorative research for Ethiopia similar to ours identifies very similar problems, while Olivier de Sardan and Yaffre (2003) find similar problems for most capital cities in Francophone West Africa. [23]

[23] see Lindelow and Serneels (2007) and Olivier de Sardan and Yaffre (2003) respectively.

Box 2: Performance Problems among Health Workers

Poor Attitudes

To receive the patients well, you need sufficient and capable personnel. The faith-based sector has enough personnel and equipment, but the public health centre often lacks personnel and equipment. Therefore people don't like to go to public health centres. User in a rural district

Health workers in the public sector may receive patients badly because they know there are no consequences, but in the private sector the employer is usually around and observes how things are done.
Auxiliary health worker in Kigali

.. and if you dare saying you feel bad, they react angrily which makes you even sicker. User in Kigali

There was a mother who took her ill baby to the hospital asking for drugs and the nurse said 'Go away, when your baby dies, I will deliver another one for you'; the nurse is still working at the hospital; unfortunately the baby is dead. User in Kigali

Health workers [in the public sector] insult patients who are for example dirty. Auxiliary worker in Kigali

Absenteeism and shirking

Doctors are more absent in the public sector than in the private sector. Doctor in a rural district

To some of the remote health centres, you can go and find no one to receive you. User in a rural district

When the State has prevented you to take up another job, for example with an NGO. Then, you just act as if you work. Doctor in Kigali

Many health workers pretend to work. Doctor in Kigali

Corruption and Embezzlement

Patients paid more than was reported in the register, we've found many of those cases.
Auxiliary worker in Kigali

There may for example be an agreement between the patient and the nurse: the patient leaves at night and in the morning it is observed that the patient left without paying. In fact he has given money to a nurse.
Doctor in Kigali

Some doctors sign medico-legal documents making things up. Nurse in Kigali

The theft of small material is really very frequent but you can never know who did it. Auxiliary worker in Kigali

We had a case where nurses embezzled drugs, sold them, took the money of the community and used it for their proper consumption. Doctor in a rural district

The embezzlement of drugs had become important but now we require that when leaving the office you show the next person what is not there. Auxiliary worker in Kigali

Lack of technical Skills

There are health centres headed by an auxiliary health worker; this leads to problems regarding the quality of care. Doctor in Kigali

In our health centre there's only one A2 nurse. When she leaves for training, I remain alone and do everything without being properly educated. I do it but it really is a problem Auxiliary worker in a rural district

Our knowledge is not sufficient. The training that is administered does not arrive at our level.
Auxiliary worker in a rural district

4. How Institutions Explain Health Worker Behaviour

Four institutional factors emerge from the discussions that, through their effect on health worker performance and career choice, have a determining influence on the quality of care provided: incentives, monitoring and accountability, norms and work place culture, and intrinsic motivation. We discuss each in turn.

4.1 The Role of Incentives

Classic economics argues that people who are paid more, perform better. But there is no consensus why this is the case, as the relationship can go both ways. Workers may be performing better because they are paid more, or they may be receiving higher payment because they perform better. In a public sector context, where rewards are heavily regulated, the question then becomes whether the existing rewards are sufficient to either make health workers perform well or to attract workers who perform well. There is limited empirical evidence on the relationship between payment and performance in the health sector. A small literature looks at the effect of earnings on corrupt behaviour, and suggests that the effects of earnings in a narrow sense are small. Barr et al. (2003), for example, using a behavioural experiment, find that earnings reduce embezzlement, but that the effect is limited, while Van Rijkeghem and Weder (2001), using cross-country data, find that higher public servant salaries (relative to manufacturing wages) are associated with less corruption, but neither Treisman (2000) nor Rauch and Evans (2000) have been able to replicate the result. They do find suggestive evidence, however, that employment security and recruitment and promotion have a more important effect on corruption, suggesting that job attributes in a more general sense have a larger effect on performance. Similar evidence emerges from another strand of the literature, such as the - mostly exploratory - work on absenteeism among health workers. Chaudhury et al (2006) find for example that absenteeism is lower when facility conditions are better, while Banerjee, Deaton and Duflo (2004) find that it is highly correlated with the cost of getting to work.

