

# TRIGGERING MEANINGFUL CHANGE

Human Resource Management and health worker performance in an AIDS-endemic setting



Maria Areke Dieleman

## **Triggering meaningful change**

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VRIJE UNIVERSITEIT

# Triggering meaningful change Human Resource Management and health worker performance in an AIDS-endemic setting

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door

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### Front cover illustration

**Denzel Maniple, Uganda, 8 years**

*This family is not happy because their son is sick with malaria. He did not sleep under a mosquito net. He is admitted in hospital and is on a drip. They think he can die so they are praying to God.*

This illustration is part of a series of drawings used throughout this thesis depicting how a number of children in Low and Middle Income Countries perceive illness and health. Children are an important target group for health workers. Improved health worker performance will contribute to a healthier future of these children and their families.

promotor: prof.dr. G.J. van der Wilt

*'Unless you call out, who will open the door?'*

Ethiopian proverb

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## LIST OF PUBLICATIONS

- Chapter 2: Dieleman M, Biemba G, Mphuka S, Sichinga-Sichali K, Sissolak D, van der Kwaak A, van der Wilt GJ: **'We are also dying like any other people, we are also people': perceptions of the impact of HIV/AIDS on health workers in two districts in Zambia**, *Health Policy and Planning*, 2007, vol.22, no.3:139-148.
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## INTRODUCTION

A motivated and qualified workforce is crucial to increase productivity and quality of health services. Only when this is obtained will the achievement of health service targets and of the Millennium Development Goals (MDGs) be realistic. It is well-recognized that in Low and Middle Income Countries (LMIC), a shortage of workers and the poor performance of the health workforce deprive the poor of access to quality health care. Particularly in areas with a high HIV prevalence, care provision is likely to be compromised because of the additional impact of HIV/AIDS on health services and on the workforce. Little evidence exists on effective Human Resource Management (HRM) interventions to enhance the performance of health workers and to mitigate the impact of HIV/AIDS on health workers in LMIC. Such information would be an important aid to policy makers and planners when formulating and implementing interventions to address access to quality services.

This thesis intends to contribute to building evidence and expanding the knowledge base in the field of HRM and health worker performance in LMIC. It identifies the impact of HIV/AIDS on health workers, explores the factors influencing motivation of health workers, and examines the evidence on the effectiveness of HRM on health workers' motivation and performance. In addition, it discusses whether HRM could contribute effectively to improving health worker performance in AIDS-endemic settings.

The thesis is structured as follows:

*Chapter 1* briefly introduces the workforce crisis in LMIC and the impact of HIV/AIDS on health workers. It also provides a brief introduction to Human Resource Management and discusses the methodology of the thesis, its objectives, research questions, analytical framework, and data collection methods. In *chapters 2 and 3* two case studies, in Zambia and Uganda respectively, explore the impact of HIV/AIDS on health workers and the implementation of HRM interventions for health workers. *Chapters 4 and 5* present two case studies, in North Vietnam and Mali respectively, which describe the motivation of health workers and the implementation of HRM in health facilities. *Chapter 6* presents a review of published HRM interventions and assesses the effectiveness of HRM for health workers' performance in LMIC. Finally, *chapter 7* discusses the findings, summarizes the main conclusions and provides recommendations.



# Background and methodology



**Mundia, Zambia, 11 years**

*We visited my aunt who is suffering from AIDS. We were very sad.*



## 1.1 BACKGROUND

Human Resources for Health (HRH) are the core of health systems, as the performance of these systems depends to a large extent on the knowledge, skills and motivation of its providers [1-3]. Not only are HRH the most important part of the recurrent budget for health in Low and Middle Income Countries, often taking 60-75% of the overall health budget [4], they are also strategic actors in the health system, ones which can facilitate or hinder policy development and implementation [5]. However, despite their importance, only in recent years has more attention been paid at international and national levels to health workforce planning and management. Neglecting the HRH dimension has resulted in many countries facing health workforce shortages and 57 countries being identified by the WHO as countries having an HRH crisis.<sup>1</sup> Most of these countries are situated in sub-Saharan Africa [6].

In countries where an HRH crisis exists, the additional burden of the AIDS epidemic on the health sector could further negatively affect quality of care. In 2007, an estimated 33 million people globally were living with HIV, of which 67% were in sub-Saharan Africa [7], where the health workforce crisis is the most severe [6]. The increasing numbers of patients, as well as the increase in programmes to deal with the AIDS epidemic, are putting a heavy burden on health systems in LMIC. At the same time, the health sector itself is not exempted from the impact of the epidemic. HIV/AIDS is likely to exacerbate already poor working conditions, thus further demotivating staff, especially in poor areas with a high HIV prevalence [6,8-10].

A robust health system<sup>2</sup> is crucial to deal with the AIDS epidemic. However, health systems in many countries are still too weak to be able to provide quality interventions, despite the increase in financing for health through debt release and specific programmes such as GAVI (Global Alliance for Vaccines and Immunisation) and the GFTAM (Global Fund to Fight AIDS, Tuberculosis and Malaria). An important factor is the workforce shortage and its poor performance. Mitigating the impact of HIV/AIDS on the health sector requires HRH issues to be addressed by adaptation of planning of HRH, intensified efforts to retain and motivate available health care providers, as well as providing management support and financial resources to assist health workers in dealing with HIV and AIDS at work and to assure quality of service provision [10,11]. However, there is little documented evidence to what extent health workers are impacted by HIV/AIDS and what strategies are effective to mitigate the impact on the health workers [10,12].

Because health workers are essential to the performance of an organisation, developing and maintaining effective Human Resource Management (HRM) policy and practice is crucial [3]. Especially in areas with a high HIV prevalence, a well-performing, skilled and motivated workforce is needed to effectively deal with HIV and AIDS. Performance of health workers at the workplace 'will depend on whether staff perceive themselves as able to do things, whether they are willing to do things and whether they have the means to do them' [13:p13]. However, performance of health workers is often poor, due to insufficient numbers of staff, poor motivation, insufficient skills, or equipment [6,14,15]. In order to obtain quality performance, knowledge, skills, motivation and retention of health workers needs to be addressed, by using Human Resource Management effectively [11, 16].



Human Resource Management is 'the development of policies for effective utilization of human resources in an organization' [17:pxii]. HRM is a relatively new field, having evolved out of personnel management, and drawing on different disciplines such as psychology, economics, business administration, sociology and organisational development [18]. Traditional personnel management is mostly concerned with recruitment, payment and discipline at operational level and is mainly an administrative function [17]. HRM has a broader, more strategic and 'people' focus [17], and deals with a wide variety of activities, policies and systems to enhance the ways in which workers contribute to their organisation 'from the initial hiring through development, motivation and maintenance of human resources' [17:p6].

HRM in the public sector developed during sector reforms, which aim to make a sector more equitable, effective and efficient. This required a more flexible approach to staff than the traditional personnel management approach [19,20]. However, reforms in the health sector in LMIC have often neglected the effects of reforms on HRH and vice versa, leading to problems in implementation [5,19].

Although there is no universal list of activities, HRM often includes the analysis and design of work, determining the number of people required, recruiting and selecting personnel, training and developing personnel to assist them in (future) performance, providing extrinsic and intrinsic rewards, performance management and creating an enabling work environment [21]. However, other activities and policies could be included, depending on the organisation and its socio-cultural and political environment, for instance flexible working opportunities, procedures for participation of staff, trade union relations, equal opportunities, health and safety, etc. [22]. An additional HRM focus is capacity development of an organisation to adapt to changing environments [20]. For instance, the structure and rules and regulations of the health care system are important influencing factors for HRM in the health sector [16] as these are likely to influence the working conditions, the work environment and roles and responsibilities of health staff.

Strategic Human Resource Management is the design and implementation of effective HRM activities that assist in the achievement of an organisation's (or sector) objectives [22]. Strategic HRM in the health sector means that policies and strategies for the health workforce are developed in line with the overall vision and targets of the health sector, and it involves a coordinated and systematic approach to policy and strategy development [23]. To enable this, a strategic planning process must be in place, with the HRH director playing a part in this process [24]. This means that when HRH interventions such as incentive packages are designed, these need to be included in a general HRH strategy which, in turn, should be part of an overall health sector strategy. It also includes involvement of stakeholders in the design and implementation of HRH interventions and assuring financial sustainability in consultation between government departments and donors [25].

A notable difference between HRM in the public sector and HRM in the private sector is the fact that the public sector aims to achieve outcomes that are of public interest (such as health). In principle, public services are accountable to the communities, which makes the involvement of communities important [17, 20]. In addition, public organisations often have less autonomy to introduce changes in personnel policies and strategies as compared to private organisations [24].



HRM in the health sector in LMIC presents several complexities, as many different actors are involved, and the type of actors, their roles and responsibilities, vary widely depending on the country in question. Examples of this might be the number of specific departments within a given Ministry of Health charged with planning for the numbers of health care workers, allocating posts and transferring staff and organizing continuing education activities. Furthermore, different ministries can be responsible for certain aspects of HRH planning and management, such as the Ministry of Education being responsible for pre-service training of health care providers, the Public Service Commission for generic salary structures and workplace policies and the Ministry of Finance to pay staff, etc. In addition, in decentralized settings, roles and responsibilities for different HRH functions might be divided between central, regional, district and facility level and in certain countries the local government plays a role in budget allocation, hiring and firing. This makes effective HRM interventions difficult to develop and implement. In addition, HRM is often implemented in a 'less than optimal' way in LMIC [2], because of a lack of knowledge and skills in HRM among healthcare managers and the use of a traditional personnel management approach to HRM.

Most HRM research has been implemented in the business sector [3]. Lessons learned show that specific 'bundles' of HRM practices can successfully contribute to improved staff performance. They also show that HRM practices might differ according to the context as there needs to be a fit between the strategy of the organisation and the HR strategy. In addition, research has shown that specific sets of HRM policies might not lead on their own to successful performance of an organisation [3]. Although research in HRM in the health sector is increasing, there is currently limited knowledge on which HRM interventions improve health worker performance in which context. Research on HRM and workers' performance in the health sector that is related to 'high-performance', has been conducted in the US and in Canada, and mainly in the private health sector [3].

Given the current evidence, it is still unclear if elements important for health service providers in resource-rich countries are also important to their counterparts in the public and private-not for-profit health sector in LMIC. There is little evidence regarding effective HRM in the (public) health sector in LMIC and its contribution to organisational performance [26]. Factors influencing motivation, retention and health workers' performance have been researched in a limited number of studies [among others cited in 27, 28]. Currently, initiatives are underway to improve the working conditions of Human Resources for Health in LMIC; for example, there are initiatives for motivating and retaining staff through various Human Resource Management interventions [6]. However, there is hardly any documented evidence as to what extent these initiatives are successful in effectively solving the workforce crisis and improving access to quality health services. Due to the HRH crisis, health policy makers' calls for more evidence on which practices work and why have become more urgent.

This thesis aims to expand the current knowledge base in the field of health worker performance and HRM, and has a specific focus on health workers in AIDS-endemic settings. The scope of this thesis is limited to examining those HRM activities that are related to motivation and performance of professional health workers who are already in post. It includes examining remuneration, incentives, working conditions and support in performance and excludes the overall design of HRM systems and HRH planning, pre-service training and recruitment procedures and activities.



## 1.2 METHODOLOGY

### Research objectives

The main objective of the thesis is to increase knowledge and understanding of the role of Human Resource Management in the health sector in Low and Middle Income countries with high HIV prevalence, in mitigating the impact of HIV/AIDS and in improving health worker performance.

The specific objectives of the thesis are:

- To identify the impact of HIV/AIDS on health workers in LMIC
- To explore the relationship between factors motivating health workers in LMIC and HRM interventions
- To critically review the effectiveness of HRM interventions to improve health workers' performance in LMIC
- To identify which HRM interventions could mitigate the impact of HIV/AIDS and improve performance and motivation of health workers in LMIC with high HIV prevalence

### Analytical framework

Research and literature in this thesis have been analysed using a realist perspective. Realist inquiry has an explanatory focus and aims to identify how interventions work or why they fail in a specific context [29]. It is a methodological orientation and originates from critical realism, among others described by Bhaskar (1975) [30]. Realist inquiry intends to answer the question: 'What is it about this program that works, for whom, and in what circumstances' [29:p22]. It aims to explain the relationship between the context in which an intervention is implemented, the mechanisms that were triggered by the intervention and the outcome [31].

Realist research is a theory-driven approach and aims to build theories about mechanisms for change: social interventions such as HRM interventions are based on implicit or explicit assumptions about change. These assumptions need to be made explicit and tested in different contexts. The interaction of an intervention with a specific context causes certain outcomes to occur (or fail to occur). These interactions are called 'Context- mechanism- outcome' configurations (CMO-configurations). *Contexts* are the circumstances in which HRM interventions are implemented and include the organisational, socio-economic, cultural and political conditions, but also the stakeholders involved, their interests and convictions regarding change and the process of implementation. *Mechanisms* are processes leading to change that were triggered by the intervention. *The outcome* of an intervention is the intended and unintended results caused by the interaction between the intervention and the context within which it is implemented [32].

Using a realist perspective for building evidence implies researching CMO-configurations by:

- Identifying and making explicit the theories or assumptions about expected outcomes of an intervention and how these would be obtained (in other words the assumptions leading to the selection and implementation of the intervention or programme.)
- Conducting research on implemented interventions to gather evidence about these assumptions or theories.



Research that applies a realist perspective answers the question: ‘What are the mechanisms for change triggered by a program and how do they counteract the existing social processes?’ [32: p75]. When applied to Human Resource Management interventions, a realist research perspective should offer policy makers and planners an insight in various HRM strategies and the context in which they might be used. In other words, a realist inquiry should ‘Show the options and explain the main considerations to be taken into account in choosing between them’ [31:p3].

Applying a realist perspective to HRM interventions is appropriate, because HRM interventions are social interventions that are implemented in complex, open systems. Because of the interaction between an HRM intervention and its context, these interventions cannot be explained in isolation, but only in the context within which they are implemented [33]. Therefore the relationship between HRM interventions and organisational or employees’ performance cannot be explained by simple causality<sup>3</sup>, but rather by complex causality<sup>4</sup> [34]. Central to realist inquiry is examining potential causal mechanisms that influenced the desired outcomes of an intervention: ‘A realist analysis strives to account for the interaction of various causal tendencies within complex open systems’ [33:p25]. Because of the complexity and openness of social systems, outcomes of HRM interventions cannot be predicted. However, how interventions worked can be explained and understood by examining mechanisms that triggered change, existing social structures and resources of influence on and used by staff and managers [34]. For research, this implies the need to adopt a multi-dimensional perspective to HRM and the use of different types of research methods.

Research with a realist perspective applied to HRM interventions in healthcare intends to identify certain behaviours of health workers brought about by HRM interventions, through the contextualization of differences in outcome of similar interventions aimed to change health worker performance. This is done by, amongst other things, investigating the outcome, roles, perceptions and interests of stakeholders, the implementation process, the way interventions were adapted to the local situation and the existing social structures.

This thesis aims to explore the importance of HIV/AIDS as a contextual factor for health worker performance, and to examine whether HRM interventions to improve health worker performance, developed in a different context, could be useful in an environment where HIV is highly prevalent. In the analysis of the effectiveness of HRM interventions, this thesis includes the context and mechanisms that trigger health workers to be motivated and to improve their performance. To date, limited efforts have been undertaken to better understand how an HRM intervention produces results in a certain context, so as to identify if and how HRM could be used to influence health worker performance in LMIC.

### Research method

The research examines the effectiveness of HRM and the impact of HIV/AIDS on health workers by conducting a literature review and through a number of case studies at district and facility level. HIV/AIDS is an important feature of the environment in which health workers provide services, but other factors such as resources and strategies in the health sector or at government level play a role as well. In addition, general HRM interventions and those HRM interventions that are specifically aimed at mitigating the impact of HIV/AIDS on health workers are likely to be interrelated. Given this complex environment and the fact that the researcher has no control over



interventions by governments, ministries of health or managers at facility level, exploratory and descriptive case studies were used. The case study research method is useful ‘when a ‘how’ or ‘why’ question is being asked about a contemporary set of events, over which the investigator has little or no control’ [35:p9]. It is appropriate in situations where many variables are of influence, when several sources of evidence are used to triangulate data, and when it is guided by the development of a theoretical framework [35].

The case studies have been developed based on research using qualitative and quantitative data collection methods. They include countries with high and low HIV prevalence and address the following research questions:

1. What is the (perceived) impact of HIV/AIDS on health workers in the public and private-not-for-profit sector in countries with high HIV-prevalence?
2. Which HRM interventions are currently implemented in LMIC and how do they relate to staff motivation?
3. What is known about the effectiveness of HRM in the health sector in Low and Middle Income countries to improve performance and motivation of health workers? Which HRM interventions could be effective under which circumstances and for which groups?
4. Given the evidence and current use of HRM, which HRM policies and strategies could mitigate the impact of HIV/AIDS on and improve motivation and performance of the workforce in the health sector of LMIC with high HIV prevalence?

### Approach to answer the study questions

Study question 1 and 2 will be addressed by four case studies.

Two case studies present experiences of health workers from two countries with a high HIV prevalence, Zambia and Uganda. These case studies explore the impact of HIV/AIDS on performance of health workers and HRM strategies in place to deal with HIV/AIDS at the workplace:

- An exploratory case study in Zambia was conducted. Zambia is hit hard by HIV/AIDS, with an HIV prevalence of 16.5% at the time of the study [36]. In this country two rural districts were selected where health service providers and managers were interviewed with respect to the impact of HIV/AIDS on their work, complemented with a cross sectional survey in the selected facilities on HRM activities.
- A descriptive case study was conducted in Uganda, in which similar questions were posed, in order to identify if the same issues were at play as in Zambia. Uganda is known for its decline in HIV prevalence over the past 10 years; according to official figures, Uganda’s HIV prevalence declined from 15% in 1995 to 6.7% in 2004 [37,38]. In Uganda, four rural district hospitals were selected in which managers and health service providers were interviewed about the impact of HIV/AIDS on their work, data was collected about HRM activities and a cross sectional survey in the selected facilities was conducted.



Subsequently, two case studies present experiences of health workers from countries with a relatively low HIV prevalence: Vietnam, with an HIV prevalence of 0.29% at the time of the study [39] and Mali, with an HIV prevalence of 1.7% at the time of the study [40]. These countries were selected to enable the researcher to explore health worker motivation and experiences with HRM and to examine general HRM strategies so as to identify strong and weak points in their particular contexts.

- A case study was conducted in Vietnam, exploring motivating and discouraging factors and HRM activities being implemented among health workers and managers in three rural provinces in North Vietnam, using qualitative methods.
- A case study was conducted in Mali, analysing motivating and demotivating factors for health workers and the extent to which implemented HRM strategies in the public sector matched the motivating factors. For this research, a combination of qualitative and quantitative methods was used.

Study question 3 was addressed by reviewing the evidence on the effectiveness of HRM in the health sector in improving performance and motivation of staff, using a realist perspective. Study question 4 was addressed by using the results of the four case studies and literature to discuss HRM interventions as a strategy to improve performance and motivation of health workers working in an AIDS-endemic setting.

## Notes

- 1 Countries with a crisis in Human Resources for Health, are defined by WHO as 'countries with a density of fewer than 2.28 physicians, nurses and midwives per 1,000 population' (WHO, 2006:p12)
- 2 A health system is 'comprised of all organizations, institutes and resources devoted to producing health actions' (WHO 2001:pxi)
- 3 Simple causality means that an event is the cause of a preceding event,
- 4 Complex causality means that an event is the result of 'a wider conflux of interacting causal phenomena' [34:p690].

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'We are also dying like any other people, we are also people':  
Perceptions on the impact of HIV/  
AIDS on health workers in two  
districts in Zambia



**Sherlin Sniphout, Surinam, 7 years**

*This is a healthy family- they eat fruit and vegetables.*



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## Abstract

**Background:** In countries with a high AIDS prevalence, the health workforce is affected by AIDS in several ways. In Zambia, which has a prevalence of 16.5%, a study was carried out in 2004 with the aim to explore the impact of HIV/AIDS on health workers, describe their coping mechanisms and recommend supportive measures. The qualitative study was complemented with a survey using self-administered questionnaires in four selected health facilities in two rural districts in Zambia, Mpika and Mazabuka. It is one of the few studies to have explored the impact of HIV/AIDS from the perspective of health workers and managers in the region.

**Methodology:** Thirty-four in-depth interviews and five group discussions were conducted with health workers, managers and volunteers, and 82 self-administered questionnaires were filled out by health workers. In addition, burnout among 42 health workers was measured using the Maslach Burnout Inventory (MBI). The MBI measures three components that contribute to burnout: emotional exhaustion, depersonalisation and personal accomplishment.

**Results:** The results show that in both districts, HIV/AIDS has had a negative impact on the workload and has considerably changed or added tasks to already overburdened health workers. In Mpika, 76% of respondents (29/38), and in Mazabuka, 79% (34/44) of respondents, expressed fear of infection at the workplace. HIV-positive health workers remained 'in hiding', did not talk about their illness and suffered in silence. Despite the fact that health workers were still relatively motivated, emotional exhaustion occurred among 62% of the respondents (26/42). The interviews revealed that counsellors and nurses were especially at risk for emotional exhaustion. In each of the selected facilities, organisational support for health workers to deal with HIV/AIDS was either haphazardly in place or not in place at all. AIDS complicates the already difficult work environment. In addition to health workers, management also needs support in dealing with AIDS at the workplace.



## 2.1 INTRODUCTION

According to UNAIDS (2006), in 2005 an estimated 38.6 million people were living with HIV [1]. In countries hardest hit by the AIDS epidemic, the increasing number of patients and the implementation of programmes to respond to the crisis, are putting a heavy burden on the health sector and its workforce. AIDS impacts in several ways, as health workers':

1. Face problems when dealing with their own HIV-status and with AIDS in their personal lives;
2. Have difficulties dealing with HIV-positive colleagues;
3. Need to cope with psycho-social stress due to providing palliative care to terminal AIDS patients;
4. Fear infection at the workplace; and
5. Experience an increase in workload and type of tasks due to an increased burden of disease and changes in demand and type of services required.

Examples of new tasks are counselling services and management of HIV/AIDS-patients, including antiretroviral treatment (ART). Absence and loss of staff due to HIV/AIDS further increases the workload of remaining health workers [2-4].

Health workers form the core of any health system. A well performing health system<sup>2</sup> is crucial to achieve the Millennium Development Goals, but in many countries the provision of quality services is severely constrained by the limited availability and low performance of health workers [6,7]. Frequently occurring problems are a lack of qualified workers due to migration to resource-rich countries [8], poor distribution of available providers [9] and a mismatch between training, priorities of the national health plan and needs in the field [10]. HIV/AIDS further exacerbates the already existing health workforce crisis, although there is little documented evidence on the extent to which the health sector and its workers are affected [11].

Coping mechanisms of health workers with HIV/AIDS have been little researched [12]. Most research in this area has been conducted in resource-rich countries and focuses on burnout and individual coping strategies. According to Miller [12:p71], the following topics are generally investigated: staff fears, issues of association with patients, professional and role issues, stigma, discrimination and ethical issues. Research in resource-poor settings focuses on:

- Occupational hazard: studies determining the incidence of prick and splash accidents [13,14].
- Knowledge, attitudes and practices of health workers with respect to HIV/AIDS: studies investigating the relation between knowledge, attitudes and practices of health workers when dealing with HIV/AIDS-patients, including issues such as fear, stigma and discrimination [15-26].
- Studies with a more comprehensive approach, investigating a variety of aspects such as stress and burnout, working conditions, knowledge and attitudes and organizational support [27-31].

Most of the studies conducted on coping of health workers are descriptive and highlight various ways in which health workers are influenced by HIV/AIDS at the workplace: fear to work, being stigmatized, having stress and burnout. Causes are rooted mainly in a lack of knowledge, of



protective measures and of emotional and technical support to deal with HIV/AIDS at work. The studies are difficult to compare as they used a variety of designs, most with self-developed instruments and no common theoretical framework. Two studies were intervention studies and reported improvement in knowledge and practice of nurses, physicians and laboratory technicians after training in clinical AIDS management and health education [19], and improvement in knowledge and practice of paramedical staff after introduction of and training on sterilization guidelines [17].

This article describes a study conducted in two rural districts in Zambia, Mpika and Mazabuka. It is one of the few studies to have explored the impact of HIV/AIDS from the perspective of health workers and managers. This study contributes to understanding workplace issues affecting health workers working in an AIDS environment. Gaining insight into the perceptions of managers and health workers would assist in developing appropriate interventions. The study was conducted in October 2004 by the Royal Tropical Institute and the Churches Health Association of Zambia.

Zambia is a low-income country in Southern Africa, with a population of 10.9 million people living in nine provinces [32]. Zambia faces a major health workforce crisis, with three underlying causes: migration, limited training capacity to train new health workers and deaths of health workers due to AIDS [33]. Currently there are 8360 health workers, the majority being nurses (7251). They are not equally distributed across the country, with rural areas suffering from lack of staff; 68% of the population live in rural areas, but only 53% of nurses and 34% of doctors work there [32]. Annually 693 new health workers graduate from (para)medical schools. There is an annual average attrition rate of 5.4%, with doctors having the highest attrition rate at 9.8%, followed by nurses with 5.3% [33]. With a country HIV-prevalence of 16.5%, HIV/AIDS is likely to impact substantially on the health workforce, although few data are available. Between 1998 and 2003, the Zambian health sector lost 555 health workers, 38% due to death [32].

Mpika District is located in the Northern province of Zambia. It is the country's biggest district, with a population of 155 315 and an estimated health care coverage of 30%. Mazabuka District is situated in the Southern province and has a population of 240 116. It has an estimated health care coverage of 50%. In both districts the major causes of morbidity and mortality are HIV/AIDS, tuberculosis, malaria and diarrhoea. As in most districts in Zambia, the total number of staff lost is greater than the number being recruited. The districts provide prevention of mother-to-child-transmission, voluntary counseling and testing, sexually transmitted infection treatment, preventive services and some home-based care programmes. ART was introduced a few months prior to our research by two of the selected hospitals in Mazabuka and one in Mpika.

The objectives of the study were to explore the impact of HIV/AIDS on health workers, to describe their coping mechanisms with respect to HIV/AIDS and to propose supporting measures.

## 2.2 METHODS

### Study design

The study was cross-sectional descriptive and used both qualitative and quantitative methods. It was conducted over a period of 2 weeks in two districts.



### Theoretical framework

As no common theoretical framework on health workers' coping with HIV/AIDS exists in the literature, the research team developed its own framework. 'Coping' was defined as being present at work and finding work acceptable. 'Finding work acceptable' was defined as not having burnout<sup>3</sup> and being motivated to work<sup>4</sup>. Burnout was measured using a standard psychometric instrument: the Maslach Burnout Inventory (MBI). This instrument measures through 22 statements the three components of burnout: emotional exhaustion, depersonalization and personal accomplishment [34].

