

Improving health worker performance: *in search of promising practices*

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Abbreviations

ARV	antiretroviral
GAVI	Global Alliance for Vaccines and Immunization
HIC	high-income country
HIV	human immunodeficiency virus
HIPC	heavily indebted poor countries
HMIS	health management information system
HR	human resources
HRD	human resources development
HRH	human resources for health
HRM	human resources management
ILO	International Labour Organization
IMF	International Monetary Fund
JLI	Joint Learning Initiative
LIC	low-income country
MDG	Millennium Development Goals
MoH	ministry of health
OECD	Organisation for Economic Co-operation and Development
PI	performance improvement
QA	quality assurance
WHO	World Health Organization
UNDP	United Nations Development Programme

Summary of lessons learnt

Background to the consultancy

Qualified and motivated human resources (HR) are essential for adequate health service provision, but HR shortages have now reached critical levels in many resource-poor settings, especially in rural areas. Strategies improving performance are essential to address shortages of the existing workforce. In this report, performance is considered to be a combination of staff being available (retained and present) and staff being competent, productive and responsive (WHO, 2006). Approaches that are evidence-based will inform policy-makers as to which interventions are successful, under which circumstances, and for what groups of staff (Buchan, 2002), but little has been published on what works and what does not. This report was commissioned by WHO as a follow-up to the World health report 2006: Working together for health, to describe experiences and to provide lessons learnt with respect to interventions to retain staff and improve their productivity, competence and responsiveness. It is primarily written for health policy-makers, planners and managers in resource-poor settings.

Methodology

A desk study was performed of published and grey material. Literature was searched by means of the databases of PubMed, Medline, Cochrane reviews and electronic journals, over the period 1996–2006. Relevant web sites were also consulted, such as those of international organizations and institutes involved in research or interventions in performance. Approximately 500 persons with HR experience were contacted.

Initial findings

Poor performance is a result of health staff not being sufficient in numbers, or not providing care according to standards, and not being responsive to the needs of the community and patients.

Various factors influencing staff retention and mobility can be distinguished:

- personal and lifestyle-related factors, including living circumstances;
- work-related factors, related to preparation for work during pre-service education;
- health-system related factors, such as human resources policy and planning;
- job satisfaction, influenced by health facility factors, such as financial considerations, working conditions, management capacity and styles, professional advancement and safety at work.

There is a wide range of reasons why health workers leave their jobs, and financial reasons are often not the only (or the main) reasons. Factors are also likely to be interrelated and their influence on health providers depends on the political, socioeconomic and cultural environment.

As causes for retention are likely to be rooted in both personal and work-related factors, strategies must address these multiple causes simultaneously. Interventions can take place at the macro or health-system level, such as HR policy and planning, rural recruitment and training and bonding. They can also take place at micro or facility level, aimed at improving job satisfaction by addressing working conditions, providing incentives and offering professional development. Interventions can also aim to improve the living conditions of individual workers, or address the needs of specific groups. The report includes case studies describing the experience gained in adopting these different strategies.

When staff members available, their performance is determined by productivity, responsiveness and competence. These elements are influenced by absenteeism, motivation and job satisfaction, obtaining knowledge, skills and attitudes, accountability systems and working conditions, which in turn are all interrelated. Strategies to improve productivity, responsiveness and competences can be implemented at various levels.

At macro or health-system level, certain strategies within health sector reforms can be successful, such as changes in payment systems, decentralization, community participation and accountability mechanisms. At micro or facility level, tested strategies include quality assurance and performance-improvement interventions and activities in human resources management, such as performance-based incentives, supportive supervision, training and improving leadership and management.

Interventions to improve productivity, responsiveness and competences can also address the living conditions of health workers in rural areas or the needs of specific groups, such as female health workers or workers in specific age groups. Cases at various levels, and addressing different issues, are all described in the report.

Results

As elements influencing performance are intricately related to each other, interventions must be comprehensive and multifaceted and must take place simultaneously and at different levels of the health system. While experiments have taken place using different types of interventions to improve performance of health workers, substantive evidence of their effectiveness is still limited. Nevertheless, a number of lessons can be learnt from the cases described in this report.

Key issues and lessons learnt

The case studies show that successful interventions require strong government support and involvement, and commitment by all stakeholders. Adequate financial resources are also crucial. Moreover, monitoring and evaluation must be improved, and must include a systematic cost analysis. Involvement by health workers in developing and implementing interventions is important for success. The case studies on retention show that retention strategies need to be multifaceted, addressing preparation for rural practice during pre-service training, targeting people with a rural background for recruitment and providing professional and community support for rural health workers.

The case studies aimed at improving productivity, responsiveness and competences of health workers suggest that strategies need to include certain elements in order to succeed better, such as ensuring autonomy over resources at lower levels, linking quality assurance or performance improvement interventions to facility-wide human resources management, and developing accountability systems in order to hold health workers and managers responsible for their performance. In addition, policy-makers and planners need to realize the limitations and limited effectiveness of training and providing financial incentives.

There is a dearth of information on the effectiveness of strategies. More research and documented experiences are required for all interventions concerning retention and improvement of productivity, responsiveness and competences, and a database of promising practices should be created. Efforts should be made to develop internationally agreed indicators and a framework for monitoring and evaluation to allow comparison.

Relevant reports consulted

Some 110 documents were consulted in the preparation of this report.

Introduction

Since the start of the Joint Learning Initiative (JLI), in 2003, the human resources crisis in low-income countries (LICs) has received global attention, particularly the crisis in sub-Saharan Africa. In some countries less than 50% of the required staff is available to serve rural populations, while at times care is provided by non-qualified staff (WHO, 2006; Hongoro & Normand, 2006). This situation seriously compromises the health status of the communities, particularly the poor.

Although there is no conclusive evidence concerning the relationship between health outcomes and the number of human resources (HR) available for health care, it is clear that qualified and motivated human resources are essential for adequate health service provision, but also that HR shortages have now reached critical levels in certain areas. The *World health report 2006* has given another important boost to the global agenda of human resources for health (HRH).

Finally, at all levels, policy-makers and planners are starting to realize that attaining the Millennium Development Goals (MDG) is simply not possible if the HR crisis is not more effectively addressed, despite the increase in financing for health care through debt release and specific programmes such as GAVI (Global Alliance for Vaccines and Immunization) and the Global Fund (Global Fund to Fight AIDS, Tuberculosis and Malaria). Global attention is moving towards two important aspects to address the HRH crisis:

- addressing the retention of health workers through ethical recruitment by high-income countries (HICs), as well as developing, implementing and evaluating retention strategies in low-income countries (LICs)
- ensuring that available workers are actually at work and are performing well to provide quality of care.

One of the key elements to success in staff retention and improvement in performance is to develop approaches that are evidence-based, to inform policy-makers as to which interventions are successful under which circumstances and for which groups of staff (Buchan, 2002). However, as mentioned by other authors (Dussault & Franceschini, 2006; Lehmann et al., 2005; Rowe et al., 2005 and others) little has been written on what works and what does not. This report therefore intends to contribute to lessons learnt in the field of retention and performance improvement of health workers¹ and is primarily written for health policy-makers, planners and managers in low-income countries. More specifically, this report describes experiences on the use of specific interventions to:

- retain health workers in underserved areas (in both developed and developing countries);
- improve performance of available health workers deployed in low-income countries, and their effect.

A desk study of published and grey material was performed first, as included in the terms of reference presented in Annex 1.

Performance and retention have their own importance at different levels of the system:

- For health policy-makers and planners at national level, sufficient and qualified staff is a better guarantee of achieving a well-functioning health system to contribute to improved health outcomes.
- At facility level, both public and private, managers aim to have qualified and motivated staff in order to achieve their goals (financial or otherwise) and to increase use of services.
- Individual health workers look for work circumstances that best match their personal and family conditions/ motives.

While this report describes experiences at these different levels, it does not provide a comprehensive picture of all strategies available. It aims to provide a number of lessons learnt for policy-makers and

¹ Health workers in this report are defined as professionally trained categories, such as doctors, nurses, clinical officers, midwives, laboratory technicians, etc.

planners by describing a variety of case studies in more detail. The topic of this report is vast and complicated, and another limitation is that the interventions to improve performance or retention differed in research design or were not well documented, which makes it difficult to compare cases or to assess the value of the intervention (see also Rowe et al., 2005).

Search methodology

Literature was searched by means of the databases of PubMed, Medline and the Cochrane reviews and electronic journals over a 10-year period (1996–2006). Other relevant web sites were also consulted, such as those of the ILO, WHO, UNDP and World Bank, plus those of various organizations involved in research or interventions in retention and performance, such as Equinet, Prime, PHRplus, DFID resources centre, etc. Grey literature was retrieved via Internet searches, and approximately 500 persons with HR experience were contacted. Nonetheless, this report is not a systematic review.

Organization of this report

Part one introduces the concept of performance² and describes the main elements influencing staff performance, its main determinants and potential strategies to address these. It includes a discussion on what generic principles should be examined, with conclusions and recommendations for health policy-makers, planners and managers.

Part two consists of case studies that provide lessons learnt. Only a limited number of cases describe experiences with efforts to improve retention, productivity, responsiveness and competence in sufficient detail that these can provide lessons to others. Of these, case studies were selected on the basis of their variety in strategies used, geographical location and level of intervention. Lessons learnt have been summarized for each case.

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² Performance is defined as staff being available (retained and present), productive, responsive and competent (WHO, 2006).

Part 1. Factors influencing performance of health workers and strategies for improvement

Performance of health workers: introduction

Framework to address performance

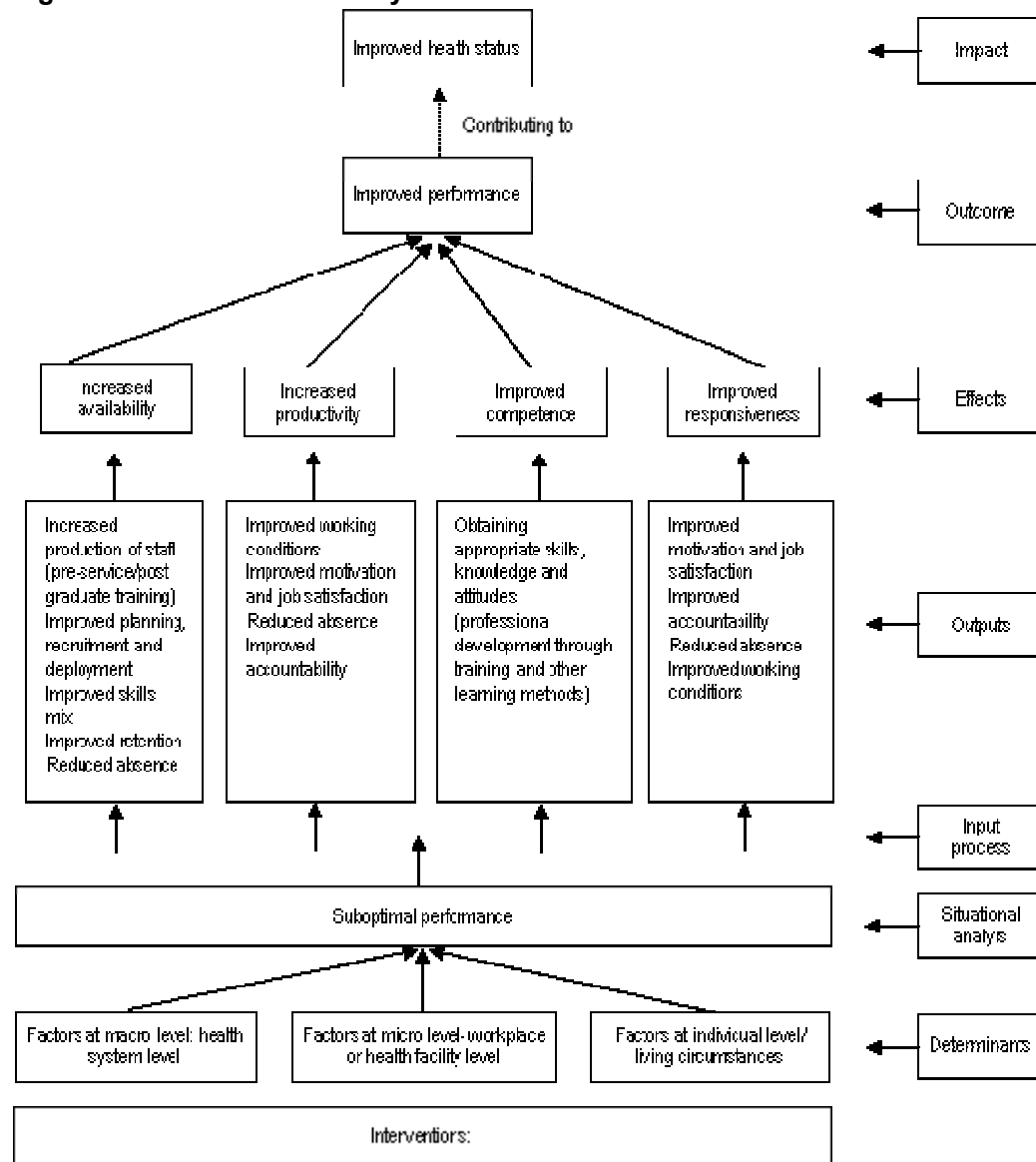
Poor performance³ of service providers leads to inaccessibility of care and inappropriate care, which thus contribute to reduced health outcomes as people are not using services or are mistreated due to harmful practices. The final report of the Joint Learning Initiative clearly outlines the importance of the workforce in performing services by stating that health workers' number, quality and type of professionalism determine output and productivity, that they manage the other resources, that a large part of the health budget is spent on health workers and that they greatly influence progress (JLI, 2004). A number of articles and documents have reported problems relating to service provision due to poor performance of health workers (including JLI, 2004; WHO, 2006; Van Lerberghe et al., 2003; Rowe et al., 2005; Garcia-Prado & Chawla, 2006).

Poor performance results from too few staff, or from staff not providing care according to standards and not being responsive to the needs of the community and patients. As Hughes et al. state: "Most performance problems can be attributed to unclear expectations, skills deficit, resource or equipment shortages or a lack of motivation" (Hughes et al., 2002). These causes are rooted in a failing health system, low salaries, difficult working and living conditions and inappropriate training.

This report considers performance to be a combination of staff being available, competent, productive and responsive (WHO, 2006). In order to address this complicated field, the authors designed a framework that simplifies the concept of performance (see Figure 1) and fosters further analysis. It allows the matter to be dealt with more easily, although the authors realize that this simplification also undervalues the complexity of interrelations between factors that exist in reality.

³ Performing service providers are defined according to the WHO definition in the *World health report 2006*: a well-performing workforce is a workforce that "works in ways that are responsive, fair and efficient to achieve the best health outcomes possible, given the available resources and circumstances" (WHO, 2006).

Figure 1. Framework for analysis



This framework was designed using a systemic approach to health worker performance: situational analysis, intervention (input/process), outputs, effects, outcome and impact.

The framework shows that determinants of health workers' behaviour (in the workplace) are rooted in factors relating to:

- macro level, or the overall health system, such as resources allocation, planning and deployment of health workers, current regulatory framework, communication and decision-making processes, and accountability mechanisms. These can be influenced by policy-makers and planners in the health sector, as well as other stakeholders at national level, such as the ministry of finance, ministry of education, professional associations, civil society groups and funding agencies (*health systems level*).

- micro level, or the workplace itself (district or facility, etc.), such as availability of equipment, drugs and supplies, teamwork and human resources management activities. In principle these can be influenced by local managers, colleagues, patients and other local partners (*health facility level*)⁴.
- individual characteristics and living circumstances, such as living in conflict areas or being a woman or a newly graduated professional. These require specific group strategies and can be developed locally by managers or nationally by policy-makers and planners together with other stakeholders (*individual level*).

Interventions are designed based on an analysis of the determinants that influence health workers' performance. Implementation of these interventions (inputs and process) provides outputs (expected results) in terms of improved working conditions, improved motivation, improved staff retention, etc. These, in turn, result in the effects of the intervention in terms of measurable improvements on availability, productivity, competence and/or responsiveness of health workers. The effects positively influence performance, i.e. the outcome of the intervention, for which the intervention is not totally accountable. Improved performance in turn contributes to improved health status.

There is no linear relationship between determinants and outputs, between outputs and effects, and between effects and outcomes. Health worker performance is a complex issue to address, as a variety of determinants influence staff behaviour at different levels. Various authors have regrouped the determinants (Rowe et al., 2005; Hongoro & Normand, 2006; WHO, 2006), suggesting four main areas:

- health worker characteristics (individual level)
- health system and facility characteristics (macro and micro levels)
- characteristics of the wider political and socioeconomic environment (contextual factors)
- community/population characteristics (contextual factors).

This report focuses on strategies implemented at individual, micro or macro level, but at the same time the authors make an effort to describe the contextual factors.

Determinants of poor performance can be influenced in a variety of ways, using various methods at different levels in the health system. The 2006 *World health report* describes three levers to influence workforce performance: job-related interventions that focus on individual occupations, support-system-related interventions and interventions that create an enabling environment and focus on managerial culture and organizational arrangements (WHO, 2006). Using these levers, a further refinement can be made (at micro, macro and individual levels), to link these interventions to the determinants of poor performance. This distinction allows policy-makers, planners and managers to select appropriate interventions to address the determinants identified at each level.

Understanding which contextual factors contributed to the success or failure of certain interventions will help to assess their applicability in other countries, or the chances of replicating these successes in other regions (Rowe et al., 2005). Chalker provides clear examples with respect to the application of one intervention in Thailand and in Viet Nam, with differing success rates due to the different contexts in which they were applied (Chalker et al., 2005). Where possible, the wider environment and the community characteristics are described when analysing interventions that influence staff performance.

In this report the analysis of staff availability is limited to exploring reasons for staff departure and staff absence, as well as strategies to retain staff. Other elements highlighted in the framework are beyond the scope of this assignment. Productivity, competence and responsiveness are addressed from a broader perspective by examining the various underlying elements.

⁴ The subdivision between health facility (micro level) and health system (macro level) is not always clear-cut, and depends on the roles and responsibilities at national and local levels (district, facility) in each specific context.

Indicators for performance

Monitoring and evaluating staff performance requires consensus on its components and indicators. According to the analytical framework applied here, the following levels can be distinguished, measurable by a number of indicators (WHO, 2006; Buchan, 2005; Hornby & Forte, 2002).

Table 1. Indicators for health worker performance

Factors	Examples of indicators
<i>Outcome</i>	
Performance	Composite of the four elements mentioned under effects. Improvement in these four elements indicate improved performance
<i>Effects</i>	
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
Competences	Prescribing practices Adherence to protocol during diagnosis and communication with patients
Responsiveness	Client satisfaction Readmission rates and cross-infections Case fatality rates Proactive quality service, e.g. decubitus ulcers
<i>Outputs</i>	
Retention	Vacancies, posts filled, duration in job
Absence	Attendance of health workers, overtime
Being held accountable	Level of responsiveness 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 Communication procedures Decision-making processes

Improved performance is assessed by looking at the availability of staff, as well as their competences, productivity and responsiveness. Indicators should be of a quantitative and qualitative nature. Monitoring and evaluation should also not be limited to indicators at the level of effects and outputs of interventions. It is equally important to monitor and evaluate the process of implementation and the financial and technical inputs, as both determine the success of an intervention. At all these levels, lessons can be learnt by health care policy-makers, planners and managers. Indicators and a framework for monitoring and evaluating HRD interventions are often not defined prior to interventions, and inadequate HR information systems make it extremely difficult to determine (retrospectively) the success of HR strategies. Monitoring and evaluation of HRH need more attention (WHO, 2006).