Incentives and rewards also affect health workers' career choices, as they determine how attractive a position is. As argued by the theory of compensating wage differentials, jobs with less attractive attributes typically offer higher wages in order to attract workers. Serneels et

al. (2007), using contingent valuation, determine what wage premium is needed to make health workers in Ethiopia take up a rural post. They find that, to get 80% of health workers take up a rural position, public sector salaries for nurses and doctors need to increase with 57% and 83% respectively, suggesting that small changes in salaries will have a limited effect on the distribution of health workers.

Our research confirms that incentives and rewards affect health worker performance and career choice, but especially when interpreted in a broad sense. Apart from earnings, which include the health worker's salary and his compensation for over-time, other financial benefits like the health worker's pension, the per diem he receives for field work or training, and the reimbursement of health care costs for his family members, are also important. Non-financial benefits, like access to training, and other contractual stipulations, like job security, are also recognised as important job attributes. Finally, indirect factors that are associated with the place of work, like access to quality housing and infrastructure, including good education for their children, and access to other income opportunities, like a second job, also play an important role.[24]

The importance of earnings is underlined by the fact that insufficient reward is the single most important source of frustration among health workers with 25% of the quotes about low satisfaction referring to low remuneration. Especially lower level health workers indicate that their earnings are not sufficient to satisfy the basic need of family life. Because earnings are modest, health workers often engage in secondary activities. This has an effect on their performance, and health workers argue that they would perform better if they would get a higher salary. The rewards associated with a job certainly contribute to explaining health workers' job preferences. Posts in rural areas, for example, come with lower access to infrastructure and good schools, lower availability of secondary activities, and lower access to alternative employment opportunities; they also have a cost of personal and professional isolation attached to them and may limit future career opportunities.[25] Doctors, for instance, have almost no incentive to work in rural areas since they earn more, can specialise, and enjoy a higher quality of life – both professional and personal - in urban areas. Because of this large

[24] Serneels et al. (2007) provide quantitative evidence that especially access to education for children, access to training and promotion for the health worker himself are key factors in the choice between a rural and urban post.

[25] Because the quality of care in rural facilities is typically basic, working in a rural post is historically seen as a signal of low skills. Not-for-profit facilities and NGOs often value rural experience.

difference between urban and rural areas, remoteness benefits, which typically represent only a small percentage of the salary, will have a limited effect, although they may convince some health workers. A more detailed quantitative analysis is needed to find out what premium is needed.

Differences in rewards also help to explain the choice between sectors, but again, only to some extent. Although many health workers prefer to work for the private for-profit sector, which pays the highest wages, some prefer to work for the public sector because it offers higher job security, access to training, and access to medical care at a reduced cost. Still others prefer to work for the faith based sector, which follows the public sector salary scales but also provides additional financial benefits, and usually provides on the job training. Thus, salaries by themselves seem to have some but not enough power to attract health workers to certain positions.

Box 3: The Importance of Incentives for Health Worker Performance and Career Choice

Earnings

Doctors' salaries should be increased in order that, when he goes to work he does not go to work for just some hours and then goes elsewhere to earn more. User in Kigali

If we want a doctor to deliver a good service, he needs to have a good salary, to live, to ensure his family can live, and to ensure that when he treats 10 patients, they are treated well. Person living with HIV/AIDS

If our salary were increased, we would work better and, moreover, be extremely happy while at work. Auxiliary worker in a rural district

We have friends - lawyers, economists, and others - and when we talk to them, we hear what they earn, and find that they earn much and work little. Doctor in a rural district

In the private sector or in an NGO, one earns a lot of money. Nurse in Kigali

Public health pays best. They are paid but do not have to work. Doctor in Kigali

Other attributes

There is the training, medical care, annual salary increase. The most important advantage of the public sector is the access to low cost medical care; we only pay 15% of the bill, even of the drugs. Nurse in Kigali

Stability

What's important is the job stability. In the public sector one has more security even if one is not paid as good as in the other sectors. Nurse in Kigali