For this study the following factors influencing coping were investigated:

- Personal factors, such as experiences in working with HIV/AIDS patients, private situation and fear of acquiring HIV/AIDS in the workplace;
- Organizational factors, such as supervision, support and safety measures, workload and training opportunities;
- Availability of health workers: absenteeism.

### Sampling and study population

Districts were selected according to maximum variation sampling<sup>5</sup>, using HIV-prevalence as criterion: in Mpika 8.3% and in Mazabuka 23%. In rural areas in Zambia, health services are provided by government and mission facilities. In each district four health facilities were selected: one government district hospital, one rural government health centre, one mission hospital and one rural mission health centre. Selection of the hospitals and health centres was done purposefully: based on advice of the district managers and on distance from the district capital. In each hospital the following staff were selected and interviewed: the hospital manager, a nurse or a doctor from internal medicine, from the maternity ward and from the outpatient department, and one AIDS counsellor. If there were not many staff, providers with most relevant tasks to the selection criteria were interviewed. If several staff were operational in the same function, selection was based on availability. In the health centres all available staff were interviewed. The study population of the group discussions consisted of volunteers and health workers selected on availability. With respect to the survey, all health workers dealing with patient care in the selected health facilities and available during the study were invited to participate.

### Data collection

Qualitative data were collected through interviews and group discussions, with the use of an interview guide. Open-ended questions were asked about the impact of HIV/AIDS on the district, on health care services, on health workers, and on their coping mechanisms when dealing with HIV/AIDS patients, with HIV-positive colleagues and with HIV/AIDS in their personal lives. Questions were also asked about support mechanisms in place and required to deal with HIV/AIDS. In Mpika, 20 in-depth interviews were held with 14 health workers, three managers and three volunteers, and two group discussions were organised with health workers<sup>6</sup>. In Mazabuka, 14 in-depth interviews were conducted with nine health workers, three managers and two volunteers. Three group discussions were held: one with volunteers and two with health workers<sup>7</sup>.

The quantitative data were collected through self-administered questionnaires distributed to 100 health workers- 31% of the total number of staff employed by the hospitals<sup>8</sup>- and filled out by 82 respondents: 38 health workers from Mpika and 44 from Mazabuka<sup>9</sup>. The MBI was distributed to 50 respondents who had received a self administered questionnaire and was filled out by 84%



(42/50) of the 50 respondents. Closed questions were asked about tasks in HIV/AIDS care and support, coping mechanisms, preparation to deal with HIV/AIDS, support measures in place, motivation and general working conditions.

### Data analysis

Qualitative data were analysed manually using data compilation matrices per respondent group, describing the data per study question and per respondent group. Issues analysed were perceptions of health workers and managers on, and experiences with, the impact of HIV/AIDS on the district, on health care services and on personal life. In addition, changes in tasks, preparation for tasks in HIV/AIDS, difficulties faced when dealing with HIV-positive patients and colleagues, individual coping mechanisms, required and received support at work and suggestions for improvement of support at work were also analysed. Quantitative data was analysed with Epi-info 6.1. Key variables analysed included motivation of staff, staff overtime, HIV/AIDS-related tasks and preparations for these tasks, occurrence of needle- stick injuries, protective measures in place and used, use of post-exposure prophylaxis (PEP), burnout and AIDS in personal life. Due to the small sample size, the analysis was limited to description of frequencies and proportions.

### Ethical considerations and quality assurance

Quality of data collection was assured by providing confidentiality, asking consent, assuring anonymity, and through the interviewers, who were experienced researchers and had developed the research and conducted the interviews. The instruments were pre-tested with the aim of assuring that respondents understood the questions. The self-administered questionnaire was tested during a workshop for health workers and the interview guides were tested during the first day of the study.

Validity of data was assured by triangulation. Data were triangulated by:

- Interviewing managers, health workers and volunteers on the same topics;
- Asking the same questions during interviews and group discussions;
- Comparing and contrasting information from the interviews with information from the questionnaires, the results from the MBI, and with the registers and reports from the facilities.

The protocol was approved by the Zambia Research Ethics Committee.

## 2.3 FINDINGS

### Characteristics of the study population

Respondents of the questionnaire were almost equally divided over the two districts (54% in Mazabuka and 46% in Mpika) and between men and women (46% and 54%, respectively). Most respondents were enrolled or registered nurses/midwives, followed by clinical officers, as these are staff mainly employed at the health facilities and hospitals in rural areas (Table 1). More than half of the respondents (62%) had worked between 3 and 10 years in the current post. Their mean age was 35 years.



**Table 1: Characteristics of study population/ self administered questionnaire (n=82)**

Characteristics	Mazabuka (n=44)	Mpika (n=38)	Total (n=82)	Total percentage (%)
<b>Age (years)</b>	Average: 39 Range: 21-55 Median: 32	Average: 37 Range: 22- 56 Median: 36	Average: 35 Range: 21- 56 Median: 34	
<b>Sex</b>				
Male	21	17	38	46
Female	23	21	44	54
<b>Profession</b>				
Pharmacists	1	1	2	2.5
Medical Doctors	2	0	2	2.5
Registered nurses/ midwives	8	8	16	20
Clinical officers	8	3	11	14
Lab technicians	2	2	4	5
Enrolled nurses /midwives	19	18	37	47
Others	4	4	8	10
Missing	0	1	1	1
<b>Experience in post</b>				
1-2 years	11	5	16	20
3-5 years	12	10	22	28
6-10 years	15	12	27	34
> 10 year	5	10	15	18

Table 2 shows that the characteristics of the interviewed health workers in both districts were relatively similar.

**Table 2: Characteristics of study population, in-depth interviews of health workers (n=34)**

Characteristics	Mpika (n=14)	Mazabuka (n=9)
Age	Average: 38 years Range 26-53	Average: 35 years Range: 23-55
Sex	6 women 8 men	5 women 4 men
Profession	Enrolled nurses/midwives, registered nurses, clinical officers, medical doctor, laboratory technicians	Enrolled nurses/midwives, registered nurses, clinical officers, medical doctor, laboratory technicians
Working experience	Average: 9.5 years Range: 2- 30 years	Average: 7 years Range: 1- 19 years

The interviewed managers were three registered nurses, two medical doctors and one health inspector: three men and three women. They varied in age, ranging from 30 to 50 years, and in work experience, ranging from 3 to 10 years. Two of the managers were expatriates. All five volunteers- two women and three men- worked in home-based care programmes, on average for 2.5 years. Their age ranged from 30 to 46 years.





**Burnout**

The burnout measurement (MBI) showed that 62% of the health workers (26/42) felt moderate-to-high emotional exhaustion. There were no feelings of indifference to patients and most had feelings of personal accomplishment. The sample was too small to differentiate between the districts or the professional groups. The MBI results corresponded with the answers provided in the in-depth interviews and the group discussions: health workers often felt frustrated, tired and overworked, but had compassion for patients. Some health workers mentioned they felt they had achieved something when a patient was happy.

**Health worker motivation**

Health workers seemed relatively motivated in both districts. In Mpika, 63% (22/35) answered that they were motivated, and in Mazabuka, 70% (31/44), although in both districts respondents mentioned that their motivation was declining. The main reasons for motivation were liking this type of work and enjoying caring for people. There was no significant difference in motivation between districts, sex, and people working in public or mission facilities, nor was there a significant relationship between fearing to acquire HIV/AIDS at the workplace and being motivated to work.

The following sections explore factors contributing to burnout and motivation of health workers.

**General working conditions**

*‘Sometimes on my days off I am asked to come in and do an extra shift, for which I am not paid, and I have to come in and work. This is very frustrating.’ (Nurse)*

Overall there was a lack of staff, support, and equipment, and health workers received low salaries and incentives. Staff shortages and working overtime were specific obstacles that seemed difficult to overcome. Eighty-one per cent (30/37) of health workers in Mpika, and, 84% (36/43) in Mazabuka, replied that they work overtime.

**HIV/AIDS affecting health workers and health services provision**

HIV/AIDS exacerbates an already difficult work environment as it was found in both districts to have affected the personal life and work of health workers. In Mpika, 53% (18/34) of respondents mentioned that they encounter HIV/AIDS in their personal life; in Mazabuka, 68% (27/40) mentioned the same.

*‘I lost a brother and a sister, I know because the clinical signs have shown it. Even now, I still have trouble, I have not really coped with it completely.’ (Clinical officer)*

Health workers mentioned that due to HIV/AIDS they fear infection at work and an increased workload. New tasks, such as counselling and ART distribution, have been added to the regular tasks of health workers, leading to workload increases. Interviewed health workers and managers said that the patient load had increased due to a rise in the number of consultations, intensified illness in patients and longer stay by patients in hospital.

**Fear of infection**

The combination of having problems at home and an increased workload potentially increased the risk of stress and injuries. In Mpika, 61% (23/38) of respondents said they had at least one needle-



stick injury, of which 48% occurred in the previous year. In Mazabuka, 58% (25/43) responded that they had had at least one needle-stick injury, of which 25% occurred in the last year. Seventy-six per cent (29/38) of the respondents in Mpika and 79% (34/44) in Mazabuka, were afraid of getting infected while at work. Protective measures were often in place and used, as Figures 1 and 2 illustrate, although some staff complained that these were insufficient.

Figure 1: Presence and use of protective measures in Mpika (n=38)

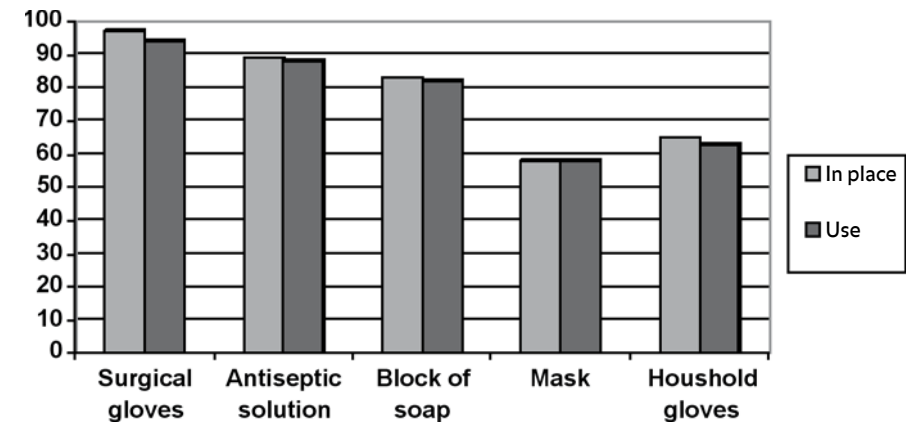
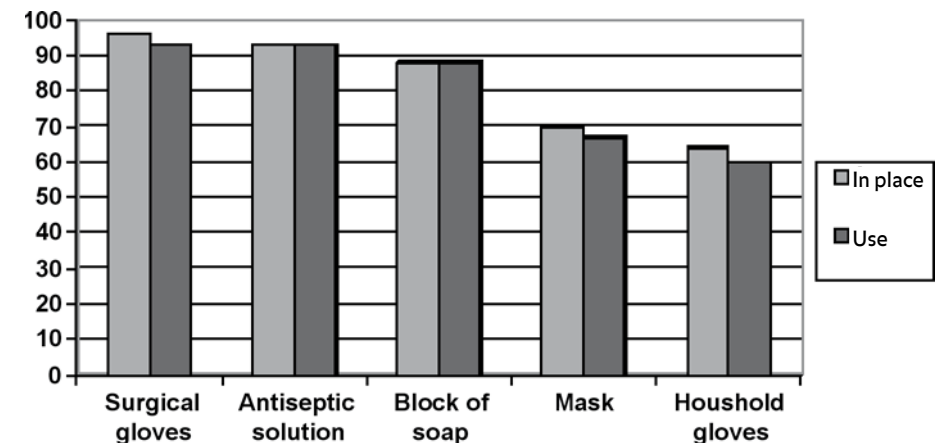


Figure 2: Presence and use of protective measures in Mazabuka (n=44)



Reasons for this fear could be increased risk of exposure due to injuries, a lack of knowledge, or concern about making mistakes in the workplace.

*'You need to protect yourself when dealing with patients. We use gloves, but sometimes there are not enough gloves. This really affects us. When you have no gloves and a patient is bleeding, you fail to help that patient because you also fear if you touch that man you will be infected.'* (Nurse)

### Increase in workload

Health workers who were not assigned to special HIV/AIDS activities saw their workload increase and faced changes in their tasks. For instance nurses on the wards had to care for chronically ill people, they had to counsel patients and relatives, and they had to explain ART to them. Health workers who conducted tasks for which they were not trained faced difficulties. This was especially the case when nurses had to counsel patients or when they had to provide information on issues they did not feel familiar with.

*'You are a counsellor even when you are not trained to help the relatives. You have to calm them down... Direct them to God. Tasks have changed. My task has changed so much; it is no more to do with total nursing care but even counselling.'* (Nurse)

### HIV- positive health workers

*We are also dying like any other people, we are also people.* (Nurse)

Data on absence of health workers due to HIV/AIDS-related problems was not obtained as absence was not systematically registered. The issue of HIV-infected health workers was very difficult to discuss, especially when it concerned their own status or that of immediate colleagues. Health workers, managers and volunteers did suspect some staff to be HIV-positive, due to absence and frequent illness, although sick workers tried to hide their illness as much as possible.

*'When we first started the ART clinic we were concerned about stigma. We discussed these issues...In the end it was us that were stigmatising ourselves. I feel people that are more educated, like nurses, find it most difficult to discuss and disclose their status and they are worried'. (Manager)*

*'We had two and they died, a nurse and her husband. Two years ago. They did not come out in the open, but both passed away and we concluded it was AIDS. We were thinking that people in the hospitals do not suffer from that, but when we saw them, we knew they also suffer. It cannot spare the people working in the hospitals, it is a big problem'. (Volunteer)*

The difficulties in discussing HIV/AIDS among health workers confirmed the fear of being stigmatised if you are HIV-positive. A consequence of this was that many health workers did not get tested. Respondents told us that HIV-positive health workers remain 'in hiding', do not talk about their illness and suffer in silence, despite the willingness of co-workers to assist.



*'The social control is changing. But health workers still rather die. They deny their status and do not come to the health care. They don't disclose it to the hospital, but sometimes get treated somewhere else and come back in a better shape. The number of HIV- positive workers is increasing, I know of four people getting ART from outside.'* (Manager)

### Organisational support

In the four hospitals, support to health workers dealing with HIV/AIDS at work concentrated on HIV prevention and addressed infection at work by way of protective measures and PEP. However, despite the high number of needle-stick injuries, only four health workers said they had accessed PEP. Managers confirmed the little use made of PEP and believed health workers would prefer to do without PEP because its use required an HIV test. Fear of stigma and discrimination could be a reason why health workers would refuse an HIV test, but there might also be a lack of awareness.

Emotional or technical support to deal with HIV/AIDS patients or one's own status was sparse. In both districts, counsellors seemed to be the only professional group that organised official meetings at the workplace to support individuals coping with HIV/AIDS. HIV-positive health workers could not count on organizational support: in Mpika, only the Zambian Nursing Association was actively involved, organizing income generating activities and support groups for nurses. In Mazabuka, one of the selected hospitals had a peer support group for HIV-positive health workers. Support from the facility, such as offering private wards, providing counselling and professional advice, offering free medication or financial support, was non-existent in both districts. Respondents told the researchers that this had to be improved in order to facilitate testing among health workers and to help infected health workers to come out in the open. They feared stigma and discrimination, and repercussions in the workplace, which did occur. One HIV-positive nurse was denied training by management due to her status. This indicates the importance of HIV/AIDS-workplace policies in which support and protection of health workers are assured.

### Management capacity

Managers helped health workers dealing with HIV/AIDS in various ways, within their capabilities. Examples are supervision, clinical meetings and delegating tasks to non-graduates, students or volunteers. However, managers require better support in dealing with HIV/AIDS at work, specifically in the development and implementation of HIV/AIDS-related workplace policies and programmes.

*'I don't know if I can help the staff (as a manager). I have some members of staff who get sick, the situation that they go through. Maybe I can help in very little ways.'* (Manager)

Managers were left to deal with HIV/AIDS according to their own skills and means as there was a lack of policies and strategies at the national or district level. This was confirmed during brief discussions at the central level. At both the Ministry of Health and CHAZ, policies were developed, but were not yet disseminated to the districts. This left managers in health facilities without support and guidance on how to introduce and enforce policies which promote coping strategies to deal with HIV/AIDS in the workplace.



### Coping mechanisms of health workers

Health workers explained their coping mechanism to deal with HIV/AIDS-related problems at work or with HIV-positive colleagues, but coping mechanisms to deal with one's own status were not easily talked about. They disclosed that they deal with HIV/AIDS individually (often through religion) and they talk to each other about it. Emotional coping with HIV/AIDS at the workplace was considered difficult, and health workers confirmed that there were no official structures in place to help them to cope better.

*'It does affect other staff when you have a colleague who is not very well because you also have to take time to go and see her, and you also have to do their duties and to look for other people to do part-time. There is burnout, you don't rest, you get tired. People snap at each other sometimes, they even snap at patients.'* (Manager)

Management support was considered important by health workers, but they confirmed that this was almost absent. Respondents suggested several types of support in order to better deal with HIV/AIDS, such as sharing experiences with each other, receiving professional advice on dealing with certain cases and training for new tasks.

## 2.4 DISCUSSION

Our study confirms that health workers risk emotional exhaustion and stress, they fear stigma and discrimination when disclosing their HIV-positive status, and fear HIV infection at work due to injuries. The results also show that limited organizational support and limited management capacity to deal with HIV/AIDS restrict health workers' ability to cope appropriately with HIV/AIDS at work.

Two professional groups in our study seem particularly at risk for emotional exhaustion: counsellors and nurses on the wards. Most counsellors were already trained and had established professional meetings and support systems at their own initiative, although this did not always appear to be very systematic. Nurses on the wards, however, were often not trained in emotionally and technically supporting AIDS patients, and did not have a system in place to better deal with this. Foster (1996) found that expansion of tasks without being trained increased feelings of stress and burnout [37]. The lack of training and support for nurses and midwives, who are often the main primary care providers in Africa is also acknowledged elsewhere [38]. Results from other studies confirm burnout among health workers who deal with HIV/AIDS [28,29,31]. A study carried out by UNAIDS (2000) among NGO's in AIDS care in Uganda and South Africa, identified a number of factors which cause stress and burnout that were also revealed in our study: not being prepared and trained for new tasks, inadequate support, and lack of supervision and recognition [27]. UNAIDS (2000) suggests several prevention strategies such as peer counselling, personal mentors, supervision, offering appropriate training, and better distribution of tasks [27].

Health workers in our study feared testing and accepting an HIV-positive status, due to fear of stigma and discrimination. HIV infection among health workers is common [2,4,39], although respondents in our study did not easily admit this. Our study confirmed the importance of dealing



with stigma and discrimination at the workplace. Health workers, with one exception, did not talk about their own status, despite the private location of interviewing, and the guarantee that information would remain confidential. Confidentiality is likely to be an important issue: from some of the answers it became clear that health workers preferred to be tested and receive treatment in a facility other than the facility they work in. Stigmatising HIV-positive people remains common, and without HIV/AIDS-workplace policies and regulations there is no assurance of being protected. Foreman et al (2003) mentioned that skills and knowledge on HIV/AIDS are required to address stigma in the workplace [40], as was suggested by respondents in our study. Specific workplace programmes would be instrumental in this, consisting of dissemination of information on HIV/AIDS, use of protective measures, providing counselling services for workers, and care and support for HIV-positive health workers.

Fear of infection at work was another important issue mentioned in our study, and is confirmed by other studies [15,16,29,31]. However, the actual risk of infection at work is low [13]. As injuries in the workplace are common, health workers need to be aware of protective and preventive measures and be able to benefit from PEP after possible exposure to the virus. The use of available protective and preventive materials, as well as infection control guidelines needs to be communicated and enforced.

Despite the difference in HIV prevalence between Mpika and Mazabuka, the answers of respondents on the impact of HIV/AIDS on services and the health workforce were similar. It would be interesting to find out the reasons for this lack of difference. It may be that beyond a certain cut-off point the differences are no longer visible in health services, as they are utilized to their limits. Given the overall problem of lack of staff, there is an urgent need to review the current task division among health workers [4]. Opportunities to release health workers from a heavy workload are available, such as the use of volunteers. However, transfer of tasks to other cadres or volunteers needs to be carefully planned and supported.

The study showed that managers did not really know how they could help health workers and how managers themselves could be supported. Although most facilities have professional counsellors, there is a lack of systematic support to deal with problems related to HIV/AIDS. Organizational support is urgently required to retain HIV-positive health workers at their work and to support health workers in dealing with fear of infection and an increased workload. There is a pressing need to assist managers in developing workplace policies on HIV/AIDS and in implementing workplace programmes. Caution must be taken to limit programmes to training and awareness raising; training as a single intervention appears to have limited impact [7, 41-43]. An enabling environment, in which HIV/AIDS is accepted, is required to obtain success. This can only be achieved through multi-faceted organizational support: including training, professional support, infection control, and emotional, medical and financial support to HIV-positive health workers. Guidelines to assist in developing comprehensive workplace programmes for health workers in resource-poor settings have been developed [44], but experiences with their implementation have not yet been published. Documenting and sharing experiences with workplace programmes in health care settings is required to obtain an insight into best practices.

Limitations were encountered during the study's implementation and therefore the results have to be interpreted with caution. The MBI was not tested and validated locally. Therefore, we are



not able to compare the answers of the health workers in this research to a general norm for Zambia. With the necessary precautions, we used the scoring key and norms developed for the United States. These were also (successfully) used by researchers in South Africa [28], but the results remain indicative. In our study, three methods to determine availability of health workers were used: examining staff records, self-administered questionnaires and questions to managers. Both quantitative methods did not provide sufficient reliable information and only the responses of the managers could be used. Therefore, availability of health workers could not be established, although all managers confirmed that they often deal with problems of staff absence and sick leave.

## 2.5 CONCLUSIONS

In recent years, HIV/AIDS has increased the workload and considerably changed or added tasks to already overburdened health workers in both study districts. Where there are no protective measures, patient care may be compromised as health workers cannot save a bleeding patient due to fear of HIV infection. Despite the fact that health workers are still relatively motivated, there are signs of emotional exhaustion, especially among counsellors and nurses. HIV/AIDS complicates the already difficult work environment. Not only health workers, but also management need support in dealing with HIV/AIDS at the workplace. Limitation in recruitment of personnel, departures of staff and lack of resources complicate the task of managers to provide a conducive work environment for health workers, leading to decreased motivation. The question is whether management has sufficient capacity to address HIV/AIDS at the workplace and whether technical support and financial resources are available to help them deal with stigma, fear, frustration and caring for sick colleagues. Although data have to be summarised at facility level and aggregated for district, provincial and national level so as to quantify the problem, the study highlights the pressing need to provide organizational support to health workers and to managers. HIV/AIDS requires health policy makers and planners to implement multi-faceted workplace policies and programmes in order to support valuable health workers who are at their limits. Urgent action is necessary.

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### Notes

- 1 Health workers are defined in this article as professionally trained cadres who provide health care services
- 2 A health system is 'comprised of all organizations, institutes and resources devoted to producing health actions' [5:pxi]
- 3 Burnout is defined as 'a syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment that can occur among individuals who do 'people work' '[34:p3]
- 4 Motivation is defined as 'an individual's degree of willingness to exert and maintain an effort towards organizational goals' [35:p1255-1256].
- 5 This is a purposeful sampling method used in qualitative research to 'obtain optimal insight into an issue about which little is known' [36:p199].
- 6 One group consisted of three women and one man, average age unknown, varying professions and working experience. The other group had three women and one man, average age 36, with varying professions and work experiences.
- 7 The participants of one group discussion consisted of three male volunteers- all members of a village neighbourhood health committee and all above 60 years of age. Two group discussions with, respectively, three and five health providers were held.
- 8 At the time of the research, the selected facilities employed in total 319 health workers who provided care to patients
- 9 Not all questions were always systematically filled out by the respondents, therefore percentages given do not entirely correspond to the  $n=38$  for Mpika and  $n=44$  for Mazabuka.

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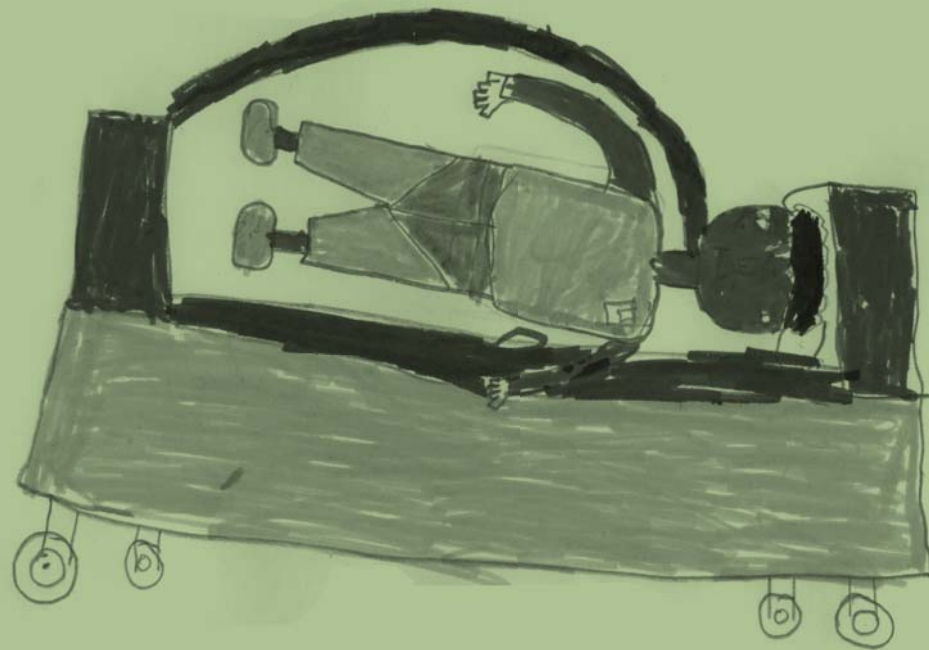


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'I believe that the staff have reduced their closeness to patients':  
An exploratory study on the impact of HIV/AIDS on staff in four rural hospitals in Uganda



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**Aluve Mmisi, South Africa, 10 years**  
*My uncle is ill and he is in the hospital.*

## Abstract

**Background:** Staff shortages could harm the provision and quality of health care in Uganda, so staff retention and motivation are crucial. Understanding the impact of HIV/AIDS on staff contributes to designing appropriate retention and motivation strategies. This research aimed 'to identify the influence of HIV/AIDS on staff working in general hospitals at district level in rural areas and to explore support required and offered to deal with HIV/AIDS in the workplace'. Its results were to inform strategies to mitigate the impact of HIV/AIDS on hospital staff.

**Methods:** A cross-sectional study with qualitative and quantitative components was implemented during two weeks in September 2005. Data were collected in two government and two faith-based private not-for-profit hospitals purposively selected in rural districts in Uganda's Central Region. Researchers interviewed 237 people using a structured questionnaire and held four focus group discussions and 44 in-depth interviews.