The remaining chapters of this report examine two issues according to the authors' terms of reference (Annex 1):

- staff retention and strategies to increase the number of staff remaining in their jobs. Availability of staff in terms of presence at work (as opposed to absence) is dealt with when discussing factors and strategies relating to staff performance.
- staff performance in terms of productivity, responsiveness, competences and strategies to address these factors by reducing absence and improving accountability, skills and knowledge, motivation, job satisfaction and working conditions.

Retention

Introduction

Staff shortages limit accessibility to health services and programmes, which in turn affect health outcomes. This section identifies factors that influence staff shortage and retention⁵, based on the available literature⁶. Due to the limited documentation on retention in low-income countries (LICs), literature on high-income countries (HICs) has also been included to explore whether lessons could be learnt from experiences in them.

Retention of health workers, particularly in rural areas of LICs, is high on the agenda, due to the severe staff shortages that hamper the attainment of the MDGs. As there are fewer health workers in rural areas, loss of health workers in these areas will severely contribute to accessibility problems (Salafsky et al., 2005). Studies have shown that at hospital level, lower nurse-to-patient ratios lead to more complications and poorer patient outcomes (Aiken in Duffield & O'Brien-Pallas, 2003). In addition, staff shortages negatively affect the motivation of the remaining staff as they create increased workload, causing extra stress and the risk of more staff leaving or being absent from work.

Migration to HICs is currently having a significant effect on the staffing situation, particularly in sub-Saharan Africa. As HICs face an increasing demand for health care due to an ageing population, an ageing workforce and an increase in staff shortages (Buchan, 2002), more staff are required than are available locally, creating opportunities for health workers from LICs to migrate. Although various initiatives are under way to address recruitment by facilities in HICs, this trend will be difficult to change as long as the salaries offered in HICs are much higher than those in LICs, and working conditions and career opportunities are better. It is well known that migration to other countries stimulates internal migration from rural to urban areas, creating a "hierarchy of migration flows" (Padarath et al., 2003) and depleting remote rural areas of staff. Rural-to-urban migration also occurs in HICs, but they can better cope with the shortage as they have telemedicine or air services (Dussault & Franceschini, 2006).

Various theoretical models explain mobility of staff, briefly described by Lehmann et al. (2005) and Dussault & Franceschini (2006). Economic models are often used, such as the neoclassical wage theory, which states that workforce mobility is related mainly to labour market demand/supply issues and that workers move for financial and economic reasons. As finances are only one of the many factors influencing staff choices for practice location, behaviour models are also used.

The main behavioural models used to explain job satisfaction are based on Maslow and Herzberg, who explain workforce mobility by looking at the complex process of making decisions according to needs. They distinguish between work satisfiers and dissatisfiers. Studies have shown a clear relationship

⁵ Retention is defined in this report as "continued employment of skilled and productive staff" (Wells in Shen et al., 2004).

⁶ Text is based mostly on the papers from Lehmann et al. (2005), Dussault & Franceschini (2006) and Hongoro & Normand (2006).

between job satisfaction⁷ and retention (Lu et al., 2005). The equity theory or the theory of organizational justice (Hughes et al., 2002) is also used to explain job satisfaction.

Other publications explore workforce mobility by describing “push” and “pull” factors, with push factors being reasons to leave a certain workplace and pull factors being reasons to move to a certain location (among others, Padarath et al., 2003; Zurn et al., 2004). Examples of push factors include low salaries, difficult working and living conditions and limited career opportunities, while examples of pull factors include higher remuneration, improved living conditions, a better working environment (WHO, 2006; various authors cited in Buchan et al., 2005).

Annex 2 briefly explains the various theories based on behaviour and job satisfaction.

Main elements influencing staff retention

As mentioned above, various factors can influence staff retention and limit staff mobility. Combining the categories proposed by Lehmann et al. (2005) and Dussault & Franceschini (2006), the following factors can be distinguished:

- personal and lifestyle-related factors, including living circumstances, e.g. living in conflict areas, areas with a poor infrastructure or with high AIDS levels
- work-related factors:
 1. relating to preparation for work during pre-service education, such as medical education for rural areas;
 2. relating to health systems, such as human resources policy and planning;
 3. job satisfaction, influenced by health facility factors, such as financial considerations, working conditions, management capacity and styles, professional advancement and safety at work.

The influence of these factors on health providers depends on the overall context: the political, socioeconomic and cultural environment.

The main conclusion by Lehmann et al. (2005) and Dussault & Franceschini (2006) is that health workers leave for many reasons and that financial reasons are often neither the only, or main, reasons. The aforementioned factors are also likely to be interrelated. For instance, poor and remote areas often lack infrastructure such as roads, schools and electricity, which has an impact on personal decisions to leave such locations, whereas health care facilities in these areas often are poorly managed and lack equipment and supplies, which then has an impact on work-related factors for departure. There is considerable literature available on the reasons for departure, but it focuses mainly on high-income countries.

Personal and lifestyle-related factors

Examples of individual factors are personal background, values and beliefs and gender-related factors, to name but a few. Lehmann et al. (2005) conclude that the evidence on leaving due to a personal situation is inconclusive and comes mainly from high-income settings. The authors report some studies showing that family reasons (children and spouse) certainly influence decisions, but more so for women than for men. Other influencing factors mentioned were lack of housing and health care services (Lehmann et al., 2005). Having a rural background seems important when it comes to workers’ being willing to work in rural areas (British Columbia Medical Association in Dussault & Franceschini, 2006; Brooks and others in Lehmann et al., 2005).

⁷ Job satisfaction is defined as “the affective orientation that an employee has towards his or her work” (Price (2001) cited in Lu et al., 2005).

Female professional workers have specific needs to be able to work, particularly due to security at work, their traditional role as family caretaker and their reproductive role (Mumtaz et al., 2003; Standing & Baume, 2003). Because women form a large part of the workforce in most countries, their needs must be understood and translated into workplace policies in order to better address staffing needs in rural areas, particularly in those places where women are not allowed to consult male providers on their health concerns (Dussault & Franceschini, 2006).

Individual factors may vary according to a person's life cycle and career stage, and these changing needs must be taken into consideration when developing retention strategies. A number of studies in HICs have tried to map these needs in different life cycles in order to develop strategies to attract and retain staff (for instance Shields & Ward, 2001). Reid (2004) demonstrated that in South Africa financial incentives were perceived as being more important to experienced professionals in rural areas, whereas younger professionals considered educational opportunities to be more important.

- Individual needs change during a person's life cycle.
- Needs are often not identified by managers according to age or gender.
- People with a rural background seem more willing to work in rural areas.

Work-related factors

Preparation for employment

Pre-service training can have an impact when selecting a practice location after graduation. Many medical pre-service training courses are curative-oriented and urban-based. Students will often feel more comfortable starting their career in urban areas or in secondary or tertiary facilities, as these are where they have been prepared for their jobs. School location is also an influencing factor, as schools in rural areas are able to offer rural practice, thus better preparing and possibly motivating students to opt for practice in rural areas upon graduation (Dussault & Franceschini, 2006; Brooks in Lehmann et al., 2005).

Health systems-related factors

Various system-related factors have an indirect impact on staff retention, as they contribute to staff shortages and increased workload for existing staff. For instance, inappropriate policy and planning at national level lead to delays and limitations in recruitment and deployment of staff, and inadequate staffing deployment policies lead to the bad distribution of staff, leaving rural areas depleted (Dussault & Franceschini, 2006; Buchan, 2002; Hongoro & Normand, 2006). Other factors include inadequate information systems, which lead to ghost workers occupying posts (Dovlo, 2005), and a lack of coordination with the educational sector, leading to a mismatch between numbers produced and numbers required, as well as the trained skills and skills required (Buchan, 2002). Lastly, when posts in rural areas are perceived as punishments and rural posts are not made attractive, staff members are likely to ask for transfers or simply to refuse postings in rural areas.

Job satisfaction

Substantial research has been conducted on factors that influence job satisfaction in high-income countries and has shown a clear link between job satisfaction and the intention to leave a post. Financial benefits are an important factor, particularly in settings where salaries are extremely low, but they are not the only reason (Hongoro & Normand, 2006; Dussault & Franceschini, 2006). Evidence on the impact of financial benefits is inconclusive (Lehmann et al., 2005). Organizational and professional support, control over medical practice and working life, career opportunities and professional development have proven to be even more important, at least in rich countries (Joyce et al., 2003; Shields & Ward, 2001; Aiken et al., 2002; Lynn & Redman, 2005; Duffield & O'Brien-Pallas, 2003; Shen et al., 2004). Lu et al. (2005)

summarized the following factors that influence job satisfaction: physical working conditions, relationships with fellow workers and managers, pay, promotion, job security, responsibility, recognition from managers and hours of work. The authors acknowledge that while determinants for job satisfaction might be similar across countries, sociocultural and labour-market issues will influence priorities in these factors among service providers.

It is not clear whether findings from studies in HICs can also be applied to health workers in LICs, as wage levels and working conditions differ substantially between LICs and HICs. Health workers from LICs receive an income that is often insufficient to pay basic living costs (Zurn et al., 2005). However, limited research on factors relating to job satisfaction has been conducted in LICs⁸. These studies confirm the factors identified in the literature in HICs, although factors differ in priority depending on the context. Additionally, with the advent of AIDS, working conditions and safety at work have become very important to staff, as Lehmann et al. (2005) report from various studies.

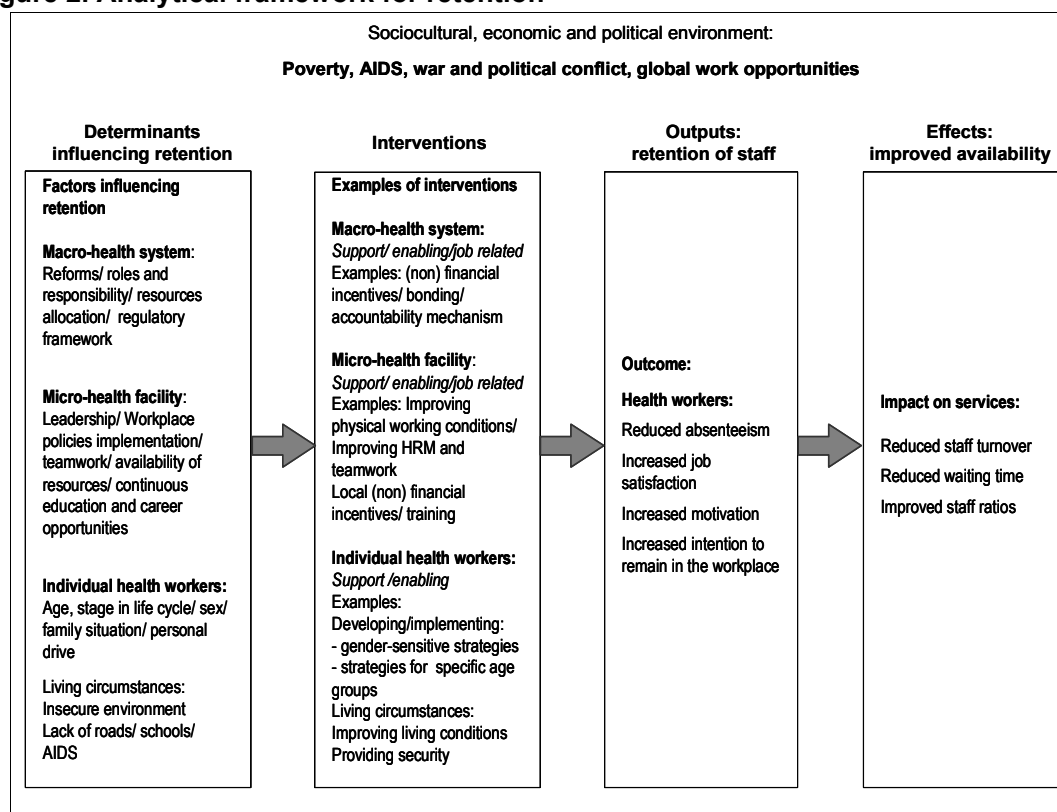
- The choice of work location after graduation is influenced by pre-service training experiences.
- Inappropriate planning and deployment of staff negatively affect staff retention.
- People who are not satisfied with their job are more likely to leave.
- Job satisfaction is caused by working conditions, organizational and management support, teamwork, communication and autonomy over work.
- Unsafe working conditions in situations with a high HIV/AIDS prevalence negatively influence job satisfaction.

Strategies to influence retention

As factors for retention are likely to be rooted in both personal and work-related factors, retention strategies must address these multiple causes simultaneously. Examples of retention strategies include good governance of the health system, recruitment of students from rural areas, continuing education, bonding and compulsory service and the provision of incentives (JLI, 2004). In their literature study Lehmann et al. (2005) show the dearth of information on retention strategies in rural areas of LICs. Most initiatives that have been described are related to providing financial incentives. Additionally, the reviews of Lehmann et al. and Dussault & Franceschini indicate that there is often no clear link between a local problem analysis into the causes of departure and the actual strategies to retain personnel. Strategies appear to be implemented in isolation, and managers are reactive rather than proactive. Figure 2 visualizes an analytical framework developed to investigate documented experiences with staff retention strategies. This framework is based on Figure 1.

⁸ (Arafa et al., 2003; Ndiwane, 2000; Buciuniene et al., 2005; Khuwaja et al., 2004; Douglas et al., 1996; Garcia-Pena et al., 2000).

Figure 2. Analytical framework for retention



The determinants for voluntary departure are regrouped according to the categories adapted from Lehmann et al. and Dussault & Franceschini and as explained in Figure 1. These can be addressed in several ways and at various levels, according to Figure 1 (macro level, micro level, and individual health worker level). The table below provides an overview of the various possibilities. This section briefly describes these possibilities and refers to case studies (in Part 2) that have experimented with some of the interventions mentioned in the table.

Table 2. Interventions to improve retention

Level	Interventions
Macro level: Health system	<i>Support system/enabling/job-related</i> Planning, deployment and use of skills mix Recruitment from rural areas Adapting curricula and training to rural areas Non-financial and financial incentives/ bonding system
Micro level: Health facility	<i>Support system/enabling/job related</i> Improving job satisfaction: Improving physical working conditions Improving HRM and teamwork Providing local financial and non-financial incentives Offering opportunities for professional advancement
Individual level: Health workers	<i>Support system/ enabling</i> Improving living conditions Providing security Developing/implementing: Gender-sensitive strategies Strategies aimed at specific age groups

Strategies at macro level: health system

Improved planning, deployment and use of staff

Improved planning, deployment and use of health workers can reduce stress among health workers, thus contributing to improved retention. This requires capacity at national level, a regulatory framework and collaboration with donors: not an easy environment to establish. Case study 1 in Part 2 describes an effort made in Malawi, where both donors and the government have committed themselves to an integrated plan to address the human resource crises (Palmer, 2006).

- Government and donors need to jointly analyse problems of the health system and set common health goals; staffing problems should be addressed within a broader health system improvement programme.
- Institutional capacity needs to be addressed in order to ensure effective addressing of HR problems.
- Donors should be willing to commit themselves to long-term funding and to assist in financing increases in staff payments through a joint plan and pooled funding.

Rural recruitment and education

Lehmann et al. (2005) and Dussault & Franceschini (2006) report on the potential of targeted recruitment strategies for rural students in Cuba, South Africa, Thailand and the United States of America, although these must be accompanied by rural education. Positive experiences with intentions to take up rural posts upon graduation, due to rural recruitment and rural education, were gained in Australia (Veitch et al., 2006) and in the United States of America (Salafsky et al., 2005). However, improving intention and interest to work in rural areas does not automatically lead to taking up a post in these areas (Eley & Baker, 2006). Apart from gaining experience in rural areas during pre-service training, interest in working in rural areas can be enhanced by obliging students to perform compulsory service upon graduation. An example of compulsory service in South Africa is described in Part 2, case study 2 (Reid & Conco, 1999).

- Experience of health care practice in rural areas during medical education has a positive influence on the choice of practice location.
- The medical curriculum must include rural health issues to create interest in, understanding of and knowledge/skills regarding rural health issues.
- Obligatory community service for health professionals contributes to increased access to health services in (both rural and urban) underserved areas and can positively contribute to the choice of practice location.

Offering incentives

Rewarding staff who take up posts in remote areas will make it more attractive to accept and remain at rural posts. Incentives⁹ to recruit and retain staff should be both non-financial and financial, and these can vary by type of institution. Reactions to incentives will depend on the context and the health worker's career stage (Hongoro & Normand, 2006). For instance, incentives can have adverse outcomes if they are not applied equally to comparable professionals or if they are perceived as insufficient (Kingma, 2003). Various experiences have been gained with providing financial incentives. In LICs this focuses mainly on the payment of top-up salaries and extra allowances for postings in remote locations, such as in Indonesia, Jamaica, the Philippines, South Africa, Thailand and Zambia (Lehmann et al., 2005; Dussault & Franceschini, 2006; Yumkella, 2005). In Part 2, case study 3 provides an example from Zambia, where a retention scheme was implemented for physicians (Koot & Martineau, 2005).

Financial incentives are successful in the short term, according to Reid (2004) and Sempowski (2004), and for recruiting personnel (Mantler et al., 2006; Sempowski, 2004).

- Financial incentives can contribute to retention of health workers.
- To be sustainable, these schemes must be complemented by improved working conditions and human resources management.

⁹ Incentives are all the rewards and punishments that providers face as a consequence of the organizations in which they work, the institutions under which they operate and the specific interventions they provide (WHO, 2000).

Strategies at micro-level health facility: improving job satisfaction

According to a literature review by Shen et al. (2004), the following factors affect retention: a fair salary (compared to that of peers), benefit packages composed of financial and non-financial incentives, flexibility in working time, career development and working environment, including teamwork and relationships with managers. However, evidence of these factors is not sufficient to be conclusive and factors are interrelated.

Some examples of efforts (other than incentives) to retain staff gained in HICs focus on support at work and in the community, as well as staff participation in decision-making processes. An important aspect for retention, according to various research studies, is a supportive manager, as he/she may be able to reduce the negative effects of a poor working environment (Kingma, 2003). Support can also be offered through peers, such as a nursing mentorship programme, in which newly graduated nurses are linked to experienced peers (Green & Puetzer, 2002).

Some hospitals in the United States of America (the so-called “magnet” hospitals) have succeeded in retaining staff by having a participatory decision-making management style, offering continuous education and professional development and by providing flexible working opportunities (Aiken in Buchan, 2002). An example of participatory decision-making is provided by Collette (2004), who describes how a team of nurses were successful in improving staff retention in a hospital in Australia. This is described in Part 2, case study 4.

Efforts to improve job satisfaction are closely related to efforts to improve productivity, competence and responsiveness; examples are given.

Long-term retention requires multifaceted programmes, addressing finances, rural practice preparation during study and professional and community support in practice. Case study 5 (in Part 2) describes an example of a comprehensive approach used in Australia (Schoo et al., 2005).

- Staff shortages in rural areas need to be addressed by means of a comprehensive recruitment and retention strategy:
 - Strategies must be aimed at students during their pre-service training and at the start of their career.
 - Strategies also must address experienced professionals by offering professional support.
 - Health professionals need support and respect from the local communities. This can be created by community involvement in projects.
- Staff involvement in developing and implementing retention strategies contributes to success.

Strategies at individual level: health workers

Although living conditions are generally considered to have an impact on staff retention, little has so far been published on strategies to improve living conditions and their effects on retention (Lehmann et al., 2005). LICs have also not documented their experience with retention strategies aimed at specific age groups or gender-specific strategies. Part 2, case study 6, describes an experience with respect to improving living conditions in rural Kenya, where a Methodist hospital managed to influence staff retention by supporting a credit union that was owned and run by hospital staff (Aukerman, 2006).

- More experience must be gained in improving living conditions to influence staff retention and in developing and implementing gender- or age-specific retention strategies.
- Credit unions can assist staff in improving their living conditions, thus contributing to retention.