It's true we've been talking about salary and other problems in the public sector, but it's not like with those Americans [who are investing in public health by starting new NGOs] who are here for a set period only and will leave afterwards, so they can chase you out any time. Then it's better to earn a small but regular sum of money. Auxiliary worker in Kigali

In private health centres, one never signs a contract. You just draw up a convention and when it's necessary, the employer fires you, but as long as you work well, he keeps you. Auxiliary worker in Kigali

Training
An advantage of the public sector is that one receives training. Auxiliary worker in a rural district

If we had the choice between training and salary increase, we'd choose training. Nurse in Kigali

A specialisation is generally obtained in the public sector; it's far more difficult to specialise in the private sector. Doctor in Kigali

Public-private
You can't compare the faith-based sector with the public sector, for example, in certain faith-based hospitals, they have specialists coming over and staying for one or two months and then you receive training.
Doctor in a rural district

Rural urban
In the public sector, it is encouraged to work in the rural districts and you receive a premium. Nurse in Kigali

It's necessary to have a second job. Experience shows that almost all doctors in Kigali have a second job. In the rural areas, this is not possible because there are no opportunities for a second job.
Doctor in a rural district

What we would need to be motivated to go to a rural area? A salary increase. Equipment. The possibility for further training. Access to education for the children. Doctors in a rural district

Doctors in the rural areas have a particular reputation in the medical corps, they make many mistakes and do things in a mediocre way Doctor in Kigali

In the rural areas, a doctor would kill himself You loose all that makes you a real doctor, you end up with 25% of what you knew A doctor in a rural district

4.2. Monitoring and Accountability

Monitoring and accountability form a second factor that affects both performance and career choice, and although they are important in any employment, they are especially important in health professions. Indeed, since health workers engage in multiple tasks for which the outcomes are often difficult to observe, employment contracts are highly incomplete leaving plenty of scope for moral hazard.[26] The role of monitoring is attracting growing attention in micro-economic analysis and specifically for public servants.[27] Generally speaking, monitoring can take different forms: agents can be monitored from above – in our case by their superior or a representative (for example a health inspector), from aside – by their colleagues and peers, or from below – by their clients or the community they serve. Regarding the subject of monitoring, there are two approaches: monitoring can focus on

[26] See for example Dixit (2001) and Le Grand (2003) for a discussion on these themes for civil servants.
[27] One of the key reasons seems that it helps to explain why contracts are relatively simple in practice, in contrast to what theory predicts. Indeed, the literature on contracts, mostly theoretical in nature, does not seem to fit with the empirical observation that in reality most contracts are relatively simple, as argued by Chiappori and Salanie (2002).

outcomes or on processes. An important question is how much monitoring is needed. Too little monitoring is ineffective, while too much is inefficient and may negatively affect performance as it erodes motivation. Also important is the sanctioning mechanism. Monitoring is likely to have limited effect without credible sanctioning. Serneels, Lindelow and Lievens (2008), studying absenteeism in the health sector in Ethiopia and Rwanda, observe that punishment in case of detection is very unlikely, rendering any monitoring strategy ineffective. There is, however, limited detailed empirical evidence on the role of monitoring and accountability because one needs institutional variation to study the impact of monitoring. Existing work on the education sector indicates that monitoring can have large effects, for example on teacher absenteeism (Duflo et al.,2007) or on the management and fund allocation at the school of funds at the school level (Reinikka and Svensson, 2004). Evidence from behavioural experiments also suggests that how the monitor is appointed – for example whether he is elected by the community or not – has an effect on performance (see Barr et al. 2004).

Health workers and users have much to say about monitoring and accountability with 80 quotations directly attributed to this theme. They confirm that it is difficult for employers to monitor health worker performance and that monitoring and accountability systems can differ greatly across sectors and locations; they are weaker in the public than in the private and faith-based sectors, and less present in remote areas. Users point out that health workers are not sufficiently accountable. Sanctioning for bad performance is unheard of, except for specific and extreme cases of recurrent misbehaviour, like drinking and fighting at the workplace, according to health workers themselves. Especially doctors are weakly supervised. The annual performance evaluation system that is in place in the public sector with the aim of monitoring individual behaviour is seldom used, and where it is used, it is perceived as too subjective. The current efforts from the Government of Rwanda to attribute a larger role to community monitoring and to reduce the need for monitoring by making pay more dependent on performance, have created high expectations; we evaluate these new interventions in Section 5.