**Results:** HIV/AIDS places both physical and, to some extent, emotional demands on health workers. Eighty-six per cent of respondents reported an increased workload, with 48 per cent regularly working overtime, while 83 per cent feared infection at work, and 36 per cent reported suffering an injury in the previous year. HIV-positive staff remained in hiding, and most staff did not want to get tested as they feared stigmatization. Organizational responses were implemented haphazardly and were limited to providing protective materials and the HIV/AIDS-related services offered to patients. Although most staff felt motivated to work, not being motivated was associated with a lack of daily supervision, a lack of awareness on the availability of HIV/AIDS counselling, using antiretrovirals and working overtime. The specific hospital context influenced staff perceptions and experiences.

**Conclusion:** HIV/AIDS is a crucially important contextual factor, impacting on working conditions in various ways. Therefore, organizational responses should be integrated into responses to other problematic working conditions and adapted to the local context. Opportunities already exist, such as better use of supervision, educational sessions and staff meetings. However, exchanges on interventions to improve staff motivation and address HIV/AIDS in the health sector are urgently required, including information on results and details of the context and implementation process.



## 3.1 BACKGROUND

HIV/AIDS has an impact on health sector workers in various ways. It increases fear of infection at work, changes or increases tasks and workload, and increases the emotional burden and stress levels of health workers [1–3]. However, little concrete evidence exists of the impact of HIV/AIDS on the health sector [4], as few studies have been conducted.

The Ugandan health sector is the main provider of HIV/AIDS-related services for a population of about 29 million people. The HIV prevalence is 6.7 per cent among adults (15–49 years) and about 900,000 adults and 110,000 children (0–14 years) live with HIV [5]. About 88 per cent of the Ugandan population live in rural areas [6]. The health sector faces staff shortages. A total of 30,000 health workers were employed in 2004, and yet an extra 5000 qualified staff were required [7]. Most staff are nursing assistants, a cadre with minimal professional health qualifications [7]. A shortage of health workers could negatively influence access to and quality of care. Therefore, retention and motivation of remaining staff is crucial.

Retention of health workers is linked to job satisfaction, which is influenced by various factors such as physical working conditions, relationships with colleagues and managers, pay, promotion, job security, and responsibility, although priorities will differ in different contexts [8]. Job satisfaction influences motivation to work but is not sufficient on its own. When someone is satisfied with his or her job, he/she is not necessarily motivated to perform well. Motivation is defined as 'an individual's degree of willingness to exert and maintain an effort towards organizational goals' [9:p1255–1256]. Factors that influence motivation to perform well need to be identified in each context. They may include opportunities for promotion or training, opportunities for an increase in remuneration, receiving appreciation for work or obtaining recognition from managers, colleagues and patients.

Published studies about the impact of HIV/AIDS on the health sector and its workers in low-income countries focus mostly on occupational hazards [10–11] and on knowledge, attitudes and practice [12–21]. Some studies focus on a variety of aspects such as stress and burnout, working conditions, knowledge and attitudes, and organizational support [22–26]. Although the studies vary in design and are, therefore, difficult to compare, they confirm that health workers fear infection, face stress and burnout and are concerned about being stigmatized. The main causes identified include a lack of knowledge and skills and a lack of organizational support to deal with fear, stigma, stress and burnout, and changes in tasks and responsibilities.

Studies in Uganda [27–30] have shown that HIV/AIDS influences patient care and that it increases health workers' fear of infection for various reasons. However, a comprehensive overview of the perceptions of managers and health workers of the impact of HIV/AIDS is missing. This is required when designing country-level strategies. Identifying the influence of HIV/AIDS on staff motivation – to design activities that mitigate the impact of HIV/AIDS and integrating these activities in strategies for motivation and retention – is crucial to assure quality of care.

At the time of the study Uganda had 56 districts, served by government, private for-profit and private not-for-profit (PNFP) health facilities. There were 10 regional referral hospitals and 45 district hospitals run by the government. PNFP facilities accounted for 43 per cent of the



hospitals and 24 per cent of the lower health care facilities, mostly in rural areas. Many of the PNFP facilities provided health services and trained health workers, and 78 per cent of these facilities were faith based [31].

This article describes the results of a study exploring the effects of HIV/AIDS on hospital staff and organizational responses to mitigate these effects in four different general hospitals in rural districts of the Central Region in Uganda. The study aimed ‘to identify the influence of HIV/AIDS on staff working in general hospitals at district level in rural areas and to explore support required and offered to deal with HIV/AIDS at the workplace’.

## 3.2 METHODS

### Research design and research questions

The study design was exploratory and cross-sectional and consisted of a quantitative and a qualitative component. It intended to answer the following research questions:

- What are the perceptions of hospital managers and staff regarding the effects of HIV/AIDS at their workplace?
- What are the current overall working conditions in the selected hospitals?
- What are the current support measures offered and required in the selected hospitals to assist staff in dealing with HIV/AIDS at work?
- Are hospital staff motivated to work, and to what extent does HIV/AIDS influence staff motivation?

### Theoretical framework

No standard theoretical framework for the impact of HIV/AIDS on hospital staff exists in the literature, therefore the research team developed its own framework. Our main hypothesis was that staff would be discouraged from working because of low motivation and stress, which are influenced by HIV/AIDS and by general working conditions, and that this would contribute to low performance of health systems. According to Chen et al (2004), enhancing the performance of health systems requires, in addition to adequate financial and material resources, workforce objectives on coverage, competence and motivation [32]. Staff motivation is, therefore, an important contributing factor to the performance of health systems. Different theories exist about motivation. In this article health workers’ motivation is explained using expectancy theory, adapted to the workplace by Vroom and by Porter and Lawler [33]. This theory describes staff motivation as a rational process of decision making. It explains that staff will be motivated to work if they believe they can perform a task successfully when they put effort into it, if they believe that the outcome will be positive when they perform the task, and if this outcome is valued by them [34]. Our study focused on the impact of HIV/AIDS on motivation. It explored whether staff perceived effects of HIV/AIDS on their work, what these effects were and whether organizational efforts were in place to mitigate this impact, and it identified factors motivating staff to work. Subsequently, during analysis, we tried to identify a relationship between staff motivation and the perceived impact of HIV/AIDS. We also tried to identify if there were differences in perception and responses between the staff of the four hospitals.

### Sampling and study population

Four general hospitals in rural districts were selected purposively, as these were the facilities that



provided most HIV/AIDS services close to the population. Purposive sampling is a sampling method used in qualitative research to select ‘a limited number of informants strategically so that their in-depth information will give optimal insight into an issue about which little is known’ [35: p199]. The hospitals were located in four different rural districts in the Central Region in Uganda, a region with 9.4 per cent HIV prevalence, one of the highest in the country [36]. This region consists of four urban and 12 rural districts. In these rural districts comprehensive HIV/AIDS services are provided by 13 public and nine faith-based, private not-for-profit hospitals [oral communication from MoH]. The hospitals were selected according to their type, as different types of hospitals have different working conditions and a different working environment, which might have an impact on staff perceptions and experiences. We were also interested in exploring whether or not individual hospital settings influenced experiences and perceptions, even though hospitals had the same background, so we intended to include more than one hospital of the same type in the sample. Time and budget allowed us to conduct the study in four hospitals: two public and two faith-based. In each health facility, the study population consisted of all health workers, support staff which came in direct contact with patients or patient fluids, and managers.

For the survey, the quantitative component of our study, quota sampling took place, recruiting an appropriate number (quota) in each category of health staff, maintaining a proportional representation of health staff in the sample. Quota sampling means that a quota is set for each attribute (in this case the type of professional cadre), and the quotas are set ‘so that they represent together the known distribution of the control attributes across the known population’ [37:p37]. We intended to include as many health workers as possible, aiming to interview between 30 and 50 per cent of the health workers employed in the selected hospitals. Among support staff cleaners were selected, because they work on the wards and come into contact with patients and with patients’ fluids. As they were not the key respondents in the research, we only interviewed a limited number of cleaners. In total, 237 members of staff were recruited according to their availability (presence and having time to be interviewed), from a total of 594 staff employed by the hospitals at the time of the study and in direct contact with patients or patients’ fluids. Table 1 shows the distribution of different staff categories interviewed.

**Table 1: Composition of the survey sample**

Type of staff	All hospitals n= 237	Hospital A n= 77	Hospital B n= 46	Hospital C n= 70	Hospital D n= 44	
<b>Support staff</b>	36 (15%)	10 (13%)	8 (17%)	12 (17%)	6 (14%)	
<b>Clinical staff</b>	Allied health professional	27 (11%)	6 (8%)	5 (11%)	8 (11%)	8 (18%)
	Enrolled Nurse/Midwife	74 (31%)	23 (30%)	14 (30%)	19 (27%)	18 (41%)
	Doctor	8 (3%)	3 (4%)	2 (4%)	1 (1%)	2 (5%)
	Nursing assistant	70 (30%)	28 (36%)	11 (24%)	24 (34%)	7 (16%)
	Registered Nurse/Midwife	22 (9%)	7 (9%)	6 (13%)	6 (9%)	3 (7%)
Sample of clinical staff as percentage of total number of clinical staff in hospital		65%*	46%	39%	35%	

Allied health professionals = clinical officers, laboratory assistants, pharmacy assistants etc.

\* The percentage of staff in hospital A participating in the study is higher than in the other hospitals. This is probably due to better mobilization of staff by management compared to the other hospitals.





Respondents for the qualitative component were recruited purposively, using maximum variation sampling. In each hospital, four managers, six health workers from different departments and one or two support staff were selected. Health workers were selected for interviews from among those with experience in working with HIV/AIDS patients, with implementing HIV/AIDS-related tasks and general caring tasks. If a person was not available, either a new appointment was made or another person with similar tasks was selected. Support staff were interviewed according to their availability. In total, 44 respondents were interviewed, and 25 respondents participated in four focus group discussions.

### Data collection

Quantitative data were collected by research assistants who had experience in conducting interviews and who were trained on the background of the study and the research questions. Data were collected through interviews, using a structured questionnaire. Questions were asked about infection control guidelines, availability and use of protective materials, treatment and disposals of sharps, perceived risk of HIV infection at work, occurrence of injuries, and support offered and used to prevent and deal with HIV infection. Additionally, questions were asked about working conditions, supportive supervision, training in HIV/AIDS tasks, and staff motivation.

Qualitative data were collected by experienced researchers through in-depth interviews and focus group discussions, using a topic guide. Open questions were asked about the impact of HIV/AIDS on work, dealing with HIV/AIDS at work, and support required and offered by the hospital. Questions were also asked about general working conditions and staff motivation.

Data were collected during a period of two weeks in September 2005.

### Data analysis

Quantitative data were analysed with Epi-info 6.1 and Stata 9.2, using non-parametric tests (Chi-square and Kruskal-Wallis test) for descriptive analyses. Assuming that the members of staff working in a particular hospital were not completely independent, Generalized Estimated Equation (GEE) models were used to determine independent factors associated with not being motivated. Motivation was dichotomized: 'not being motivated' included the categories: indifferent, discouraged and very discouraged, and 'motivated' included the categories motivated and very motivated to the question 'How motivated are you in your work?'. Factors associated with not being motivated in univariate analysis ( $P < 0.10$ ) were selected for multivariate analysis. The final model was created using stepwise backward selection of variables and was checked for confounding. Only the variables that showed a significant effect or acted as confounder were kept in the model. Key variables for analysis included fear of infection, injuries and actions taken, protective materials in place and used, support services to prevent and deal with HIV infection, and general working conditions. Qualitative data were analysed using a framework developed according to the research objectives, key issues and themes. Issues for analysis included the impact of HIV/AIDS at work, dealing with difficulties because of HIV/AIDS (such as fear of infection, stigma, emotions and workload), support required and offered at work, general working conditions, and staff motivation.

### Ethical considerations and quality assurance

The quality of data was safeguarded by using experienced interviewers, assuring the confidentiality and privacy of respondents, and by asking informed consent and permission to tape interviews and focus group discussions. All research instruments were pre-tested. The research team members who conducted the in-depth interviews and focus group discussions were involved in the development of the research protocol and data collection instruments. They also participated in data analysis and report writing. Research assistants were trained to use the structured questionnaire and interviewed under supervision of an experienced researcher.

The validity of data was assured by triangulation. Data were triangulated by:

- Asking the same questions during focus group discussions and in-depth interviews;
- Exploring the same topics among support staff, health workers and managers; and
- Comparing and contrasting information from the interviews and focus group discussions with information from the questionnaires and with the registers and reports from the hospitals.

The protocol was approved by the Ethics Review Committee of Uganda Martyrs University.

## 3.3 RESULTS

### Characteristics of the study population

All four hospitals provided services such as health education, voluntary counselling and testing (VCT), antiretroviral (ARV) distribution, treatment of sexually transmitted infections (STIs), treatment of opportunistic infections, and prevention of mother-to-child transmission (PMTCT). The characteristics of each hospital are described in Table 2.

**Table 2: Main characteristics of each hospital**

	Hospital A	Hospital B	Hospital C	Hospital D
<b>Type</b>	Government	Government	PNFP*, faith based	PNFP, faith based
<b>No. of beds</b>	100	140	240	120
<b>No. of health staff</b>	103	83	148	108
<b>Bed:staff ratio</b>	1:1.03	1:0.59	1:0.62	1:0.90
<b>New Out-Patient Department cases per day</b>	74	86	85	57
<b>Average length of stay (bed days per patient)</b>	4.75	5.6	5.75	4.3
<b>Patients on Antiretroviral Therapy</b>	95	23	70	68
<b>Observations</b>	-Pilot hospital for Routine Counselling and Testing		-AIDS clinic with 350 outpatients/ HIV/AIDS activities financially supported by different donors. -School to train enrolled nurses and laboratory assistants	-Vertical HIV/AIDS programme with own staff attached to the hospital, in addition to hospital HIV/AIDS-related services -School to train enrolled nurses

\* PNFP = Private Not for Profit



The hospitals differed in number of beds and of clinical staff; public hospital B had the highest bed:staff ratio. The average length of stay for patients in the hospitals varied slightly and was between 4.3 and 5.75 days. There was a large variation in the number of registered ARV patients between the hospitals. Three hospitals had special activities related to HIV/AIDS.

The study sample of the survey in each of the four hospitals was similar in sex and profession (Table 3). In the PNFP hospitals (C and D), staff were significantly younger and had significantly less working experience than staff in the government hospitals (A and B). This corresponds with comments by managers that, after some years of working experience, staff in PNFP hospitals left for better paying public facilities.

**Table 3: Characteristics of the respondents of the survey**

Variables	All hospitals n=237	Hospital A n=77	Hospital B n=46	Hospital C n=70	Hospital D n=44	P-value
<b>Sex</b>						0.37
Female (F)	181 (76%)	59 (77%)	32 (70%)	58 (83%)	32(73%)	
Male (M)	56 (24%)	18 (23%)	14 (30%)	12 (17%)	12(27%)	
<b>Median age</b> (Inter Quartile Range)	30 (25-40)	38 (29-45)	33.5 (26-45)	26 (23-30)	28 (24-34)	< 0.001
<b>Profession</b>						0.45
Highly educated*	57 (24%)	16 (28%)	13 (21%)	15 (30%)	13(24%)	
Enrolled Nurse-Midwife	74 (31%)	23 (30%)	14 (30%)	19 (27%)	18(41%)	
Nursing Assistant	70 (30%)	28 (36%)	11 (24%)	24 (34%)	7(16%)	
Support staff	36 (15%)	10 (13%)	8 (17%)	12 (17%)	6 (14%)	
<b>Years in Hospital</b>						< 0.001
0-4	127 (54%)	28 (36%)	20 (44%)	49 (70%)	30 (68%)	
5-9	34 (14%)	8 (10%)	6 (13%)	8 (11%)	12(27%)	
10-14	33 (14%)	12 (16%)	9 (20%)	10 (14%)	2(4.5%)	
15-19	12 (5%)	7 (9%)	3 (7%)	2 (3%)	0	
>19	31 (13%)	22 (29%)	8 (17%)	1 (2%)	0	

\* medical officers, registered nurse/midwives and allied health workers such as clinical officer, laboratory assistant, pharmacy assistant etc.

The age range of the managers and the support staff in the study sample of the qualitative component was more or less equal between the different hospitals (Table 4). The health workers' ages and working experience were generally less in the two PNFP hospitals than in the public hospitals (Table 4).



**Table 4: Characteristics of respondents of the in-depth interviews**

Characteristics	Hospital A	Hospital B	Hospital C	Hospital D
<b>Managers</b>				
<b>Sex</b>	2 F, 2 M	2 F, 2 M	3 F, 1 M	2 F, 2 M
<b>Age</b>	28, 37, 45, 47	early 30s, 36, 45, 51	early 30s, 33, 60, 29	36, 50, late 50s
<b>Professions</b>	2 medical doctors, 2 registered midwives	2 medical doctors, 2 registered midwives	1 medical doctor, 2 registered nurses, 1 MPH (foreigner)	2 MD, 2 registered nurse/ midwives
<b>Work experience</b>	MD: 9, 4 years Midwives: 17, 20 years	MD: 2, 6 years Midwives: 10, 15 years	2x 1 year, 3, 15 years	MD: 6, 14 years Nurse: 5, 8 years
<b>Health workers</b>				
<b>Sex</b>	5 F, 1M	2 F, 4M	2F, 2M	6F
<b>Age</b>	36, 39, 45, 45, 58 (1 missing)	26,48,50,53,57 (1 missing)	21, 24, 26, 30	24, 25,28, 30, 30,55
<b>Profession</b>	1 enrolled nurse/ counsellor, 2 enrolled nurse, 1 enrolled midwife, 1 clinical officer and 1 registered nurse	1 enrolled nurse, 1 senior clinical officer, 1 nursing assistant, 2 registered nurses/ counsellors, 1 senior anaesthetic officer	1 counsellor, 1 registered nurse, 1 theatre assistant, 1 enrolled nurse	2 enrolled nurses, 1 student midwife, 1 clinical officer, 1 teacher/ counsellor, 1 registered nurse
<b>Work experience</b>	6 months to 30 years, 3 around 15 years	6 months to 30 years, 2 around 19 years	2 to 10 years	6 months to 5 years
<b>Support staff</b>				
<b>Sex</b>	1 F, 1 M	2 M	1 F	1M
<b>Age</b>	49, 42	21, 32	42	42
<b>Profession</b>	2 cleaners	2 cleaners	cleaner	cleaner
<b>Work experience</b>	19 years (1 missing)	1, 2.5 years	5 years	9 years

Six health workers participated in the focus group discussion in each hospital, except in hospital A where nine people took part. Participants were mostly women, most of whom were enrolled nurses/midwives (17 out of 25 participants). In total only three men participated.



## Perceived effects of AIDS at work

### - Increase in workload

Overall, 86 per cent of the respondents reported that their workload had increased (Table 5). This was lowest in hospital C (74 per cent) and highest in hospital A (94 per cent) ( $p=0.01$ ). In hospital A, 70 per cent of respondents reported an increased workload due to extra tasks related to HIV/AIDS, whereas in the other hospitals 26 to 46 per cent of the respondents related an increased workload to staff shortages, extra tasks related to HIV/AIDS or other reasons ( $p < 0.001$ ). The in-depth interviews in all hospitals revealed that the main reasons for perceived increase in workload were an increase in tasks, especially counselling and ARV provision, an increase in patients, having sicker patients which demand more care and facing staffing shortages. In hospital A, especially the introduction of routine counselling and testing for HIV/AIDS was said to contribute to the perceived increase in workload.

**Table 5: Comparison between hospitals regarding workload, overtime, fear of infection, and injuries \***

Variables	All hospitals n= 237	Hospital A n=77	Hospital B n=46	Hospital C n=70	Hospital D n=44	p
1. Increase in workload	204 (86%)	72 (94%)	42 (91%)	52 (74%)	38 (86%)	0.01
2. Working regularly overtime	114 (48%)	47 (61%)	23 (50%)	25 (36%)	19 (43%)	0.02
3. Afraid of getting infected at work	196 (83%)	64 (83%)	41 (89%)	56 (80%)	35 (79.5%)	0.57
4. Had an injury	85 (36%)	28 (36%)	20 (43%)	19 (27%)	18 (43%)	0.23
5. Reaction after injury: - Washed the wound	64/81(79%)	17/26 (65%) 2 missing	18/20 (90%)	15/18 (83%) 1 missing	14/17 (82%) 1 missing	0.20
- Tested the patient	9/81 (11%)	4/26 (15%)	2/20 (10%)	1/18 (6%)	2/17 (12%)	0.78

\* The denominator is given when different from the n

Shortages of qualified staff were mentioned in all hospitals, although records on staff departure demonstrated a low number of staff that had left among government staff: over the past five years in hospitals A and B, respectively, two and seven health workers had left. In the PNFP hospitals staff departure was a lot higher: in hospital D over the past five years 84 health workers had left, whereas the number of staff in hospitals A, B and D was similar (Table 2) and, according to managers, this number had not changed dramatically over the reported years in any of the hospitals. Staff absence during working hours was not mentioned as a major problem, although none of the hospitals registered this systematically.

An average of 48 per cent of respondents reported working overtime regularly (Table 5), which was explained as working outside the normal working schedule. The in-depth interviews showed that working overtime meant that staff skipped breaks, continued working beyond their shift or that staff was called upon by their colleagues when they were free, as illustrated by the following quote:



*'Sometimes they come for me when I am free. It is teamwork, when patients are many you come. If you refuse, they will not help you when you have a problem.'* (Health worker)

Significant differences were found between hospitals in the percentage of staff reporting to work overtime on a regular basis, which was highest in hospital A (61 per cent) and lowest in hospital C (34 per cent) ( $p=0.02$ ). In PNFP hospital C, 40 per cent of staff reported that they never worked overtime, corresponding with fewer staff reporting an increase in workload compared to the other hospitals (Table 5). This could be due to the AIDS clinic in hospital C that provided ARV services, counselling and PMTCT services, whereas in the other hospitals these services were integrated.

### - Risk of infection at work

Overall, 83 per cent of the respondents reported being afraid of becoming infected at work. This did not differ significantly between the hospitals (Table 5). Fear of infection was not related to profession, number of years working in the hospital, sex, or having had an injury in the previous year or not. Fear of infection was often reported during the interviews, and some staff answered that they either do not conduct tasks very well, are very cautious to avoid injuries or even avoid tasks involving touching patients known to be HIV-positive or to have AIDS. This is illustrated by the following quote:

*'Health workers fear getting infected with HIV while handling patients. Especially when there are less supplies of protectives in the hospital, this makes health workers so much afraid of contracting HIV. I believe that staff have reduced closeness to patients. Now those who are exposed to blood of people, they avoid examinations which will lead to contact with patients' blood.'* (Health worker)

Injuries were common in all hospitals: 36 per cent of the respondents reported an injury in the last year (Table 5), and in all in-depth interviews staff mentioned either having had an injury or knowing someone who had had a needle-stick injury. According to the interviews, the most common reactions after injuries in all hospitals was to wash the wound. This was confirmed by most of the survey respondents (79 per cent). A quote by a health worker in a focus group discussion illustrates this:

*'I was pricked by a needle when I was putting an IV-line, I ran water on the finger to let the blood flow on it. I asked the patient to tell me about herself and she told me the husband had died. I just prayed to God'.*

On very few occasions (11 per cent) the patient was tested, and only one person went for post-exposure prophylaxis (PEP), in hospital A.

### - Emotions

During the interviews most respondents said they accepted HIV/AIDS patients as people needing a lot of care and AIDS as 'any other disease'. Although staff did not lose morale, they were at times affected and felt frustrated, sad or depressed, especially when poor patients were left alone by their carers and when patients did not improve despite treatment. As one respondent stated:



'No, it doesn't affect me and for others, it is difficult to know because we haven't talked about it. I see colleagues being very concerned about the patients and giving their best. We have a doctor who gives patients money.' (Health worker)

There were no major differences in answers between the hospitals. In most hospitals health workers and support staff also acknowledged being personally affected. Emotions related to providing care were difficult to discuss. This might be because staff did not think about emotional stress and saw HIV/AIDS as part of normal life, or because staff and management were not used to discussing feelings related to work.

#### - HIV-positive colleagues

Discussing the status of colleagues or staff themselves was very difficult. Staff and management reported that hospital staff did not want to be tested and come out in the open due to fear of being stigmatized and, as a result, being isolated and talked about by their colleagues and by patients.

'The staffs themselves fear stigma. The other staffs are not so sympathetic. No. There was a midwife who died last year, she was being abused by another midwife. They were on duty and they got some quarrel over a patient and one of them told the other that 'you know you are sick and tomorrow you are going to die' and I was there. And that is the thing that is making staff fear to test.' (Health worker)

HIV-positive colleagues were mainly suspected through clinical signs, and they were suspected if they had lost their partner due to AIDS. Staff reported that HIV-positive colleagues were tested and treated elsewhere and not in the hospital where they work. AIDS-related deaths among staff occurred in all hospitals, although limited numbers were reported. In hospital A, B, C and D over the past five years, respectively four, six, seven and three staff were reported to have died from AIDS-related illness.

#### Organizational responses

##### - Dealing with workload

Lack of qualified staff was a problem for all hospitals. In hospitals A, B and C most staff (63 to 70 per cent) were enrolled nurses and nursing assistants. In hospital D, only 40 per cent of staff were enrolled nurses and nursing assistants. It is likely that this hospital used students to do certain types of work. The problem of a limited number of qualified staff was addressed by having tasks conducted by less- or non-qualified staff, or qualified staff were asked to work overtime. According to respondents of the in-depth interviews, both ways of addressing the problem risked having a negative impact on quality of care, as illustrated by the following quote:

'Yes (it influences quality), counselling may not be perfect because they have to combine it with other work in the ward, which is also not perfected.' (Manager)

When working overtime, 81 per cent overall received no compensation (Table 6). In hospital C, this was much lower (38 per cent) than the other hospitals, because overtime mainly occurred in the AIDS clinic where it was paid.