Productivity, competence and responsiveness

Introduction

In the past, staff performance was often perceived as a function of skills and knowledge. In recent years, it has been recognized that performance is influenced by additional factors (WHO, 2006). If staff members are to perform to their full capacity, it is not only staffing issues that must be addressed, but also systems and facility issues. The performance of health workers depends not only on their competence (knowledge, skills) but also on their availability (retention and presence), their motivation and job satisfaction, as well as the availability of infrastructure, equipment and support systems, such as the management, information systems, resources and accountability systems that are in place (Zurn et al., 2005).

It is evident that poor health systems, with a lack of equipment, supplies and poor management structures, lead to poor productivity, limited competences and poor responsiveness. The root causes that result in suboptimal performance in these areas consist of a complex set of factors, which are interrelated. For instance, low salaries can lead to increased absence to earn extra income and also to decreased motivation to be willing to provide quality of care. At the same time, motivation is influenced by a lack of equipment, supplies, management support and supervision. Due to the vastness of this area, literature research has been limited to LICs.

There is an abundance of theories explaining behaviour and practices of (health) workers, often based on labour-market models, on psychological theories about job satisfaction and motivation, or a combination of these. Annex 2 provides an overview of the theories relating to performance of staff, motivation and job satisfaction. Although these theories provide guidance to health managers as to what to expect when implementing certain interventions (such as salary increases, performance-related pay or improved supervision), there is less evidence of the extent to which these theories predict the practices and behaviour of health workers.

Main elements influencing productivity, competence and responsiveness

In this report, availability, productivity, responsiveness and competences are identified as elements that determine staff performance, as visualized in the analytical framework of Figure 1. These four elements are influenced by retention, absence, motivation and job satisfaction, obtaining knowledge, skills and attitudes, accountability and working conditions, all interrelated. This chapter explores these main elements in more detail, with the exception of retention, which was discussed in the previous chapter.

Absenteeism¹⁰

Absenteeism by health providers is a frequently occurring phenomenon in many health facilities, especially in resource-poor areas. Reasons for absenteeism may include income-generating opportunities elsewhere or personal problems. An important factor contributing to absence is the effects of HIV/AIDS on the health workforce (see for instance Aitken & Kemp, 2003).

- Absenteeism occurs because of income-generating activities and AIDS or other personal problems.

Obtaining skills, knowledge and attitudes

Inadequate knowledge, skills and inappropriate attitudes can all form obstacles to good health care. Advances in insights into treatment and diagnosis, as well as changes in roles and responsibilities, require continuous professional development among health workers. In fact, a lifelong learning process must be developed at the start of a professional career in the health sector (WHO, 2006).

¹⁰ Absenteeism is understood here as habitual absence from work.

The method most frequently used to upgrade skills and knowledge in the health care sector in resource-poor settings is off-site training courses and seminars. As an intervention to improve practices of health providers these have not proven to be very effective (WHO, 2006; Rowe et al., 2005; Potter & Brough, 2004; Shahabudin, 2003). This can be due to a lack of problem analysis and training-needs assessment (Potter & Brough, 2004). It may also be related to the mismatch between training contents and skills required in the field, the choice of target group or training methods (Shahabudin, 2003; Mathauer & Imhoff, 2006; Morgan & Deutschmann, 2003). Apart from training subjects and methods, access to training opportunities among health workers also vary (Mathauer & Imhoff, 2006; Dieleman et al., 2006).

- Lack of competences occurs because of limited access to training and inadequate training methods, subject matter and target group.

Motivation and job satisfaction

Demotivation and dissatisfaction with work lead to poor attitudes on the part of providers towards their work and their patients, not using standard protocols for treatment or behaving rudely towards patients and stigmatizing patients.

Motivation

Motivation is defined as “an individual’s degree of willingness to exert and maintain an effort towards organizational goals” (Franco et al., 2002). Various studies¹¹ show that financial incentives, though important, are not the sole reason, and often not the main reason, for motivation. Other important motivating factors include recognition, appreciation and opportunities for career advancement. Research has shown that workers and their managers do not always perceive motivation in the same way (WHO, 1993; Smith, 1999).

Factors relating to demotivation include high workload, lack of equipment and supplies, and the lack of supervision and training opportunities. The following staff concerns emerged from the literature: stability of employment, salaries and working conditions, professional development opportunities, the introduction of health sector reforms, the lack of an adequate regulatory system, and inadequate human resources policies (Kolehmainen-Aitken, 2004; Lindelow and Serneels, 2006; Zurn et al., 2005).

Job satisfaction

Motivation and job satisfaction are two different things: when someone is satisfied with his or her job, he/she is not necessarily motivated to perform well. However, job satisfaction does influence motivation and is related to turnover and absenteeism. Factors influencing job satisfaction are described in the next section.

- Lack of motivation is not caused only by the lack of financial incentives, but also by factors such as appreciation and recognition.
- Motivation and job satisfaction are related.
- Job satisfaction influences turnover and absenteeism.
- Job satisfaction is influenced by working conditions, organizational and management support, teamwork, communication and autonomy over work.

Accountability

Health service providers (both public and private) might not adhere to standard guidelines for diagnosis, treatment and communication with patients, and may engage in harmful practices in consequence of a lack

¹¹ (Lindelow, 2006; Mathauer & Imhoff, 2006; Manongi et al., 2006; Dieleman et al., 2006; Franco et al., 2004; Dieleman et al., 2003; Stilwell, 2001; Alihonou et al., 1998).

of accountability mechanisms. Health worker/patient relationships can be severely disrupted as a result of health worker attitudes (Modiba et al., 2002; Wood & Jewkes, 2006).

Occurrence of inadequate behaviour towards patients is possible when staff members are not held personally responsible for their performance towards clients, managers or peers. Various reasons form a foundation for these practices, such as a lack of knowledge, equipment and supplies, economic incentives, lack of rules and regulations, a lack of supervision and follow-up, patient perspectives and characteristics, etc. (Chalker et al., 2000; Chakraborty & Frick, 2002; Nshuti et al., 2001).

Many staff in the public sector adopt a coping strategy to deal with the low income earned from their public-sector job. Examples include requesting informal payments, pilfering drugs, referrals to their own private service, or forms of mismanagement and corruption by health managers (McPake et al., 1999; Ferrinho et al., 2004; Homedes & Ugalde, 2005; Israr et al., 2000).

- Unethical behaviour, such as the illegal generation of financial income or non-adherence to protocols, can occur because of a lack of accountability mechanisms, but also because of heavy workloads or a lack of knowledge, skills and economic incentives.
- Holding staff accountable for their performance towards their clients, colleagues or managers might offer opportunities to improve performance.

Working conditions

Good performance by staff is enabled via a supportive working environment. This encompasses more than just having sufficient equipment and supplies. It also includes systems issues, such as decision-making and information-exchange processes, and capacity issues such as workload, support services and infrastructure (Potter & Brough, 2004).

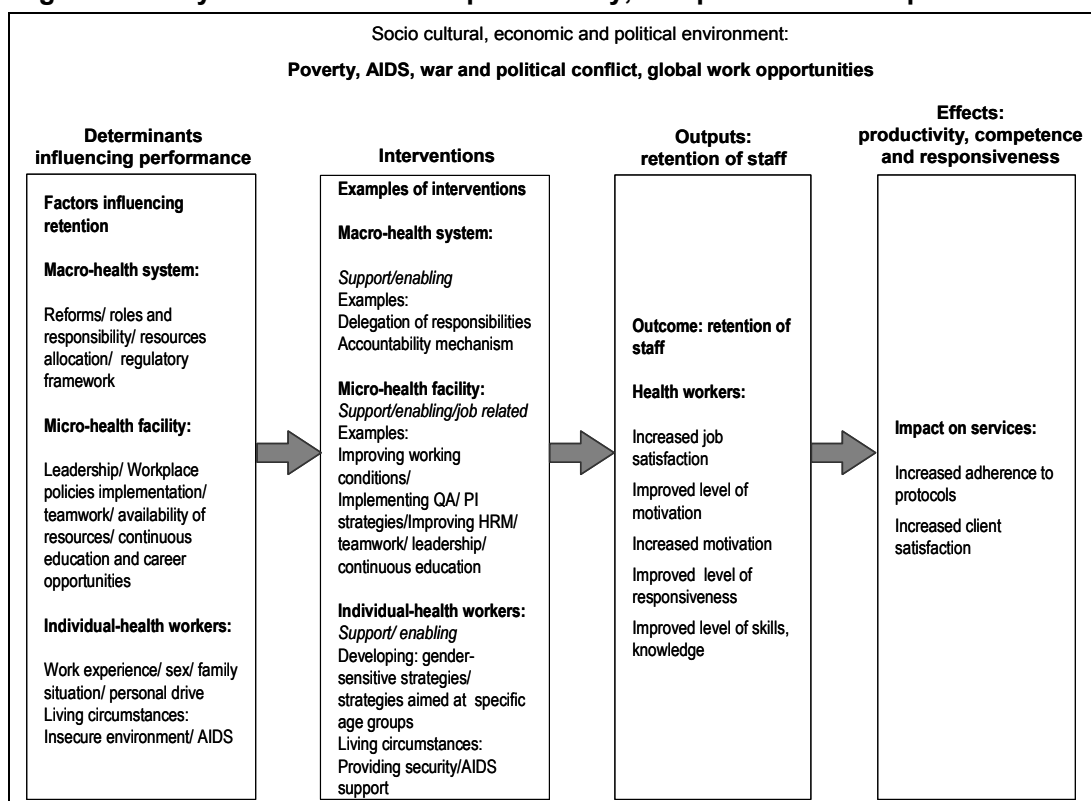
Protection from HIV/AIDS at work has become a very important issue in countries with a high HIV prevalence. A lack of protective measures increases fear of infection and limits quality of services due to stress and delegation of tasks to non-qualified staff (KIT/CHAZ, 2005; Dovlo, 2005). Although it is logical to link poor performance to poor working conditions, there is limited documentation showing how poor working conditions influence health provider productivity and responsiveness.

- Working conditions include equipment and supplies, infrastructure, support services, regulations at work and lines of authority and decision-making, all of which are important determinants for job satisfaction.

Strategies to influence productivity, competence and responsiveness

Various strategies have been developed to improve productivity, competence and responsiveness of health workers: these range from specific interventions (such as the provision of performance-related allowances) to more comprehensive approaches that combine aspects such as training, supervision and the provision of drugs and guidelines. Success depends not only on identifying and addressing root causes but also on the process of implementation. Although there was no conclusive evidence, single interventions often had limited success (Rowe et al., 2005). The following framework (Figure 3) has been developed to analyse improvements in productivity, competence and responsiveness. This framework is based on Figure 1.

Figure 3. Analytical framework for productivity, competence and responsiveness



The main causes of poor productivity, competence and responsiveness have been subdivided into three main areas that are relevant for policy-makers and managers. They address the level at which determinants influencing health worker behaviour occur (see Figure 1).

The table below provides an overview of various types of interventions (at different levels) that can be implemented to improve health-provider productivity, competence and responsiveness. The following paragraphs describe strategies at these levels and refer to Part 2 for specific case descriptions.

Table 3. Interventions to improve productivity, competences and responsiveness

Level	Interventions
Macro level: Health system	<i>Support/enabling:</i> Health-sector reforms: decentralization, privatization, restructuring finance and service provision, community participation and accountability mechanisms, codes of conduct, skill delegation, remuneration (salary levels and allowances)
Micro level: Health facility	<i>Support/enabling/job-related</i> Improving physical working conditions Leadership Remuneration (local allowances) Implementing quality assurance (QA) or performance improvement (PI) strategies Improving human resources management
Individual level: Health workers	<i>Support/enabling</i> Providing security/AIDS support Developing/implementing: Gender-sensitive strategies Strategies aimed at specific age groups Care and support to HIV-positive health workers

Strategies at macro level-health system: health-sector reforms

Clearly health sector reforms need to address the performance of health workers, due to its labour-intensive nature (Franco et al., 2002). In general, the major impact of health sector reform on the workforce is in terms of changes in working conditions, payment, labour relations, the demand for certain skills, and terms of employment (Wiskow, 2006).

These changes threaten job security and often result in unrest among health care providers (Homedes & Ugalde, 2005). This is compounded by poor management at local level due to changes in roles and functions, unclear lines of authority and a lack of managerial skills and knowledge among managers (Dussault & Dubois, 2003; Kolehmainen-Aitkin, 2004). The lack of involvement by providers in planning and implementation causes a decline in the quality of care and increased absenteeism (Wiskow, 2006; Rigoli & Dussault, 2003; Homedes & Ugalde, 2005; Kolehmainen-Aitken, 2004). It is beyond the scope of this report to discuss in detail the implications of the above, and this has already been done extensively elsewhere (Wiskow, 2006).

Positive experiences in staff performance have been gained during the implementation of health sector reforms by creating autonomy over resources at facility level, together with an accountability system, quality assurance mechanisms and financial incentives for good performance. These experiences show that these changes have a significant impact on productivity of services, which indirectly shows an increased productivity of staff. Staff involvement in change and adaptations in HRM, such as developing clear job descriptions, are important elements for success. In Part 2, two different examples demonstrate the importance of these elements: Kazakhstan (Abzalova et al., 1998), case study 7, and Cambodia (Barber et al., 2004), case study 8.

- Health-sector reform changes working conditions, payments, labour relations, skills requirements and terms of employment for staff, therefore HR must be included in planning and implementation of reforms, through participation and information.
- Changes in payment and organization of facilities, by creating autonomy and relating this to financial incentives, can lead to improved productivity.
- A quality assurance system and accountability mechanisms are required to improve the quality of care at facility level.
- These changes must be accompanied by adaptations in human resources management at facility level, such as developing specific job descriptions.
- These adaptations should be made in consultation with the entire staff.

Strategies at micro level: health facility

Implementing quality assurance and performance improvement

Quality management has been used as a strategy to improve the quality of services in an integrated way in various low-income countries. This approach aims to improve quality in facilities by focusing on teamwork, clients and systems, as well as processes and measurement (Bornstein, 2001). Quality can be evaluated by external evaluators and can lead to accreditation, licensure or certification of health care facilities or individuals (Rooney & van Ostenberg, 1999). Health care providers in LICs have only limited experience with such systems, for instance in Zambia (Bukonda et al., 2003). Other quality assurance (QA) strategies are internal processes, and use methods such as total quality management, management by results, quality improvement, quality cycles and quality audit (JLI, 2004; Martinez, 2001). Many interventions have been described in the grey literature¹², although published research on their (cost-) effectiveness or sustainability has not been conclusive (Rowe et al., 2005; WHO, 2006). The main

¹² See <http://www.qaprojects.org>

sustainability problems include the lack of integration into existing organizational systems and cultures and into the daily routine of health facilities (Franco et al., 2002).

Another approach that has been applied in a variety of settings is the performance improvement (PI) approach. PI aims to improve performance at the contact point between health workers and patients by addressing individual and system performance factors (Crigler et al., 2006). PI and QA are closely related, although performance improvement usually is led by a specialized practitioner and quality assurance is led by self-directed teams (Bornstein, 2001).

Quality assurance and performance improvement require skilled, motivated and well-performing staff (Martinez, 2001) and therefore these interventions consist largely of HRM practices. As they are based on local problem analysis and generation of solutions, these approaches offer opportunities to empower staff members because they gain control over their own work. Success is possible when this happens in an enabling environment, with committed management and strong leadership. Equally important are the skills and knowledge of staff members to work together, to analyse and act upon their own data and to have a facilitator to coach teams.

Case study 9 in Part 2 provides an example of a quality improvement intervention in Ecuador (Hermida & Robalino, 2002).

- Strengthening quality assurance or performance improvement initiatives contributes to improved health worker productivity, competence and responsiveness.
- Both have a large component of human resources management and must be linked to the HRM activities of a facility.
- These strategies should be integrated into the daily routine of the facility.
- Commitment from management, strong leadership and skills and knowledge to work in teams and to analyse own data are all elements required for success.

Improving human resources management

While crucial to the performance of an organization (Buchan, 2004), human resources management is a neglected aspect in the health policies and plans of many health sectors in low-income countries. Evidence of effective HRM strategies in the health sector is currently limited, especially in the public health sector in resource-poor countries.

Results from studies among private-sector firms revealed that there is no single set of HRM practices that will lead to effective performance, and that combinations of certain key practices are required. Examples of such HR practices include offering on-the-job training and work rotation to acquire skills, and a combination of performance-based incentives (extrinsic motivation) and participation in decision-making processes (intrinsic motivation) to obtain employee motivation (MacDuffie, 1995). In order to be successful, these practices need to be aligned with the strategy of the organization (MacDuffie, 1995).

Pfeffer (1998) demonstrated that increased profits, productivity and quality in private firms across various sectors could be achieved by management approaches aimed at obtaining high commitment from personnel. This meant that managers developed strategies that:

- allowed personnel to have more control over (and say in) their own work;
- enhanced skills and knowledge building and created opportunities to apply these skills and knowledge within the organization;
- delegated more responsibility to lower-level management.

He further stresses that HRM practices aimed at obtaining high commitment can be achieved only in an organizational culture that enhances trust and mutual respect (Pfeffer, 1998).

Most research on HRM relating to high performance in the health sector has been conducted in the United States of America and in Canada, mainly in the private health sector (Buchan, 2004). For instance, Kramer and Schmalenberg (2004) found that, in the United States of America, if a working environment contains those elements that nurses consider important, this leads to job satisfaction and increased productivity. They identified three elements that were most important: clinical autonomy, control over nursing practice and the relationship between nurses and physicians.

Appropriate HRM can result in high commitment levels among workers, but HRM is often implemented in a “less than optimum” way (Dussault & Dubois, 2003), because of a lack of knowledge and skills in HRM among health care managers and the use of a traditional personnel management approach to HRM. A change in HRM must be made to a more comprehensive approach that addresses the following aspects (adapted from Martinez & Martineau, 1998, and Berman et al., 2006).

Table 4. Aspects of human resources management (HRM)

HRM functions	Tasks
Staff supply	Planning of staff numbers Skills mix of personnel relating to their tasks, including recruitment and selection
Personnel administration and employee relations	Setting pay levels Harmonizing relations between staff/ teamwork Incentive packages Health and safety in the workplace
Performance management	Optimizing production and quality of care: supervision, professional development, job descriptions and performance appraisal

Adapted from Martineau & Martinez (1998) and Berman et al. (2006)

Staff supply (in terms of planning and skills mix) is beyond the scope of this report. This section focuses on personnel administration, employee relations and performance management.

- HRM is important to stimulate and assist workers in their tasks.
- It has several components: staff supply, performance management, staff relations, incentive packages, workplace policies and pay.
- HRM is currently not well implemented: a comprehensive approach, knowledge and skills are lacking, and HRM is often seen as personnel administration.
- There is limited evidence as to which strategies actually work.

Personnel administration and employee relations

Setting pay levels

The *World health report 2006* shows that in many countries the salaries of health workers are below the minimum living wage and that the pay levels of public sector workers are often unfair compared to others in similar jobs (WHO, 2006). Since equal pay will be hard to achieve in many countries, health workers will search for ways to supplement their low income. There are several options available to address this problem (Jan et al., 2005):

- establishing a regulatory framework, although this needs a certain capacity to enforce the rules
- self-regulation through professional associations: a relatively new concept in LICs
- changes in the payment system, such as using output-related payments.

Despite the urgency of the problem, there is little documentation on this issue. An example of involvement by professional associations in intervention development and implementation for private pharmacists is given in case study 14 (Chalker et al., 2005): see Part 2. Some experience has been gained with output-related payment, with promising results for improved productivity. However, the impact on individual health worker performance and motivation is less clear. If this approach is to be successful, HRM adaptations must be made and a management commitment, sufficient staff and a functioning HMIS system are important. Case study 10 (see Part 2) describes an example of output-related pay in Rwanda (Meessen et al., 2006).