Box 4: Monitoring and Accountability

There's no system of supervision in the public sector. Doctor in Kigali

Here in the hospital, a nurse can commit a professional mistake but there is no law that can punish him. User in Kigali

In the faith-based sector, health workers are continuously monitored. It's impossible to have time wasted. User in a rural district

In the private sector, you're sacked even for a minor mistake, but in the public sector you're sacked only if you're really impossible. Auxiliary worker in a rural district

It also depends on where you work; fraud can occur in public health centres, but in the faith-based or private sector it's far more difficult since the control is much more rigorous. Doctor in a rural district

We have an annual evaluation that should normally be sent to the Ministry of Health, but it is not respected and is not being done regularly. Nurse in Kigali

Performance is evaluated using an evaluation form, but it is of no use because there is a problem of objectivity: who evaluates whom and how? Nurse in Kigali

I give everybody "very good"; it's subjective because there are no objective criteria. Doctor in Kigali

4.3 The Role of Norms

Norms can generally be seen as an implicit way of monitoring or an implicit contract enforcement device (see Fehr et al 1997). Professional norms are believed to be fundamental in constraining opportunistic behaviour among service providers, especially in the health sector.[28] For our purpose, we can think of three relevant levels of norms: society wide norms, professional (peer group) norms, and workplace norms. Society-wide norms are relevant because one expects that, ceteris paribus, corruption among health workers will be higher if there is more corruption in society at large. Peer group norms are important because they determine professional success and recognition; they are guarded by a professional body, like the Order of Physicians. At the level of the work place, norms provide a way of monitoring daily behaviour like attitudes towards patients, work ethic and engagement in corrupt activities.

The group discussions focus on norms related to professional and workplace culture. Professional norms are typically acquired during professional training, and there are

[28] See for example Frank (2004), Ferrinho and Van Lerberghe (2000, 2002), Ferrinho et al (1998) and Tendler (1997).

indications that the strength of norms varies across schools.[29] Work place norms vary substantially across sectors. Private for profit facilities seem to be more client oriented, but also more money oriented, have a heavier work load, while health workers in not for profit facilities have a reputation for being dedicated. Public sector facilities have the most damaged image, and are perceived as having weak work ethics. Some work place norms have been transformed into bylaws, which health workers are expected to follow. With the foundation of the Ordre des Médecins in 2001, professional norms are now being evaluated and health workers place high hopes in this auto-regulatory body to enforce internal rules and provide credible punishment where needed. Nurses have expressed their hopes that they too would have an Order soon.

Box 5: Professional and Workplace Norms

The regulations are clear, if you are working for the government, you are expected to have a certain attitude.
Doctor in a rural district

The bylaws consist of a number of rules to follow. If a person does not respect a rule, he is told so and informed about the sanction, the first time orally, the second time in writing. If it happens another time, the sanction is applied.
Nurse in a rural district

If you compare the public and the faith-based sector, you'll find that there are more problems in the public sector because the health workers know they cannot be sacked easily.
User in a rural district

I have the impression that there is a system when it really goes very badly, when it is absolutely clear that there is a problem, then, something is done, the person is blamed or something else.
Doctor in Kigali

Since the order of doctors has been created there have been investigations undertaken, and some doctors have been suspended.
Doctor in a rural district

People love to go to the private sector because the health personnel speak kindly. They treat few patients and take time to speak at length with them; consequently, when the patients leave the health centre, they are very happy.
Auxiliary worker in Kigali

4.4. Intrinsic Motivation

As mentioned earlier, intrinsic motivation is the urge to do something for its own sake. It comes about as the internalization of norms over time, but since this is a slow process, intrinsic motivation should be considered exogenous in the short run. Intrinsic motivation affects performance in the sense that more motivated health workers tend to perform better. It

[29] An alternative way to look at norms obtained at school is to consider them as socialized motivation, as described in the next section. As norms taught during professional education are internalized, they shape motivation, which at least in part springs from norm that are internalized over time.

can be seen as a self-enforcing contract that leads to a higher performance outcome (Deci, 1975).[30] A weakness of many existing payment schemes is that they do not take into account the heterogeneity in performance due to differences in motivation, an issue that performance pay may be able to address.