Table 6: Comparison between hospitals for various variables on staff motivation and organizational responses.\*

Variables	All hospitals n= 237	Hospital A n=77	Hospital B n=46	Hospital C n=70	Hospital D n=44	P
<b>1. Staff motivation</b>						
- Staff motivated	168 (71%)	58 (75%)	26 (57%)	54 (77%)	30 (68%)	
- Staff indifferent	32 (14%)	13 (17%)	11 (24%)	4 (6%)	4 (9%)	
- Staff discouraged	37 (16%)	6 (8%)	20% (9)	12 (17%)	10 (23%)	0.02
<b>2. NOT compensated for overtime</b>	141/174 (81%)	58/67, 1 missing (88%)	33/35 (94%)	16/42 (38%)	34/44 (77%)	< 0.001
<b>3. Feels adequately protected</b>	142/236 (60%)	43 (56%)	26 (57%)	40 (70%)	24, 1 missing (56%)	0.26
<b>4. Knows how to protect him/herself</b>	223 (94%)	72 (94%)	41 (89%)	67 (96%)	43 (98%)	0.33
<b>5. Guidelines for protection</b>						
-Awareness	183 (77%)	68 (88%)	35 (76%)	52 (74%)	28 (64%)	0.02
-Available	92/183 (50%)	42/68 (62%)	12/35 (34%)	24/52 (46%)	14/28 (50%)	0.23
<b>6. Sterilizing metallic instruments**</b>						
- Autoclaving	159 (84%)	45 (69%)	27 (79%)	53 (95%)	34 (100%)	<0.001
- Boiling	89 (47%)	57 (88%)	13 (38%)	12 (21%)	7 (21%)	<0.001
- Chemicals	64 (34%)	36 (55%)	1 (3%)	6 (11%)	21 (62%)	<0.001
<b>7. Protective gear always available</b>						
- Gloves	205 (88%)	69 (90%)	39 (85%)	65 (94%)	32 (76%)	0.04
- Antiseptics***	185 (93%)	59 (88%)	36 (95%)	56 (97%)	34 (94%)	0.27
- Apron**	156 (78%)	48 (72%)	28 (74%)	49 (85%)	31 (86%)	0.01
- Gumboots	130 (55%)	41 (53%)	21 (46%)	47 (67%)	21 (50%)	0.01
- Vacutainers**	66 (33%)	29 (43%)	3 (8%)	21 (36%)	13 (36%)	<0.001
- Masks**	76 (38%)	22 (33%)	8 (21%)	26 (45%)	20 (56%)	< 0.001
- Goggles**	23 (12%)	3 (5%)	2 (5%)	14 (24%)	4 (11%)	0.02
<b>8. Awareness and accessibility of PEP****</b>						
- Is aware of PEP	130 (55%)	60 (78%)	16 (35%)	27 (39%)	27 (61%)	<0.001
- Believes that PEP is offered in the hospital	71 (30%)	50 (65%)	3 (6.5%)	11 (16%)	7 (16%)	<0.001
<b>9. Availability of HIV/AIDS-related services for staff</b>						
- Condoms	159 (67%)	74 (96%)	39 (85%)	45 (64%)	1 (2%)	<0.001
- Counselling	230 (90%)	77 (100%)	40 (87%)	66 (94%)	30 (68%)	<0.001
- HIV Testing	217 (92%)	77 (100%)	41 (89%)	66 (94%)	33 (75%)	<0.001
- Antiretrovirals	192 (81%)	72 (94%)	33 (72%)	56 (80%)	31 (71%)	0.03
- Health Education	217 (92%)	73 (95%)	40 (87%)	94% (66)	38 (86%)	0.28

\* The denominator is given when different from the n

\*\* Selection of people to whom the particular question applied, excluding 2 persons who did not use any sterilizing method, n=189

\*\*\* Only those persons were selected who needed to use these measures in their work

\*\*\*\* PEP= Post-Exposure Prophylaxis



### - Protection against HIV infection

Although the majority of respondents (60 per cent) reported feeling adequately protected (Table 6), 77 per cent of these were still afraid of getting infected. Existence of fear despite access to protective materials was confirmed during the in-depth interviews and is illustrated by the following quote:

*'We use the gloves, these masks, gumboots and aprons. But we still feel we are not secure. We use 2–3 gloves and we end up using a lot of gloves, more than the required amount.'* (Health worker at a maternity ward)

Managers and staff reported that at times protective material was of poor quality, contributing to fear of infection.

There were no significant differences in feeling adequately protected between hospitals, professional cadres, duration of service in hospital or having had a needle-stick injury in the previous year or not. Significantly more men than women felt adequately protected.

Most staff (94 per cent) reported knowing how to protect themselves (Table 6). Overall, 77 per cent said they were aware of infection control guidelines, although this differed significantly between hospitals, varying from 64 per cent in hospital D to 88 per cent in hospital A. In general, 73 per cent of the respondents reported being informed about such guidelines, and on average 50 per cent said that guidelines were available (Table 6).

In all hospitals, between 96 and 100 per cent of staff reported that they use disposable needles, and 97 to 100 per cent reported using safety boxes for disposal of these needles. In addition, 82 per cent of staff using needles reported that used needles were burned (Table 6). Respondents in hospitals C and D reported using autoclaving for sterilizing equipment significantly more often than respondents in hospital A and B (Table 6). In hospital A, 88 per cent of staff reported boiling metallic instruments.

Various protective materials were reported to be available, as shown in Table 6. Hospital B in particular lacked materials, as significantly fewer staff reported the availability of five types of protective materials (aprons, gumboots, vacutainers, masks and goggles). In this hospital staff reported that when stock outs occurred at times patients were asked to buy gloves. Gloves and antiseptics were used most of the time in all four hospitals. In hospital D significantly more respondents (91 per cent) used aprons, probably due to availability. Other materials in the four hospitals were used to a lesser extent, as their availability was limited.

Staff need to be aware of the possibilities of getting PEP after an injury. In hospitals A and D significantly more staff were aware of PEP compared to hospitals B and C (Table 6). There was a significant difference in perceptions of accessibility to PEP among staff in hospital A compared to the staff in the other hospitals. However, in total only two people reported ever having used PEP.

### - Training

Overall, 64 per cent of health workers who answered as being responsible for tasks related to HIV/AIDS were responsible for 5–10 different tasks. Tasks that were reported by more than 50 per cent



of the respondents were health education, counseling, STI treatment and caring for HIV/AIDS patients on the wards. In hospital C, significantly more people reported having only one task related to HIV/AIDS, which might be due to the existence of an AIDS clinic. In hospital A, significantly more staff reported being involved in all tasks, which is likely to be due to the introduction of routine counseling and testing (RCT). An average of 50 per cent of the respondents reported being trained for all their HIV/AIDS tasks, ranging from 46 per cent in hospital B to 56 per cent in hospital D (data not shown). Tasks in which fewer than 20 per cent of respondents reported being trained were treatment of opportunistic infections, STI treatment, training and supervision of carers, and caring for HIV/AIDS patients on the wards. In the interviews, most staff and managers answered that especially training in testing and counseling was organized.

### - Coping emotionally

Responses to feelings of frustration, depression and sadness were similar in the four hospitals: hospital staff reported 'doing their best' and accepting it when they were not able to help, either ignoring the feeling, dealing with it by themselves informally by praying, or talking to colleagues. At times they did consult seniors when problems occurred, as illustrated by this quote:

*'My staff complain, they say: we have lost a patient and we did not want this patient to die. I tell them that is part of life, we have done our best and maybe it was God's plan.'* (Manager of a ward)

In none of the four hospitals was a system in place to assist staff when they faced emotional difficulties, although opportunities existed. Three hospitals organized regular educational sessions, in which HIV/AIDS-related topics were discussed. In hospital B such sessions were less regular. However, these sessions might be considered too 'public' to deal with emotions. Supervision might offer another opportunity for those in charge to discuss difficulties in dealing with HIV/AIDS patients. Overall 57 per cent of respondents reported being supervised daily and 27 per cent at least monthly. Daily supervision was lowest in hospital B (39 per cent) and highest in hospital A (68 per cent) ( $p=0.02$ ). Supervision was considered by most respondents in the hospitals sufficient to cope with work (91 per cent in hospital A, 76–77 per cent in hospitals B, C and D, NS). The PNFP hospitals offered spiritual guidance: hospital C had early-morning devotion times, in which problems were sometimes discussed, and hospital D offered a minister for talking and praying. In the in-depth interviews there were no clear differences in answers between staff in the different hospitals, which indicates that the spiritual guidance provided did not make it noticeably easier to cope with HIV/AIDS patients.

### - Support offered to deal with HIV/AIDS at work

Staff could make use of the available HIV/AIDS services, although respondents reported differently with respect to their availability (Table 6). There were significant differences in the reported use of services by staff between the hospitals: in hospital A, 83 per cent reported using counselling and testing services, compared to an average of respectively 61 per cent and 63 per cent ( $p<0.001$ ). This is likely to be linked to the introduction of RCT whereby health workers are able to test themselves. In the PNFP hospitals more staff reported having used testing services than counselling services. For hospital C this might mean that staff tested themselves secretly; for hospital D it might mean that they tested using private providers, as the use of testing kits had to be reported. Overall, only a limited number of staff reported using ARVs: about 81 per cent of respondents knew ARVs were available, 63 per cent reported having tested, and out of all of



those only 5 per cent reported using ARVs.

None of the hospitals in the survey had a written policy to deal with HIV-positive staff. Respondents in all hospitals reported that HIV-positive staff continued working until they were too ill, and that they did not come out in the open. Staff known by management to be HIV-positive received free treatment: ARVs when meeting the requirements, treatment of opportunistic infections, and counseling. In addition, respondents reported that hospital staff could be given lighter duties and private rooms in the hospital for admission. Staff and management in the public hospitals reported that salaries were paid until death of a sick staff member. In the PNFP hospitals salaries were reported as being paid up to three months, although most staff were not sure about this. Only in hospital C did staff report that financial support was received. Support to HIV-positive staff proposed by respondents in all hospitals was food, financial support to staff and relatives, lighter duties, and private rooms.

### Staff motivation to work

When asked about motivation in general, most staff (71 per cent) in the four hospitals reported feeling motivated (Table 6). Motivation among respondents ranged between 77 per cent for hospital C and 57 per cent for hospital B (Table 6). For staff in hospitals A, C and D the main reasons for being motivated to work reported in the survey were 'liking the job', followed by pay (extra pay or salary increase). In hospital B the main reason for motivation was pay, followed by liking the job. In hospital A, only 8 per cent of the respondents reported feeling discouraged from working – significantly less than the other hospitals ( $p=0.02$ ) – the main reason being workload. In hospitals B, C and D the main reason for discouragement was poor pay. In the in-depth interviews staff also answered being motivated for their work, with the most important motivating factor being 'liking the work'. Other reasons for motivation that were mentioned in hospitals A, C and D were supervision, supportive management, teamwork, and training opportunities, whereas in hospital B pay was mentioned as an important motivating factor. A salient finding from the in-depth interviews was the importance that staff gave to support from colleagues and management, through communication, team work and supervision.

*'If you have a problem, there is someone to talk to – there is good communication.'* (Health worker)

Results of the multivariate analysis showed that not being motivated was associated with having a high or medium level of education, being male, working overtime, not being aware of counselling or believing it is not offered, using ARVs, and not receiving immediate supervision on a daily basis (Table 7).



**Table 7: Association between independent variables and staff motivation as revealed by multivariate analyses, using Generalized Estimated Equation (GEE)**

	n	% not motivated	Adjusted OR* (95% Confidence Interval)
<b>Profession</b>			
Support	36	8 (22%)	0.57 (0.09–3.44)
Low education (Nursing assistant)	70	13 (19%)	1
Mid and high education (Enrolled nurse, Registered nurse, Allied health professional)	131	48 (37%)	1.90 (1.35–2.67)
<b>Sex</b>			
Female	181	49 (27%)	1
Male	56	20 (36%)	1.61 (1.26–2.08)
<b>Perceived risk of HIV</b>			
Not afraid of getting infected at work	41	8 (19.5%)	1
Afraid of getting infected at work, but feels adequately protected	110	37(36.5%)	2.75 (0.89–8.54)
Afraid of getting infected at work and does not feel adequately protected	86	24 (28%)	1.41 (0.73–2.74)
<b>Works overtime</b>			
Yes	175	62 (35%)	4.21 (2.93–6.05)
No	62	7 (11%)	1
<b>Provision of counselling</b>			
Yes	213	55 (26%)	1
No or does not know	24	14 (58%)	4.77 (3.52–6.45)
<b>Use of Antiretrovirals</b>			
Yes	11	5 (45.5%)	2.05 (1.15–3.64)
No	226	64 (28%)	1
<b>Frequency of immediate supervision</b>			
Every day	136	28 (21%)	1
Less than every day	101	41 (41%)	2.54 (1.68–3.84)

\* OR= Odds Ratio

## 3.4 DISCUSSION

In this study staff and managers reported that HIV/AIDS has an impact on workload, leads to changes in tasks and affects emotions, although the latter was less pronounced in this study. Injuries were reported to be common, and most staff feared infection at work. Respondents knew colleagues who were HIV-positive, although HIV-positive staff remained in hiding, and staff did not want to get tested due to fear of being stigmatized. No HIV-positive staff talked openly about their HIV status. The reported impact of HIV/AIDS demonstrated in these Ugandan hospitals corroborates published studies elsewhere: frequent occurrence of injuries, reported by



36 per cent of respondents in our study, is reported by 57 per cent of respondents at the central hospital in Uganda [29], and ranged between 26 and 53 per cent in studies reporting on injuries elsewhere [22, 24, 26]. Fear of infection, in our study reported by 83 per cent of respondents, varied in two Ugandan studies between 30 and 47 per cent [27,28], and our study corroborates reported fear of infection from studies elsewhere [12, 22, 24, 26]. In our study 77 per cent of those respondents who felt adequately protected feared getting infected. These findings corroborate two studies among doctors in Nigeria, which show that feelings of fear of infection persist, despite the availability and use of protective materials [38,39]. A number of studies in other countries with a high HIV prevalence demonstrated that staff felt stressed and faced burnout, often being emotionally exhausted [14, 22–26]. This was less pronounced in Uganda. Studies in Zambia [22, 26] reported, as in our study, that HIV-positive staff is not willing to tell others about their status and that health workers in general are unwilling to be tested.

In the Ugandan hospitals, organizational responses to the impact of HIV/AIDS were implemented haphazardly. None of the hospitals had written policies to prevent and mitigate the impact of HIV/AIDS and to support HIV-positive staff. Organizational responses were reported to consist of informing staff about infection control, making protective materials and existing HIV/AIDS-related services available, although in none of the hospitals respondents reported that these services were clearly communicated to staff. Areas that were not explicitly addressed in any of the hospitals were stigma, HIV counselling and testing among staff, supporting HIV-positive staff, availability and use of PEP, and emotional support. Lack of organizational support is also shown in studies in Zambia [22, 26]. The findings show that management needs to urgently address the impact of HIV/AIDS in health facilities. Workplace HIV/AIDS policies need to be designed and implemented, and use could be made of the generic guidelines developed by ILO/WHO [40] and of workplace policies that have been designed for the private sector in Uganda [41].

We explored the relationship between the perceived impact of HIV/AIDS and staff motivation. Motivation appeared to be determined, among others, by working conditions, such as overtime, frequency of supervision, provision of HIV counselling, and use of ARVs by staff. These factors are greatly influenced by HIV/AIDS. It might be that because of a lack of strategies to support HIV-positive staff, staff using ARVs do not feel motivated. This could not be explored, as no HIV-positive staff came forward during our study.

Staff with a higher level of education in particular were less often motivated than other staff, which might be linked to the reported lack of qualified staff and, therefore, having more responsibilities. Men are less often motivated than women in the survey, but it is not clear why, and answers from the interviews did not confirm this.

The most important reported reason for staff motivation was 'liking the work', and salaries and financial benefits appeared less important. This is corroborated elsewhere, and various studies [42–47] show that, although financial incentives are important, other motivating factors were appreciation, recognition and career possibilities. A number of reported reasons for motivation, such as 'liking the work', 'recognition', 'teamwork', and 'salaries and financial benefits' were not included in the multivariate analysis, as no separate questions were asked with respect to these variables. These could have been determinants or confounders for staff motivation and would need to be included in further studies.



As low motivation of health workers contributes to poor health worker performance and thus affects quality of care, Human Resources Management (HRM) activities to improve staff motivation need to be implemented. Managers should be aware that there is a complicated relationship between motivation and performance. According to expectancy theory, motivation to perform is a combination of feeling able to successfully perform a task when putting effort into it, obtaining a positive outcome (reward) upon completion, and valuing this outcome. This means that health facility managers need to implement HRM activities and use leadership skills to:

- Assure that the expected level of performance is discussed and agreed upon by staff and management;
- Support staff in such a way that they feel able to achieve the expected level of performance;
- Assure that expected positive outcomes of performance (eg financial or non-financial rewards) outweigh expected negative outcomes (eg getting infected by HIV/AIDS, being tired and overworked); and
- Assure that expected rewards are provided when performance is achieved [48].

A combination of interventions in all these areas is likely to lead to motivation for performance.

Our study identified that staff and managers considered HIV/AIDS to be constraining their work, as it either led to a perceived negative outcome (such as fear of getting infected while delivering care) or had an impact on their perceived ability to provide quality care (due to increased workload, emotional stress, changes in tasks and limited training in new tasks). Integrating activities to prevent and mitigate the impact of HIV/AIDS into existing HRM activities, instead of developing a 'vertical' HIV/AIDS workplace programme, can improve these perceptions. Examples of this type of activity are the integration of discussions on infection control, stigma and difficulties with HIV/AIDS patients into staff meetings and daily supervision; including HIV/AIDS-related topics in educational sessions to improve staff knowledge and skills; and including support to HIV-positive staff in workplace policies for chronically ill staff. Workload issues can be addressed by improving teamwork, rotating tasks, and taking measures aimed at staff attraction and retention. Our study identified motivating and discouraging factors among staff, but ranking these factors is required to assist managers to prioritize and align incentives for performance with valued positive outcomes of staff performance.

Caution has to be taken to replicate strategies without adapting these to the prevailing context. Although the type of hospital (public or PNFP) did not influence the reported impact of HIV/AIDS or organizational responses, the specific hospital context did seem to influence the perceptions and experiences of hospital staff, although differences were not always statistically significant. Two examples to illustrate this (Table 5 and 6):

In hospital B, staff were generally less motivated. The reported working conditions were less positive than in the other hospitals: hospital B had the highest bed:staff ratio, the lowest availability of five types of protective materials, the lowest number of staff that received daily supervision, irregularly organized educational sessions and the highest number of staff reporting not receiving compensation for overtime. In addition, it was one of the two hospitals with the highest number of injuries, and respondents of hospital B had the lowest knowledge of PEP and its availability in the hospital. Lastly, although pay was higher in hospital B than in hospitals C and D, staff motivation in hospital B was lower than hospitals C and D. A focus for interventions would



be to analyse leadership and management and to improve upon available activities such as supervision and educational sessions.

On the other hand, in hospital A many respondents were motivated despite the fact that the most overtime was reported in this hospital and a low number of staff received compensation. Hospital A had a high number of respondents being aware of guidelines, knowing about and using HIV/AIDS-related services for staff and being aware of PEP offered in the hospital. In this hospital a high number of respondents reported being supervised daily. However, in hospital A staff complained about a heavy workload due to extra tasks related to HIV/AIDS. This is in contradiction to the bed:staff ratio and the reported number of new patients in the outpatient department and might be linked to reported extra tasks related to HIV/AIDS such as RCT. The focus for intervention might be on evaluating staff experiences with RCT so as to better adapt these to staff capabilities.

It is important to know that although general measures should be designed to mitigate the impact of HIV/AIDS and to motivate staff, these examples demonstrate that each hospital management team needs to have a different focus in strategies. They show that differences occur in leadership and management, availability of resources and organization of services between hospitals working in similar conditions. Management needs skills and support to analyse the working conditions in their facilities and to adapt generic guidelines to their own specific situation.

Informing policymakers which interventions are successful under which circumstances and for which staff groups is important, as it allows the formulation and implementation of evidence-based approaches [49]. Various authors [50,51] describe the importance of taking the context and process into consideration when formulating and implementing interventions to address performance problems. Identifying strategies to address factors contributing to performance problems, such as low motivation, is important but managers need to be aware that blue print solutions do not exist. Health systems are social systems which are open and thus are influenced by and interact with their context. Additionally, the way interventions are implemented depends on the vision, skills and experiences of stakeholders involved in its implementation (management, health workers, support staff, district teams etc). This is also the case for strategies for staff motivation in the health sector. Therefore, evidence building needs to include information on the process of implementation, the context and any changes in the context. Randomized trials, which for health system interventions are considered by many the most credible designs for evidence building [50], normally do not include data collection on context and process. To answer the question 'what works for whom and why', these trials need to be complemented with different types of data and of data collection methods, such as methods to describe practitioners' views on lessons learned and conditions for success. Up to now little has been written on what works and what does not with respect to staff performance, their motivation and retention in the health sector in low-income countries [among others, 52,53]. Experiences with activities to mitigate the impact of HIV/AIDS and the integration of such activities into motivation and retention strategies for health workers are remarkably scarce in literature. There is an urgent need to document and share experiences with interventions to motivate and retain staff in low-income countries and with activities mitigating the impact of HIV/AIDS on the health sector and its workers.



### Study limitations

We were not able to measure stress, as no validated instrument for Uganda exists. Therefore, the influence of HIV/AIDS on stress could not be identified. Additionally, for some members of the research team it was difficult to probe on sensitive topics such as personal experiences with HIV/AIDS, HIV status of respondents and colleagues, and emotional feelings, which might have influenced data collection. The survey was based on the availability of staff, which could have caused a selection bias and which we were not able to check as data on absence and sick leave were not available in the hospitals. However, management assured us that absence and sick leave were not major problems faced in any of the hospitals and that staff were systematically scheduled to work in different shifts, without differences in profile. In addition, our own impression during the study was that absence due to stress, burnout or low motivation was not an issue in any of the hospitals. The questionnaire and the interview guide could have better addressed motivation by including questions in line with expectancy theory. Lastly, the results reflect staff opinion on their knowledge, skills and practice. Confirming if reported knowledge, skills and practice correspond with actual knowledge, skills and practice was not possible, due to time and budget constraints.

## 3.5 CONCLUSION

The study demonstrates that HIV/AIDS is a crucially important contextual factor, impacting on working conditions and staff motivation in various ways, and that staff perceptions and experiences with HIV/AIDS are influenced by individual hospital settings.

Given the fact that HIV/AIDS is a contextual factor, exacerbating working conditions that are already difficult, organizational responses to address the impact of HIV/AIDS need to be integrated with responses to address other problematic working conditions. Opportunities are present such as supervision, educational sessions, staff meetings and clearly providing counsellors to hospital staff. However, this can only be achieved if HIV/AIDS workplace policy and programmes are systematically developed and implemented, and when they are adapted to the local context. More information exchange on successes and failures of interventions to improve staff motivation and address HIV/AIDS in the health sector is urgently required to assure appropriate resource allocation. This requires additional data collection methods to the commonly applied randomized trials, which often exclude the context and process of implementation.

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# Identifying factors for job motivation of rural health workers in North Viet Nam



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## Awa Ouattara, Mali, 10 years

The family Ouattara is in good health, they are clean and every morning before they leave for school, they wash themselves. They are very well fed and they eat good food- they sweep their court every morning and every evening. They sleep under a mosquito net.

## Abstract

**Background:** In Viet Nam, most of the public health staff (84%) currently works in rural areas, where 80% of the people live. To provide good quality health care services, it is important to develop strategies influencing staff motivation for better performance.

**Method:** An exploratory qualitative research was carried out among health workers in two provinces in North Viet Nam so as to identify entry points for developing strategies that improve staff performance in rural areas. The study aimed to determine the major motivating factors and it is the first in Viet Nam that looks at health workers' job perception and motivation. Apart from health workers, managers at national and at provincial level were interviewed as well as some community representatives.

**Results:** The study showed that motivation is influenced by both financial and non-financial incentives. The main motivating factors for health workers were appreciation by managers, colleagues and the community, a stable job and income and training. The main discouraging factors were related to low salaries and difficult working conditions.

**Conclusion:** Activities associated with appreciation such as performance management are currently not optimally implemented, as health workers perceive supervision as control, selection for training as unclear and unequal, and performance appraisal as not useful. The kind of non-financial incentives identified should be taken into consideration when developing HRM strategies. Areas for further studies are identified.



## 4.1 INTRODUCTION

Many Ministries of Health are trying to improve the functioning of their health care system by introducing changes in resource allocation, better management and changes in the role of the government, such as more responsibility at lower levels through decentralisation. A prerequisite of a well-functioning system is a well-motivated workforce. The Ministry of Health in Viet Nam gives great importance to the development of a public health network, in order to provide good quality health care services. As most people live in rural areas, an extensive public health network is required in rural areas so as to provide appropriate care close to the people. This implies the need to keep sufficient qualified and motivated human resources in the rural areas.

In the work context motivation can be defined as *an individual's degree of willingness to exert and maintain an effort towards organisational goals* [1:p2]. Motivation is a complex concept and many theories exist that describe and analyse workers' motivation. Summarised, motivation of staff is determined by factors at various levels [2]:

- At an individual level, factors such as a person's job expectations, his or her self-esteem to be able to do a certain job and his/her own goals compared to the goals of the organisation.
- At an organisational level, at which two types of motivation can be distinguished according to Herzberg's theory of motivation at the workplace [2, 3]:
  - Motivation to accept and to remain at a post, which is related to meeting needs of job security, salary, etc. An organisation or institute can attract and keep personnel in their post through salaries, allowances and working conditions, such as the availability of equipment, and communication and relationship with colleagues. If the salaries and working conditions are unsatisfactory (for example, salaries do not cover the basic needs), health workers are likely to find ways to compensate for this. For instance, they will become more concerned with earning enough to cover their basic needs in other ways than to work hard for their public service post. In Herzberg's theory these are called 'factors for dissatisfaction (dissatisfiers)'. These dissatisfiers are mainly extrinsic factors.
  - Motivation to improve performance is linked to a feeling of self-fulfilment, achievement and recognition [2, 3]. These feelings can be influenced by effective performance management, through which managers ensure that staff is competent and motivated in their job [4]. It involves supervision, training, performance appraisal and career development. These satisfiers (or 'motivators') are based on intrinsic motivation.
- At the larger socio-cultural level, motivating factors such as the relationships between health workers and clients, support from community leaders and perception of community members with respect to services.

Theories about motivation are, mostly, based on studies focusing on the private sector. To some extent motivation studies have been conducted in the public sector in developed countries [5]. Little is known about the motivational factors that are important for health workers in developing countries [2]. As the Ministry of Health gives importance to a public health network in rural areas in Viet Nam, knowledge on motivation of staff working in rural areas seems important. However, in Viet Nam little research has been conducted that document perspectives of health workers - at



commune and district level in rural areas - on HRM factors influencing their motivation. Gaining a better insight in the way these health workers perceive their jobs and the importance they give to the various influences on their motivation will assist in developing strategies for improving performance of health workers in rural areas.

In order to identify strategies to assist the Ministry of Health to motivate staff working in the public health network in rural areas, the Hanoi School of Public Health and the Royal Tropical Institute (KIT) conducted a study. The study aimed to describe the main factors influencing job motivation at commune and district health centres in rural areas of North Viet Nam and to recommend ways for improving motivation of health workers. The study looked at the relation between the implementation of various HRM tools in Viet Nam and the perception of health workers of these tools on their motivation.