- Efforts to generate extra income must be regulated.
- More experience must be gained and documented on the use of regulatory systems and alternative payment mechanisms.
- Output payment experience shows increased productivity, but this must be accompanied by HRM adaptations, such as clear job descriptions.
- A favourable context, such as sufficient personnel, active and motivated implementers of the approach and a functioning health management information system, are required.
- More documentation is needed on the impact on individual worker performance and motivation.

Staff relations and teamwork

Teams are more responsive to patient needs, more cost-effective and provide more job satisfaction to providers than staff members working individually (Royal Pharmaceutical Society and the British Medical Association, 2000; Rafferty et al., 2001; Sims, 2003). However, teams do not work effectively simply through putting people together: teams must have clear goals, to which all members are committed; they need coordination, communication and a clear overall management structure. Individual members must see teamwork as rewarding and their own role as essential (Royal Pharmaceutical Society and the British Medical Association, 2000). In order to remain effective, teams need coaching. Little has been published on teamwork in health care provision in LICs. Quality assurance programmes are based on local teamwork, and lessons can be learnt from these experiences. However, these experiences were gained in a project context and often with a research and “technical assistance” component. Therefore, little can be said about their sustainability. Part 2, case study 11, describes experience with the use of teams in Morocco.

- Teamwork can increase effectiveness, responsiveness and job satisfaction when members have learnt to work together, and have common goals.
- Communication, coordination and clear management are important to achieve successful teamwork.
- The teams must be coached regularly in order to maintain effectiveness.

Providing incentive packages

Many different types of financial and non-financial incentives exist. However, with respect to non-financial benefits, the impact on performance in resource-poor settings is not clear and more research is required. More information is available on experience gained with financial incentive packages.

Performance-related pay is used by governments in a number of countries. In 12 OECD countries the main method used consisted of individual bonuses linked to performance appraisals (10 countries). Overall results were positive, although some problems did occur with respect to performance indicators and target setting (OECD, 2005). Performance-related incentives are relatively new in LICs and only a few examples have been documented (Liu & Mills, 2005; Harries et al., 2005; Kipp et al., 2001). However, incentive-related payment mechanisms did not provide the improved performance that was hoped for, showing the limitation of payment in motivating behavioural changes (Rigoli & Dussault, 2003).

Chaix-Couturier (cited in Adams & Hicks, 2000) described lessons learnt on providing financial incentives:

- Financial incentives do change worker practices, but this is due to economic factors rather than professional motivation; therefore they might not be effective when implemented as the only incentive scheme.
- Care should be taken to design financial incentive systems that do not negatively affect the quality of care.
- Adjusting financial incentives to reward quality is very difficult in practice.
- Transparency on financial incentives is required in order to maintain trust.

The implementation of performance-related incentives and the opportunities to enhance performance using non-financial incentives are described in a case study in Zambia (Furth, 2005) (see Part 2, case study 12).

- (Financial) incentives alone, to improve providers' performance, are not sufficient to ensure quality of care – other complementary methods are required, such as supportive supervision, an appropriate regulatory framework and careful monitoring and evaluation.
- Performance-assessment systems must be in place and implementation must be transparent for all involved.
- More information is needed on the impact of non-financial incentives on performance.

Performance management systems

Performance management¹³ consists of the following activities: job descriptions, supervision, performance appraisals, continuous education, rewards and career development (Martinez, 2001). Managers must be able to assess the quality and productivity of their staff; they must be able to supervise and motivate their staff, ensure appropriate tools and resources, and identify performance gaps and address these (Kolehmainen-Aitken, 2004).

However, comprehensive performance-management systems are almost non-existent in developing countries (Martinez & Martineau, 2001) and for those performance-management activities that do form part of a system, the tools are either outdated or poorly understood or managers lack the skills to implement them appropriately.

Implementing (aspects of) performance management contributes to improved performance. Supervision and support are particularly crucial to enhance quality services (Marquez & Kean, 2002). Case study 13 (in Part 2) demonstrates the importance of structural supervision and support (Kroeger & Hernandez, 2003).

Interventions are often more successful when they consist of several different components. However, the importance of taking the context into consideration is demonstrated by a case describing implementation of similar interventions in Thailand and Viet Nam to improve performance of private practices. Case study 14 describes this programme in more detail (see Part 2).

Special attention needs to be paid to training, as many managers still see this as the best solution to addressing staff performance problems. Professional development is important for staff, but various learning approaches can be applied to learning. Examples include cost-effective methods for on-the-job training and at the workplace through supportive supervision, clinical meetings or peer support and through distance-learning schemes. Off-site training courses appear less effective, as implementation of new skills in the workplace is not guaranteed, nor are follow-up after training or an enabling environment (Potter & Brough, 2004; Shahabudin, 2003). These schemes are also expensive, as they create staff shortages in the workplace that must be dealt with, which is often difficult in places where there are high staff-shortage levels. Case study 15 (see Part 2) demonstrates the implications of focusing on off-site staff training and the need for wider organizational development in Malawi (Rode, 2005).

¹³A performance-management system “measures, monitors and enhances the performance of staff” (Martinez, 2001).

- Avoid training as a one-off activity, as it does not improve performance sustainably.
- Short courses or distance-learning schemes are preferred over long-term, off-site training.
- Job descriptions, supportive supervision, performance appraisal and professional development must be addressed to improve performance of health workers.
- Comprehensive approaches, combining these activities and linking them to each other, are more likely to be successful than single interventions.
- These interventions must be adapted to the sociocultural context.
- Managers need training and tools to apply these activities.

Improving leadership and management

Improved performance does not result from the number of HR practices alone, but also from effective implementation, which requires management skills (Caulkin, 2001). Research on HRM in the health sector in Canada and the United States of America, mainly the private health sector, demonstrated the importance of leadership¹⁴ and management skills for successful performance (Buchan, 2004). Research has shown that management recognition contributes to job satisfaction (Lu et al., 2005). Managers of health facilities therefore need leadership and management skills to ensure that their staff perform according to recognized standards and are motivated to work. However, in LICs, management positions in the health sector are often occupied by untrained managers, particularly at lower levels (Wiskow, 2006). In addition, where management training programmes were initiated, they often did not appear to be very successful (Homedes & Ugalde, 2005).

No clearly documented interventions were identified with respect to improved leadership and management in facilities in LICs. Quality assurance programmes often have a component to strengthen leadership: for example, the quality assurance programme in Ecuador (case study 9), and other cases also stress the importance of good leadership (case studies 7 and 12).

- More interventions are required to improve management and leadership at facility level, and managers need to be supported in their work.
- These experiences must be documented and shared within (and across) countries.

Strategies at individual level: health workers

When staff cannot concentrate on their work because of personal problems, it can benefit a health facility to offer support. An example is to offer medical services to relatives with AIDS, or to offer guards for families living in an insecure environment. However, no published interventions have been identified that showed how organizational support to improve living conditions contributed to improved staff performance.

There are several groups of health workers for which specific performance improvement strategies could be formulated. Specific policies for female workers is one example: Most of the lower-category workers in the health sector are women, and they need to be protected from violence and sexual harassment at work, or need childcare support in order to reduce absenteeism (Standing & Baume, 2003). However, gender-specific data and policies are mostly absent and no single case study could be identified that analysed and addressed female health workers' needs in LICs.

Another emerging group that needs specific attention concerns HIV-positive health workers. With the availability of ARV medications, HIV-positive health workers can theoretically regain their regular lives and work. However, there is an urgent need to introduce workplace policies and programmes that enhance acceptance of HIV/AIDS among health professionals and avails them of medical and financial benefits. Reorientation of working schedules and tasks are also required when health workers show a deteriorating

¹⁴ Leadership can be defined as "the process of influencing others towards achieving group goals" (Hughes et al., 2002:20).

health condition. Although guidelines on workplace policies exist (ILO/WHO, 2005), descriptions of experience with their implementation in LICs could not be found.

- HR strategies need to be gender-specific.
- Ensure the well-being of HIV-positive health workers through appropriate workplace programmes.
- Experiences in implementing such programmes need to be published.

Lessons learnt

The objective of this report is to describe experiences and to provide lessons learnt with respect to interventions to retain staff and to improve their productivity, competence and responsiveness. From the available literature, key issues and practical solutions have been extracted to inform policy-makers and planners as to what to consider when analysing certain factors or when developing strategies. The case studies described in Part 2 provide details on the interventions and the context within which they took place. These descriptions also include lessons learnt, which are useful for replication elsewhere. While different types of interventions to improve performance of health workers have been tested, substantive evidence of their effectiveness is still limited. Nonetheless, some lessons can be learnt from the cases identified in this report. This paragraph summarises the main generic findings.

General lessons

Development of interventions

The cases show that strong government support and involvement and commitment from all stakeholders are important determinants for the success of interventions. This is facilitated by the use of clear communication and implementation guidelines. Obviously a comprehensive approach for enhancing performance will require additional and substantial financial resources, particularly for major improvements in basic working and living conditions such as equipment, supplies and infrastructure and increased payment of health workers. Effective collaboration between government and funding agencies for major increases in resources for HRD plans is a critical factor for success, as can be seen in the Malawi case study.

Overall, the case studies often lacked a clear (description of an) analysis of factors at local level, which made it difficult to assess whether the priorities of local health workers were taken into consideration when interventions were designed.

Monitoring and evaluation

In each case, indicators for process, outputs, effects or outcome were developed, which differed among the cases with respect to the type of indicator, measurement tool, technique and use. Annex 3 provides an overview of the indicators used in each case study. Adequate monitoring and evaluation frameworks often were not developed, making it a difficult task to link the interventions with the objectives and outcome. As there is no international framework for analysis, the lack of a common framework impedes a comparative analysis of the interventions.

In addition, most interventions were evaluated shortly after their implementation and would need to be revisited to assess sustainability. Since hardly any documents were found that described an evaluation after a number of years, no conclusions can be drawn about their sustainability.

Cost of interventions

Most case studies make no mention of the costs associated with the interventions, making it almost impossible for policy-makers and planners to estimate their financial feasibility.

What works and what does not?

The complex interaction of determinants for health worker behaviour does not allow the authors to distinguish what works best, apart from concluding that multifaceted interventions with strong central support yield the most success. However, the case studies do allow a number of common factors to be identified that are important when developing strategies for health workers. Obviously generalization needs to be treated with caution, as adaptation to the local context is crucial for success. Despite the lack of clear monitoring and evaluation, some points for success emerge.

Retention strategies

Types of interventions and gaps in documented experiences

Interesting experiences are currently being gained with a variety of retention strategies in LICs, mainly addressing work-related factors. Most of the documented interventions relate to health systems and focus on providing incentives or rural recruitment and training. There is a lack of documented experience to improve retention by increasing job satisfaction at facility level and by addressing the living and working conditions of health workers. Opportunities to improve retention include addressing the needs of specific groups of health workers, although experiences in high-income countries show that these should be embedded into comprehensive plans. No interventions were identified to improve the working situation for special groups, such as women or HIV-positive health workers. The case studies on staff retention presented in this report highlight the following issues.

Collaboration with stakeholders

A promising practice was described in case study 1 (Malawi), where the government works hand-in-hand with all stakeholders, including donors, to address the HRH crisis comprehensively. This was possible because all stakeholders realize the severity of the HRH crisis and the consequences for the health of the population, leading to a substantial increase in financial resources for HRH. Case study 3 (Zambia) also showed that donor willingness to invest in financial incentives allowed the implementation of a retention scheme, with substantial financial benefits and other tangible benefits for doctors, which contributed to improved retention of doctors in rural areas.

Multifaceted interventions

Providing financial incentives, improving rural training, addressing recruitment or introducing compulsory service as a single intervention does not show any conclusive evidence, and would need further research. Providing financial incentives and other benefits, such as access to loans as implemented by the retention scheme in Zambia, described in case study 3, showed promising results but needs to be complemented with activities to ensure quality of care, such as performance assessment. Case study 2 (South Africa) specifically concludes that it is important to embed compulsory service into a more comprehensive approach to address the HRH crisis in underserved areas. Additionally, caution needs to be taken in assuming that the intentions of students or new graduates to opt for rural practice upon completion of their education or compulsory service means that they will actually take up a post in rural areas. Experiences in resource-rich settings show that results of interventions focusing solely on these issues are limited. In the case of case study 4 (Western Australia), rural recruitment and training strategies were complemented with interventions to support professionals at work; this improved recruitment and retention. What emerges from the various case studies is that interventions addressing one particular problem, be it limited income

or lack of skills and knowledge on rural health issues, are likely to have only limited success. Comprehensive strategies yield better results.

Involvement of health workers

Given the importance health workers attribute to participation and taking responsibility, and the growing commitment this may generate to a facility, important lessons can be learned from case study 5 (Australia). Successes in retention were reported when a team of nurses developed and successfully implemented a retention strategy. Preconditions for the success of such an approach include the commitment of senior management, availability of financial resources to implement certain strategies and delegation of decision-making to lower levels. Additionally, staff members need to be able to work in teams to analyse problems, and a relationship of trust between staff and management is imperative. Given the limited management capacity at lower levels of the health system in many resource-poor countries, as reported here, such interventions must be preceded by efforts to build management capacity.

Strategies to improve productivity, competence and responsiveness

Types of interventions and gaps

Experience gained with interventions to improve productivity, competence and responsiveness of health workers concentrate mostly on a limited number of issues. Case studies in this report highlight successes at macro/health system level relating to changes in payment mechanisms, creating autonomy and accountability at lower levels, and more participation in decision-making processes. More experience is needed with respect to all these areas, and with the involvement of professional associations in developing quality of care and accountability.

At micro or facility/district level, experience has been gained with quality assurance and performance improvement programmes, and with improving certain aspects of human resources management, such as paying performance-related incentives, supportive supervision and capacity building. In addition, more comprehensive approaches have been documented to improve the practices of private providers. Case studies are lacking in certain areas, such as non-financial incentives, workplace policies and leadership. Gaps in documented experience were also found with respect to strategies to create extra commitment by workers in resource-poor settings and with strategies to improve performance of specific groups of health workers. For instance, interventions addressing HIV/AIDS at work and in the personal lives of health workers or gender-sensitive interventions were not identified.

Revisiting the case studies in this report, the following issues must be taken into consideration regarding interventions intended to improve productivity, competence and responsiveness of health workers:

Assuring autonomy of facilities

As local circumstances differ, facilities need autonomy over their own resources in order to respond to local staff needs, instead of implementing centrally developed strategies. Autonomy creates ownership and responsibility over service provision, both at management and at provider level. This is evident in the case studies 7 (Kazakhstan), 8 (Cambodia) and 10 (Rwanda). In Cambodia the hospital was able to develop (together with staff members) its own job descriptions and devise its own incentive scheme. Staff involvement in the process contributed to its success, which was facilitated by the absence of predefined job descriptions provided at central level.

Linking autonomy to financial incentives, as in Kazakhstan and Rwanda, led to clear improvements at management level, but the impact on staffing was less clear. In Rwanda, reasons for success were related to having both sufficient staff and a functioning health management information system in place. In the intervention area in Kazakhstan, staffing did not appear to be a problem either. Having sufficient staff

appears to be a precondition for successfully linking finances to service output and results in better feasibility of this approach on a wider scale.

One implication of autonomy over resources is the need for accountability and a quality assurance system. Case studies 7 (Kazakhstan) and 10 (Rwanda) showed the importance of sharing information with patients: it enhanced competition among facilities, influenced choices by patients and increased patients' trust in the health care system.

All three cases showed that the ministry of health encouraged this new approach, thus facilitating innovation. Of course, creating autonomy without ensuring appropriate management skills will create problems rather than solutions. The cases of Rwanda and Kazakhstan do not offer any evidence of this, but they do explain the risks involved in this approach when management at facility level is of poor quality.

Participation of workers

Equally important for performance improvement is the involvement of health workers in problem analysis and generation of solutions. The cases demonstrate various approaches to involving staff: case study 8 (Cambodia) describes how health staff helped to develop job descriptions, while in case study 7 (Kazakhstan), primary care physicians contributed to the formulation of the health-sector reform strategies. Case study 9 (Ecuador) and case study 11 (Morocco) show that staff analysed their own problems and implemented solutions, while in case studies 12 (Zambia) and 13 (Mexico), staff were involved in assessing the facility's performance. Case study 14 (Thailand and Viet Nam) describes how pharmacists held peer reviews. Staff involvement in developing and implementing change corresponds with their need to have control over their own work and should improve job satisfaction. This is confirmed in case study 12 on performance-related incentives in Zambia, where the staff motivation survey showed an increase in job satisfaction after implementation of the intervention. Sustainability of this method and its related job satisfaction were not evaluated.

However, for staff members to participate effectively, they require appropriate skills to analyse and discuss their own performance, to work in teams and to solve and implement solutions. Additionally, staff involvement is successful and empowering only when changes can be proposed and implemented at decentralized level, requiring autonomy over resources – as shown in quality assurance and performance improvement programmes. Management also must be willing and interested in communicating and sharing information with staff and in delegating responsibilities. This is possible only when staff members are able to openly discuss mistakes, which requires an environment of trust, management skills and supportive supervision in order to be successful. If this is not the case, then adverse outcomes (such as demotivated staff and decline in interest) might be the result. Case study 12 in Zambia demonstrated the risk of non-communication and a lack of supportive supervision, especially when finances are involved.

Multifaceted interventions

All cases describe interventions with a number of different components: combining the increase in individual skills and knowledge with teamwork (case studies 9 and 11) or with peer support and enforcement of regulations (case study 14), payment of incentives with an accountability system (7, 8 and 10), or provision of performance-based incentives with supportive supervision and active involvement of staff in performance analysis (case study 12). However, for these interventions to be sustainable, additional efforts are necessary to integrate them into the daily routine of the health facility, as evident from the QA projects.

Linking quality assurance and performance improvement to HRM

Case study 9 (on quality assurance in Ecuador) and case study 11 (performance improvement in Morocco) clearly demonstrate the missing link to human resources management activities that are facility-wide. This is a missed opportunity, as the approaches offer clear opportunities of ownership and control over work.

HRM is an area that needs improvement and the performance-management interventions in case studies 12, 13, 14 and 15 demonstrate the opportunities for improving performance. The problems in implementing HRM in general, and performance-management systems in particular, have been discussed earlier in this report.

Accountability system

In most cases, an accountability system that ensured that health workers were held responsible for their performance was part of the intervention. Health workers were held accountable, either to the community (case studies 7 and 8) or to the professional associations, management or higher authorities (case studies 10, 13 and 14). This is a critical component of any intervention, as it allows rewards and punishments when appropriately implemented. However, care must be taken to deal with adverse outcomes when such systems are set up but lack the necessary capacity for implementation and enforcement.

Leadership and management skills and support

Although no specific case studies were identified that confirmed the relevance of leadership and management, the cases studies did indicate their importance. The interventions described in case studies 7, 8 and 10 were possible because of good management and leadership; the quality assurance programme in Ecuador (case study 9) required commitment by managers and their involvement in order to obtain certain changes. Case study 15 (Malawi) reported that AIDS could be appropriately dealt with at facility level only through organizational development efforts, initiated and supported by management. Management skills were not discussed in these interventions, but the problem of untrained managers was mentioned elsewhere.

Limitation of financial incentives

Financial incentives alone will not lead to enhanced performance and can even create adverse effects, as case study 12 demonstrates. The example provided in case study 13 (Mexico) also showed that making more finances available does not automatically lead to improved performance, as the districts with fewer financial resources but more structural supervision performed better.

Limitation of training

Case study 15 shows that training individual staff members alone did not suffice in dealing with organizational performance. However, it did increase costs tremendously and, although there were improvements in staff motivation and job satisfaction, broader organizational development efforts were required to deal with the effects of HIV/AIDS on the hospital.