Intrinsic motivation also affects career choice as it is highly correlated with career preference. [31] Individuals prefer a job that satisfies their intrinsic motivation.[32] An important question is also how candidates are allocated to jobs. In Rwanda matching takes place through a largely unregulated market – thus taking into account differences in preferences and intrinsic motivation.[33]

Although intrinsic motivation should be considered constant in the short term, it may change in the long term. This may happen for two reasons. First, new norms may be internalized over time. For instance, health workers who happen to work in a corrupt environment for a long period of time may revise their norms and 'get socialized into corruption'. Second, extrinsic incentives may crowd out intrinsic motivation. Seabright (2002) illustrates how satisfaction derived from intrinsic motivation may conflict with that derived from extrinsic incentives, explaining why paying for activities that are done out of intrinsic motivation may reduce performance. Titmuss (1970) makes a similar point much earlier emphasising the importance of altruism in the organization of blood donation. [34]

[30] which is more likely to arise in some environments - such as NGO's - than in others because these environments are better suited to overcome agency problems (see Glaeser, 2001; Pauly, 1987*)*

[31] Serneels et al (2007), using quantitative analysis, finds for example that motivation is a major explanatory factor of health worker's willingness to work in a rural area in Ethiopia, and that motivation is both related to exogenous variables (like gender and age) and potentially endogenous variables like having attended an NGO school.

[32] Besley (2005) argues that how a system functions already builds in selection criteria. Applying this to politics, he argues that the political system in itself determines who self-selects into politics.

[33] Allocation mechanisms - whether an unregulated market, a regulated market or an alternative allocation mechanism like a lottery- have received some attention in high income countries – see for instance Roth and Sotomayer (1990) for how the allocation of medical doctors in the US has been redesigned over time- but have received very limited attention in developing countries, and there is certainly place for a more active role in the design of these institutions. Roth (2008) points at typical problems like thinness and congestion, and argues that allocation can be engineered to be more efficient.

[34] The best known example for this is provided by Gneezy and Rustichini (2000) who show that when a fine is imposed on parents for picking up their children late from Kindergarten, more parents come late. The reason is that they do no longer see 'being late' as conflicting with their intrinsic motivation, but now see as it as an entitlement for which they pay. For other work on the crowding out of intrinsic motivation see also Benabou and Tirole (2003).

Health workers in Rwanda make generous use of a religious vocabulary when describing their motivation to work in the health sector, using words like 'vocation', 'devotion' and 'apostolate'. They attribute an important role to intrinsic motivation, arguing that one needs to have high intrinsic motivation to surmount low pay relative to high effort, poor working conditions, the lack of career perspectives and the risk of getting HIV/AIDS. Some participants argue that intrinsic motivation is related to religious beliefs and those working for the faith-based sector are said to be 'more committed' to their job than others. In general, the discussions indicate that there is substantial heterogeneity in motivation among health workers. Because of the importance of intrinsic motivation, health workers are concerned that the performance initiatives, which provide bonuses according to reaching quantifiable objectives, may erode commitment because performance is typically measured in terms of quantifiable objectives, and may stimulate a more 'mechanical' behaviour among health workers.

Since health workers can choose freely where they work in Rwanda, and social relations are perceived less important to get a job compared to the past[35], those with high intrinsic motivation self-select into positions they like, for instance posts in the faith-based sector or in rural areas. The for-profit sector, which often puts higher demands on health workers and also provides higher payment, may attract a different profile of health workers. The public sector seems to attract health workers who plan to continue for further specialization, or those who do not find a job in the (for-profit or not-for-profit) private sector.