Herzberg's theory for motivation at the workplace [6] was used as a basis for the study design. This model assists in clarifying the complex issue of motivation for health workers. The two-factor theory distinguishes between motivating factors (or 'satisfiers') that are intrinsic to the job and the primary causes of job satisfaction, and dissatisfiers (which Herzberg also calls 'hygiene factors') that are extrinsic to the job and the primary causes of job dissatisfaction, or 'unhappiness on the job'. Job satisfaction and job dissatisfaction are not opposites. Motivating factors include: 'achievement, recognition for achievement, the work itself, responsibility, and growth or advancement' and lead to job satisfaction. Their absence leads to *lack of job satisfaction*. Dissatisfiers include: 'company policy and administration, supervision, interpersonal relationships, working conditions, salary, status, and security' and determine the level of job dissatisfaction. Herzberg found that many of the dissatisfiers had a small effect on job satisfaction e.g. supervision; likewise some motivating factors reduced job dissatisfaction to some extent e.g. achievement.

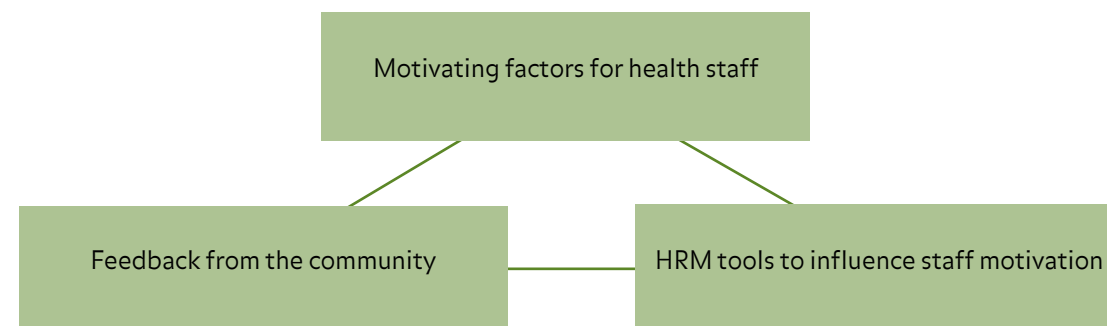
The relevance of Herzberg's theory for Human Resource Management (HRM) is the need to clarify whether the problem being addressed is mainly one of job satisfaction or one of job dissatisfaction, and then to select the appropriate personnel management strategies. For example attending to salary levels and working conditions will primarily reduce job dissatisfaction and therefore increase staff retention. To improve motivation and thereby increase staff performance, attention should be given to motivating factors, for example by increasing the individual's sense of achievement and to demonstrate recognition of that achievement.

Another important element for staff motivation, especially in rural areas, could be feedback from the community. This could play an important role with respect to recognition and achievement, especially when supervision is not frequent and feedback from colleagues and managers is lacking. Although feedback from the community is not an adequate substitute for professional appreciation of service delivery of staff, reactions from clients on the service they received can help staff in assessing if their services are 'job satisfiers' and motivate them to put more effort in service delivery.

The link between the main elements of the study is shown in Figure 1.



Figure 1: Approach to the study



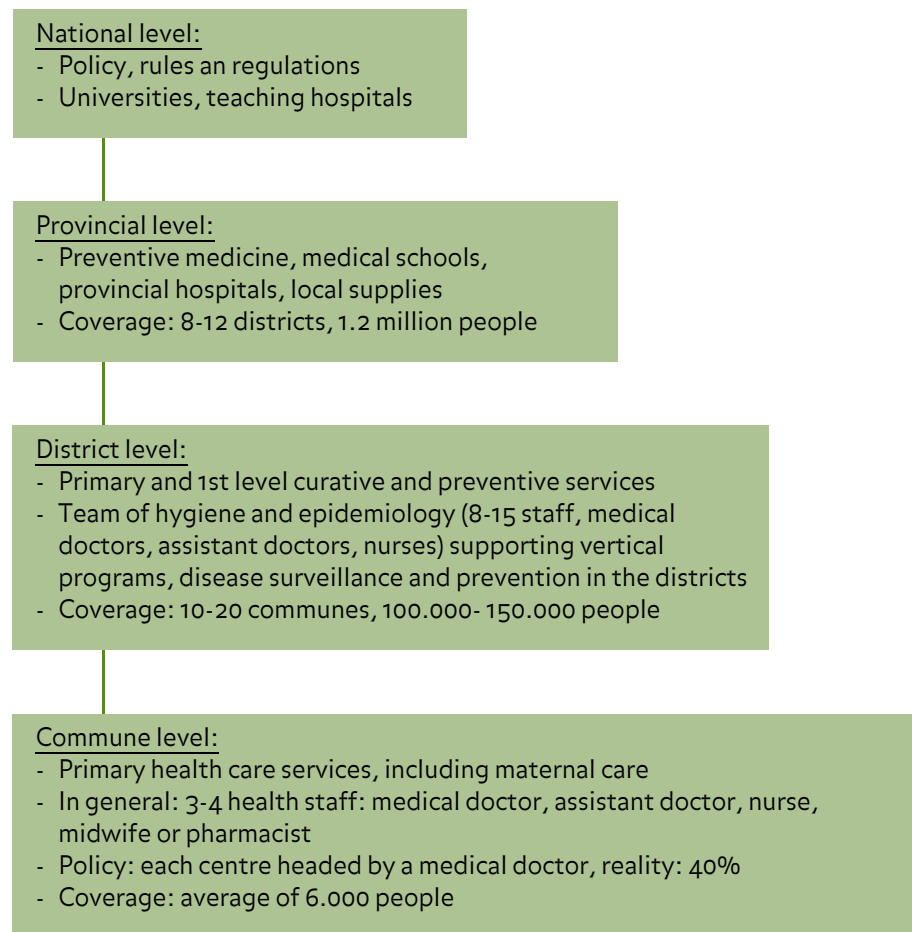
The application and the value attached to the use of the different HRM tools and to feedback from the community will probably depend on the socio-cultural environment people work and live in. The study in Viet Nam assessed the match (or mismatch) health workers perceive between the factors they perceive as motivating and discouraging in their work and the implementation of HRM tools. In addition, it looked at the relation between the community and the health workers. The research results will be used to improve HRM training for health managers and provide information for the development of Human Resources Development (HRD) policies.

## 4.2 BACKGROUND

### Health system in Viet Nam [7]:

The health system in Viet Nam has four tiers, as shown in Figure 2. At village level the policy is to have one volunteer Village Health Worker (VHW) in each village. (Villages are administrative subunits of communes, and are often separated by agricultural areas. Villages can be quite widely scattered in remote areas and be quite far from the Commune Health Center.) These volunteers are members of the community who receive training from the provincial health service, often at the district level, to cope with the most common medical needs of the population of the village. Currently an extensive network of volunteer health workers in the villages exists, about 52% of all villages in Viet Nam have a VHW [8].



**Figure 2: Health system in Viet Nam****Staff in the public health sector**

Health workers working in public health in rural areas face many difficulties. Salaries of public health personnel are very low, averaging US\$29 per month. Although allowances are provided for various kinds of tasks or for the implementation of projects, it remains difficult to survive just on the income. Therefore most health professionals engage in other income generating activities, such as private practice, agriculture etc. [9]. For medical doctors it is for instance, more attractive to remain in the urban areas, where there is a potential market for private practice. It is therefore rather difficult to recruit medical doctors for the facilities in the rural areas and once recruited to retain them. For preventive staff and other staff not being able to start a private practice it is even more difficult to be placed in a rural area, as opportunities for additional income generating activities are limited. However, 80% of the Vietnamese people live in rural areas and most of the public health staff (84%) currently works there [8], but often posts are vacant or staff occupying posts is not sufficiently qualified for their job. In addition the difficult working conditions and low salaries are not sufficiently attractive [9].

**4.3 METHODS**

The study was conducted in two provinces in North Viet Nam: Bac Ninh, which is a well developed delta province in the North eastern region and Lao Cai, a less-developed mountainous province in the North western region.

In the two provinces an exploratory qualitative study was conducted. The research team consisted of 6 members: 3 researchers from the Hanoi School of Public Health, two provincial health workers - from the two provinces - and one KIT expert on rapid appraisals.

The team investigated the following aspects of work motivation in the health sector:

1. Perceptions on what motivates and discourages (demotivates) health workers
2. Perceptions of health workers and managers on Human Resource Management (HRM) tools. The perception on the following HRM tools and their use was explored during the interviews and group discussions:
  - Continuing education and career development
  - Communication and relationship among colleagues
  - Salaries and allowances
  - Performance management: supervision and staff appraisal
  - Transfer
  - Working conditions, such as equipment and transportation
  - Other activities to retain staff (eg provision of land at a subsidised cost)
3. Perceptions of community members about health workers. Perceptions on the following issues were explored during interviews and group discussions:
  - Treatment and advice received
  - Staff attitude during consultations
  - Criteria for a 'good health worker'
  - Overall performance of health workers and ways for improvement
  - Current methods used by the community to show appreciation
  - Suggestions for community methods to influence staff performance and staff motivation

The research team received a training of five days during which they were introduced in the topic of Human Resources for Health and rapid appraisal techniques. During the training, they developed and pre-tested the data collection instruments. Sites and respondents were selected using purposive sampling.

In total fifty-three semi-structured interviews were carried out:

- The organisational level was assessed by interviewing 14 policy makers and managers, including the vice chairman of the people committee, the (deputy) head of the provincial health bureau and the (deputy) head of the district health centre.
- Perceptions of health workers were researched by interviewing 24 health staff working either at district or commune level; 15 men and 9 women. At district level 12 members of the Hygiene and Preventive Medicine team were interviewed and at commune level 12 public health workers.
- Community perceptions were collected through exit interviews, that were conducted in a separate room at the clinic premises with 11 people who visited the health care clinic. All were local people, living in the same community as the health staff.



In addition, eight group discussions were carried out. Four with Public Health workers in the district, each group consisted of 6 people and four discussions with community representatives, each containing 7-8 people.

During the interviews and group discussions, some visualisation methods were used. For instance in order to determine the order of importance for motivating and discouraging factors, health providers identified and weighted the factors they mentioned by using a preference pair ranking matrix [10].

The data were reported and recorded by tape, and were transcribed immediately after the data collection process. The data were summarised on master sheets according to the different research topics for each type of respondent. The researchers discussed the data with each other, and perceptions of interviewees were identified and reported. No major differences emerged between the various districts or at the various levels, nor were there main differences between the points of view of men and women. Therefore perceptions of all interviewed health workers have been combined in the presentation of the findings.

## 4.4 RESULTS

### Profile of the individual respondents

All policy makers were male. The health staff at district level consisted of 12 people, of which 10 were men and most of the interviewees (7) were medical doctors. At community level, 12 people were interviewed, of whom 7 were women, and the main professions were assistant doctor, nurse or midwife. All of the interviewed staff had a permanent job with the public health sector.

### Perceptions on motivating and discouraging factors

Respondents were asked to mention the main motivating and the main discouraging factors and to order them by comparing these factors two by two. The health providers identified and weighted the factors they mentioned by using a preference matrix. In total for all interviewees only 10 different types of motivating and discouraging factors were mentioned. This allowed the researchers to compare the main motivating and discouraging factors of the health workers and to develop a table showing the average. The order in Table 1 and in Table 2 is the average priority of the first 5 main motivating and discouraging factors for the interviewed health workers.

**Table 1: What motivates you in your work?**

Factors for motivation	District preventive staff (n=12)	Commune health centre staff (n=12)
Appreciation and support by managers and colleagues	1	1
People respect me/ appreciate my work	2	2
Stable job and income	3	3
Get more training	4	5
Love for the work	5	3



For commune and district health workers recognition for the work that they do from their managers, colleagues and clients is of great importance, as it has the highest rank. This is illustrated by a quote from a staff member of a district health team:

*'I like my job and I am happy that people believe in me. The Village Health Workers trust me, and ask me to help them when needed. I am very proud of that. They are willing to work so it makes me happy. I have retraining and awards every year and the community believes in me. They respect me a lot, so I think I need to work hard for them'*

Discouraging factors for health providers at commune and district level are shown in Table 2.

**Table 2: What discourages you in your work?**

Discouraging factors	District (n=12)	Commune (n=12)
Low income and allowance	1	1
Difficult transportation	2	2
No updated information	3	11
Lack of knowledge	4	3
Heavy work load without plan	5	4

As in many other countries, salaries and allowances are low and not surprisingly mentioned as the main discouraging factor [4]. An illustration from a staff member of a district health team:

*'We have very little allowance and salary and the assessment of our boss is not appropriate. It is difficult to execute our plans and we lack communication skills, especially when working in the community'*.

District health workers mentioned as third discouraging factor a lack of updated information, whereas commune health staff gave this a low score and considered a lack of knowledge an important discouraging factor.

### Implementation of HRM

#### - Continuing education and career development

Continuing education is by both managers and health personnel translated into 'training', and updating knowledge is only really considered when it is through training. Other ways, such as meetings to increase knowledge are not seen as a form of education, although these meetings seem to be organised. Staff also considers books and journals important for upgrading knowledge, but mentions that there is a lack of printed material. There appears to be two types of training, training for a diploma or certificate and training to upgrade knowledge.

Training for a diploma or certificate is organised through the provincial health bureau. According to policymakers and managers, the provincial health bureau and the district health office develop training plans for courses following standards set (targets to be met), but these plans are not always executed due to budget constraints. Selection for training is done by a personnel officer, using



criteria as the results of an entry exam, the requirements of the organisation and staff competencies. According to health workers, selection procedures for this type of training are not always understood. This is illustrated by a comment from a staff member at a commune health centre:

*'I want to study for Medical Doctor, because I am still young, but I do not know how to get the training. I think I need to work well so my boss will give me the chance to be trained'*

These courses count for the cv of health staff and are therefore considered for a career path. Most people did not express interest in a career. It is not clear why they do not seem interested, probably because 'career path' is not a well-known concept in Viet Nam, although it could also be due to a misunderstanding of the question. Most staff that was interviewed expressed that they are not interested in changing position, they prefer to stay in their current position, but find upgrading their knowledge regularly through training very important.

Training to upgrade knowledge is, mostly, organised by vertical health programs. According to the managers and the policy makers, this type of training appears to be organised without coordination with the district level. Training by vertical health programs is regularly conducted for the head of district and commune health centres and health workers that are responsible for certain programs. According to managers this type of training does not count for the cv of health staff. As these courses provide payment of per diems, many health workers perceive participation as an income generating activity. However, health workers feel that not all staff has equal access to these training programs, which is a reason for some to feel that they lack training and income from training.

#### - Communication and relationship among colleagues

According to managers and policymakers, at all levels regular meetings- often on a monthly basis- are organised to discuss activities and problems. The provincial staff attends three to four meetings a year at district level, and the district level attends meetings at commune health centre level at similar frequency. In addition, they pass information through official reports and letters. The health staff mentions that the people participating in the meetings do not always distribute the information to their colleagues or subordinates. This results in some people feeling ill-informed, as one person commented:

*'We discuss and exchange information with VHW and our staff. Concerning information from higher level, it is very little, we don't know much about new policies or regulations.'*

This lack of information is considered an especially important discouraging factor at district level.

Relationships at the workplace were in general considered as good, although the researchers had doubts with respect to the willingness of the interviewees to criticise managers and colleagues.

#### - Salaries, allowances and working conditions

Managers and staff mention that salaries are paid in time and according to official salary scales, but all interviewees consider these salaries as insufficient to cover basic needs for a family. All staff interviewed had a permanent job, which they considered as important as it provides a stable income. In addition to salaries, government allowances are paid for certain tasks, responsibilities



or working in certain geographical areas. However, managers mentioned that the main source of income from the public sector was the vertical programs, that have their own payment levels. The health workers interviewed confirmed this.

In general, health staff considered equipment and drugs to be sufficient, but transportation was mentioned as a problem. In the health facilities health workers often have to use their own (motor) bikes for supervision and outreach. They receive an insufficient reimbursement for fuel.

#### - Performance management

Managers and policy makers consider supervision as an important tool to control the work of the lower levels and it takes place regularly, although the frequency varies for each level. They consider supervision to be integrated to some extent, as all activities are checked during one single visit. However, according to them, the vertical programs have their own supervision system. Health workers perceived supervision as a control of their work plan with no feedback given. Positive feedback is lacking when the health workers are performing well. This is illustrated by a quotation from a staff member of a preventive health team at district level:

*'During supervision of the provincial program such as malaria, the supervisor comes and looks at the record books. If there is something wrong we sit together and fix it but there is no feedback and sometimes I don't know if my work is acceptable or not.'*

This is important as feedback is one way to show appreciation by managers and colleagues, which was the most important motivating factor for the health workers.

Staff appraisal takes place bi-annually, together with the evaluation of the health facility, as explained by the interviewed managers. Health workers have to assess themselves in writing and assess the team during a meeting. Health staff considers the appraisal not very useful and mainly an administrative process. They had the feeling they could write anything they wanted. As a commune health centre staff remarked:

*'We send the appraisal report to the district health centre in a certain period and in the report we write down what we have done and we give a self assessment, but we always assess ourselves positively. The result will affect the assessment of the group.'*

Also during performance appraisal appreciation can be shown and therefore can be an important entry point for staff motivation.

According to managers and policy makers, an additional token of appreciation that is commonly used in Viet Nam is the award system, which is linked to the bi-annual appraisal. Awards (money, certificates or other tokens) are given to people who are assessed as excellent workers. Although its value has decreased over the years, the award system is still appreciated by the health workers. Apart from the award system, strategies to motivate staff are not common.

#### Perception of the community

The research showed that the community in the study sites does appreciate and respect their health workers. However, researchers doubt the willingness of the respondents to criticise openly



the health workers, as the positive perception in this research seems in contradiction to the low utilisation rate of public health services. An additional complicating factor is that a lot of health workers have a private practice next to their work at the public facility. The community members interviewed appreciate the health workers, but were not asked to distinguish between meeting the workers in the public facilities or in the private facilities. Therefore it is difficult to interpret these data solely for public health providers.

Opportunities for community feedback are provided through a suggestion box in each facility, but those are rarely used. During group discussions, people mentioned ways to show their appreciation through inviting health workers to participate in community activities, and by participating in educational campaigns.

Feedback from the community was for both district and commune health workers the second most important motivating factor and it seems therefore required to find ways to assure community feedback. This appears especially important in rural areas. As health workers in remote areas are less likely to receive supervision, feedback from the community could become an important tool for staff motivation.

#### 4.5 DISCUSSION

The qualitative research provided in-depth information, although not exhaustive as the study had some limitations:

- The team of researchers was familiar with collecting qualitative data, but had limited experience in certain visualisation methods and some team members were not familiar with reporting of qualitative data. Despite the training, this resulted in a loss of data.
- The assessment of the organisation was limited to interviews. The research would have benefited from additional methods to assess the actual implementation of HRM tools, such as observation during meetings, supervision visits and team work, and reading of reports or minutes of meetings
- It appeared that it was not always easy for interviewees to express themselves openly. For instance, managers and policy makers were reluctant to provide their perceptions on the HRM rules and regulations and their implementation. The interviewees provided factual information, but refrained from criticising this. The health workers were more forthcoming with their opinions, but to a limited extent: for instance information on collaboration with colleagues was difficult to retrieve.
- The interviewers found no differences in points of view on motivation between the different levels, nor between men and women. This finding might be correct, but it also might be that the interviewers did not sufficiently probe to identify these differences. In addition during data analysis motivational factors were not analysed according to different professions. It would have been interesting to distinguish between professions as research in Georgia and in Jordan revealed differences in motivation between professional groups [11]. The study revealed a difference in age and in gender in Jordan only.

Despite these limitations, the information obtained allows a general comparison between the motivating and discouraging factors and the perceptions of health workers and managers on Human Resource Management tools that are used to influence functioning of staff.



The results indicate that salaries and working conditions discourage public health workers in rural areas in Viet Nam. The low salaries force them to gain extra income in other ways, either through working in the private sector or through agriculture and animal husbandry. The extent to which this takes place was not researched, but the fact that people earn income through other ways than their regular job is widely accepted and tolerated. There is a risk (not assessed in this study) that the extra work influences the accessibility to and the quality of care provided at the public service, by referring to own clinic, by low attendance in the public health facility etc..

When health workers are present at their work, managers need to find appropriate HRM tools to motivate them to perform well, thus improving quality of care. The results indicate that there is a mismatch between what motivates health workers in rural Viet Nam and the use of HRM tools. Health workers appear to be motivated by recognition and respect from their managers and colleagues and from the community. 'Appreciation by boss and colleagues' can be achieved through good relationships at work and by performance management activities such as performance appraisals, supervision and access to in-service training. The study showed that the HRM tools that contribute to staff motivation are currently not optimally implemented in rural areas in North Viet Nam; supervision is mainly perceived as a tool for control, appraisals are considered to be for administrative purposes rather than for improving performance and the criteria for selection to training are not always clear.

Feedback from the community appears to be important for health workers in rural Viet Nam as appreciation by the community of the performance of health workers is seen as an important motivating factor. 'Appreciation by the community' can be achieved by setting up a mechanism whereby information from the community is collected, through for instance exit interviews and discussions in the community. Currently such a mechanism is lacking in Viet Nam.

Although not many publications exist on motivation of health workers in developing countries, some documents were found that describe motivation from the perspective of health professionals:

- Stilwell found in Zimbabwe as main motivators among nurses 'a sense of achievement' and 'recognition' [12];
- KIT reported that in Mali the main motivating factors for a variety of health professionals were 'being responsible', 'work satisfaction (through recognition by boss and colleagues)' and 'salaries/ allowances' [13];
- CREDESA described that in Benin health professionals consider 'being able to do the work' and 'relation with the community' as main motivating factors [14].

These results confirm the importance of achievement, recognition and self fulfilment as motivating factors for health workers. This can be achieved through appreciation by boss, colleagues and/or the community. The results of our research correspond with Herzberg's theory for motivation at the workplace: salaries and working conditions are important to retain staff, but alone are insufficient to lead to better staff performance; recognition and feeling of achievement are more likely to influence staff motivation and therefore their performance. It also shows that although staff is discouraged for various reasons, they still can be motivated to perform. The findings reinforce the importance for managers to select the most appropriate HRM tools for the job, which are different for solving problems of staff retention and staff motivation.





## 4.6 CONCLUSION

This study is the first of its kind that asked health workers in rural Viet Nam what motivates them and that looked at their perception on the application of HRM in the field. The study provided information allowing to take into consideration the perception of health workers with respect to motivation policies and its operationalisation. From the findings we can recommend the following:

1. Improvement of staff motivation for better performance
  - *Consider both non-financial and financial incentives for health workers.* Currently most incentives that are developed are focused on improvement of payment and of working conditions, often with the expectation to improve performance. The study gives an indication that although financial incentives are important, they are not sufficient to motivate personnel to perform better. To achieve better staff motivation, attention should also be paid to incentives that focus on showing appreciation and respect. This can be achieved through performance management (supervision, training, performance appraisal and career development) and feedback from the community. Developing mechanisms that assure regular information on perception of clients on service delivery seem to be important for health workers. This should be used additionally to the existing HRM tools for performance management.
  - *Improve implementation of performance management activities as they can contribute to motivation of health staff to work effectively.* When non-financial incentives are considered, managers should have the capacity to implement selected performance management activities. Examples of performance management activities that were considered important in the study: supportive supervision, better use of performance appraisal and clearer access to training. These activities can be improved through training (and supervision) of managers and providing tools and guidelines.
  - *Establish tailor made performance management systems.* If possible, the performance management activities mentioned above should be integrated in a performance management system. This management system is defined as ‘an interrelated set of policies and practices that, put together, enable the monitoring and enhancement of staff performance’ [4]. It implies linking tasks executed by a health worker to supervision, performance appraisal, access to training and career development. Such a system will create an environment in which a health worker can see what she/he has achieved and others can recognise this [3]. A performance management system would facilitate the HRM tasks of health managers.
2. Development of motivation systems
  - *Involve health workers in the design of a motivation system.* Research has shown that managers and workers do not necessarily perceive motivation in the same way [3]. This implies that the perceptions of health workers on motivation have to be known before a system is being proposed. Our experiences show that qualitative research is an appropriate method to explore and describe perceptions of health workers on motivation and HRM issues. It is at the same time a starting point for a participatory approach in designing HRD policies.



- *Ensure that managers clearly understand the impact of different HRM tools on staff retention and staff motivation to perform well.* As many managers believe that an increase in salaries will solve the motivation problems, it is important that they understand that though important, improvement in payment will be insufficient to achieve a sustainable better performance. HRM experts should support managers in developing appropriate (and cultural and gender sensitive) HRM tools for staff motivation.

### 3. Execution of further studies

Although the scope of this study was quite ambitious, the results have raised further research questions for policy makers in Viet Nam. Additional areas for study are:

- Organisational assessment of health services through other methods than interviews with managers and health workers (review of documents and reports, observation, data from supervision visits, HRD and HMIS records etc.).
- Community perception on public and private health sector workers
- A comparison of staff motivation in urban areas (as opposed to rural) and in South Viet Nam (as opposed to North Viet Nam)
- Successful mechanisms for community feedback in other countries

Answers to these questions would also make a welcome contribution to the international literature on the use of HRD tools to influence the performance of health workers.

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## The match between motivation and performance management of health sector workers in Mali



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### Adama Diarra, Mali, 10 years

Zantigui was very hungry, and therefore he did not wash the fruits before he ate them. Because of dirty fruit, he now has cholera.

## Abstract

**Background:** Human Resources for Health (HRH) play a central role in improving accessibility to services and quality of care. Their motivation influences this. In Mali, operational research was conducted to identify the match between motivation and the range and use of performance management activities. The objectives of the research were to describe the factors motivating and demotivating health workers in Mali and match the motivators with the implementation of performance management.

**Methods:** First an exploratory qualitative study was conducted: 28 interviews and eight group discussions were held. This was followed by a cross-sectional survey, during which 370 health workers were interviewed. The study population consisted of health workers of eight professional groups. The following issues were investigated:

- Motivating and demotivating factors
- Experiences with performance management, among others: job descriptions, continuous education, supervision, performance appraisal and career development

**Results:** The study showed that the main motivators of health workers were related to responsibility, training and recognition, next to salary. These can be influenced by performance management (job descriptions, supervisions, continuous education and performance appraisal). Performance management is not optimally implemented in Mali, as job descriptions were not present or were inappropriate, only 13% of interviewees received 4x per year supervision, and training needs were not analysed. Some 48% of the interviewees knew that their performance had been appraised in the last two years, the appraisals were perceived as subjective. No other methods were in place to show recognition. The results enabled the research team to propose adaptations or improvements upon existing performance management.

**Conclusions:** The results showed the importance of adapting or improving upon performance management strategies to influence staff motivation. This can be done by matching performance management activities to motivators identified by operational research.



## 5.1 INTRODUCTION

A motivated and qualified workforce is crucial to increase the productivity and quality of health services in order to contribute to achieving health services targets. Priority programmes have a stake in a skilled and motivated workforce, as they are implemented primarily by a health facility's existing health staff. Motivation in the work context is defined as '*an individual's degree of willingness to exert and maintain an effort towards organisational goals*' [1:p1255-1263]. The challenge for managers is how to create this kind of motivation. Research has shown that workers and their managers often perceive motivation differently [2]. In addition, little is known about the motivational factors that are important for health workers in resource-poor settings [1, 3].