Recommendations

It is acknowledged that the success of interventions to improve performance of health workers depends, among other things, on adapting the intervention to the local context. From this perspective the case descriptions are the most informative, as they describe the local context in detail. The case studies and literature review demonstrate that replication without considering preconditions for success can create adverse outcomes. For instance, providing performance-based incentives without ensuring communication on implementation guidelines to assess performance can create distrust and demotivation. Such specific messages have been included wherever possible in the main text. However, a number of generic recommendations can be made that are relevant for successful implementation.

The recommendations can be distinguished for policy-makers, planners and managers at national and international level. In addition, issues for further research and documentation are also proposed.

National level

The case studies demonstrate the importance of comprehensive approaches to address the HRH retention and performance problems, requiring sufficient financial resources and the contribution and commitment of all stakeholders, such as the ministries of health, finance and education, professional associations, funding agencies, etc. Institutional capacity at central level to address HRH must be analysed and addressed in order to better guarantee sustainability.

For all interventions, the following basic principles should be considered in more detail:

- Interventions to improve performance must be based on local problem analysis, which enables problems to be identified. For successful interventions it is imperative to match strategies to local needs. As it is unlikely that all factors influencing performance can be addressed at the same time, and because the priorities of health worker needs will differ by location within a country, the analysis should take place at the lowest level possible.
- Interventions should be developed jointly with health workers, to maximize ownership and empowerment, which contributes to increased staff satisfaction and motivation. Opportunities must be explored to increase staff participation in sociocultural environments where hierarchy and respect for superiors are more important than expressing points of view by subordinates.
- Interventions should consist of a combination of actions, addressing working and living conditions, pay, motivation and accountability. These interventions must be carefully monitored and evaluated with respect to input, process, outputs and effects.
- A certain local autonomy over financial, material and human resources must be ensured, to enable implementation of locally developed strategies, matching the needs of workers.
- The management skills of facility managers to develop and implement interventions should be analysed and strengthened; tools and supervisory structures should be developed to this effect.
- Systematic cost analysis is required for each intervention to advise policy-makers and planners on budget requirements, both for development and recurrent cost implications. Given the substantial recurrent cost implications of many HRD interventions, this would be an important area for further research.

The cases studies generate the following recommendations to improve retention of health workers:

- Promising results can be obtained by targeting people with a rural background and by considering that a health workers' needs change during his or her life cycle.
- Adapting training curricula to include rural health issues improves competences to work in rural areas and creates more interest in rural practice locations.
- Professional and community support to rural health workers is essential to better ensure retention, and can be achieved by visits from colleagues, supportive supervision, Internet access and community-involvement projects.
- Job satisfaction improves retention and can be achieved by improved working conditions, participation in decision-making, responsibility for work, supportive leadership and management and professional development. Priorities as to what should be addressed first should be locally determined.
- Job satisfaction is closely related to motivation and influences performance. It would be interesting to assess whether strategies to improve productivity, competence and responsiveness contribute to improved retention of health workers.
- Professionals working in an environment where HIV/AIDS is prevalent need special support to ensure safety and prevent burnout.

Based on the case studies to improve productivity, competence and responsiveness, the following recommendations are formulated:

- Health-sector reforms can contribute positively to health worker performance, but only when health workers are involved in developing and implementing strategies and are informed about implementation.
- Changes in payment systems show promising results: performance-related pay contributes positively to performance improvement, in terms of improved productivity. However, it needs to be complemented with a quality assurance mechanism and a method to hold health workers and managers responsible for their performance to ensure better quality of care.
- Quality assurance and performance improvement strategies are promising, but need to be integrated into the daily functioning of the health facility to ensure sustainability, and they need to be linked to facility-wide human resources management activities.
- Current human resources management must be improved: the focus must change from the traditional personnel administration to a more comprehensive approach, addressing staff supply, performance management and personnel relations. Tools and skills are also needed to implement human resources management activities.
- Financial incentives can be successful in enhancing performance when they are complemented with performance assessments and with improvements in working conditions.
- Training is successful in improving performance only when it is embedded in a broader strategy that includes job satisfaction and motivation issues, working conditions and accountability to patients, colleagues or managers.
- Teamwork contributes positively to productivity and responsiveness, but teams require training in problem analysis, generating solutions together, and they need to be able to take decisions and use resources effectively.
- When developing strategies to improve productivity, competence and responsiveness, the needs of specific groups (such as women and HIV-positive workers) must be identified and addressed.

International level

First, because the case studies have such a broad diversity in approach and issues addressed, they indicate the importance of documenting experiences in as much detail as possible, and creating a “database of promising practices” that can be consulted by managers and planners. As a guideline, the following issues would need to be included, allowing managers to assess the feasibility of the intervention in their own work environment:

- Context: sociocultural, political and historical. Examples:
- overall health system: centralized or decentralized system, ongoing health-sector reforms and main principles, facility in systems governed by the health sector or by local government
- site: resource-poor or resource-rich/rural-urban/district or facility
- ownership of facility/area where intervention took place: private/public/faith-based/NGO
- size: in hospital: number of beds, in a district: catchment area/population, number of facilities
- administrative structure.
- Intervention description
- objectives
- target group (type of professionals) and number of facilities involved
- elements of intervention
- period of implementation

- indicators for success
- costs
- sustainability issues
- accompanied by study/brief description of study design.
- Results: improved performance/retention and impact: improved service outcomes
- Comments/observations:
- strong or weak points of the intervention
- criteria or preconditions for success.

Second, the sharing of promising practices also requires a general framework for monitoring and evaluation of these practices, as such a framework will allow comparison of interventions across settings. This particularly requires agreed indicators for retention and performance, and methods to measure these indicators. A start has been made on this subject in this report by the analytical frameworks for retention and performance. These are based on work by other authors and require more extensive and wider consultation and experimentation in the field.

Third, performance is not influenced by local contexts alone, as global developments are equally important. The international agencies that provide important financial resources to LICs and are influential on the global health agenda must agree to invest in joint plans, commit to long-term funding and contribute to payment of salaries for crucial staff. In addition, retention cannot be addressed in isolation, and even comprehensive approaches at national level will be less successful if these are not complemented by efforts to address ethical recruitment in HICs.

Issues for further research and documentation

What emerges from this study is that more experience must be documented and disseminated in almost all areas of staff performance in low-income countries. Specifically, more information is needed to demonstrate the effectiveness of comprehensive approaches to performance.

Additionally, to gain more insight into locally successful strategies, more documentation on specific interventions is required. With respect to retention in LICs, more research and documented experiences are required in the areas of:

- rural recruitment and rural training of professional cadres, their intention to take up posts and their actual location of practice;
- compulsory service, the intention to take up posts in rural and remote areas upon completion and the actual location of practice;
- type of professional and community support to health workers placed in rural areas and its influence on retention;
- improvement of the working and living conditions of health workers, particularly women and HIV-positive health workers;
- interventions targeted towards specific age groups, targeting various stages in careers and their effectiveness on retention;
- the success rates of strategies to improve performance on retention;
- staff initiatives to improve retention and their success in reducing staff turnover, absence and vacancies.

With respect to productivity, competence and responsiveness in LICs, more research and documented experiences are required on:

- teamwork among health workers, as well as health workers and managers in LICs, and its impact on productivity, responsiveness, job satisfaction, absence and staff turnover;
- improvement in leadership and management, both at policy and operational levels in LICs, and its impact on productivity, responsiveness and competence of health workers;
- strategies to create high commitment levels by managers and health workers to work, especially in rural health facilities in LICs, and their effectiveness on responsiveness and productivity;
- integrating quality assurance and performance improvement strategies with HRM activities;
- accountability mechanisms: by means of regulatory frameworks, self-regulation through professional associations and accountability to patients;
- use of non-financial incentives, such as trophies and other tokens of recognition and appreciation;
- the effects of output-related pay on individual worker performance and motivation;
- implementation of improved human resources management, integrating performance management and personnel administration/employee relations, and its impact on health worker performance (availability, productivity, responsiveness and competence);
- the effects of on-site and distance learning on the use of new skills and knowledge in the workplace;
- implementation and evaluation of gender-sensitive strategies, as well as HIV/AIDS workplace strategies;
- facilitative and supportive management to improve health worker performance;
- stress and burnout among health workers, particularly in areas with a high HIV prevalence;
- influence of sociocultural factors on health worker behaviour and management behaviour.

For all interventions aimed at improving availability, responsiveness, competence and productivity:

- revisiting interventions aimed at improving performance, in order to assess their sustainability or planning to implement cohort studies, and thus to measure changes at various points in time: immediately after the intervention, one year later, and after a number of years;
- cost-effectiveness studies of these interventions.

Part 2. Case studies: examples of interventions to improve performance of health workers

Examples to improve retention

Overview of cases according to strategies for retention

Health systems: HR planning	Case study. Donor and government collaboration in addressing the HRH crisis in Malawi
Health systems: Rural recruitment and retention	Case study 2. Compulsory service in South Africa Case study 3. Retention scheme in Zambia Case study 4. Recruitment and retention of allied health workers in Western Victoria, Australia
Health facility	Case study 5. A team-based approach to retention of nursing staff in Australia
Health workers: Improving living conditions	Case study 6. Improving living conditions in rural Kenya – establishing a credit union

Case study 1. Donor and government collaboration in addressing the HRH crisis in Malawi

Context

Malawi is one of the poorest countries in Africa, with a GDP of 149 USD. In 2003, life expectancy was 37.5 years, and AIDS prevalence was around 14.2% among the 15–49 age group. Maternal mortality ratio is 1120 per 100 000 live births. Some health care programmes, such as those for TB and bednets for malaria, were successful due to their vertical implementation, as the public health system is weak.

In 2003, international aid was around 31% of the gross national income; the health sector receives contributions of around 32% for its health expenditure from donors, the government contributes 24% and the rest is private spending. The health infrastructure is quite well developed, although most health facilities are in poor condition.

Malawi currently has the lowest number of health staff in the region, with shortages in all professional categories. For example, 65% of nursing posts are unfilled and vacancies among medical specialists range between 85% and 100%. Causes of staff shortage are rooted in poverty, inhibiting training of sufficient staff to cover service needs, the impact of HIV/AIDS and migration. Health workers are unevenly distributed across the country, with most working in urban areas and secondary/tertiary facilities.

In 2004 the government launched an initiative to provide an Essential Health Package to address the main causes of morbidity and mortality. This entailed a focus on the district level, offering a collection of integrated primary services, including referral, instead of the vertical disease-oriented programmes previously implemented. Reducing the staffing shortages is a crucial element in being able to implement this initiative, and in 2004 the ministry declared an HRH crisis.

Intervention

The ministry and various donors developed a six-year Emergency Human Resources Programme (funded by the government, DFID and GFTAM) to improve staffing levels among 11 professional categories. The programme has five focal areas:

- improving incentives: salary top-ups of 52% and a massive initiative of recruitment and re-engagement of qualified Malawian staff;
- expanding training capacity within Malawi by more than 50%, using international volunteer doctors and nurse tutors to temporarily fill the gap;
- providing international technical assistance to build and strengthen skills in HRH planning and management, thus establishing strong capacity for monitoring and evaluating HRH using the existing information systems;

- long-term activities relating to retention, promotion, career development, training, etc.;
- developing policies for staff deployment in underserved areas, such as improving staff housing and developing location-specific incentives.

This programme aims to complement the initiative to implement the Essential Health Package, the objectives of which include: improving working conditions, such as better equipment and supplies; and improved supervision and support structures, by establishing zonal support offices.

The programme is fully funded by donors, with some contributions from the government through taxation, in order to ensure that it fits into the overall macroeconomic situation. Increasing payments to staff required elaborate discussions, in view of the implications for pension funds and agreements with IMF. Eventually a special agreement with the IMF was reached and donors agreed to finance the topping-up of salaries. It was also agreed that the proportion of the national budget for health would remain the same or would increase over the coming six years, thus guaranteeing continued finance. The risk of reduced aid due to changes in human rights or IMF funding, etc., was addressed by a DFID commitment to give two financial years' notice before withdrawal. This convinced the government that it needed higher levels of expenditure for health.

Results

The programme started in 2005. Salary top-ups have started, as well as the recruitment of international volunteers and technical experts to support the MoH in HR planning and management. A start has also been made on improving the infrastructure to expand training capacity. The programme is new and information is still being collected with respect to the results, but so far this shows improvement in attraction and retention, particularly of lower and medium-level staff due to the salary top-ups. After nine months the number of staff receiving top-ups has increased by 430 and interviews with managers show that these top-ups have curbed the migration flow, particularly of nurses.

The start was slow, as the MoH had to negotiate with other government sectors on recruitment and the re-engagement of staff who had reached retirement age. At the end of 2005, 591 staff members were recruited externally and 1100 staff members were promoted internally. In addition, 700 retired staff members answered a survey indicating their willingness to return if top-ups were paid, flexibility in deployment were possible and opportunities for further training were available. The impact on international migration is not yet known, which may be because the programme is still relatively new. International migration remains a concern. Improvements in the monitoring and evaluation capacity are slow, as management capacity building is still taking place.

Lessons learnt

- Joint (government and donor) problem analysis concluded that staffing was the main problem in attaining common health goals.
- Some donors were willing to contribute to financing salaries and incentives, while the approach by donors and government changed to a more outcome-based approach, and aid became programme-based and was provided through budget support.
- HRH plans were embedded in broader health system-strengthening programmes and included both short-term and long-term activities. Short-term activities showed change, thus motivating programme stakeholders.
- Institutional capacity is addressed in order to analyse and address HRH problems more effectively and better ensure integration of HR interventions into government planning.
- HRH plans needed to be communicated clearly to all stakeholders, and stakeholders' views and requirements were mapped, so they could be taken into consideration.

Source: Palmer D (2006). Tackling Malawi's human resources crisis. *Reproductive Health Matters*, 14:27–39.

Case study 2. Compulsory service in South Africa

Context

Rural and poor urban areas in South Africa face a critical shortage of health workers, as these health workers prefer to work in areas with better opportunities for income generation and professional development and better living and working conditions. In order to improve access to health care in underserved areas, the Ministry of Health formulated a national policy to oblige young health professionals to work in rural areas. This was introduced in 1998 as one of the strategies: compulsory service for health professionals. The strategy also aimed to increase knowledge and skills of young health professionals to work in underserved areas without support and thus aimed to raise the number of professionals willing to work in these areas. The first batch of young health professionals who had to undertake community service were doctors.

Intervention

Compulsory service means that, upon graduation, young health professionals work for a period of one year in rural or poor urban areas. The graduates submit a list of five areas in which they would like to work, which is taken into consideration during placement. Their work during this period is remunerated. Professionals, in this case physicians, who did not perform community service were not allowed to register as medical practitioners with the Health Professions Council. Clear guidelines for implementation were lacking at the start of the initiative. In 1999 a total of 1084 newly graduated doctors performed compulsory service: this group was followed by dentists and pharmacists. Success of this strategy is measured by using indicators that monitored the number of doctors working in peripheral areas; the functioning of the district or the hospital; perceptions of the community on community service by doctors; extension of this service to other health professionals; change in knowledge, skills, etc., of doctors; comparison of health indicators over the years; and a reduction in the emigration rates for doctors.

Results

The first monitoring results showed that among the doctors who reported for duty in 1999, 24% were placed in remote rural areas. District hospitals and community health centres received 45% of the doctors. Around 55% were placed in the region, or in tertiary and specialized hospitals. Overall the doctors felt they had made a difference, which created a positive attitude and motivation to work. However, supervision and support were sometimes perceived as poor.

Participants felt that their main learning points were independent decision-making and building self-confidence, but that no important gains were made in additional clinical skills. Doctors often relied on senior colleagues for advice. Some considered the allocation process to be unfair, as working conditions and social factors differed according to work site.

The smaller hospitals felt an impact on their functioning as a result of this community service, such as stress relief among existing staff, improved staffing levels, reduced waiting times at the outpatient departments, a more rapid turnover of patients in hospital wards, the ability to visit outlying clinics and improved communication, compared to conditions with foreign doctors, all resulting in improved trust by patients and adherence to their medical treatment.

Lessons learnt

The strategy of compulsory service can be useful in terms of making professional staff available in underserved areas, although it should not be a stand-alone strategy. When replicated elsewhere, as part of a more comprehensive human resource policy, the following points should be taken into consideration:

- Clear implementation guidelines need to be developed, with respect to allocation of young graduates, including a clear definition of the “community service”.
- A definition of rural and underserved areas must be agreed upon, and criteria for health facilities that can receive community service health professionals must be defined. Job descriptions for community service health professionals must be developed.
- Medical curricula should include teaching skills and knowledge to address rural and poor urban health issues, thus preparing students to work in such areas.
- At the facilities where community service workers are placed, there should be adequate accommodation, with an induction process for community service health professionals. Support and supervision by senior colleagues also must be ensured.

- The period for community service should be discussed: in South Africa, one-year placement in rural areas was selected; alternatively, this could have been split into six months in a rural area and six months in a regional hospital, etc.

No information was made available with respect to the costs of this strategy.

Source: Reid S, Conco D (1999). Monitoring the implementation of community service. *South African Health Review*. Durban, Health Systems Trust:233–248

(http://www.hst.org.za/uploads/files/chapter17_99.pdf#search=%22Monitoring%20the%20implementation%20of%20community%20service%22, accessed 22 August 2006).

Case study 3. Retention scheme in Zambia

Context

Zambia faces a critical shortage of health workers, especially in rural areas. In some rural areas, more than 50% of the health facilities have only one qualified professional to provide medical services. The main reasons given for not working in remote areas included difficult living conditions, such as the lack of electricity, water and schooling for children. The salaries for health workers were also generally very low and had fallen between 85% and 90% in 25 years.

Although official establishment numbers for health facilities were not set, vacancy rates for doctors, nurses and clinical officers were estimated to be around 50%. Average attrition rates are estimated to be 4.48%, with professionals leaving to work in the private sector or abroad.

At the time of the review of this retention scheme, the Ministry of Health (MoH) could not employ additional health workers due to the conditions for Heavily Indebted Poor Countries, which required a reduction in personnel emoluments from 9.1% to 8.1% of the total GDP. This meant that despite the shortage of staff, some health workers were unemployed. As part of a wider programme for public service reforms, a pilot retention scheme for doctors was started in 2003.

Intervention

The aim of the scheme was to improve service provision and was targeted towards the initial 80 doctors contracted to work in rural and underserved areas for three years. The pilot phase was financially supported by the Netherlands embassy; later the programme became part of basket funding. The programme was implemented by the Central Board of Health.

Districts in Zambia are categorized according to their rurality and remoteness (Categories A–D, with D being the most rural and disadvantageous). The scheme was implemented only in districts in categories C and D, and consisted mainly of providing financial incentives and other tangible benefits. Apart from their regular salaries, doctors serving in these very rural areas received a monthly hardship allowance of EUR 200 (district C) or EUR 250 (district D), plus an educational allowance for up to four children and the possibility to obtain a loan to buy a car or a house.

Upon completion of three years' service, doctors were eligible for, and would receive, financial assistance for postgraduate training. The MoH also provided funds for renovating government housing in the district, in order to improve accommodation for doctors.

During implementation of the scheme, individual performance by doctors was not evaluated and payment of incentives was not linked to performance. Some preconditions applied: student internships in tertiary hospitals were extended from 12 to 18 months, including more intensive supervision, and these hospitals terminated contracts with doctors upon completion of their internship so that they would take up rural posts. The provinces and central government actively recruited doctors to work in rural areas.

Results

A total of 68 doctors enrolled in the scheme, thus substantially improving staffing levels and staff distribution in rural areas. Most doctors enrolled in the scheme were young males, accepting the rural posting upon graduation and thus fulfilling the obligatory posting. They had the required clinical skills to provide essential services, although more skills in surgery and obstetrics were reported to be required. They also had limited management skills, which at times was challenging as they had to manage more senior staff and manage hospitals or district centres. Working conditions in some areas were not sufficient for them to provide adequate quality of care, which was a reason for some to leave. Because performance by doctors was not assessed, it is not possible to evaluate the quality of their work. Most doctors also indicated the need to receive professional support while working in isolated areas. As incentives are paid without assessing performance, there is no stimulus to perform well.