[35] Job mobility between the sectors is said to also have increased in recent years. Recently, the Ministry of Health (MOH) tried to reduce the outflow of health workers from the public to the private sector by issuing a circular note that should restrain Non Governmental Organisations (NGO) in their aggressive approach to attract health workers from the public sector.

Box 6: Intrinsic Motivation

Some say being a health worker is an apostolate. Doctor in a rural district

Whether you want it or not: when you study medicine, you have a vocation. If you do not have this vocation, you will fail. A doctor needs to be permanently devoted; a doctor without devotion is not a doctor. Doctor in Kigali

When you have a vocation it is impossible to do something else. Auxiliary worker in a rural district

There is always this vocation, which pushes you to continue even if conditions are not met: the salary, the equipment, the other colleagues, the professional environment; but since lives are threatened, you are pushed to continue, the situation is more or less comparable in the public, private or faith-based sector.
Doctor in a rural district

We always work longer than the planned timetable, it's a vocation; you cannot leave a patient because it's time to go. Nurse in Kigali

Health workers in the faith-based sector are more committed to their work compared to those in the public sector.
Auxiliary worker in a rural district

Today, health workers only seek money. Person living with HIV/AIDS

5. Institutional Innovations for Service Delivery

We focus on three innovations that are being implemented in Rwanda and deserve special attention: the gradual implementation of performance pay, the establishment of community health committees and the training of health workers in attitudes and patient management skills.

Performance Pay

In the private for profit sector pay is typically related to performance and workers who perform well receive a higher salary. This has inspired policy makers to establish a similar performance related pay system in the public sector. In 2001 the Government of Rwanda started the Initiatives for Performance (IP) in a number of public and faith based facilities. IP makes part of the funding that a facility receives dependent on its performance. An important characteristic of IP in Rwanda is that performance is not measured at the individual level, but rather at the facility level and it is thus the facility that receives a reward if it performs well. The facility itself determines how to distribute the premium among the health workers, so there is scope to pay higher wages to better performing health workers; it can also decide to use the additional funding for hiring extra personnel.

In general, the Initiative for Performance receives a positive evaluation from both health workers and users of health services in our discussions. Health workers monitor each other more than before and this has improved their performance. IP seems to have had both a quantitative and qualitative effect: it seem to have increased the number of vaccinations, pre- and postnatal care and curative care consultations (which are all part of the targets); and it also has improved the attitudes of health workers towards patients, the quality of care, and the teamwork among health workers. A reported shortage of IP is that it translates mostly into extra payment but not into improved career development; hence almost half (14 out of 30) of the quotations on performance pay refer to the payment modalities of IP. Another potential down side, according to patients, is that it encourages health workers to implement certain activities mechanically, thereby eroding the quality of care. Thus, although it may induce health workers to put more effort in their job, users fear that effort will be directed towards certain activities, usually the more profitable. Measuring performance at the facility rather than at the individual level certainly reduces this tendency, by increasing peer monitoring and team motivation. Some health workers are also dissatisfied with the lack of transparency of how the premium is distributed within the facility. Finally, IP has created high expectations but cannot address all shortcomings. Health workers complain that it has not solved the lack of equipment and the shortage of technical skills of health workers.

Box 7: Performance Pay

A health worker knows that if he does not work well, if he is absent, if he is too late, if his service is not appreciated, this will decrease the premium that the health centre receives. It makes that personnel controls each other. Everybody knows that the one that works badly can be sacked and risks being accused by his colleague; this leads to a higher degree of accountability and higher productivity User in Kigali

You're the only doctor to consult. But with the IP, one recruits, and instead of one doctor, you're for example five. So there's an improvement in the work conditions and you're no longer stretched. Doctor in a rural area

Now, we see that there's improvement in the motivation of health workers. Regulations have been developed by each health centre and have to be followed. The regulations are such that when they are not followed, part of the premium is withdrawn, which makes the personnel more accountable and more responsible. We are more conscious of what we have to do. The stability of our personnel is also assured by this premium. Nurse in Kigali