While there are many theories on motivation [1], two different areas of motivation are often confused: motivation to be in a job and motivation to perform. Both are important, and managers need to understand the impact of their activities on both areas. Herzberg's two-factor theory of motivation at the workplace [4] is used in this article to explain the distinction between these two areas of motivation. It distinguishes satisfiers, which are the main causes for job satisfaction (or motivation to perform) from dissatisfiers which are the main causes for job dissatisfaction (or demotivation to remain in a job) when absent or perceived as insufficient. Examples of motivating factors are achievement, recognition, responsibility and the work itself. Dissatisfiers include: working conditions, salary, relationship with colleagues, administrative supervision etc. [4].

An organisation needs to influence satisfiers through performance management – the '*measuring, monitoring and enhancing the performance of staff*' [5:p4]- using a range of human resource management (HRM) tools such as: job descriptions, supervision, performance appraisals, continuous education, rewards and career development [5,6]. However, performance management is often underdeveloped in the public health sector in resource-poor settings and published studies are limited, often focusing only on certain aspects of performance management, such as supervision [7-10].

Looking to improve staff performance, the Ministry of Health in Mali in 2001 used operational research to identify motivating factors among their health workers and to determine whether the existing performance management activities were appropriately implemented. The aim was to identify opportunities for improvement of HR activities implemented by managers within the facilities, and the study had therefore a managerial focus, as opposed to a political focus in which power and interests are analysed. This paper presents the results of this research and provides a recommendation for Mali and general lessons learned for health services and priority-programme managers in other countries.

### Background on Mali

Mali is a low-income country in West Africa (GDP per capita of USD 240) with a population of approximately 10.6 million people [11]. Mali is subdivided into seven regions and the capital district of Bamako. The district is the focal point for organisation of service delivery.

According to the Ministry of Health, in 2001 Mali had 5173 health workers, of whom the majority (77%) work in the public sector at district, regional and national level. They are managed and paid by the Ministry of Health and are civil servants. Community health centre staff (18% of the



workforce) are managed and paid by local health committees, though technical supervision and training is provided by the district teams. Only 5% of the health workforce is employed full-time in private clinics, though dual working is common.

## 5.2 RESEARCH METHODOLOGY

The main study questions of this operational research, conducted in the context of a broader Human Resources for Health (HRH) situational analysis, were:

1. What motivates and what demotivates health workers?
2. Which performance management activities are used and how much, and how are they perceived by health workers and their managers?
3. How do these performance management activities match with motivating factors?

First an exploratory qualitative study was conducted among managers and health workers. In-depth interviews and group discussions were conducted, in which open questions were asked to identify the range of motivating and demotivating factors and to explore perceptions on performance management, addressing study questions 1 and 2. Health workers were recruited from eight selected health professional groups in the capital and in a district in one rural area, Sikasso. All were employed in the public sector or at community level. Managers of the health facilities visited and two managers at national level were interviewed.

In order to assure trustworthiness of data, sources and methods were triangulated by interviewing health workers and their managers, at district, regional and central level and community health centre committees. Interviews were recorded, taped and immediately transcribed. Twenty-eight interviews were held with 12 health workers, 13 managers and 3 village health committee members. In addition eight group discussions were conducted: four with health workers from teams working at commune level and four with health workers, working at district level. Data were manually analysed using data compilation matrices per respondent group, describing the data per study question. Quality of data collection was assured through providing confidentiality and through the interviewers- experienced researchers- who developed the research and conducted the interviews.

The results of this qualitative study were used to design a cross-sectional and descriptive survey for health workers. The survey consisted of interviews using a questionnaire with two components:

- A scoring table on the importance of motivating and demotivating factors, addressing study question 1. The factors to be scored were derived from the qualitative study.
- Closed questions to identify the range and extent of use of performance management activities, addressing study question 2. The selection of variables was based on commonly used HRM tools and the results of the qualitative study – for example: pre-service and in-service training, supervision, and performance appraisal.

The survey concentrated on eight professional groups at community and district level: public health doctors, auxiliary nurses, public health nurses, registered nurses, midwives, laboratory technicians, community development workers and the sanitary technicians.



A three step sampling method was used to recruit respondents. Three out of the seven regions were selected according to the geographical preferences of the HRH: the capital, one remote region and one with relatively easy access: Bamako and the rural areas of Mopti and Sikasso. In each region two districts were randomly selected for the study. In these districts one hospital and two health centres were randomly selected, in which health workers who were present and belonged to the eight professional groups, were interviewed.

The number of respondents in each region was based upon the proportion of professionals working in a region with low, medium or high concentration of health workers. When a health centre did not have the number of professionals required for the interviews, a neighbouring centre was selected, until the total number of respondents was achieved.

The interviews were conducted by a team of eight, with a research background and who were not health workers, in order to avoid bias in data collection. The data were analysed using SPSS. The quality of data collection was assured by guaranteeing anonymity of the interviewees, training and supervision of interviewers by an experienced researcher and by pre-testing the questionnaire. These mechanisms aimed, among other considerations, to avoid bias and socially acceptable answers.

Lastly, the results of the survey were triangulated with the results from interviews and group discussions.

This operational research was carried out within a limited timeframe and budget in order to provide HRH managers and policymakers with quite rapid evidence for decision making. Pre-testing was not entirely rigorous, resulting in inconsistent interpretation of two motivation-related variables: 'training' and 'management'. 'Training' is especially problematic, as it is unclear to what extent training, for which health workers often receive an allowance, is perceived as income generation or as an opportunity to upgrade knowledge and skills [12]. Management is a wide concept: for instance some health workers perceive 'reporting' or 'administration' as management, whereas others do not consider these as management activities. Some caution is therefore needed in interpreting the results relating to these two variables.

This article examines the results combining professional groups and levels. Whenever there was a significant difference in results among professionals or type of institution, these have been highlighted. Data are not disaggregated for the private sector, due to the small numbers of staff employed. Even if these numbers were greater, triangulation would not be useful, as it is likely that there is variation in the HR policies and activities of different private sector employers.

## 5.3 FINDINGS

### Study population

In the qualitative study, 72 people were interviewed: 51 men and 21 women. Most interviewees at district and regional level in Sikasso were between 45 and 52 years of age and in Bamako they were on average 40 years old. At the community level in both districts respondents were between 28 and 33 years old.



The details of the study population of the survey (n=370) are shown in Table 1. They were representative for the eight professional groups in the selected study areas. As most health workers are employed in Bamako, the majority of the sample was recruited from Bamako.

**Table 1: Study population of the survey (n=370)**

Characteristics	Number	%
<b>Location</b>		
Bamako	222	60%
Sikasso	115	31%
Mopti	33	9%
<b>Employer</b>		
Public sector	274	74%
Community level	71	19%
Private sector	24	6.5%
Missing	1	0.5%
<b>Type of facility</b>		
Referral health centre	133	36%
Tertiary hospital in Bamako	89	24%
Community health centre	85	23%
Regional hospital	33	9%
Private sector	30	8%
<b>Sex</b>		
Women	207	56% women, overrepresentation of women in Bamako (69% of interviewees)
Men	162	43.5%
Missing	1	0.5%
<b>Age</b>		
25- 39	185	50%
> 39	185	50%

Source: Health worker survey (2001)

Note: Due to the limited information of the human resource management system disaggregated data on the available staff could not be given.

### Motivating and demotivating factors

This section answers study question 1 and describes what motivates and what demotivates health workers. The average scores for motivating and demotivating factors are given in rank order in Tables 2 and 3, all groups combined.



**Table 2: Average score of factors motivating health workers (n=367)**

Factor	Average score
To feel responsible	5.7
To increase salary	3.5
To receive training	3.2
To be held responsible	2.6
To be appreciated	2.3
To receive recognition	2.2
To receive promotion	1.5
To receive incentives	1.5
To work within a team spirit	1.3
To receive financial benefits from user fees	0.9
To have your partner living near the workplace	0.7
To have good colleagues	0.7
Others	0.7

Source: Health worker survey (2001)

Note: The most important factor scored 10 points and the remaining scored 8, 6, 4 and 2 points according to priority. If health workers had scored randomly, the average for each factor would have been 2.3 (SD= 0.17). 'Feeling responsible' relates in this table to an internal feeling, whereas 'be held responsible', 'be appreciated' and 'receive recognition' are related to actions by superiors, colleagues and patients.

The results show that apart from salaries, issues related to responsibility, training and recognition scored above average for health workers. Two factors showed a significant difference between the groups. 'Feeling responsible' received a significant higher score by physicians (average score 7.6), compared to registered nurses (score 4.8) ( $p=0.0025$ ) and 'increase in salary' was significantly more motivating for auxiliary nurses and midwives (average score 4.6) compared to physicians (average score 1.6). Health workers and managers said during the in-depth interviews that they were especially encouraged by getting results from their work, being useful to society and taking care of people. When the different types of facilities were compared, the four most important motivating factors were the same for all levels.

**Table 3: Average score of demotivating factors by health workers (n=354)**

Factor	Average score
Lack of material	8.2
Lack of recognition	3.2
Difficult living conditions	2.9
Lack of a job description	2.5
Subjective performance appraisal	2.5
Poor management	1.8
Partner living far away	1.8
Poor functioning of the health committee	1.2
Living far away from an urban centre	0.5
Living far away from places where decisions are being made	0.4

Source: Survey for health workers(2001)

Note: Each respondent scored the 5 most important factors at respectively 10, 8, 6, 4 and 2 points. If health workers had scored randomly, the average for each factor would have been 2.3 (SD= 0.17)



Overall health workers complained about the lack of material and equipment. For example, 42% mentioned the lack of a blood-pressure machine and 28% lacked bandages and delivery kits. There were no significant differences between the professional groups. In the qualitative study, health workers and managers at all levels mentioned lack of equipment and lack of recognition as demotivating. Staff at community level complained about poor management: for example they were not allowed to take leave, and rules and regulations were not always clear.

### Performance Management activities in Mali

This section presents the experiences of health workers with performance management activities, addressing study question 2. Although salaries were mentioned as the second most important motivating factor, they are not included in the analysis as the majority of the respondents were public sector employees. Their salaries are set by central government and adjusting levels of pay is beyond the scope of managers at institutional levels.

#### - Job descriptions

Sixty three percent of the respondents knew what their current tasks should be. In the qualitative study no one at the lower levels was able to show his or her job description, but most interviewees were convinced of its importance. The existing job descriptions were related to professions and not to posts, which means that a nurse in the hospital has the same job description as a nurse in a community health centre. Not all respondents were trained for the tasks they conduct. For example, auxiliary and registered nurses spent 20% of their time on management tasks, whereas 52% and 38% respectively had had no specific training in management.

#### - Continuous education

An average of 22% of interviewed health staff, had received in-service training in the previous year. This was greater for physicians (28%) and less for auxiliary nurses (14%) and community development workers (7%). Of those who did receive training, 50% attended more than one course. The average number of days in training was 13, which is about 7% of annual working days. Most courses (93%) were organized by priority programs.

The majority of the respondents highly appreciated training opportunities. However, they also mentioned that in-service training to meet needs at district level often cannot be provided due to limited resources. Managers had difficulty integrating nationally organized training into their work plans due to poor planning and communication

Eighty percent of respondents who participated in training were selected by their managers. Health workers responded in the qualitative study that they did not find the selection criteria transparent.

#### - Supervision and performance appraisal

Each health facility should in principle receive four supervision visits a year. Only 13% had received four visits in the previous year, and 40% received an average of two supervisions per year. The highest rate of supervision was at the community health centre level, where 49% received three or four visits. When asked about the content of supervision visits, at all levels mainly technical topics were mentioned, such as curative consultations and hygiene; planning and management hardly received any attention.



The in-depth interviews showed that supervision visits at regional and at district level are often conducted in the context of training or for priority programmes. The district teams conducted integrated supervision visits only at community health centre level.

Civil service regulations state that performance appraisals should be conducted annually. Only 48% received this during the last two years. In the qualitative study, interviewed staff appeared unaware of the criteria used. One health worker said:

*'It is subjective as the boss appraises according to his own criteria.'*

#### - Rewards

There were no formal methods in place in Mali to show appreciation and give rewards. A few managers congratulated and thanked personnel in public. Some assigned well-performing staff to supervision visits or training, to enable them to gain extra income from allowances. Managers did not seem to show appreciation; as one health worker said:

*'I feel that I do a good job. My boss appreciates me, but I do not know how. He does not say anything.'*

Some health workers said they depended on the beneficiaries to feel appreciated, because patients thank the health workers and give them presents.

#### - Career development

Twenty-two percent of the respondents were not satisfied with their current career path. However, there is a large variation within regions: health workers in the cities were relatively satisfied, but 45% of the respondents in the remote areas were not. In total, 71% received a promotion in their working career, 48% of which was based on age and 26% resulting from training (mainly auxiliary nurses becoming registered nurses).

## 5.4 DISCUSSION

The study revealed that the main motivators for health workers in all eight professional categories were related to recognition or appreciation, responsibility and training. This corresponds with other studies on motivation of health workers in resource-poor settings [3,13,14]. Distinguishing between motivators and demotivators enables managers to concentrate on addressing those related to motivation (and consequently performance). The appropriateness of the current methods of improving staff performance (study question 3) was determined by analyzing the match between the identified motivators against the performance management activities in use.

The implementation of various performance management activities in Mali could be improved upon. Some activities, such as promotion, career development and performance appraisal are mainly administrative rituals and not used to enhance performance. Job descriptions were not specific enough to allow identification of training needs or to feel –or to be held- responsible. Overall, performance management activities do not seem to be linked to each other. For instance job descriptions do not seem to be linked to identifying training needs and to selection of health



workers to participate in training. This is also found in other countries; a study among 15 organisations in various countries showed that integrated performance management systems were only found in three organizations [7].

Also, health workers did not seem to find the decisions of managers transparent: for instance, in training and performance appraisals. In addition, performance management could be better focused on achieving the purpose of health facilities, which is the provision of good, accessible care. Staff seemed reasonably happy with the continuous education and supervision opportunities. Yet training and supervision were usually based on the needs of centrally run priority programmes rather than broader local needs.

Despite the focus on motivators, the findings indicate that the lack of materials was an important demotivator. Such demotivators could be addressed by improved management. This shows that attention to broader management tasks is also needed to improve performance, as documented elsewhere [15]. Therefore addressing HRM issues is necessary but not sufficient to improve performance. But the study revealed that management development is neglected in training and supervision.

The main motivating factors identified in this study- recognition, responsibility and training- seem to correspond with the satisfiers mentioned by Herzberg. However, this should be concluded with caution, as it was not always clear whether motivation for training, for example, was really related to advancement by updating knowledge (satisfier) or to complement salary (dissatisfier). In addition, in our study, salary was seen as an important motivator, whereas Herzberg categorizes this as a dissatisfier. This could be due to how the questions were asked or to the fact that salaries among health workers in Mali were very low and thus earning sufficiently to provide for the family was the most important issue on health workers' minds.

## 5.5 CONCLUSIONS

Although salaries and incentives are important factors for health workers and should not be neglected, the study does show that gains in motivation could be made by giving greater responsibility to staff, by holding staff responsible and by improving mechanisms for recognition. These gains in motivation, which would ultimately contribute to improving quality of care and accessibility, could be achieved through improved performance management activities matched to these motivating factors.

For managers, Herzbergs' model could be a useful way of thinking about the two types of motivation and for selecting appropriate strategies to address them. The formulation of suitable HR activities, however, should be preceded by identifying which factors are motivating for health workers in their specific contexts.

As a result of the study, a recommendation was made to the Ministry of Health in Mali to adapt performance management strategies to the motivators that were identified - for example by relating performance appraisal to tasks for which these health workers are responsible according to their job descriptions.



Other countries could also use operational research to identify the predominant motivators in order to adapt their performance management strategies, though care needs to be taken with asking questions about motivating factors due to wide possibilities of interpretation of terms such as appreciation and recognition and the perceived benefits of activities such as training. Pre-testing is required. The resulting set of HRM systems and tools may require a radical change in management culture, especially if they include more participatory decision-making and a problem-solving approach, enhancing trust-building between health workers and managers [16].

Priority programmes have an important contribution to make, by better aligning their performance management activities such as training and supervision with HRM activities of the managers at the existing facilities. They should also better coordinate and integrate their activities with those of other priority programmes and with health services plans and develop explicit strategies to strengthen HRH management systems in the health sector. These actions would contribute to creating a more productive workforce that delivers quality of care.

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# Human resource management interventions to improve health workers' performance in Low and Middle Income countries: a realist review



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**Nalukulu, Zambia, 11 years**

*My aunt has malaria. My grandmother is visiting her and she is sad.*



## Abstract

**Background:** Improving health workers' performance is vital for achieving the Millennium Development Goals. In the literature on human resource management (HRM) interventions to improve health workers' performance in Low and Middle Income Countries (LMIC), hardly any attention has been paid to the question how HRM interventions might bring about outcomes and in which contexts. Such information is, however, critical to assess the transferability of results. Our aim was to explore if realist review of published primary research provides better insight into the functioning of HRM interventions in LMIC.

**Methodology:** A realist review not only asks whether an intervention has shown to be effective, but also through which mechanisms an intervention produces outcomes and which contextual factors appear to be of critical influence. Forty-eight published studies were reviewed.

**Results:** The results show that HRM interventions can improve health workers' performance, but that different contexts produce different outcomes. Critical implementation aspects were involvement of local authorities, communities and management; adaptation to the local situation; and active involvement of local staff to identify and implement solutions to problems. Mechanisms that triggered change were increased knowledge and skills, feeling obliged to change and health workers' motivation. Mechanisms to contribute to motivation were health workers' awareness of local problems and staff empowerment, gaining acceptance of new information and creating a sense of belonging and respect. In addition, staff was motivated by visible improvements in quality of care and salary supplements. Only a limited variety of HRM interventions have been evaluated in the health sector in LMIC. Assumptions underlying HRM interventions are usually not made explicit, hampering our understanding of how HRM interventions work.

**Conclusion:** Application of a realist perspective allows identifying which HRM interventions might improve performance, under which circumstances, and for which groups of health workers. To be better able to contribute to an understanding of how HRM interventions could improve health workers' performance, a combination of qualitative and quantitative research methods would be needed and the use of common indicators for evaluation and a common reporting format would be required.



## 6.1 BACKGROUND

The human resources crisis in the health sector in low- and middle-income countries (LMIC) is receiving increased global attention [1,2]. Policymakers and planners are realising that it is simply not possible to achieve the Millennium Development Goals if health workers' availability and performance are not addressed more effectively. Poor performance leads to inappropriate care, which contributes to reduced health outcomes, as people do not use services or are mistreated when they do. Problems relating to health workers' poor performance have been documented in various articles and reports [including 1-5], but there is a dearth of evidence on 'what works' to improve health worker performance [4, 6-8]. Moreover, evidence on effectiveness of Human Resource Management (HRM) interventions is essential, but not sufficient to assist policy makers and planners in LMIC to identify appropriate interventions to improve the performance of professional health workers in their own countries. They also need an understanding of the context within which the reported interventions produced positive outcomes as well as an insight in their mechanisms (how they worked).

Existing reviews that include HRM interventions in LMIC are limited in number and mainly identify 'what works' [4, 6-8], although they acknowledge the influence of the context on the outcome of interventions. Realist inquiry aims to answer the research question 'what is it about this program that works for whom in what circumstances' [9:p2]. It identifies how interventions produce certain outcomes by exploring through which mechanisms (or processes), triggered by the intervention, change is brought about, and which contextual factors are critical for success or failure. Contextual factors are the circumstances within which HRM interventions are implemented. In addition to the organizational, socio-economic, cultural and political environment, these include the stakeholders involved, their interests and convictions regarding change and the process of implementation [9]. Realist inquiry has an explanatory focus and aims to build theories about mechanisms for change. It might therefore offer a valuable addition to the current evidence-building approaches by expanding the evidence-base with information about which interventions in LMIC are successful in improving performance under which circumstances and for which groups of health workers [2,10,11].

This article systematically reviews published human resource management (HRM) interventions to improve the performance of professional health workers in LMIC, applying a realist perspective. It explores if realist review of published primary research provides better insight into the reasons why certain interventions work in certain contexts and not in others. To our knowledge we are the first to do so.

## 6.2 METHODOLOGY

Based on earlier search experiences for publications on HRM interventions in LMIC which yielded very limited results, we explicitly aimed to conduct a search with high sensitivity. We searched Pubmed/medline, Ebscohost and Proquest for a 10-year period, from 1997 to October 2007, in English and French, and manually searched reference lists of relevant articles. Selection and data extraction were carried out by two researchers, independently of each other.



To be included, articles needed to report the results of an evaluation of a well-defined HRM intervention in LMIC, provide sufficient details on the research design and be published in a peer-reviewed journal. HRM interventions were defined as interventions that aim for ‘effective utilization of human resources in an organization’ [12:pxii]. In line with WHO (2006), we distinguished three HRM-intervention levers: job-related interventions which focus on individual occupations, support-system-related interventions, and interventions which create an enabling environment. In addition, we distinguished four dimensions of health worker performance: availability, productivity, responsiveness and competence [2]. The focus of the review was on improving performance of professional health workers, excluding interventions to increase the number of health workers through pre-service training or changes in deployment strategies and interventions targeting community health workers. We developed the search strategy based on the definition of HRM and on the dimensions of health workers’ performance. We combined key words with various terms for health workers and for primary research; inclusion and exclusion criteria are listed in Box 1. The full search strategy can be obtained from the first author.

We systematically assessed outcome, context, and mechanisms through which the intervention produced its outcomes. Additionally, we assessed potential bias in the evaluation studies of these HRM interventions, including assessment of baseline, control group and alternative explanations for results [13]. Full details of the assessment can be obtained from the first author.

### 6.3 RESULTS

We selected 48 articles for analysis from 6,177 titles (see figure 1). The interventions were categorised inductively into seven types of interventions and classified according to the three HRM-intervention levers:

- The most commonly evaluated interventions were job-related, including continuing education (n=21) and supervision (n=2).
- Support-system-related interventions were limited to payment of incentives (n=4).
- Three interventions covered the creation of an enabling environment, by decentralisation of HRM functions (n=2) and by regulations (n=1).
- Eighteen interventions addressed all three levers, consisting of combined interventions, which included different HRM components such as training, distributing job aids and system strengthening (n=11) and quality improvement interventions (n=7).

Details of the included studies are provided in Table 1.



#### Box 1 Search strategy and inclusion and exclusion criteria

##### Search strategy

###### Use of key words

1. Key words, related to HRM interventions to improve health workers’ performance in terms of productivity, responsiveness and competence:

Personnel management, performance management, supervision, recognition, professional development, continuing education, training, quality assurance, quality improvement, performance improvement, performance appraisal, incentives, allowances, guidelines, tools, support, reward, sanctions, leadership, participation, integration of services, remuneration, payment, performance-based incentives, equipment, technologies, supplies, workflow, workload, workplace safety, medical care, integration of services, decentralisation, teamwork, contract, performance contract.

2. Key words related to health workers:

Health care providers, health workers, health service providers, nurses, doctors, pharmacists, private practitioners, public-sector health care providers, private health care providers.

3. Key words related to primary research:

Randomised controlled trials, qualitative studies, intervention studies, evaluation.

The full search strategy can be obtained from the first author.

##### Inclusion criteria and exclusion criteria

###### Inclusion criteria

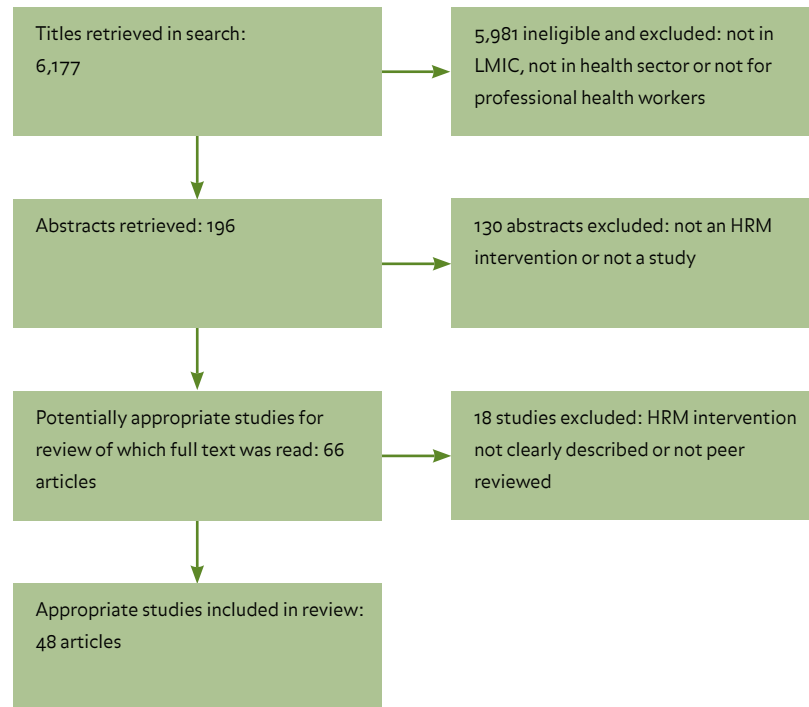
Health workers are limited to professionally trained health cadres, such as medical doctors, nurses, laboratory technicians, midwives etc.

###### Exclusion criteria

Not included are articles on HRM interventions to improve performance of lay health workers or to increase availability of professional health workers, in more detail:

- graduate training programmes where people leave their workplace for a year or more
- students preparing for health professions
- development of a training programme
- programmes for volunteers or for community health workers
- interventions to improve the skills mix in the workplace
- interventions to improve attraction and retention, with the limitation that some HRM practices to enhance job satisfaction and motivation are likely to have an impact on retention and vice versa – articles reporting on effects related to increased performance have been included
- interventions to improve recruitment of professional health workers
- interventions to test job aids such as guidelines, treatment protocols etc (as opposed to the use of job aids to improve performance)



**Figure 1: Flowchart of search**

### Continuing education

All 21 training courses were interactive and included field practice. The duration of the courses varied from three- to four-hour workshops (n=4), to courses of 1–11 days (n=16) and one distance course of 10 months.

Five studies were Randomised Controlled Trials (RCTs), eight were case control studies, and eight had a quasi-experimental design. In most cases (n=17) results were measured by observing performance, likely to have influenced behaviour. In 12 studies, results could be partially explained by other, concurrent, interventions. Evaluation mostly (n=13) took place within nine months of completion, making it difficult to ascertain if improved performance was sustained over time.

Overall, studies indicated that continuing education could improve knowledge, skills and performance of certain tasks in the short term. Outcome varied considerably between studies and within studies. For instance, a study in Mexico demonstrated different improvements of case management of acute respiratory infections and diarrhoea. The proportion of health care providers correctly performing specific tasks improved by 18% to 39% depending on tasks and type of provider [14]. Training in communication showed improvement in the short term [15-19]. When training included local problem solving, results could persist after nine months [19]. Continuing education of untrained (auxiliary) nurses could improve their performance [20], outperforming physicians in certain tasks [21-23].