The scheme costs an average of USD 652 to USD 717 per month per doctor. Management procedures for implementing the scheme were considered time-consuming.

Lessons learnt

Retention schemes can be very successful in retaining critical staff in rural areas for a certain period. However, in order to ensure that such a scheme functions well and contributes to an improved quality of care, a number of aspects should be taken into consideration:

- Preparation to work in rural areas: Internship for doctors must take into consideration the skills required to work in rural areas, such as surgical and obstetric skills, as well as knowledge and skills in health care and hospital management.
- A retention scheme should be developed with various stakeholders and should be clearly communicated to everyone involved. If possible, it should include all crucial staffing categories and should be simple to manage.
- The provision of incentives should be clearly linked to performance. This requires the training of high-level categories of workers responsible for performance assessments.
- Retention schemes should have a clear monitoring and evaluation plan.
- If a retention scheme is to be successful, working conditions and human resources management at facility level must be improved, as well as access to professional support and advice, e.g. through the Internet.

Source: Koot J, Martineau T (2005). *Mid term review. Zambian health workers retention scheme (ZHWRS) 2003–2004* (<http://hrhresourcecenter.org/node/868>, accessed 23 February 2007).

Case study 4. Recruitment and retention of allied health workers in Western Victoria, Australia

Context

South West Victoria is a rural area in Australia confronted with high health staff turnover rates, especially for allied health professionals. These are professionals with a university education who are not doctors or nurses, and who provide direct services to the community. The rural areas in Australia require multidisciplinary teams due to the composition of its population, which is generally older and has more chronic diseases than urban populations in Victoria.

Research showed that allied health professionals leave rural areas as a result of personal and professional isolation and due to the lack of a career path. Their main reasons for staying were the lifestyle, and having career and family ties. Research also showed that 45% of the allied health professionals intend to stay more than two years if they feel supported in their job, and that teamwork is linked to that intention to stay. Studies indicated that young professionals require information and support when starting their career in rural areas in order to intensify their intention to stay.

Other important factors for staying in rural areas concern opportunities for training and career development, recognition of performance, autonomy at work and respect and support from local communities. A programme was designed to improve recruitment and retention of these professionals, based on the research outcomes and a holistic recruitment and retention model.

Intervention

The programme, entitled the Allied Health Workforce Enhancement Project and initiated by the Greater Green Triangle University Department of Rural Health, intends to increase the number of allied health professionals working in certain rural areas and the length of their stay in these areas. It is a state-funded scheme (by the Victorian Department of Human Services) and aims to provide an evidence-based recruitment and retention model.

The project is multifaceted, addressing individual health worker needs, organizational requirements and community needs. It focuses on encouraging students to take up rural positions by training preceptors to strengthen student placement and by organizing orientation programmes for students and initiatives to link students to local community groups. It aims to improve retention of professionals by offering continuous professional development, by developing and promoting new care models and locum services to prevent burnout, and by organizing cultural awareness training and rural health seminars to improve understanding of rural health issues.

The project tries to improve community involvement in projects and information provision on developments in the health sector and on health staff themselves, in order to create support from communities for health professionals. The project also conducts exit interviews to identify reasons for departure, and collaborates with organizations to develop evidence-based recruitment.

Results

The project is relatively new and therefore only preliminary findings are available. These demonstrate¹⁵ reduced staff turnover, fewer vacancies and high satisfaction levels with the continuous professional development opportunities, improved skills and number of patients seeking care.

Lessons learnt

- A comprehensive approach is required for success, addressing individual health worker needs, community requirements and organizational needs.
- Strategies must be developed during pre-service training to create student interest in practising in rural areas, followed by mentorship at the start of professional careers in rural areas.
- Retention strategies are also required for experienced professionals, such as offering continuous education and alternative service provision models that look at changes in roles/responsibilities/teamwork and by creating a relationship between health professionals and the communities in which they work.

Source: Schoo AM, Stagniti KE, Mercer C, Dunbar J (2005). A conceptual model for recruitment and retention: allied health workforce enhancement in Western Victoria, Australia. *Rural and Remote Health*, 5(4):477.

¹⁵ The article does not provide specific data.

Case study 5. A team-based approach to retention of nursing staff in Australia

Context

Rural Australia faces serious constraints in recruitment and retention of health workers. This was also the case for the Mercy Hospital, which provides health care to women and their newborn babies in Melbourne and rural Victoria. A survey in 2001 showed that 40% of nurses in this hospital intended to leave the organization and that 41% wanted to leave the profession. The survey also showed that nurses felt they were working in a culture of blame, and those who wanted to stay cited the working environment as the most important reason for this decision. The survey concluded that retention is more likely to occur when staff trust the management and when they worked as a team.

After some problems and fluctuations in hospital management, new hospital managers were appointed. They soon introduced organizational and cultural changes to create trust, open communication and cooperation among staff and management, and simultaneously improved staff support and professional development. The ultimate aim was to create full staff participation, while collectively learning and working towards a common vision. Within this plan for change, the hospital management decided to ask their nurses to develop a staff-retention strategy.

Intervention

A bottom-up and team-based approach was deployed to address retention of nurses and midwives. A team of 14 nurses was established by the hospital management, consisting of nurses from across the various hospital departments. They were first trained in team development and teamwork. They also developed a shared vision on the retention plan and clear expectations of the outcomes. The team was guided and supported by a sponsor. Subsequently this team designed various retention strategies by reviewing information on best practices for retention and by consulting other staff. They then developed a project plan. Components of this plan included:

- ensuring rewards and recognition by allocating resources to nurse managers according to the number of staff employed, in order to allow correct staff rewards. Meals were also provided for the night staff.
- addressing staff bullying and setting up mechanisms to support staff welfare by advocating appropriate staff behaviour towards each other, and informing nurses about this via a printed brochure. It helped staff to know how to act when they had problems or concerns.
- improving working practices by developing innovative roster guidelines to encompass individual needs and by introducing a framework to adapt working practices and reduce high workloads. Although these guidelines and the framework were developed, they have not (yet) been put into practice.
- providing staff with better information on certain arrangements to create understanding, such as car parking fees. This helped staff to understand the reasons behind certain decisions and helped them to accept these arrangements.
- setting up a social club to organize activities to which staff are invited.

Results

After implementation of the project, a survey in 2002 showed that, as a result of this approach, the percentage of nurses intending to leave the organization had fallen to 28%, and that the percentage of nurses intending to leave the profession entirely had also dropped to 28%. Results also showed an improved corporate culture within the organization. The team members responsible for developing and implementing these retention strategies felt empowered and had developed feelings of ownership towards the programme.

Lessons learnt

- Hospital management needs to ensure trust and open/transparent communication in order to ensure that staff members are willing to work on retention issues. Training in team development is necessary prior to developing retention strategies, in order to produce a shared vision. A capacity for innovation is also required.
- Continuing coaching of team members is required, as well as time to reflect on function and progress. Training the managers of these nurses is necessary, so that they become coaches and facilitators and can help build and implement communication and information channels. Managers also need to accept that decision-making occurs at a lower level. Continuous provision of incentives and rewards is required in order to ensure teamwork and continuing professional development.
- A clear communication strategy must be developed to ensure that the organization receives all information about the project, and that feedback is received by the various team members.

Source: Collette JE (2004). Retention of nursing staff – a team-based approach. *Australian Health Review*, 28(3):349–356.

Case study 6. Improving living conditions in rural Kenya – establishing a credit union

Context

Maua hospital is a 180-bed hospital owned by Methodist missionaries. It is located in a little town in rural Kenya with little infrastructure (for example, no banking services), and is surrounded mainly by subsistence farm plots. The hospital charges user fees, but its income level is very low, due to the economic level of the catchment population. It competes with a government hospital that provides free services, influencing hospital use. People residing in this area can enrol in a National Health Insurance Fund, which pays hospital bills if people are admitted.

Intervention

In 1994, hospital staff started a savings and credit cooperative on their own initiative, with the aim of improving their status. They bought shares to fund the credit union. The union initially lent money to help staff pay school fees. Participation in the union was voluntary, and increased over time. In 2005, the union made a profit of KES 10 million. Hospital management was not involved, but supported the initiative and facilitated its functioning by permitting the union to use hospital/church property, and by guaranteeing the timely payment of salaries.

When staff members leave the hospital, employees' monies owed to the union are paid first, before paying workers. Both the union and hospital management encourage enrolment in this insurance scheme, as it ensures that the hospital's patient care is paid for, and contributes to a financial situation that allows payment of salaries. This is important for the union as it allows workers to pay back loans. From 1999 onwards, the union allowed outsiders (other than hospital staff) to join and also started a micro-finance programme, which currently has 120 groups and 3000 participants.

Results

In 2006, 68% of all staff members were borrowing money from the union. Access to credit helped staff to deal with urgent financial demands. It also helped staff members buy property, thus contributing to their retention, as they become less mobile when they own a house. Lending money is also a contributor to retention, as unpaid debts make it difficult to leave. Data on staff retention and its direct link to the opportunities that the union offers are not available, but staffing trends show improved retention.

Lessons learnt

- This scheme requires a core group of committed people who are able to set up such a system and maintain it. It requires a dynamic leader to create trust among workers so that they participate. This type of credit union must function as a business and needs to assess credit risks.
- Its functioning should not be influenced by the hospital: hospital managers are not on the board, and the hospital does not influence decisions or own shares.
- The credit union must function in a transparent way by publishing reports to its members and organizing meetings with stakeholders.
- An enabling environment is crucial: in this case, the hospital provided timely payment of salaries to workers, which was essential to the operation of the union. The hospital also helped in reviewing the finances of the union.
- Introduction of such a system must be initiated by staff members, who also need to raise awareness about the opportunities among all the staff, as well as obtain technical assistance to set up such a system.
- Contextual factors might also have contributed to staff retention at the hospital, as the hospital benefits from external support (technical and financial) and is thus able to provide high-quality care, which contributes to high use. The hospital also has a decentralized management system, with departmental budgets, and departments can indicate priority staff for training. It also prioritizes career development: staff members have a sense of self-ownership.

Source: Aukerman D (2006). *Maua Methodist Hospital: improved staff retention by the establishment of a credit union*. Chapel Hill, North Carolina, United States of America, Capacity Project, USAID Global Health/HIV/AIDS (http://72.14.221.104/search?q=cache:czkUxJpJS2YJ:www.interchurch.org/resources/uploads/files/304HRH_Maua_Practices_Initial_Report.doc+aukerman+maua&hl=en&ct=clnk&cd=2, accessed 23 February 2007).

Examples of interventions to improve health workers' productivity, competence and responsiveness

Overview of cases according to strategies implemented at different levels

Health systems level	Case study 7. Health-sector reforms: privatization and reorientation to primary care services in Kazakhstan Case study 8. Formalizing payment: holding staff accountable at Takeo Hospital, Cambodia
Health facility level: Quality assurance and performance improvement	Case study 9. Quality assurance to improve compliance to standards in Ecuador
Health facility level: HRM: payment mechanisms	Case study 10. Output-related pay in Kabutare, Rwanda
Health facility level: HRM: staff relations and teamwork	Case study 11. Teamwork and quality assurance in Morocco
Health facility level: HRM: performance management	Case study 12. Performance-related incentives – testing non-financial and financial incentives in two districts in Zambia Case study 13. The importance of supporting facilities to improve staff performance: comparison of two systems in Mexico Case study 14. Multifaceted interventions to improve performance of private pharmacists in Thailand and Viet Nam Case study 15. Capacity building in an AIDS environment: the case of Mulanje Mission Hospital in Malawi

Case study 7. Health-sector reforms: privatization and reorientation to primary care services

Context

Kazakhstan, situated in Central Asia, used to focus on specialized care and have a neglected primary health care system with unmotivated and poorly trained health workers. Primary care centres were managed by hospitals or specialty-oriented clinics, and care was provided by specialists. Primary care facilities had no control over their own resources. Workers' salaries were centrally controlled and were linked to the number of years in service, educational level and type of position. Facilities were managed by untrained physicians, and there were lengthy bureaucratic procedures with difficulties in dismissing staff. There was no accountability system or feedback to the population. Of the limited available budget, 75% was allocated for hospital care, instigating referral of simple cases to the hospitals. The overall financial crisis in the country led to a decline in the health status of the population, exacerbating the already low motivation of health service providers. Bypassing of the primary care facilities by patients showed their lack of confidence in these centres. To improve this situation, three health-sector reform demonstration sites were established in 1993.

Intervention

In 1995 a government decree initiated a health insurance experiment that guaranteed medical insurance for all inhabitants. Primary health care facilities were privatized and a strong primary care system was developed. In the Zhezkazgan region this meant that local health authorities created independent family group practices in the urban areas, with financing (on a per capita basis) from the Ministry of Health.

Facilities received finances via a contract with the Oblast Mandatory Health Insurance Fund; they were able to manage their own resources, set their own priorities and generate their own income. They were also able to change their staffing, the work contracts and payment mechanisms.

The MoH kept control of the quality through a licensing and accreditation programme and a quality assurance system. Primary care was strengthened by investing in training and equipment for these levels through grants, local government funding and investments by physicians.

Inhabitants were free to choose their primary care providers and, through a public information campaign, they were informed about selection possibilities. More than 75% of the population visited enrolment points to select a health care provider. As more patients enrolled in a given facility, that facility would receive more funding, thus responsiveness to patients was an incentive to gain more funding. A new professional association was also created, known as the Nongovernmental Primary Care Physician Association.

The health sector reform process was developed with the involvement of primary care physicians, which was crucial to its success. It was also developed under strong leadership. Seminars and conferences were held, and the population and other health workers were kept informed through the mass media.

Results

The reform ensured that financial resources allocated to the primary care services increased from 10% to 36%. For the first time, primary care providers were satisfied with their financial resources. The open enrolment system created a change in the power relationship between providers and patients, and formed a mechanism for accountability. These enrolments were made public, thus creating competition among providers.

These changes led to primary health care providers becoming more committed and professional, but this particularly applied to the facility owners. Motivation increased because of the new status and the autonomy that these facility owners had obtained. The motivation for other workers is less clear, although owners report that motivation among workers increased with new contracts, performance related to employment and pay, and internal competition among health workers. Owners had to create a good work environment that had an impact on the motivation of health workers. However, for the other categories of workers these changes in roles, autonomy and compensation were generally less clearly felt. There were no clearly formulated indicators to measure improvements of health worker performance in terms of availability, productivity, competence or responsiveness, although the author states that "there have been observable changes in aggregate primary care sector performance that could not occur without motivated health care workers".

Lessons learnt

- The involvement of the main providers was crucial, as well as continual provision of information on the process through the mass media.
- The competition between facilities was also a crucial success factor: the link between performance and finance, and the accountability to the population.
- As entrepreneurship was a new concept in the states of the former Soviet Union, the main risk was that entrepreneurship and management skills would not be available among all primary physicians. Therefore they might not be willing (or able) to start their own facility or to handle competition.
- In rural areas this process was less successful in terms of health worker motivation, as there was no privatization of facilities or free choice by patients, due to the long distances between facilities and the sparse population.

There were no clearly formulated indicators at the level of process, outputs or effects that allowed monitoring and evaluation of the reform process at the level of health worker performance.

Source: Abzalova R, Wickham C, Chukmaitov A, Rakhipbekov T (1998). *Reform of primary health care in Kazakhstan and the effects on primary health care worker motivation: the case of Zhezkazgan region. Major Applied Research 5, Working paper 3.* Bethesda, Maryland, United States of America, Partnerships for Health Reform, Abt Associates Inc.

Case study 8. Formalizing payment: holding staff accountable at Takeo Hospital, Cambodia

Context

Cambodia is a country with poor health indicators and a history of conflict from 1975 to 1979. In 1996 a policy framework for health was formulated with four key aspects: coverage, health financing and reforms in budgeting and administration.

Takeo is a provincial referral hospital, situated 80 km south of Phnom Penh. In 1997, Takeo Provincial Hospital had 176 beds and 157 staff members. The intervention was implemented from 1997 to 2002 throughout this hospital, in an environment without health insurance. Most health expenditure consisted of out-of-pocket payments, divided equally between the public and private sectors, despite the fact that public services were officially free of charge. Resources management in health services was difficult, as the public health system was underfunded, paid low salaries and implemented few sanctions for misbehaviour or rewards for good performance. Due to a lack of government funding, the hospital received substantial material and financial assistance from an external donor.

A baseline study in 1997 revealed under-the-table payments of USD 13 750 per month, of which 47% was obtained through surgical services. The authors estimated that these informal payments consisted of 45% of the total revenue collected per month, and these represented more than five times the amount of the total hospital payroll. This showed not only the importance of the user fees, but also a certain willingness among patients to pay for services.

Intervention

A financing scheme by the hospital management was introduced in October 1997, with a fixed fee system that was transparent and aimed to cover operational costs and salary supplementation of staff. Fees were lower than the informal payments paid prior to the intervention. The purpose was to increase confidence among the community and use of the hospital services and to ensure that remuneration of staff members was sufficient to allow them to work full-time in their positions.

A flat fee for most services was established (based on careful calculations) and was accompanied by an exemption system (based on poverty indicators). Services for people falling within these criteria would be paid from the hospital revenue and later from an equity fund paid by government and nongovernment sources. Regular public funding was ensured via a contract with six institutions involved in the scheme's management, including one external donor to cover any gaps in the operational budget. This contract also clearly defined each partner's roles and responsibilities and gave hospital management autonomy over its financial resources.

Apart from the fee system, human resources were reorganized: staffing levels were adapted and job descriptions developed, in relation to patient activities. Staff were involved in this activity; recognition of qualifications and responsibilities contributed to high professionalism among staff. Staff participated in the reorganization of the hospital through the hospital management committee. Staff received new contracts in which performance-related bonuses were associated with individual commitments. The maximum amount of each bonus was based on individual qualifications and responsibilities. The exact amount was determined on a monthly basis, depending on the hospital revenue, individual presence at work and quality of performance. These were assessed monthly by a technical supervisor. There was also a negative sanction linked to violation of hospital regulations, which meant that bonuses would not be received.

Results

Hospital admissions generally increased by around 50% in 1998, and this increase was sustained. The annual bed occupancy rate rose due to the increase in patient beds. The average length of stay remained stable and did not differ from the period before the intervention, although it varied between wards. Outpatient consultations decreased, but this was probably related to a change in policy context and an increase in private clinics. The exemption process was not very successful, as it acted as a disincentive for staff because (up to 2000) the exemption was paid from the hospital revenues. An independent study in 2001 showed that under-the-table payments ceased in Takeo Hospital.

The increased use of services also allowed a decrease in external financing: in 2001 the donor (Swiss Red Cross) stopped financing the hospital.

Salary levels remained at the same levels as during the informal under-the-table payments, but income was not formalized. The hospital management committee gained a good oversight and provided individual staff contracts. Monthly performance evaluation was carried out, but bonuses to supplement salaries were only slightly linked to performance. As salaries were already very low, hospital management did not want to further reduce income and therefore applied performance evaluation only as a punishment, when there was clear misconduct.

Lessons learnt

- The intervention was implemented under a favourable policy context: there was a legal framework and innovation and learning were encouraged.
- The hospital could decide its own finances, as autonomy of the hospital was ensured through a contract that clearly defined roles and responsibilities. The hospital did have external assistance to cover gaps in operational costs. Adequate pay, combined with organizational changes and effective sanctions, were the strong points of the system.
- Staff participation played a key role in this intervention.

Performance evaluations did not function as planned, due to the low salaries. This meant that the salary supplements in fact replaced the salaries. Salary levels were raised in 2002, which might provide an opportunity to reinstall a functioning performance evaluation system, though this was not included in this evaluation.