Patients are better received, the guards are better organised, but as for quality, technically spoken, there has not yet been improvement because there is no technical support, no equipment. Doctor in Kigali

In vaccination for example, before the premium we asked ourselves why we had to fetch children that were not vaccinated, but since IP, we are obliged to go and search this child that has not been vaccinated because we know that this activity is paid for. Nurse in a rural district

There's inequality in the distribution of the premium, even if we do the same tasks and have the same diploma. Auxiliary worker in Kigali

It is a good initiative, but performance should not just be acknowledged in financial terms, I think people also want advancement in their career, they want promotion. Doctor in Kigali

But what often happens is that after a while, there's the risk of routine, to carry out lots of activities that are not necessarily of good quality; something that can make the Initiative for Performance perpetual is a constant monitoring system. Doctor in a rural district

Community Health Committees

As part of a wider move towards decentralization and involving local communities in governance, the Government of Rwanda encourages the establishment of Community Health Committees. The idea is that local communities are involved in the management of the health centres, in the spirit of the Bamako Initiative.[36] So while performance pay encourages self-monitoring and sideways monitoring, Community Health Committees increase monitoring from below through community health workers who represent the patient population on the health centre committees. One of the risks of this type of decentralization is the capture by local elite (Bardhan 2002). Indeed community members in a privileged position may be able to capture these new powers from the community and use them directly for their own benefits, for example by employing loyal community members, or to increase their grip on power over the community.

The discussions suggest that the establishment of community health committees address the lack of accountability of health workers, especially in rural areas. By letting community representatives having a seat on the health committees, they can use their discretionary power to give financial rewards to well-performing health workers and use disciplinary measures to badly behaving health workers. Users argue that the approach has led to an increase in the quality of care because health workers performance has improved, mainly because of lower absenteeism and improved attitudes towards patients. Because information on health worker behaviour is mostly available at the local level, community health workers seem to close the information gap that typically exists between the higher-level health administrators and local

[36] The Bamako Initiative introduced community participation (and user fees) in the management of primary care facilities. It focuses on increasing health workers' accountability and gives users, through representatives, a say in determining part of the health workers' financial incentives.

health service providers. The fact that Rwanda has a high population density, also in rural areas, may be one of the main explanations for the success of the approach.

Box 8: Community Monitoring

The health committees give these performance bonuses; if someone is absent, the bonus is stopped. Donors also give bonuses; if someone comes too late three times in a month, the bonus is stopped. Auxiliary worker in Kigali

To find a health worker reading a book when you visit a health centre does not happen anymore. It happened before, but now, they fear the health community workers. User in a rural district

When a nurse doesn't interact in the right way with patients, community health counsellors can take action; they can decide to fire him. User in Kigali

With the decentralisation, the health centre is managed by more than one person, there is a representative of the State, but there is also a representative of the population sitting on the health committee. The health committee can decide, for example, to pay the rent of a health worker, or to give him a premium, etc... All this is on top of the salary. Sometimes, workers with equal qualification do not receive the same bonus.
Auxiliary worker in Kigali

The health committees give these performance bonuses; if someone is absent, the bonus is stopped. Donors also give bonuses; if someone comes too late three times in a month, the bonus is stopped. Auxiliary worker in Kigali

Since community health assistants control the functioning of the health centre, these problems do not exist anymore. If a nurse does not behave well towards patients, community health assistants take decisions for this nurse. They have the power to hire and fire. This is why the health centres function better today. User in Kigali

Today, representatives of the population control the functioning of the health centre; if you're absent, even an ordinary citizen can accuse you by saying for example 'I've seen him in that place and he wasn't working'. When the population has a meeting, the one who has seen you or has had a problem will make it public.
Auxiliary worker in Kigali

Sometimes the population nominally accuses personnel of the public hospital in the newspapers.
Auxiliary worker in Kigali

If the health committee is willing, if you've worked well, they can take money out of the financial reserves of the health centre and thank you. For example, at the end of each year, I don't know whether it's to thank us, they take us where we want, we eat, we drink and the health committee pays the bill. Auxiliary worker in Kigali