Contextual influence was reported in various studies. Better performance after training was associated with supervision [21,22]. In India performance after training in communication declined over time likely due to poor patient flow or high administrative workload [16]. In South Africa, TB treatment outcomes only marginally improved after participatory training of nurses, because of weak management and organisational problems in facilities [24]. Integrated Management of Childhood Illness (IMCI) training was less effective in Brazil and Uganda than in Tanzania [25]. For instance, the odds ratio of a child needing antibiotics and receiving the right prescription from trained health workers as compared to untrained health workers was 4.4 in Tanzania, 2.1 in Uganda and 1.9 in Brazil [25]. Contextual factors which, according to the authors, could have contributed to differences in outcome were high staff turnover in Brazil [21,25] and abolition of user fees in Uganda [25]. In addition to health workers' training, a need to influence the context was reported in several studies, either by strengthening health systems (9x) or by developing community interventions (2x).

According to the authors, important implementation aspects of the interventions contributing to change, were:

- Using a participatory approach, developing course contents based on local problems, adapting material to the local situation, and involving local stakeholders in developing and implementing the intervention (12x);
- Practising tasks in the field under supervision during training, as a follow-up upon completion of training, or offering the possibility of discussing field experience after training (10x).
- Developing cascade training, with health care workers trained as trainers [18, 24, 26].

Mechanisms through which training produced outcomes were discussed by authors in four studies and explicitly researched in three studies [15,19,24]. Improvement of health worker performance was triggered by three mechanisms: improved knowledge and skills, critical awareness on functioning of health services and being empowered to implement change. For example, Onyango-Ouma reported that training resulted in staff being more open, working better together and looking for solutions to problems, which resulted in improved provider-patient relations and reduced waiting times [19]. Lewin et al (2005) identified that training created awareness among staff to improve patient-provider relations which lead in certain instance to changes in organization of care and in others not as staff did not see themselves as agents of change [24].

### Supervision

One RCT and one case control study investigated supervision in public facilities, which was evaluated within six to eight months of completion with intrusive data collection methods. The RCT showed differences of 14% to 47% in adherence to various aspects of stock management protocols and standard treatment guidelines compared to the control groups [27]. A critical contextual factor was the presence of regular drug supplies [27]. Important implementation aspects of the intervention that contributed to change according to the authors were the use of community involvement and of participatory methods [28].

Mechanisms for change were explored by Sennun et al in Thailand [28] and discussed by Trap et al [27]. According to the authors, positive change occurred due to increased skills and knowledge. In addition, Sennun reported that change was positively influenced by health workers having a sense of belonging, as well as mutual respect between supervisors and health workers [28].

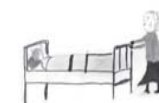


Table 1 Details of the reviewed studies

Type of HRM intervention	No. of studies	Topics covered	Authors and year of publication	Intervention levers*			Explicit theoretical underpinning: using models or international literature
				Job-related	Support systems	Enabling	
Continuous education/ in-service training	21	6 General health care	Roter et al, 1998; Diprete Brown et al, 2000; Meyer et al, 2001; Onyango-Ouma et al, 2001a; Onyango-Ouma et al, 2001b; Agyepong et al, 2002	x			4 Behavioural models 8 Embedded in international literature on training effectiveness 9 Nothing stated
		8 IMCI	Simoës, 1997; Amaral et al, 2004; Gouws, 2004; Tanzania IMCI multi-country evaluation health facility survey study group, 2004; Mohan et al, 2004; Amaral et al, 2005; Gilroy et al, 2004; Pariyo et al, 2005				
		2 Specific areas of child care	Bojjaili et al, 1999; Flores, 2002				
		1 TB control	Lewin et al, 2005				
		2 Other disease control	Mahé, 2005; Mock, 2005				
		2 STD/HIV/AIDS	García et al, 1998; Ezedinachi et al, 2002				

Type of HRM intervention	No. of studies	Topics covered	Authors and year of publication	Intervention levers*			Explicit theoretical underpinning: using models or international literature	
				Job-related	Support systems	Enabling		
Supervision	2	2 General health care	Trap et al, 2001; Sennun et al, 2006	x			2 Embedded in international literature on community participation	
Payment of incentives	4	3 General health care	Kipp et al, 2001; Akashi et al, 2004; Uzochukwe et al, 2005		x		2 Embedded in international literature on effects of payment on performance 2 Nothing stated	
		1 TB Control	Harrises et al, 2005					
Decentralisation	2	2 General health care	Saide et al, 2001; Liu et al, 2006			x	2 Embedded in international literature on decentralisation and HRM	
Regulations	1	1 General health care	Stenson et al, 2001			x	1 Embedded in international literature on regulations	
Combined approaches	11	4 General health care	Thamilkikku et al, 1998; Diallo et al, 2002; Chalke et al, 2002; Chalke et al, 2004	x		x	6 Embedded in international literature on success of interventions 5 Nothing stated	
		4 IMCI	Tawfik et al, 2001; Kelley et al, 2001; El Arifeen, 2004; Naimoli et al, 2006					
		1 Specific area of child care	Chakraborty et al, 2000					
		1 TB control	Thiam et al, 2007					
Quality Assurance/ Quality Improvement	7	1 STD	Harrison et al, 2000					
		2 General health care	Wahlstrom et al, 2003; du Mortier and Arpagus, 2005	x		x	6 Embedded in international literature on QA, tools and frameworks 1 Nothing stated	
		1 Specific area of child care	Kelley et al, 2003					
		4 SRH/ maternal care	Wilkinson, 1997; Wagaarachchi et al, 2001; Hermida and Robalino, 2002; Agurto et al, 2006					

\* According to WHO; p.71–86 [2]:

- Job-related interventions which focus on individual occupations; examples are job descriptions, supervision and training;
- Support-system-related interventions; examples are remuneration, infrastructure, supplies and communication;
- Interventions which create an enabling environment and focus on managerial culture and organisational arrangements; examples are team management, responsibility and accountability.

### Payment of incentives

We identified four studies that evaluated the results of paying incentives to health workers. Three of the interventions introduced user fees and paid staff from patients' fees, community cost-sharing schemes or from a drug revolving fund [29-31]. All four studies used quasi-experimental designs. Two measured long-term results (eight years and three years, respectively), and two evaluated results after one year of implementing the intervention.

The studies indicated that paying incentives can improve performance of a facility and can increase job satisfaction, staff motivation or patient satisfaction. For instance, in Cambodia, payment of staff accompanied by other interventions such as organisational changes, increased the average number of deliveries significantly from 319 to 585 per month and the average bed occupancy rate from 50.6% to 69.7% [30].

Several contextual factors were reported to influence success of the interventions. For example, utilisation of services was not necessarily influenced by user fees when patients were accustomed to paying informal fees [30], whereas utilisation of certain services dropped in urban areas in Uganda and in rural Nigeria after introduction of user fees [29,31]. In Nigeria, delay or non-payment of salaries and drug stock-outs caused a decline in staff motivation over time, with a negative influence on performance [31].

Critical aspects related to the implementation of the intervention contributing to positive outcomes, reported in these studies, include:

- Availability of extra funding (3x), which can be difficult when funding depends on contributions from the community [29];
- Training staff in accounting when they are responsible for financial management (1x);
- Assuring results-oriented assessment linked to payments (1x); and
- Support and involvement of the community in financial management (1x).

Mechanisms that lead to improved performance were researched in three studies [29-31]. The authors showed that linking individual salary supplements to functioning of health facilities can improve staff performance. The mechanism that enabled this link was staff motivation leading to development of staff initiatives to improve quality [30] or to increased presence at work [29]. In Cambodia, staff motivation to develop initiatives appeared to be a result of staff awareness that they are able to influence use and quality of care and of staff empowerment to introduce change. Self-confidence to continue developing initiatives for change was created when these changes actually improved quality of care [30]. On the contrary, in Nigeria the authors showed that staff was motivated to increase drug sales and financing due to government focus on cost recovery and health workers' interest for revenue generation; this led to over- and irrational prescribing behaviour and a preference for curative services [31].

### Decentralisation of HRM functions

Two studies investigated the impact of decentralisation of HRM functions; one in Mozambique [32] and one in China [33]. Both studies used quasi-experimental designs. Decentralisation of HRM functions differed between the two countries; in Mozambique HRM functions were decentralised at provincial level, whereas in China hospitals were made partially responsible for HRM functions.



In China, decentralisation of HRM functions lead in some hospitals to an increase in hospital income and outpatient numbers, to a reduction of hospital staff in relation to workload and employment costs and to an increase in the number of in-service training days for doctors but not for nurses [33].

The studies showed that decentralisation of HRM functions could have a positive impact on HRM, but that complementary interventions to create an enabling environment were required, such as management training, changes in bureaucratic procedures and appropriate preparation in structures and staffing [32,33]. Other examples of contextual influences were that in Mozambique the political interference of district administrators influenced transfers of health workers and administrative constraints prevented adequate performance evaluation [32]. In China, managers faced problems in addressing appropriate recruitment due to social pressure to recruit (incompetent) relatives and friends and they faced organisational pressure to increase hospital income [33].

Mechanisms that caused change in performance were partially discussed by authors of the study in China [33]. According to these authors, hospital managers in China focused on cost-recovery and on increasing hospital income. This resulted in the introduction of financial incentives that motivated doctors to over-treat and over-prescribe [33].

### Regulation

One RCT evaluated the effectiveness of inspection visits, selective punishments and the provision of regulatory documents on the practice of private pharmacies in Laos [34]. Evaluation occurred immediately after the intervention and showed improved practices, such as an increase of 34% in the availability of essential dispensing material and of 19% in order in the pharmacy. Adding intensive supervision of drug inspectors caused a significant change only in availability of essential dispensing material. Results could be partially explained by a concurrent event. Mechanisms that produced these outcomes were not discussed.

### Combined interventions

Eleven published studies on combined interventions met our criteria. These interventions all included a training component. Additional HRM components were the provision of guidelines and/or structured feedback (n=4); feedback with enforcement of regulations or a contract (n=3); improved monthly supervision, drug availability and guidelines (n=2); and a comprehensive approach, with community involvement, strengthening of health systems or decentralisation of treatment at local level (n=2).

Study designs included RCTs (n=5), a case control study (n=1) and quasi-experimental designs (n=5). Nine studies evaluated within eight months of completion of the intervention, a period too short to conclude on sustained behaviour change. Nine studies had intrusive data collection methods or external, concurrent events, likely influencing results.

Results appeared to be positive in the short term. Comprehensive approaches – combining interactive and participatory training with strengthening of health systems [35-37] – showed the potential to significantly improve health workers' performance. For instance, in Bangladesh the



mean index of correctly assessing sick children improved from 18 to 73 and for treatment from 8 to 54 [35]. In Morocco, the mean percentage of recommended tasks performed was 79% among the intervention group and 21% in the control group [38].

Several contextual factors were reported to influence results. For instance, in Niger, trained health workers only referred 23% of children with a general danger sign due to long distances and poor quality of referral sites [39]. In Vietnam, private pharmacies gave more weight to professional associations than in Thailand and this positively influenced their adherence to guidelines [40]. In Morocco, correct prescribing was associated with children with high fever, with younger children, with a lower patient load and with longer consultation times [38].

Critical success factors for intervention implementation were:

- Including a component to strengthen health systems, such as improving drug availability, equipment and supervision; and
- Involving local stakeholders such as communities, staff, local health officials or local professional associations, and adapting the intervention to the local situation (8x).

Mechanisms through which combined interventions produced positive change in health worker performance were discussed in six studies [38, 40-44]. Two main mechanisms triggering change could be identified: acceptance of new information by target groups of the intervention and feeling obliged to apply new skills and knowledge in own practice. Acceptance is likely to be influenced by the perceptions on case management of professional health care providers who participated in the intervention [43], by existing clinical rules among health care providers [38] and consensus among faculty in own facility regarding clinical guidelines [42] or participation in development of guidelines [41]. Feelings among private providers that they were obliged to change was caused by establishing accountability mechanisms through social pressure and social obligation [43], through awareness raising that improved practice would improve reputation among customers [44] or through sanctions and conviction [40].

### Quality Improvement

Seven Quality Improvement (QI) interventions were identified, all using a participatory approach, analysing performance data by staff involved in service delivery, and identification and implementation of local opportunities to improve performance.

Study designs included quasi-experimental studies (n=4), case control studies (n=2) and one RCT, and evaluations occurred mostly (n=4) after one year. Five research teams were either involved in the implementation of the study or used intrusive data collection methods. The results of one study might be partially attributed to a concurrent intervention.

Research indicated that QI improved the performance of tasks and case management, and that it could be successful in different contexts: QI implemented in hospitals in Ghana and Jamaica caused significant changes in obstetric care in both countries, such as an increase from 65% to 93% of patients with genital tract sepsis treated with broad-spectrum antibiotics [45].

Critical implementation aspects of the interventions contributing to success included:

- Involving staff, communities and local health authorities in setting standards (3x);



- Receiving support from the management of the facility and senior officials (2x); and
- Using available funds and developing feasible plans for local teams (2x).

Mechanisms which triggered health workers to change were discussed in three studies [45-47]. Identified mechanisms were increased job satisfaction in El Salvador [46] and improved staff morale due to feedback meetings in Ghana and Jamaica [45] and due to community involvement and ownership in Congo [47]. In Congo additional mechanisms contributing to change were increased knowledge due to training and acceptance of indicators and willingness to adhere to self-set standards [47].

## 6.4 DISCUSSION

Our review set out to explore whether or not the application of a realist perspective to published research could improve the understanding of how HRM interventions impact on health worker performance through the analysis of the context and the mechanisms that brought about change. The findings show that HRM interventions can contribute positively to health workers' performance and the most important results were that:

- Combined interventions of participatory, interactive training, job aids and strengthening health systems can be successful in improving health workers' performance;
- Continuing education as a single intervention is likely to be effective in the short term and can improve the performance of untrained health care providers; however, to sustain effectiveness, additional interventions addressing health systems or community issues are required;
- QI, based on local performance analysis by teams, and payment combined with additional interventions such as organisational change, can improve health workers' performance; and
- Training to identify problems and develop local solutions or to improve communication is not likely to be effective when local conditions are not addressed.

However, different contexts produced different outcomes. Commonly reported critical implementation aspects that contributed to success could be extrapolated and these were the involvement of local authorities, communities and management, adaptation to the local situation, and the active involvement of local staff to identify and implement solutions to problems. In addition, the studies provide examples of contextual factors influencing the outcome. However, it was not possible to identify patterns in how contexts influenced outcome of interventions due to their limited descriptions and the fact that there were few similar interventions implemented in different contexts.

The review teased out three mechanisms that were triggered by HRM interventions and brought about change in health workers' performance, although mechanisms were only to a limited extent discussed and even to a lesser extent researched. These mechanisms were: increased knowledge and skills, improved motivation and feeling of being obliged to change.

Increased knowledge and skills through training was an important mechanism to contribute to improved performance, but not sufficient. These findings corroborate earlier studies that continuing education is only effective to a limited extent [2,4,6-8,48-49]. The published studies



reported positive outcomes when training included a participatory approach, material adapted to the local situation and practised during or after training. These intervention components indicate the use of an adult learning approach, which is reported to be effective when training adults [50]. However, only three studies explicitly reported that training was based on specific learning theories [15,19,24].

In most reported interventions, staff motivation to implement knowledge and skills appeared an additional mechanism enabling change. None of the studies reported explicitly how staff motivation was meant to be achieved or on which motivation theories HRM interventions were based. However, the studies provide some insights in mechanisms contributing to motivation. The studies show that HRM interventions triggered motivation of health care providers by:

- Creating awareness of local problems and empowerment to develop initiatives for change [19,30] and health workers seeing themselves as agents of change [24];
- Assuring acceptance of new information on diagnosis, treatment and care [38, 41-43];
- Creating a sense of belonging and respect [28];
- Increasing income through financial incentives [29-31,33];
- Providing opportunities to notice improvements in quality of care [30].

Care has to be taken to accept as a general principle that financial incentives trigger motivation which leads to improved performance. Such incentives produced negative outcomes in terms of over-prescribing and over-treating when health workers were solely rewarded by cost-recovery and revenue generation [31,33]. Non-financial rewards, such as improved patient satisfaction or patient outcomes, improved quality of care, improved relations with colleagues and managers, recognition and appreciation were only to a limited extent implemented and researched. Various studies have shown that health workers perceive non-financial incentives as more important motivators than financial incentives [among others 51-56]. It would be interesting to evaluate the use of non-financial rewards to improve performance.

The feeling of being obliged to change was the third mechanism contributing to improved performance, mainly among private providers. This was obtained through accountability systems either by government inspection followed by sanctions [40] or by social pressure from the community resulting in improved reputation [44] and increased clientele and income [43].

The reviewed studies investigated a limited variety of HRM interventions to improve health worker performance. The most often published HRM intervention was continuing education, despite the available evidence of limited success of training as a single HRM intervention. Examples of additional HRM components that could bring about change, mainly related to staff motivation and feeling obliged to change, have been provided in this review. However, there are other HRM interventions components [2,6] which offer an opportunity to influence staff motivation, feeling obliged to change or other mechanisms that could lead to change such as job satisfaction. These interventions need to be documented, evaluated and shared. Research in high-income countries shows, that 'bundles of interlinked Human Resource practices' that are aligned to the strategy and mission of an organisation are effective in enhancing workers' performance [10]. The combined and QI interventions could qualify as 'bundles of HR practices', although it was not reported whether they were part of a strategic vision of the health workforce or were aligned to the strategy of the organisation or sector.



This review corroborates the findings of other reviews and demonstrates that there is evidence of positive results of HRM interventions on health worker performance, although it is limited. Other reviews acknowledge the limitations of current research and stress the need to examine the influence of the context on intervention results [4,6-7] and to consider theories of behaviour change [4]. This review showed that applying a realist perspective to the evaluation of HRM interventions offers an opportunity to deepen the understanding of HRM interventions as it includes context and mechanisms in the analysis.

Applying a realist perspective to published research has its limitations. Apart from limited reporting on the context, the process of implementation and mechanisms, the studies did not explicitly report on the underlying assumptions of how the HRM interventions should bring about change. To better understand mechanisms and to build program theories, these underlying assumptions need to be revealed and evaluated [57]. In addition, the published interventions were often evaluated at different levels (output, outcome or effect) and with different indicators, making it difficult to compare them. Because of the limited information and the missing link between evaluation and underlying assumptions of HRM interventions, these studies contribute to a limited extent to developing insights in how different HRM interventions could lead to improved health worker performance. Therefore this review is not conclusive and needs to be complemented with additional realist evaluation research so as to construct and test program theories so urgently required to assist policy makers in their choice of HRM interventions.

We have developed a framework to facilitate understanding of mechanisms, which is based upon the dimensions of health worker performance (see figure 2, adapted from 58).



Figure 2: Framework

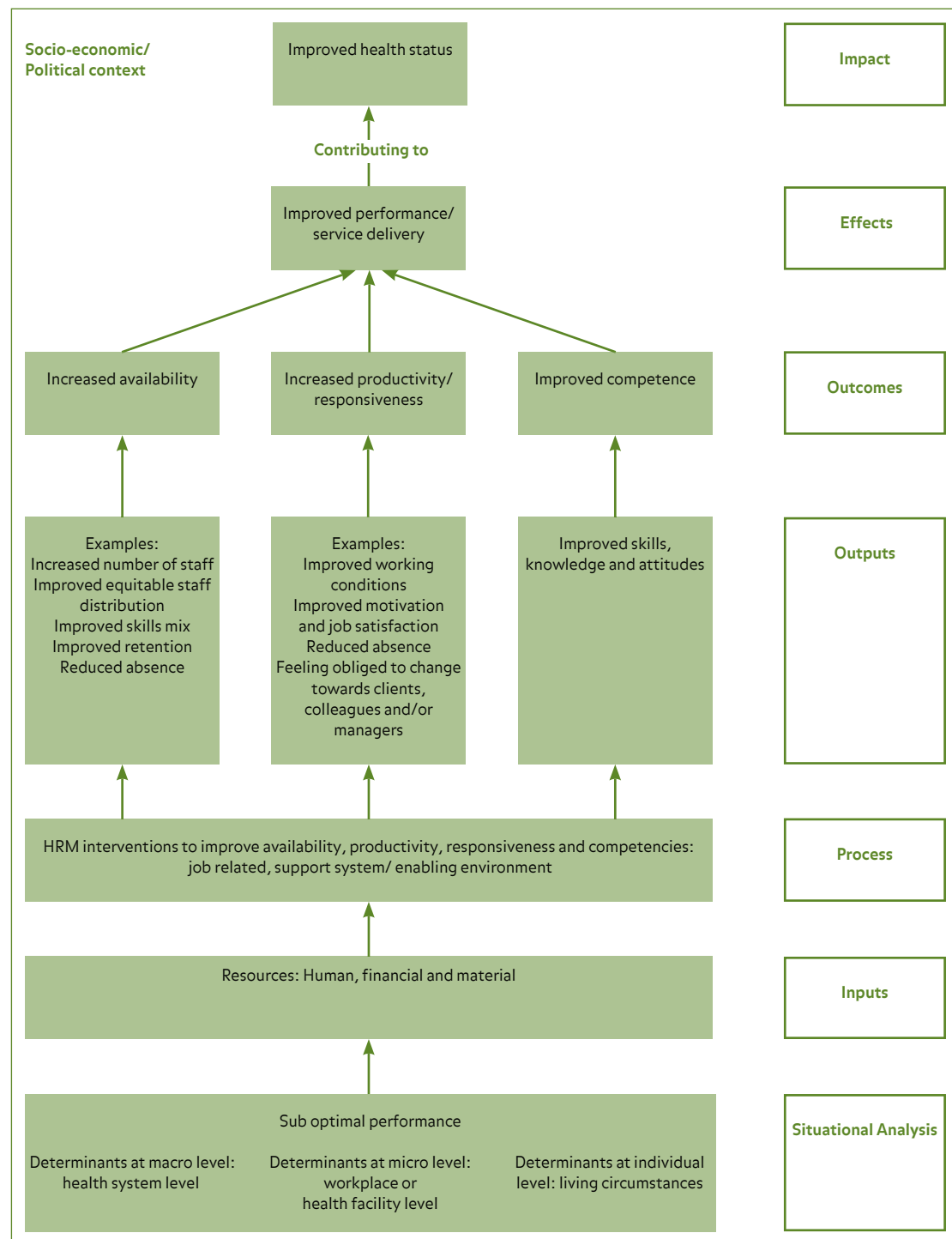


Figure 2 shows that there are a variety of interrelated mechanisms (defined in the figure as outputs) which could lead to improved availability, productivity, responsiveness and competency. In order to enable comparison of evaluation research of HRM interventions, we propose in addition the use of common indicators (see Table 2) and a common reporting format. Moreover, to gain a better understanding of outcomes, the mechanisms that caused change, and the context within which this change occurred, a combination of qualitative and quantitative research methods is needed [9].

Table 2: Indicators for health workers' performance

Factors	Examples of indicators*
<b>Impact</b>	
Health status	Decline in mortality/morbidity among targeted patients: Decreased prevalence and incidence
<b>Effects</b>	
Performance	Improved service delivery: Client satisfaction Re-admission rates and cross-infections Case fatality rates Treatment success rates, defaulter rates Coverage Service utilisation
<b>Outcomes</b>	
Availability	Waiting time, staff ratios, overtime, staff turnover, attendance of health workers
Productivity	Occupancy rate, outpatient visits and interventions provided per worker or facility Patient contacts
Competencies	Prescribing practices Adherence to protocol during diagnosis and communication with patients
Responsiveness	Proactive quality service, e.g. decubitus ulcers
<b>Outputs</b>	
Retention	Vacancies, posts filled, duration in job
Absence	Attendance of health workers, overtime
Being responsible	Showing initiative, active participation in audits and meetings Adherence to rules and Standard Operating Procedures
Skills and knowledge	Level of skills and knowledge of practices
Motivation and job satisfaction	Level of job satisfaction Level of staff motivation
Working conditions	Availability of infrastructure, medications, supplies <i>Being aware of and adhering to communication and decision-making procedures:</i> Number of meetings held with minutes and action list Confidential procedure for complaints in place and used <i>Management support offered:</i> Amount of supportive supervision

\* Indicators taken from among others:  
WHO: World health report 2006. Working together for health. Geneva, World Health Organization; 2006





This review is restricted to articles in English and French and might have missed publications in other languages. In addition, we do not know to what extent our review suffers from publication bias. To overcome this problem in the future, registration of protocols should be considered, as is currently the case for clinical trials.

## 6.5 CONCLUSION

Applying a realist perspective to the review of published HRM interventions offers an opportunity to gain a better understanding of how different HRM interventions can improve performance, under which circumstances and for which groups of health workers. To improve health workers' performance, health managers need insight into the context within which interventions achieved results elsewhere and an understanding of the mechanisms that triggered change. This review showed that the current evidence-base insufficiently contributes to the development of these insights and that the application of a realist perspective to HRM evaluations and reviews could be a valuable addition to the existing evaluation methods.

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## Conclusions and discussion



**Abrahamane Barry, Mali, 9 years**

*Ali has diarrhea because he has pain in his belly. He has pain because the food he ate was not clean.*

## 7.1 INTRODUCTION

Access to quality health services requires a sufficient number of skilled and motivated health care providers (see chapter 1). Improving motivation and performance of the available health workforce is particularly important for countries which face a crisis in Human Resources for Health, defined by the WHO as countries with a density of fewer than 2.28 physicians, nurses and midwives per 1,000 population. HIV/AIDS is assumed to exacerbate existing workforce problems (see chapter 1), although limited empirical evidence exists.

Policy makers and managers are in need of information on how to deal with these workforce problems and how to better assure that available health workers are retained and motivated to provide quality services. This is especially important in resource limited settings, where health services are under strain, such as in rural areas with high HIV prevalence. Human Resource Management (HRM) aims to offer managers tools and activities to support and improve the performance of health workers. However, there is limited information about the actual contribution of Human Resource Management to performance of health workers in Low and Middle Income countries.

The focus of this thesis was on examining whether HRM interventions could contribute to quality performance of professional health care providers in Low and Middle Income Countries with a high HIV prevalence, and how HRM could contribute to motivate these workers to provide quality care. All four case studies in this thesis - Vietnam, Mali, Zambia and Uganda - are situated in countries which face a health workforce shortage; three case studies - Mali, Zambia and Uganda - were implemented in countries that, according to WHO criteria (2006), have a critical workforce shortage and two of these three countries - Uganda and Zambia - have a high HIV prevalence.