Source: Barber S, Bonnet F, Bekedam H (2004). Formalizing under-the-table payments to control out-of-pocket expenditures: creating a sustainable financing scheme in Cambodia. [*Health Policy Plan*](#). 19(4):199–208.

Case study 9. Quality assurance to improve compliance to standards in Ecuador

Context

In 2000, the Ministry of Health (MoH) in Ecuador introduced a new programme to improve maternity and child care services. Hospitals would be paid monthly on the basis of the number of services provided, rather than by means of traditional annual budgets. By providing financial incentives, the MoH expected to increase utilization rates. Concerns were expressed with respect to the demand for services and a quality assurance project was set up by the MoH and the Quality Assurance Project (QAP), funded by USAID.

Intervention

Operational research was conducted by QAP to test the effects of implementing a quality assurance project in improving adherence to standards, client satisfaction and use of services. Four intervention hospitals and four control hospitals formed part of the research. An expert group within the MoH defined standards and formulated indicators for the quality of maternity and child care, using the national MoH standards. The intervention hospitals were informed about these standards through group discussions.

Quality teams were established in the intervention hospitals to monitor (monthly) the indicators for quality of care, using clinical records, hospital registers, client satisfaction interviews, exit interviews and checklists. These teams were coached by an MoH staff member at provincial level, and the quality of the data was checked randomly by a supervisor. Intervention hospital teams received training in QA tools to identify, analyse and solve problems, as well as to monitor implementation of solutions. A research facilitator met the intervention hospital teams monthly to discuss performance.

Two areas needed improvement in these hospitals: clinical quality and patient satisfaction. The main QA areas implemented covered strengthening of hospital leadership (through sessions with management by the study facilitator); formation and meeting of user committees and pharmacy committees; gaining political support to improve staffing at the hospitals; clarification of job descriptions; on-the-job refresher training; monthly peer discussions on compliance with standards; and putting up posters displaying standards. The QA programme did not include providing funds to improve services. Interventions were implemented mainly by the hospital teams and committees; the only costs involved were related to technical assistance.

Results

In the intervention hospitals, compliance with standards increased significantly immediately after the intervention¹⁶. This was because most efforts by the hospital teams focused on improving clinical quality. The focus on technical quality was due to the lack of time to address both areas. Use of services and client satisfaction did not seem to be influenced by compliance with standards. These did not differ between the intervention hospitals and control hospitals. Further research is recommended in order to study sustainability and changes in utilization and satisfaction if specific interventions are developed.

Lessons learnt

- Training of teams responsible for quality improvement is required (i.e. how to work in teams, how to analyse own data and how to solve problems locally), preferably in-house, using own data.
- Time to address both clinical and patient-related issues is required if the overall performance is to be improved, and teams need support and coaching by a facilitator.
- Quality assurance teams in hospitals need management support if they are to ensure commitment and success. Leadership strengthening is required to ensure implementation.

Source: Hermida J, Robalino ME (2002). Increasing compliance with maternal and child care quality standards in Ecuador. *International Journal for Quality in Health Care*, 14(1):25–34 (http://intqhc.oxfordjournals.org/cgi/reprint/14/suppl_1/25, accessed 10 July 2006).

¹⁶ Examples are in antenatal control, clinical checks for women in labour, completed perinatal clinical records, completion of partographs, etc.

Case study 10. Output-related pay in Kabutare, Rwanda

Context

After the genocide in Rwanda (1994), the health sector received a large financial input from external donors. Certain districts, such as Kabutare, received support from NGOs to improve their health systems. Most of the health services are currently paid for by users. To deal with financial accessibility, in 1999 the MoH started an insurance scheme in three pilot areas, including Kabutare.

In Kabutare personnel received allowances, paid by an international NGO. These allowances were not related to performance, and were seen as an assured salary supplementation. In addition, the total amount for each centre was paid according to the number of personnel, which meant that some centres received more than others, although they could have the same outputs. The MoH judged this to be unfair, and reforms were suggested. Only curative services were performance-related, as users had to pay for them. However, use of service declined sharply in 2002. The NGO in the district had previous experience with alternative performance-related service provision models. Facilitating factors for implementation were: no personnel shortages in the district, a functioning HMIS system, an active District Health Management Team and support from the health workers.

Intervention

The NGO and the MoH started a performance-based contract with the different health services in the district. This was a two-stage contract: a contract between a steering committee (including the NGO and MoH) and the centre, and between the management committee of the centre and individual staff. The NGO paid the centres monthly, based on indicators from the HMIS system; the MoH guaranteed timely decision-making with respect to staff.

At health facility level a management committee was established that included staff and that was responsible for economic development of the facility and performance enhancement. In addition, tools were provided to managers to increase staff motivation: staff received clear job descriptions, internal rules and regulations were established and communicated, and a table of calculated allowances was developed. A motivation contract was signed between each individual worker and the head of the health centre; a monthly incentive was paid, depending on performance criteria. Examples of individual indicators were presence, absence of mistakes and initiative shown. Apart from the incentives, staff received a fixed salary, either through the MoH or from the centre.

Payments to the centre were based on performance measured against quantitative indicators: new curative consultations, facility-based deliveries, referred deliveries, antenatal care, new family planning cases, third doses of DTP vaccinations and measles vaccinations. This meant that health centres with more preventive service output would receive more finances. There was a monitoring and evaluation system in place, and the NGO/MoH committee checked monthly records and had a contract with the School of Public Health to do random checks at each location.

The quality of these services was not taken into account, as the NGO did not believe that allowances would influence quality, as this was related to peer pressure, supervision, initial training and professional conscience. It was also thought that centres would have to ensure quality in any case, or people would not use their services. Management of these centres was implemented by committees consisting of representatives of both users and staff.

Results

The performance of the centres improved drastically: in the pilot areas vaccination coverage and deliveries at the centre increased¹⁷. For instance, in Kabutare district the number of institutional deliveries increased by 233% and the number of referred deliveries by 459%. In one district the number of contacts per inhabitant increased from 0.39 to 0.66 per year. The bonuses contributed 39% of the income of staff in this district.

¹⁷ Detailed information on exact changes can be found in the article.

Lessons learnt

- Performance-based financing in terms of contracting health services is feasible in low-income countries. Implementation is possible only when different donors working in one area are willing to collaborate and when the MoH is willing to give autonomy to medical centres. Required technical capacity must be present or be improved, e.g. through training of providers.
- There is a clear link between financial incentives and service use, and this implicitly means that facilities need to improve the quality of care. Clarity in tasks through clear job descriptions is important when individual performance is to be rewarded. It is important to realize that incentives are more than payment of individual bonuses, but include “all intrinsic and extrinsic benefits” to individuals because of certain institutional arrangements (Meessen et al., 2006).

It is not clear what other activities, apart from clear job descriptions, internal rules and regulations and financial incentives, were included to ensure that staff performed well and were motivated, or how the management committee functioned. It is worthwhile investigating motivation and performance differences among staff in different centres using the contract approach.

Source:

Meessen B, Musango L, Kashala JP (2004). *L'initiative pour la performance, Province de Butare, Rwanda*. Butare, HealthNet International.

Meessen B, Musango L, Kashala JP, Lemlin J (2006). Reviewing institutions of rural health centres: the Performance Initiative in Butare, Rwanda. *Tropical Medicine and International Health* 11(8):1303–1317.

Case study 11. Teamwork and quality assurance in Morocco

Context

Morocco had improved its health indicators, although accessibility to health care for poor people and the quality of health care services remained a problem. To improve this, the country engaged in decentralization of its health management to provincial and regional levels. A quality assurance (QA) programme was established to improve management capacity and to ensure local quality-improvement initiatives. QA teams at 13 demonstration sites were trained by the Ministry of Health with the assistance of a management consulting firm to improve maternal and child health care services and family planning, within the context of a project to improve maternal and child health. Upon completion, the MoH in Morocco decided to scale up the QA programme as part of its decentralization strategy and the QA programme was extended with assistance, with 53 QA teams working in eight regions with noted improvements in certain sites with respect to increased family planning use, improved drug prescriptions and decreased neonatal mortality.

Intervention

Many QA teams were established, trained and coached in clinics and hospitals, and this cross-sectional study evaluated their functioning. Methods used were team self-assessments and use of a team-evaluation tool and a facilitator evaluation tool. Investigations included the level of QA initiatives that were implemented, success factors and costs involved.

Results

In general, all the teams were motivated to do their work and had started implementing activities. Most teams had succeeded in implementing QA problem identification and analysis, and teams were able to analyse their own quantitative and qualitative data. When teams had completed a QA cycle, 80% found that the indicator measured that their intervention had provided positive results. However, teams were less successful in developing appropriate solutions. Only 48% of the problems were priority problems, but most (80%) solutions were under the control of the team and were feasible.

The main costs involved were for training teams, obtaining QA manuals, facilitation and training time, and resources to implement the QA interventions. Costs were calculated at USD 105 per QA intervention, although cost calculations required improvement. Each team needed guidance from a facilitator, particularly at the start, during training and team meetings, and when identifying solutions. It was calculated that, on average, each facility required 43 visits to complete one intervention.

Lessons learnt

- Teams can improve performance, but they need to be trained and coached. Training must focus on the use of tools and methods, and on working together in teams.
- QA teams can be empowering to staff, but they need to be able to use their own data and to communicate regularly with management. The Moroccan experience shows the importance of intensive guidance and coaching by a trained facilitator.

Source: Kelley E, Abdallah H, El Karimi A, Knebel E (2001). *Quality improvement teams in Moroccan evaluation of functionality and success*. Operations Research Results 2(1), Quality Assurance Project USAID, Bethesda (<http://www.qaproject.org/pubs/PDFs/Morocco.pdf>, accessed 11 July 2006).

Case study 12. Performance-related incentives: testing non-financial and financial incentives in two districts in Zambia

Context

Health reforms started in Zambia during the 1990s and decentralization became the focus of health sector reform efforts, together with cost-sharing and community participation. Cost-sharing implied that the health facilities could retain the revenues and would spend 90% on improving health services and 10% on staff incentives. However, these incentives were often divided among all staff and proved to be too small (less than USD 1 per person per month) to have any impact on staff performance or motivation. Alternative performance improvement methods seemed necessary. Zambia had initiated the establishment of a performance management system, which included action planning for each health facility and quarterly self-assessments, which looked at both individual staff performance and overall health facility performance. In order to test different mechanisms to provide incentives to health workers, the "Performance-Based Incentives Pilot Study" was designed with the support of the Central Board of Health and USAID. It was implemented by Initiatives Inc. in collaboration with CBOH, Lusaka Provincial Health Office and the district health offices of the two intervention districts.

Intervention

The intervention was implemented for 12 months in 2004 and aimed to test the effects of financial and non-financial incentives on motivation and to examine its effects on the performance of health centres. It consisted of an award for the best-performing and the most-improved health centre, on a quarterly basis, which was determined during routine meetings between the health facilities and the district. The awards were given to the teams at the centre and the teams could decide how they wanted to share the award. Two different types of incentives were tested in two districts: one small district awarded quarterly trophies and shields that would rotate between winning health facilities; one larger district implemented financial rewards.

The larger district was selected for financial rewards on the basis of its income from user fees. The awards were designed by the study team, in conjunction with the province and district health managers. The interventions excluded the hospitals and were accompanied by operational research, which measured staff motivation.

Indicators to decide upon the best-performing or most-improved health facility were selected from existing indicators used for the national HMIS system or from the Integrated Technical Guidelines (ITG), and were integrated into the district health management performance assessment process. Both qualitative and quantitative indicators were used. These were recorded (using a scoring system) by the district supervisors during their supervision visits.

In total, the large district provided financial rewards for three quarters, which varied considerably in amount. The first time the award was given to one centre that was nominated both as best-performing and most-improved facility. The amount awarded was a rather large sum and caused staff from other facilities to ask many questions with respect to fairness. This award system was then modified and later awards were given to first- and second-best facilities. This also caused dissatisfaction about the amount of money received. Health centres that received money were not told how they should spend the amount and this varied per centre, although most of the money was used for incentives, and some was set aside to invest in equipment or supplies.

Results

Results were measured in terms of staff motivation and improved health facility performance. There was a considerable difference in staff motivation between the two districts: the staff in the small district was very enthusiastic about the awards and the competition among health facilities that the scheme created. It made them look more closely at their own data and the system of distributing copies of the results confirmed fairness of the system and helped them identify priorities for improvement. Staff in the facilities also felt more supported by the district subsequent to the introduction of the award system, as visits were more regular and results were discussed. Job satisfaction in these centres increased and, during the implementation, staff started to feel adequately rewarded for their work.

However, in the larger district, health providers mentioned that they were dissatisfied with the award programme due to perceived unfairness of the system. Health staff continued to feel that they were not rewarded adequately for their performance, although their job satisfaction increased during the implementation of the scheme. Health providers in this district mistrusted each other, believing that they manipulated the statistics. A contributing problem was that the district did not distribute copies of the scoring between the health facilities, which decreased transparency.

Although overall performance of the health facilities did not change, staff members in the small district were better able to explain the results in their district. Supervision in certain areas (e.g. prescribing antibiotics) increased and improved performance was noticed in the safety and hygiene of health facilities and in client satisfaction.

At district level, both districts encountered problems with the planning and implementation of the supervision visits. The award system improved planning of routine supervision in one district. At the time of the intervention the larger district had no director for nine months, and the district staff attributed problems in supervision, planning and coordination to this lack of leadership. Staff members in this district were involved in disease-control programmes that paid incentives for field visits, which had priority over non-paying field visits. Other implementation problems encountered included attendance at workshops and training courses, changes or new programmes from the MoH, implementation of health projects from donors, and staffing shortages at district level.

DHMT staff appeared to have difficulties in understanding the indicators themselves, which made it difficult to discuss the contents of the self-assessments.

Lessons learnt

- The study shows how performance-related incentives can improve motivation and job satisfaction when they are accompanied by supportive supervision and transparent communication. This system helped staff to focus their efforts; it also improved supervision and monitoring of the performance of health facilities.
- Such a system can be implemented using existing indicators, thus not overburdening staff.
- The system showed that non-financial rewards were motivating, whereas financial rewards caused frustration. It also showed the importance of ensuring that the DHMT is trained in using performance assessments in order to support health facility staff, thus strengthening the skills of the district health team members.
- Strong leadership at district level is crucial for success of performance-based incentive programmes and it is required to help district level staff set priorities.

This system was evaluated immediately upon completion and does not provide information about its sustainability. Costs were not calculated, but considering that almost all activities were integrated into routine activities, it seemed cost-effective, in the view of the research team.

Source: Furth R (2005). *Zambia performance-based incentives pilot study. Final report.* Quality Assurance Workforce Development Project, USAID (<http://www.initiativesinc.com/resources/publications/docs/ZambiaIncentivesStudy.pdf>, accessed 23 February 2007).

Case study 13. The importance of supporting facilities to improve staff performance: comparison of two systems in Mexico

Context

In Mexico different institutions, providing similar types of care, existed prior to health sector reforms. Two types of organizations that provide public services existed for poor people in rural and semi-urban areas: The Ministry of Health and the Social Security System (SSS). These institutions have different management and organizational structures.

The MoH is managed at central, state and district level, and has three levels of care, the lowest of which is a primary health care centre, which is strengthened with mobile teams. The primary care level is staffed by a physician, a clinical nurse and a community nurse, and covers around 1500 inhabitants.

The Social Security System is managed administratively at central level, with headquarters at state level. Health districts are established in each state, with a target population of 30 000 to 100 000 people, served by a multidisciplinary regional team, one or two rural hospitals and around 100 basic health units. Each region is subdivided into zones. A basic health unit is staffed by a physician and an auxiliary nurse, and is located in a small town, serving nearby communities with a maximum distance of two hours (walking speed). There is a radio communication system between the basic units and the supervisors. These units receive regular supervision from the regional team and zonal supervisor. Annual evaluations are used to discuss programme achievements. This includes user surveys and household interviews.

In 1999, a study was conducted over a period of 12 months in four states to analyse the strengths and weaknesses of each system as input for evidence-based policy-making strategies. The study included household surveys, in-depth interviews and focus-group discussions, as well as secondary data review.

Results

The systems were compared using the input, process, output and outcome framework. For each level, indicators were formulated. The study population in the MoH and in the SSS system were very similar according to indicators of poverty (number of children, number of persons per household, income and occupation, type of housing). The study showed that the MoH districts had more beds and human resources available, but that geographical accessibility was similar for both systems. Most patients in both systems had less than 30 minutes' waiting and contact time. Budgets in both systems differed: the curative care budget for the MoH was higher, but the preventive care budget was slightly lower. At the same time, administrative costs of the MoH were higher (0.6% versus 16.6%). Overall, the per capita costs of the MoH system were higher than those of the Social Security System.

Health worker performance was measured by looking at productivity and at staff satisfaction. Productivity in terms of the number of patients seen and bed occupancy rate was higher in the SSS system than for the MoH. The average length of stay in hospitals in the SSS was lower. The coverage of family planning and immunization services was higher in the SSS system. In the states using the SSS system there appeared to be a better health outcome, as common diseases, such as diarrhoea and ARI, were reduced at low cost. Overall, patients in the SSS system were more satisfied than those using the MoH system. The SSS system showed a better general performance than the MoH system, the main reasons being:

- more continuous systematic supervision than in MoH;
- staff members had to develop operational plans, as opposed to the MoH system;
- staff members had to conduct patient satisfaction surveys and there were monthly meetings with all staff at regional level, together with zonal and regional supervisors.

Staff members at SSS reported being more satisfied with salaries (although these were similar for both systems), with bonus pay and with the general working conditions. What they particularly appreciated was supervision, feedback and the fact that non-performance was punished. Additional important factors were the regular communication between all levels, opportunities for continuous training and community participation. In MoH facilities more physicians indicated that they had private practices than those in the SSS system (40% versus 16%), thus indicating a lower job satisfaction.

Lessons learnt

- Supportive supervision, sharing information with staff, providing feedback and discussing results are important measures to improve performance and to increase staff motivation. This requires committed and trained supervisors.

Source: Kroeger A, Hernandez JM (2003). Health services analysis as a tool for evidence-based policy making decisions: the case of the Ministry of Health and Social Security in Mexico. *Tropical Medicine and International Health*, 8(12):1157–1164.

Case study 14. Multifaceted interventions to improve performance of private pharmacists in Thailand and Viet Nam

Context

For many citizens the private pharmacists are their first contact with the health system: in Thailand and Viet Nam more than 80% of people who are sick go directly to drug sellers (Chalker et al., 2005). Pharmacist performance is often below-standard and can cause adverse health outcomes. For instance, they sell antibiotics in small doses and prescription drugs (such as steroids), without medical supervision and without a prescription. Interventions to improve their performance are required. In Thailand private pharmacists have been in existence since 1830. There are two types of drugstores: with a pharmacist or without one. The first type is allowed to sell antibiotics without prescription. However, these drugstores often function without a pharmacist dispensing drugs. In Viet Nam private pharmacists have been permitted since 1986.

A randomized controlled trial was conducted among urban private pharmacists in Bangkok and Viet Nam (respectively 78 and 68). The research was financed by the European Union and the WHO department now known as "Technical Cooperation for Essential Drugs and Traditional Medicines". It was implemented in Bangkok by Chulalongkorn University and the Community Pharmacy Association. In Hanoi the main implementers were the College of Pharmacy Hanoi School, the Hanoi Medical University, the Hanoi Health Bureau and the Hanoi Pharmacy Association. In both countries the Karolinska Institute of Sweden participated.