Training

Health worker norms are often seen as exogenous and difficult to change. A potential way to shift professional norms, however, is through training. Teaching health workers how to increase the quality of care and improve their patient management skills can increase awareness and improve attitudes, whether the training is general or focuses on specific groups of patients, like people living with HIV/AIDS. The training may also have long term effects, as norms tend to be internalized over time, potentially shifting motivation more permanently. The government of Rwanda started providing this kind of training and our research suggests

that it has been effective. Health workers argue that it has helped to improve the quality of care. Users draw no causal conclusion, but it is hard to say whether this is because the initiative is too recent, because its effects are limited, or because users do not know about the training. Future evaluations may help shed light on this.

Box 9: Training

Since the training on quality assurance there's improvement in the attitude of health workers.
Auxiliary worker in Kigali

In the past, before the training on HIV, someone who was suspected to be HIV positive was abandoned to himself, he was not treated, but that actually does not exist anymore, with the training, we help them, we treat them.
Nurse in a rural district

6. Conclusion

Institutions play a central role for development, but little is known about their role for health service delivery. With the growing consensus is that health worker performance is at the core of health care, the question arises how institutions affect health worker behaviour. However, in this new field, there is little insight about what should be the appropriate theoretical framework, and, following Mookherjee (2003) we therefore carry out explorative analysis. Using qualitative research we hold discussions with health workers and users of health services in a country with common health care problems and a dynamic institutional environment, Rwanda. This approach allows us to identify the problems and challenges with health worker behaviour and to explore the key institutional factors that help to explain this behaviour.

The problems we identify are very similar to those in other countries in Sub-Sahara Africa, and include both issues related to the size and distribution of the workforce, and issues related to health workers' on-the-job performance. The former include a shortage of health workers for specific posts like those in rural areas, in the public sector, and in high HIV/AIDS infected areas. Performance problems pointed out as major issues by both health workers and patients are the poor attitudes of health workers towards patients, their frequent absenteeism, their engagement in corruption and embezzlement, and their lack of medical skills, confirming the picture painted by similar research in other countries.

Regarding explanatory factors, four institutional factors that affect health worker behaviour emerge: extrinsic incentives, monitoring, norms and intrinsic motivation. On extrinsic incentives, our findings underline the need to consider a broader range of incentives, beyond the narrow focus of earnings. But our findings also underline the importance of monitoring, or the lack thereof, as well as the key role that norms and intrinsic motivation play.

So how does this help future research? What is the appropriate theoretical framework, what type of research is needed and what are feasible hypotheses? Our findings indicate that the institutional architecture plays a key role to explain both health workers' on-the job-performance and career choice. It also indicates that, from a research perspective it may be best to distinguish and separate career choice from on-the job performance, even though they influence each other. To understand health worker performance the classic principal agent model provides a good starting point, but needs to be expanded beyond incentives and monitoring to also take norms and intrinsic motivation into account. To analyse health worker career choice, standard models from labour economics provide a starting point, but they also need to be extended to allow for a role of work place culture and the type of health worker (his or her motivation).

Although more exploration is warranted in some cases, what is especially needed is quantitative research that tests the causality of relationships and their importance more formally. The above mentioned theoretical frameworks will help to formulate testable hypotheses regarding the role of each of the four institutional factors. There is a strong need for research on the role of norms and motivation, while the effects of incentives and monitoring, although they have received some attention, also warrant more work. A common objection to studying the role of institutions in a quantitative way is that there is often limited variation observed. Our research indicates that this is only true to some extent as incentive design, monitoring arrangements, work place culture and the motivation of the health workers seem to vary substantially across sectors and between urban and rural areas. The implementation of new initiatives like performance pay or the establishment of community health workers may also create further variation. Furthermore, using more innovative techniques may help. To improve our understanding of the effects of incentives and monitoring, the most effective way forward seems to conduct randomized experiments, while

to improve our understanding of norms and intrinsic motivation, further exploration by means of behavioural games may be a more effective way forward. [37]

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[37] For an example of the first approach, see Gertler et al (2006), for an example of the second approach, see Barr et al (2004).

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