The research for this thesis was on health workers mainly working in rural areas in LMIC and this final chapter aims to answer the study questions:

1. What is the (perceived) impact of HIV/AIDS on health workers in the public and private-not-for-profit sector in countries with high HIV-prevalence?
2. What HRM interventions are currently implemented in LMIC and how do they relate to staff motivation?
3. What is known about the effectiveness of HRM in the health sector in Low and Middle Income countries to improve motivation and performance of health workers? Which HRM interventions could be effective under which circumstances and for which groups?
4. Given the evidence and current use of HRM, which HRM policies and strategies could mitigate the impact of HIV/AIDS on and improve motivation and performance of the workforce in the health sector of resource-poor countries with high HIV prevalence?

## 7.2 OVERALL CONCLUSIONS AND MAIN FINDINGS

### Overall conclusions

Human Resource Management, defined in this thesis as 'the development of policies for effective utilization of human resources in an organization' (Berman, 2006:pxii) can positively influence



performance of health workers in Low and Middle Income Countries (see chapter 1 and 6).

HRM is underutilised as a management tool to improve health worker performance in general, and in AIDS-endemic settings in particular. Simple adjustments could produce meaningful change. This has implications for HRM policy and strategy development and for evidence building regarding HRM interventions.

### Main findings

*HIV/AIDS is a crucially important contextual factor which triggers mechanisms that negatively influence health worker performance.*

The case studies in Zambia and in Uganda (chapters 2 and 3) corroborate literature findings (see chapters 1-3) that HIV/AIDS exacerbates already difficult working conditions in the public and private-not-for-profit health facilities studied. HIV/AIDS triggered negative mechanisms among health workers. Examples of such mechanisms are perceived increase in workload, fear of infection at work, feelings of emotional exhaustion, fear of stigmatisation and discrimination, resistance to use Post Exposure Prophylaxis when injuries occur and feeling uncomfortable at performing certain tasks. The study results were similar in Uganda and Zambia, although overtime and emotional exhaustion were more often reported in Zambia. Reasons for this difference could be the potentially more severe health workforce shortage in the studied Zambian sites, in combination with higher HIV prevalence among health workers.

### *HRM activities can improve staff performance*

The literature review showed that within a certain context, HRM interventions can unleash mechanisms that contribute to improved performance (see chapter 6). Reported mechanisms that triggered positive change because of HRM interventions were (see chapter 2-6):

- Increased knowledge and skills through in-service training in which adult learning approaches were used;
- A perceived need to change through the establishment of locally appropriate accountability systems;
- Improved health workers' motivation through the use of quality improvement approaches, by relating financial incentives to quality of care and by involving community, managers and health workers in implementation of HRM activities such as supervision and the development of guidelines.

In general, local adaptation, involvement of local staff and local management, knowledge and skills to implement changes and support from communities and higher levels in the health system appear to be critical factors for success of HRM activities (see chapter 6).

### *HRM interventions are not sufficiently contextualised*

Reported success of HRM interventions was matched with evidence of interventions that were not successful or sustainable (see chapter 6). The main reason was that contextual factors were not sufficiently taken into consideration in the design and implementation of an HRM intervention. Context is defined in this thesis as socio-economic, political and cultural, but also includes the process of implementation of an HRM intervention, the stakeholders involved and their convictions (see chapter 1). Critical HRM-context gaps identified in this thesis were:



- *In AIDS-endemic settings, HRM is not adapted to address the negative influences of HIV/AIDS on health worker performance*

In Uganda and in Zambia, at facility level no policies or activities were systematically organised for health workers to deal with the perceived impact, and local management capacity to develop and implement HIV/AIDS-related HRM activities was very limited (see chapters 2 and 3). The Ugandan case study showed, in addition, that the way managers individually dealt with HIV/AIDS through HRM impacted differently on health worker motivation. For example, when health workers were informed and regularly supervised, they were more motivated (see chapter 3). The lack of support meant that health workers were mostly left to identify their own coping mechanisms.

- *In general, there is a mismatch between HRM activities and factors motivating local health workers*

Motivation influences health worker performance and therefore factors motivating health workers in their local settings are important. More than 55% of respondents working in an AIDS-endemic setting reported being motivated to work (see chapters 2 and 3), and opportunities existed to increase the proportion of motivated health workers by improving implementation of the current HRM activities. The cases in Uganda, Mali and Vietnam show that HRM did not address the most important motivating factors mentioned by health workers (see chapters 3,4 and 5). A comparison between cases shows that there are similarities regarding factors motivating health workers working in different settings, such as receiving appreciation and support from superiors, colleagues and patients. Although these factors are similar, the way they are obtained is likely to be different in each country and even within a country due to socio-cultural differences, differences in management culture and differences in resource availability. In addition, it is important to note that although income is a motivating factor, the case studies and the review show that it is certainly not the only issue that motivates health workers, and in none of the cases was it cited as the most important.

*HRM activities, in low and in high HIV- prevalence areas are often haphazardly implemented*

Whether or not HRM interventions are able to positively contribute to improved performance depends on the way they are implemented and how these relate to local health workers' needs (see chapters 2-6). The cases show that often HRM is not optimally implemented or implemented as personnel administration. Examples are un-transparent decisions regarding training or performance appraisals, supervision to control instead of to support health workers, and no clear relationship between different HRM activities such as supervision, performance appraisals and job descriptions. These limitations in implementation risk triggering negative mechanisms in health workers, such as lack of confidence regarding the quality of their performance, feeling controlled, feeling unfairly treated, and not knowing what and how to change in order to perform their jobs better (see chapters 4 and 5).

*There is a dearth of knowledge and limited theory building on HRM interventions in LMIC*

HRM interventions in LMIC are researched and documented to only a limited extent (see chapter 6). For instance, the literature search did not yield publications on evaluated HRM interventions to mitigate the impact of HIV/AIDS on health workers in LMIC (see chapters 1, 2 and 3). When interventions are published, often the underlying assumptions or expectations regarding the HRM intervention logic are not described or explained (see chapter 6). This hinders evaluation and



HRM theory-building, as obtained results of the implemented HRM intervention cannot be related to expected results. Moreover, contextual factors do not seem to be taken into consideration during HRM intervention evaluation. In evaluations, omitting crucially important contextual factors that impact on health workers' performance, such as HIV/AIDS, hampers information about the reasons for success and failures of interventions. This limits theory-building as well, because in different contexts similar interventions can trigger different mechanisms. This leads to uncertainty among health policy makers and planners about the possible results of using certain HRM interventions.

### 7.3 CONSEQUENCES AND IMPLICATIONS

#### Consequences

*Underestimation of the opportunities of HRM interventions*

It is likely that HRM has been neglected because it has not yet proven its potential to improve health workers' performance. Because there is a dearth of information about HRM interventions and their results, it is difficult to put HRM high on the agenda of health policy makers and planners, especially in an era in which resources are declining and provided for specific targets often linked to disease-related outcomes (such as HIV/AIDS, TB, malaria etc).

*Lack of HRM tools, support and competencies*

There is a lack of HRM competency development and support for managers, of accountability mechanisms for managers regarding HRM decisions and activities, and of space for health workers and communities to voice their needs and claim their rights. This is particularly important in AIDS-endemic settings, where there are challenges such health workers dealing with their HIV- positive status or coping with burnout, fear of infection and heavy workload.

*Quest for 'what works'*

Within the health sector there is an underestimation of the importance of the interaction between the context and interventions; whereas the case studies and literature suggest that a contextual approach would be the most appropriate, there is a quest for 'what works' and replication of HRM interventions is sought after (see chapter 6). This is a crucial error, as available evidence shows that duplication of successful interventions does not automatically yield similar results in different circumstances.

*Limited use of available data collection methods for evidence-building*

Although in recent years the need for change in types of evidence and evidence-building methods in the health sector has more often been expressed (see chapter 6), evidence-building methods that fail to take the context into account are still used, even for complex interventions.

#### Implications to improve HRM to obtain meaningful change

*Developing HRM systems, competencies and support*

In order to better use the opportunities HRM could offer to improve health worker performance, there is a need to develop both the competencies of and support for managers with HRH management tasks. This requires the development of an HRM system, and will enable adaptation of HRM interventions to local circumstances and to the needs of local health workers. It will also



allow the improvement of HRM intervention designs and HRM implementation, as well as enabling the strategic use of HRM by aligning HRM policy and strategy development to health sector policies and strategies. In AIDS-endemic settings, this would allow improved use of existing HRM interventions, as with comparatively little extra effort existing HRM interventions could be adapted and improved to deal with the negative effects of HIV/AIDS on the health workforce (see chapters 2 and 3). Examples of this are: including discussion and exchange about difficulties related to HIV/AIDS at work in supervision, continuing education and other facility-based learning and support activities such as clinical meetings, accessing documentation and use of counselors. At the same time, additional HRM activities would need to be put in place to better support HIV-positive health care providers.

#### *Creating HRM intervention logic that includes the context: understanding and mapping CMO-configurations*

Equally important is the fact that policy makers and planners need to understand underlying assumptions of HRM interventions and discuss their own expectations regarding HRM interventions. This will enable evaluation and validation of the intervention logic in their own contexts. HRM should be seen as a complex social intervention that intends to influence health worker performance and thus human behaviour, which is shaped by its context. HRM interventions cannot be isolated from the context in which they are implemented (see chapter 1). This implies that the intervention logic includes assumptions about how context and interventions are likely to interact, which mechanisms the interventions are likely to trigger in a particular context and how these influence health worker performance. At the same time there is a need to better understand the interaction between interventions and contexts by evaluating similar interventions in differing contexts as well as different types of HRM interventions in similar contexts. This allows the creation of an evidence base regarding Context-Mechanism-Outcome configurations (CMO) of HRM interventions (see chapter 1).

#### *Contextualising-decontextualising-recontextualising HRM in AIDS-endemic settings*

The CMO framework for evidence-building enables us to identify the mechanisms triggered by an intervention in a particular context, and which reoccur in similar contexts. This gives an explanatory focus to evidence-building and allows for the formulation of generic HRM principles in certain contexts. An example is the payment of allowances for training in a situation where salaries and allowances are very low. This is likely to trigger negative reactions, such as health workers focusing on participating in training as an income-generating activity, rather than achieving the intended outcome of improved task performance (see chapter 4). Regarding AIDS-endemic settings, applying an explanatory focus means that the following issues must be taken into account:

- Collecting evidence about the outcome of HRM interventions to address the negative effects of HIV and AIDS, and how these interventions produced results in different workplace settings with high HIV prevalence (contextualizing HRM);
- Formulating principles for appropriate HRM policies and strategies in AIDS-endemic settings, based on the evaluation of similar interventions in different environments (decontextualising). Examples are infection control policies, training to perform HIV/AIDS-related tasks, such as counseling or caring for AIDS patients at wards, and strategies to address burnout and emotional exhaustion due to working with AIDS patients;
- Collecting additional information about other contextual factors that could trigger



mechanisms among health care providers and that need to be addressed in a specific context, so as to re-adapt the HRM intervention to this specific context (recontextualising). Examples of additional contextual factors are: available HRM management competencies, existing staff shortages and workload, HIV burden in the community and among local health staff, and perceptions of communities regarding HIV-positive health care providers providing services.

*Increase and expansion of the evidence base of HRM interventions for lobby and advocacy*  
Policy makers, planners, HRH experts and managers need to have access to documented HRM interventions to obtain insight into experiences with HRM interventions elsewhere, lessons learned and results obtained. There is an urgent need to look at additional approaches to evidence-building which include context and allow the identification of mechanisms in order to explain the results of an HRM intervention. This requires the use of qualitative and quantitative data collection methods. The evidence would need to be used for selecting appropriate HRM interventions in their own context, and for advocacy and lobbying to allocate more resources to HRM interventions at national and international level.

In conclusion, the research presented in this thesis shows that HIV/AIDS is a crucially important contextual factor which negatively influences health worker performance. HRM activities can improve staff performance, but HRM interventions in general, and in AIDS-endemic settings in particular, are insufficiently contextualised and implemented to redress negative reactions of health workers and to respond to their needs. We therefore recommend using a contextual approach to HRM intervention design and to improve the development of HRM systems and competencies. We also recommend that the evidence base regarding HRM interventions in LMIC should be increased and include an explanatory focus to evidence-building and documentation, thus improving our understanding of how the results of HRM interventions are obtained and in which contexts.





**Asinguza Betty, South Africa, 10 years**

*These children are happy and healthy- they are playing.*

## ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
ARV	Antiretroviral
ART	Antiretroviral treatment
CHAZ	Churches Health Association Zambia
CHC	Commune Health Center
CMO	Context-Mechanisms-Outcome
DGIS	Directorate-General for International Development Cooperation of the Netherlands Ministry of Foreign Affairs
GAVI	Global Alliance for Vaccines and Immunization
GDP	Gross Domestic Product
GEE	Generalised Estimated Equation
GFTAM	Global Fund to fight AIDS, Tuberculosis and Malaria
HIC	High Income Countries
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HR	Human Resources
HRD	Human Resources Development
HRH	Human Resources for Health
HRM	Human Resource Management
ILO	International Labour Organisation
IMCI	Integrated Management of Childhood Illnesses
KIT	Royal Tropical Institute
LMIC	Low and Middle Income Countries
MBI	Maslach Burnout Inventory
MDG	Millennium Development Goal
MoH	Ministry of Health
QA	Quality Assurance
QI	Quality Improvement
PEP	Post-Exposure Prophylaxis
PMTCT	Prevention of mother-to-child transmission
PNFP	Private Not-For-Profit
RCT	Routine Counseling and Testing
RCT	Randomised Controlled Trials
SD	Standard Deviation
SPSS	Statistical Package for the Social Sciences
STI	Sexually Transmitted Infections
WHO	World Health Organisation
VCT	Voluntary Counseling and Testing
VHW	Village Health Worker

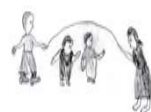
## SUMMARY

A qualified and motivated health workforce – the ensemble of nurses, physicians, midwives, pharmacists, public health officials and other allied health care workers - is a critically important, though generally undervalued, component required for the provision of effective and efficient health care. When there is an insufficient number of health care providers and when those who are in post are frustrated, demotivated, or fail to keep up their knowledge and skills, the performance of the health care system threatens to become entrapped in a downward spiral. This is especially problematic in Low and Middle income countries (LMIC) which often have a complete imbalance between the burden of disease on the one hand and the professional capacity to meet health care needs on the other. In this respect, the AIDS epidemic is of specific interest: not only has it resulted in a dramatic change in the scale and in the nature of the demands on the health workforce, but health care providers themselves have also been severely affected by HIV and AIDS.

Supporting these health workers in performing their tasks in such difficult working conditions is therefore very important. This can be done through the use of Human Resource Management (HRM) which comprises a wide variety of interventions such as job design, incentives packages, continuing education, supervision, and remuneration. The main objective of this thesis was to explore whether such interventions could be effectively used in LMIC to improve health worker performance and motivation. This question was addressed by conducting studies in a number of LMIC with different HIV prevalences: Vietnam (0.29%), Mali (1.7%), Uganda (6.7%), and Zambia (16.5%). In each of these countries, current experiences with HRM and the problems experienced by health care providers in the conduct of their work were studied using structured and open interviews. In the countries with high HIV prevalence, Uganda and Zambia, special attention was paid to the impact of HIV and AIDS on the health workforce.

Conducting the inquiry in these four countries revealed a number of differences, but also interesting commonalities. In Vietnam, appreciation by the management, colleagues and the community at large, a stable job and income, and opportunities for training stood out as particularly important motivating factors for health care professionals. ‘Feeling and being held responsible’ were found to be important motivating factors in Mali, in addition to appreciation, training and income. Both cases show that HRM activities did not match these motivating factors. The case studies in Uganda and Zambia revealed the devastating impact of HIV and AIDS on the health workforce, which can best be characterised as: an increased workload; fear of becoming infected; or, when infected, fear of being socially rejected and isolated; feeling uncomfortable performing certain tasks; emotional exhaustion; and suffering in silence. The exacerbation of the problems health care providers face in AIDS-endemic settings is in stark contrast to the almost complete lack of support that they receive in doing their jobs, and doing them properly. When dealing with the negative effects of HIV and AIDS on health care providers, management does not seem to know how they might provide meaningful support.

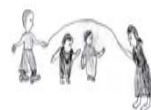
In spite of the differences between the countries studied, a number of recurrent themes emerge. Support from colleagues, management, and the community at large seem to be universally valued. This also holds true for self-efficacy (perceived mastery of knowledge and skills needed to provide appropriate care safely and effectively; and getting results from your work).





HRM interventions in all four countries were shown to be often haphazardly implemented or were perceived as being mere administrative rituals. Although HRM will clearly not offer a solution for all problems that health care providers in LMIC face, it may be used more fruitfully than is currently the case. Simple adaptations to existing HRM interventions could produce meaningful change. Evidence on effectiveness of HRM interventions shows that certain HRM interventions could improve health worker performance and motivation, thus indirectly contributing to effectiveness and efficiency of care. In particular, continuing education using an adult learning approach and the establishment of accountability systems could improve performance. Furthermore, quality improvement approaches, health worker participation in supervision and in the development of guidelines, and relating financial incentives to quality of care could improve the motivation of health care providers. Improved motivation in turn positively impacts on health worker performance.

However this thesis warns against over-simplistic one-size-fits-all solutions. It strongly recommends that when addressing the effectiveness of HRM in LMIC, context, mechanism, and outcome are taken into account in an integral way. This is done by considering how (through what sort of mechanisms) HRM can produce desired outcomes (for instance improved motivation and self-efficacy), and which features of the context (such as physical, social and economic factors and management capacities) seem to be critical in this process. Taking this perspective, this thesis offers a number of suggestions for the successful development and implementation of HRM strategies in the health care sector of LMIC, and for conducting further research so as to expand the evidence in this domain.



## SAMENVATTING

### Veranderingen uitlokken die er toe doen: Human Resource Management en het functioneren van zorgverleners in een AIDS-endemische omgeving

Gekwalificeerd en gemotiveerd gezondheidspersoneel - verpleegkundigen, artsen, vroedvrouwen, volksgezondheidsambtenaren en paramedische gezondheidswerkers - is een cruciaal maar ondergewaardeerd aspect dat nodig is voor een effectieve en efficiënte gezondheidszorg. Wanneer het aantal gezondheidswerkers ontoereikend is en degene die in functie zijn gefrustreerd, gedemotiveerd of niet in staat zijn hun kennis en vaardigheden bij te houden, dreigt het functioneren van het gezondheidssysteem in een neerwaartse spiraal te raken. Dit is vooral problematisch in lage en midden-inkomenslanden, waar vaak een complete wanverhouding bestaat tussen de ziektelast aan de ene kant en de professionele capaciteit die nodig is om de zorgvraag te beantwoorden aan de andere kant. Daarbij is vooral de AIDS epidemie van speciaal belang: HIV en AIDS hebben niet alleen geresulteerd in een dramatische verandering in de grootte van en het type zorgvraag, maar ook de gezondheidswerkers zelf zijn zwaar getroffen door HIV en AIDS.

Ondersteuning van deze gezondheidswerkers in de uitvoering van hun taken in dergelijke moeilijke werkomstandigheden is daarom erg belangrijk. Dit kan worden gedaan door gebruik te maken van Human Resource Management (HRM), dat bestaat uit een grote verscheidenheid aan interventies waaronder job design, aanmoedigingspremies en -maatregelen, training, supervisie en salaris. Het hoofddoel van deze thesis is te onderzoeken of dergelijke interventies effectief kunnen worden gebruikt in lage en midden-inkomenslanden voor het verbeteren van het functioneren en de motivatie van gezondheidswerkers. Om tot een antwoord op deze vraag te komen is onderzoek gedaan in een aantal lage en midden-inkomenslanden met verschillende HIV prevalenties: in Vietnam (0.29%), Mali (1.7%), Oeganda (6.7%), and Zambia (16.5%). In elk van deze landen zijn de ervaringen met HRM en de problemen die gezondheidswerkers ondervinden bij het uitoefenen van hun beroep onderzocht door middel van gesloten en open vraaggesprekken. In de landen met hoge HIV prevalentie, Oeganda en Zambia, is extra aandacht besteed aan de gevolgen van HIV en AIDS voor gezondheidspersoneel.

De onderzoeken in deze vier landen onthulden een aantal verschillen maar ook interessante gemeenschappelijkheden. In Vietnam bleken waardering door het management, collega's en de bevolking in het algemeen, een vaste baan en inkomen en training de meest belangrijke motiverende factoren voor professionele gezondheidswerkers. Het nemen en krijgen van verantwoordelijkheid was een belangrijke motiverende factor in Mali, naast waardering, training en inkomen. Beide studies lieten zien dat de HRM activiteiten niet aansloten bij deze motiverende factoren. Door de studies in Oeganda en Zambia werd de vernietigende invloed van HIV en AIDS op gezondheidspersoneel aangetoond, een invloed die het best kan worden omschreven door: een vergrootte werklast, de angst voor besmetting en indien men is besmet, de angst sociaal geïsoleerd te raken, het zich ongemakkelijk voelen bepaalde taken uit te voeren, emotionele uitputting en lijden in stilte. De verergering van de problemen waarmee gezondheidswerkers in AIDS-endemische locaties worden geconfronteerd staat in scherp contrast met het bijna totale gebrek aan ondersteuning dat zij krijgen bij het doen van hun werk en bij het goed doen ervan. Als het gaat om de aanpak van de negatieve effecten van HIV en AIDS op gezondheidswerkers leek management niet te weten hoe ze betekenisvolle ondersteuning zouden kunnen geven.



Ondanks de verschillen tussen de landen keert een aantal thema's steeds terug. Ondersteuning van collega's, management en de bevolking in het algemeen lijkt overal te worden gewaardeerd. Dit is ook het geval voor self-efficacy (het gevoel de kennis en de vaardigheden te bezitten die nodig zijn om passende zorg veilig en effectief te verlenen en om resultaat van je werk te hebben).

HRM interventies in alle vier de landen bleken echter vaak lukraak te worden uitgevoerd of werden gezien als louter administratieve rituelen. Ook al is het duidelijk dat HRM geen oplossing biedt voor alle problemen waarmee gezondheidswerkers in lage en midden-inkomenslanden kampen, toch zou HRM beter gebruikt kunnen worden dan momenteel het geval is. Eenvoudige aanpassingen aan bestaande HRM interventies zouden belangrijke veranderingen kunnen bewerkstelligen. Aangetoond is dat bepaalde HRM interventies het functioneren en de motivatie van gezondheidswerkers kunnen verbeteren en daarbij indirect bijdragen aan de effectiviteit en de efficiëntie van de gezondheidszorg. In het bijzonder zouden training – gebruik makend van de aanpak voor volwassenenonderwijs - en het opzetten van verantwoordingssystemen het functioneren kunnen verbeteren. Daarnaast zouden kwaliteitsverbeteringsmethodes, deelname door gezondheidswerkers aan supervisie en aan de ontwikkeling van richtlijnen als ook het relateren van premies aan de verbetering van de kwaliteit van zorg de motivatie van gezondheidswerkers kunnen vergroten, wat weer van invloed is op het functioneren van deze gezondheidswerkers.

Deze dissertatie waarschuwt echter voor oversimplistische en 'one-size-fits-all' oplossingen. Het wordt sterk aanbevolen om bij de aanpak van de effectiviteit van HRM op een geïntegreerde manier rekening te houden met de context, de mechanismes en de resultaten. Dit kan worden gedaan door aandacht te besteden aan hoe (via welk soort mechanismes) HRM de gewenste resultaten kan bereiken (zoals motivatie en self-efficacy) en aan de kenmerken die in de context (zoals fysieke, sociale en economische factoren en managementcapaciteiten) cruciaal lijken te zijn in dit proces. Vanuit dit perspectief doet dit proefschrift een aantal voorstellen voor succesvolle ontwikkeling en uitvoering van HRM interventies voor de gezondheidssector in lage en midden-inkomenslanden en voor het uitvoeren van verder onderzoek op dit gebied.



## ACKNOWLEDGEMENTS

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First and foremost, I would like to thank Gert Jan van der Wilt for his support, having confidence in me, and guiding me through the thinking and writing process. His challenging questions and clear advice have helped me tremendously. I especially appreciate his support in the search for an analytical framework and the timely and constructive feedback he gave despite his numerous other engagements.

I am grateful to all the health workers, managers and community members who participated in the studies and who have helped me to better understand the difficult circumstances in which health workers have to work and the challenges they encounter on an everyday basis.

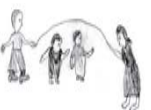
The studies in this thesis would not have been possible without the active collaboration of my colleagues from partner institutes in Mali, Uganda, Vietnam and Zambia. Special thanks go to the Hanoi School of Public Health in Vietnam, in particular to Pham Viet Cuong, Le Vu Anh and the members of the research team. I thank the Churches Health Association in Zambia (CHAZ) and especially Simon Mphuka, who sadly passed away in 2008. Thanks also go to Godfrey Biemba, Karen Sichinga-Sichali and Dagmar Sissolak who worked at CHAZ at the time of our Zambian study and who was a driving force. Thanks to the Health Sciences Department of the Uganda Martyr's University, and in particular to Everd Maniple, Vincent Bwete, John Odaga and Grace Namaganda; to our Malian colleagues of the Ministry of Health, to Drissa Diallo, and to our local colleagues at the time of the study, Youssouf Konaté and Hamadassalia Touré.

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The visual lay out of this thesis has been conceived by my partner, Glen Christian. I am very grateful for his creative ideas, his support in the realization of the drawings and his suggestions on improvements of the thesis lay out. I deeply appreciate his support and patience during the entire writing process.



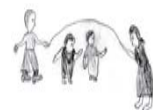
The illustrations used in this thesis show how a number of children between 6- 12 years of age in Low and Middle Income Countries perceive illness and health. Thanks go to the children who contributed and to the people who facilitated in the obtaining of these illustrations: Thea Hilhorst (Mali), Everd Maniple (Uganda), Grace Namaganda (Uganda), Caroline Roberts-Quast (South Africa), Ninon van Eer (Surinam), Nguyen Chien Thang (Vietnam) and Ria Veltman (Zambia).

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On November 20 1961, Maria Areke (Marjolein) Dieleman was born in Kerkwijk in the Netherlands. She spent her youth in Vught, where in 1980 she completed her secondary education at the Maurick College. In 1985, she obtained from the University of Limburg in Maastricht her Master's degree in Health Sciences, with a specialization in Health Promotion. After graduation, she worked for one year in Zimbabwe as a volunteer for the Zimbabwean Red Cross and for the Community Medicine department of the University of Zimbabwe. From 1988- 1990, Marjolein was head of the department of Health Education and Public Relations of the Regional Cancer Center (Integraal Kanker Centrum West) in Leiden.

In 1990 she made a career shift and started to work in low income countries. From 1990 until 1996 she worked for a company called IWACO in water- and sanitation programs in South-Darfur (Sudan), Bujumbura (Burundi) and Boucle du Mouhoun (Burkina Faso) respectively. In these programs she developed activities in community development, health promotion and capacity building of partner institutes. In 1997, she obtained her Master's degree in Public Health from the International Course in Health Development (ICHHD) at the Royal Tropical Institute (KIT) in Amsterdam. From 1997-1999 Marjolein worked as a public health and community development specialist in Shabwah, Yemen.

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