Intervention

The aim was to study "effectiveness of a multifaceted intervention on the dispensing practices of drug sellers in Hanoi and Bangkok, with reference to low-dose antibiotics and prescription-only steroid requests" (Chalker et al., 2005). Three interventions were implemented over a period of one year, after a baseline study and in the following chronological order:

- enforcement of regulations: in Hanoi, inspectors randomly visited selected pharmacists twice, and during these visits they distributed a summary of regulations, a letter from the provincial health bureau and an example of correct labelling. In Bangkok, inspectors visited the drugstores and checked the availability and prescriptions of steroids and gave instruction on regulations. These inspectors also gave a warning about the consequences when regulations were violated.
- education on good case management was conducted in large groups (in Bangkok) or face-to-face in Hanoi.
- peer review: group leaders were identified, both in Hanoi and Bangkok. In Hanoi they received training in peer group management and discussion, and on monitoring and evaluation. Group meetings were organized among peers; pharmacists discussed patients during these meetings. In Bangkok the leaders were asked to organize group meetings, with lectures and games to facilitate the building of relationship, and to start the peer group discussions.

In Viet Nam and Thailand the interventions were designed by local groups (local private pharmacists, health authorities and professional societies of pharmacists). They were followed up by monitoring practices through visits by simulated patients.

Results

Significant improvements were reported in Hanoi, as illegal steroids were dispensed less often (62% of the control group versus 29% of the intervention group), as well as low-dose antibiotics (90% of control group versus 69% of the intervention group). There was also an increase in pharmacies asking questions and providing advice. This was maintained by peer reviews. Change only occurred in Bangkok after the regulatory intervention: fewer illegal steroids were sold (44% versus 25%). Volunteers for peer reviews found that more pharmacists gave advice and asked questions, but drug-dispensing practices did not change. The intervention package was effective in Hanoi, but was less successful in Bangkok. Contextual factors contributed to this, relating not just to professional, historical, economic, political and cultural contexts: the details of implementation were important. The professional association in Hanoi was also more identified with the government than in Bangkok (as its officials had previously occupied senior government positions) and private practice in Hanoi is a more recent phenomenon than in Bangkok. This could mean that the interventions in Hanoi were given more importance, as they were related to the government. In Bangkok the regulatory intervention was more threatening and succeeded in improving behaviour; this was less successful in Hanoi.

Lessons learnt

- Similar interventions can have different results, depending on the context and how they are implemented. In Hanoi the link between the professional association and the government made the intervention seem more important. In Bangkok, change was obtained among those who volunteered to participate; for others, threats of punishment caused changes in certain practices.
- This shows that interventions should be perceived as supported by authorities (or any entity that is influential) in order to have impact, and that enforcement of regulations and punishment of non-adherence can be required to obtain change. Professional associations can play an important role in developing these interventions and in setting up a regulatory framework and monitoring adherence.

Apart from support of influential persons or institutions, quality of the implementation of the intervention as well as the process used to obtain change and the way different points of view are considered are of importance to obtain success.

Source: Chalker J, Ratanawijitrasin S, Chuc NTK, Petzold M, Tomson G (2005). Effectiveness of a multi-component intervention on dispensing practices at private pharmacies in Viet Nam and Thailand – a randomised controlled trial. *Social Science and Medicine*, 60:131–141.

Case study 15. Capacity building in an AIDS environment: the case of Mulanje Mission Hospital in Malawi

Context

Malawi is a poor country, with an AIDS-prevalence rate of 14.2% in 2003 and a life expectancy of only 39 years. AIDS affects the provision of health services as the health workforce becomes infected. Additional health workforce problems are high vacancy levels (with 44% of nursing posts vacant, 50% for lab technicians and 68% for doctors) and increased risk of staff loss due to AIDS, migration and job changes. Mulanje Hospital is a 192-bed mission hospital that in 2004 had 289 employees. The hospital is situated in a rural district in the south of Malawi and faces staff shortages and absenteeism due to AIDS; the remaining staff members are demoralized and overworked. This has had an impact on the quality and accessibility of health care services.

Intervention

The hospital invested in a human resources and development plan in order to address staffing issues from 2001 to 2005. At the start, training and recruitment were the focus of HR activities. Training was offered to staff, together with a bonding contract. Staff received financial incentives, such as salary top-ups and payment of school fees. Working and living conditions were also improved, such as through renovation of staff housing and rebuilding of the laboratory and maintenance workshop. Electricity supply, telephone lines and e-mail connections were also improved.

Capacity building took place over a period of four years. Initially this was mainly external training for technical staff, but, as AIDS resulted in more staff absenteeism and attrition, training often took place in-house, via short courses or distance learning. This appeared to be more successful, as staff members remained working in the hospital, living with their families, and were able to apply new skills to their own work. In 2003–2004 staff members from other departments were also included in the training scheme.

Although individual training did improve skills to deal with AIDS, more efforts were required to better handle AIDS on an organization-wide level. The latest changes included efforts to improve management skills by strategic planning sessions, coaching and training, improvement in communication and upgrading the information system. HR and organizational development advisors were hired to improve hospital functioning; advocacy among donors took place on the impact of HIV/AIDS on hospital expenditures.

Results

Recruitment of new staff and investment in training meant an increase in staff satisfaction; motivation and more initiatives were developed. Staff became loyal to the facility and more competent. There were fewer vacancies, and vacancies were filled more quickly. However, these capacity-building efforts also had a downside, as staff demanded higher salaries due to their additional skills and changes in tasks. Staff in training had to be replaced, but new staff required extra housing. Extra recruitments increased the wage bill. In addition, operational costs due to staff dealing with HIV/AIDS increased, such as funeral costs, staff loans, overtime payments to cover for staff, etc. The hospital nearly went bankrupt, and donors were not willing to pay these extra costs.

Lessons learnt

- Technical training of staff to better deal with a change in tasks due to a change in environment, such as an increase in AIDS, is important but is not sufficient to ensure that the organization as a whole can deal with AIDS better; efforts at management level and organizational functioning are also important. Examples are occupational health and safety and adjustments of terms and conditions of employment.
- If an increase in competences is required, short courses and distance learning should be considered before sending personnel on long-term, off-site training courses. AIDS has a severe impact on the functioning of health facilities and operational costs are likely to increase. It is important to track these costs in order to better deal with increased expenditures and to use these overviews in discussions with funding agencies as advocacy for more structured funding, including recurrent costs.

Source: Rode H (2005). *Capacity building in the AIDS affected health sector in Malawi. Mulanje Mission Hospital, Malawi*. Utrecht, Interchurch Organisation for Development Co-operation/Association for Personnel Service Overseas (ICCO/PSO).

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Annex 1. Terms of reference

Incentives for improving performance and retention of health workers in underserved areas: What works and why?

Draft terms of reference for a review and policy paper, as a follow-up to the World health report 2006

Background

Much of the global debate about human resources for health is focused on macro issues, such as the existing or needed absolute numbers of workers with different skills, worldwide salary differentials and international migration. Insufficient attention is paid to retaining and managing the health workers available within any health system.

The *WHR 2006* places the health workers' experiences, reactions and behaviours at the centre of any analysis of health system functioning. It is therefore important to have a better idea of what kind of incentives make any difference in keeping the health workers where they are most needed, and making them work to their fullest potential. No blueprint can be provided for this area, as situations are different from country to country and from setting to setting. But identifying the host of incentives valued by health workers in specific contexts, and assessing their effectiveness, can provide insights for policy-makers and managers on what has been tried, with what success, and what they in turn can use and adapt to their specific setting.

Scope of the work

A host of mechanisms and strategies have been developed, mostly in developing countries, to improve the performance of health workers at all levels of health systems. These include performance-related pay, quality circles, accreditation schemes, management by results and bonus payments. The many incentives that have been used to retain health workers in underserved areas include: hardship allowances, paid vacations, continuous professional development, family and housing allowances, rural recruitment and placement, etc. Documenting these experiences in low-income and middle-income countries can contribute to building and strengthening the evidence base that is required by policy-makers and managers, particularly in these countries.

Objectives

The overall goal of this report is to present the evidence and make policy recommendations regarding the use of performance and retention incentives of various kinds in the health sector, with a focus on low-income and middle-income countries

The specific objectives of the report are to provide:

- a review based on the published literature and grey literature showing the experience of using specific incentives to retain health workers in underserved areas (in both developed and developing countries), concluding with a summary of those that appear to have shown the most promise;
- a review, based on published and grey literature, showing the kinds of incentives used to improve the performance of health workers that have been applied in low-income countries, and what effect these have had;
- policy recommendations regarding the use of various retention and performance incentives in the health sector.

The report provides examples from different types of health systems (private, public, mixed) and from countries of different income levels, but focusing on medium- and low-income countries, including transition countries.

Methods of work

- desk review;
- discussions/consultation with staff from the PIE team in the HRH Department, and other staff in the HRH Department.

Annex 2. A brief overview of theoretical concepts on motivation and job satisfaction

Concept of performance and its relation to motivation and job satisfaction

Performance, motivation and job satisfaction are closely related to each other: motivated staff are more likely to be satisfied with their jobs and therefore remain in their posts and perform well. Performance can be described as implementing tasks to a certain standard and in line with the mission and goals of the organization. Boxall (2003) describes performance as “a function of employee ability, motivation and opportunity to participate or contribute”. To ensure good performance, staff members need to be competent and have an adequate working environment in terms of an acceptable workload, with adequate supplies and equipment.

Apart from this, staff also need to be motivated (Hughes et al., 2002). Motivation can be defined as “the willingness to exert and maintain an effort towards organizational goals” (Franco et al., 2002), implying that staff perceive themselves as able to do their work, that they are willing to work and that they have the means to do their work (Zurn et al., 2005).

Job satisfaction is defined as “the extent to which a person likes his or her job” and is related to a person’s attitudes and feelings towards the tasks, salary, working conditions, training and career opportunities, supportive working environment, etc. People who are satisfied with their job are more likely to support their colleagues, thus creating a supportive working environment, contributing to the satisfaction and motivation of others (Hughes et al., 2002). Various studies have demonstrated that there is a clear link between job satisfaction and staff retention (see the section on retention). Job satisfaction does not automatically lead to good performance, but job satisfaction and motivation are closely related.

Authors explaining motivation and satisfaction often use the same theories (Hughes et al., 2002). One set of theories used to explain motivation is based on needs. These theories state that people share a common set of basic needs and that people will perform to satisfy (some of) their needs. The main needs-based theories are Maslow’s hierarchy of needs, which distinguishes five levels of needs that drive people to perform, and Herzberg’s two-factor theory, which distinguishes between motivators – or satisfiers – and job dissatisfiers (Dolea & Adams, 2005; Zurn et al., 2005). Another often-used theory is Alderfer’s ERG (existence-relatedness-growth needs) theory, which differentiates between three different types of needs. This is similar to Maslow’s pyramid of needs, but states that people can satisfy more than one need at a time, and that people who attempt to satisfy a higher need (but are unable to do so) then regress to satisfy a lower need (Hughes et al., 2002).

Another set of theories is known as cognitive theories (Hughes et al., 2002) or process theories (Dolea & Adams, 2005; Zurn et al., 2005), which relate job efforts to desirable outcomes, and rely on the fact that people take rational decisions in their work. The most commonly used theories in this set are the goal-setting theory, the expectancy theory and proMES (Productivity Measurement and Enhancement System). The goal-setting theory states that individuals make rational decisions about the goals they expect to achieve, and that these goals guide people’s behaviour. Managers can use incentives to ensure that an individual’s goal matches the organizational goals, thus influencing behaviour (Dolea & Adams, 2005). The expectancy theory explains the motivation to behave in a certain way by the perceived value of the outcome of this behaviour. The higher the perceived value of the outcome the harder people will work (Dolea & Adams, 2005). ProMES looks at the decision-making process that people use when they perform their allotted tasks. This theory explains that people see a direct relationship between their performance, the services/products that are produced, the evaluations they receive, the rewards they receive and their personal needs (Hughes et al., 2002).

A third set of theories explains motivation from the point of view that all individuals differ from one another with respect to what intrinsically motivates them and their motives to achieve success. For instance, some people are achievement-oriented, whereas others have an intrinsic motivation (Hughes et al., 2002).

A last set of theories concerns the situational approaches, which includes theories explaining improving people's motivation by changing the work situation. Two approaches have been developed: the "job characteristics" model and the "operant" approach. The former states that certain jobs are more likely to motivate people than other jobs, and that employees will work harder if they carry out tasks that are meaningful and if they receive feedback on their performance. The latter approach is based on the use of rewards and punishments (Hughes et al., 2002).

There are also some additional theories to explain job satisfaction, which are based on affectivity: explaining that people react emotionally to their environment. These theories state that people who tend to react positively are more satisfied with their work than those who react negatively. Another important theory relating to job satisfaction is the "equity" theory, which explains satisfaction in relation to a perception of being fairly treated in comparison to others: either other colleagues in the same organization or in other organizations. For instance, nurses in the public sector perceive their payment as unfair because nurses performing similar tasks in the private sector earn more, or colleagues performing the same tasks have more opportunities for training. A last theory employed to determine job satisfaction is a theory based on organizational justice, which states that staff will be more satisfied if they are treated fairly within the organization. This theory contains three components: obtaining sufficient information (interactional justice); gaining rewards according to performance (distributional justice); and, when being punished, receiving sufficient warning (procedural justice) (Hughes et al., 2002).

The section above presents the various theories in a nutshell: it does not do justice to their value in understanding and explaining the concepts of motivation and job satisfaction, and their use for managers in addressing staffing performance problems. However it does show that a variety of theories exist and that these all help to explain why staff members behave in certain ways, and this in turn can help to develop strategies to enhance performance. Studies in low-income countries are not always based on a specific theory or combination of theories.

Annex 3. Overview of indicators per case study

Case studies: Retention	Indicators used for health worker retention
Case study 1. Donor and government collaboration in addressing the HRH crisis in Malawi	<p>Level of effect:</p> <p>number of staff available (no hard data given/interviews with managers)</p> <p>Level of output:</p> <p>number of staff receiving top-ups</p> <p>number of staff recruited</p> <p>number of staff internally promoted</p>
Case study 2. Compulsory service in South Africa	<p>Level of impact:</p> <p>comparison of health indicators over the years</p> <p>Level of outcome:</p> <p>the functioning of the district or the hospital</p> <p>Level of effect:</p> <p>number of doctors working in peripheral areas</p> <p>perceptions of the community on community service by doctors</p> <p>change in knowledge, skills, etc., of doctors</p> <p>reduction in the emigration rates of doctors</p> <p>These indicators were not reported in detail in this monitoring brief.</p>
Case study 3. Retention scheme in Zambia	<p>Level of effect: availability</p> <p>number of doctors in rural areas</p>
Case study 4. Recruitment and retention of allied health workers in Western Victoria, Australia	<p>Level of effect:</p> <p>availability, staff turnover, vacancies</p> <p>Level of output:</p> <p>job satisfaction</p> <p>No specific data were given.</p>
Case study 5. A team-based approach to retention of nursing staff in Australia	<p>Level of outputs:</p> <p>job satisfaction</p> <p>number of staff intending to leave the profession</p> <p>number of staff intending to leave the hospital</p>
Case study 6. Improving living conditions in rural Kenya – establishing a credit union	<p>Level of process:</p> <p>number of staff on credit</p> <p>The source does not establish a direct link to retention.</p>
Case studies: performance	Indicators used for health worker performance
Case study 7. Health-sector reforms: privatization and reorientation to primary care services in Kazakhstan	No indicators used, and no “hard data” even at aggregate level; explores staff motivation and output level
Case study 8. Formalizing payment: holding staff accountable at Takeo hospital, Cambodia	<p>Level of output:</p> <p>number of staff asking for under-the-table payments/in-depth interviews</p>

Case study 9. Quality assurance to improve compliance to standards in Ecuador	<p>Level of outcome: use of services</p> <p>Level of effects: competence/responsiveness</p> <p>adherence to protocols: examples of areas with clearly defined indicators</p> <p>completion of partograph, IMCI algorithm followed, standardized activities for antenatal control performed, etc.</p> <p>client satisfaction</p>
Case study 10. Output-related pay in Kabutare, Rwanda	<p>Level of effects: productivity of staff-indicators</p> <p>number of vaccinations, number of institutional deliveries, number of antenatal visits</p>
Case study 11. Teamwork and quality assurance in Morocco	<p>Level of outputs: study at teamwork level, with the following indicators: the extent to which teams were able to identify, prioritize and analyse problems the extent to which they were able to formulate and implement solutions satisfaction of team members</p>
Case study 12. Performance-related incentives – testing non-financial and financial incentives in two districts in Zambia	<p>Level of outcome: performance of health services</p> <p>Level of effects: competences: prescription of antibiotics responsiveness: client satisfaction</p> <p>Level of outputs: motivation and job satisfaction of staff working conditions: hygiene at the health centre</p>
Case study 13. The importance of supporting facilities to improve staff performance: comparison of two systems in Mexico	<p>Level of effect: productivity: the number of patients seen and bed-occupancy rate</p> <p>staff satisfaction: through in-depth interviews and assessing the number of physicians with private practices</p>
Case study 14. Multifaceted interventions to improve performance of private pharmacists in Thailand and Viet Nam	<p>Level of effect: competence: number of pharmacies dispensing antibiotics number of pharmacies dispensing illegal steroids</p> <p>responsiveness: asking questions and giving advice</p> <p>Level of output: requests for prescriptions</p>
Case study 15. Capacity building in an AIDS environment: the case of Mulanje Mission Hospital in Malawi	<p>Level of effect: retention: number of trained staff who returned number of vacancies</p> <p>Level of output: satisfaction motivation indicators: open job applications, attendance of workshops/complimentary letters to management/proposals for improvement</p>

Annex 4. HSRC/HRC keywords

HSRC/HRC Keywords

Consultant Name:

Margalein Dialeman

01.00 Health Sector Reform

- 01.01 Policy development
- 01.02 SWAps
- 01.03 Planning
- 01.04 Law
- 01.99 Other

02.00 Poverty

03.00 Social development

- 03.01 Gender
- 03.02 Participatory approaches
- 03.03 Non-governmental organisations
- 03.04 Disability
- 03.05 Community development
- 03.06 Community health
- 03.99 Other

04.00 Management & Organisational Development

- 04.01 Institutional development
- 04.02 Capacity building
- 04.03 Systems development
- 04.04 Quality
- 04.05 Team building / facilitation
- 04.06 Change management
- 04.07 Communication - internal
- 04.08 Communication - external / PR
- 04.99 Other

05.00 Decentralisation

- 05.01 District health services
- 05.99 Other

06.00 Contracting and performance management

- 06.01 Basic packages
- 06.02 Accreditation (clinical)/ audit/ clinical governance
- 06.03 Evidence based medicine/ practice
- 06.04 Performance Management
- 06.05 Contracting
- 06.99 Other

07.00 Human resources

- 07.01 HR planning
- 07.02 HR management
- 07.03 HR development and training
- 07.04 Teaching
- 07.05 Employment law
- 07.06 Public Service Commissions
- 07.99 Other

08.00 Finance and economics

- 08.01 Health economics
- 08.02 Health financing
- 08.03 Financial management
- 08.04 Financial systems
- 08.05 Insurance
- 08.06 Health resource accounts
- 08.07 Economics
- 08.08 Public expenditure / PE Review
- 08.99 Other

09.00 Private sector

- 09.01 Regulation
- 09.02 Public / private interaction
- 09.03 Private / Finance initiative (PFI)
- 09.99 Other

10.00 Sexual and Reproductive Health

- 10.01 Family planning
- 10.02 Sexually transmitted diseases
- 10.03 Maternal health
- 10.04 SRH commodities
- 10.99 Other

11.00 HIV / AIDS

- 11.01 Health Systems - Governance/Inst Devt, PRSPs, SWAps
- 11.02 Economics/finance
- 11.03 AIDS Generalists
- 11.04 Multi-sectoral specialists
- 11.05 Clinical Treatment, ART, MTCT, Practitioners
- 11.06 Clinical Treatment, ART, MTCT, Research
- 11.07 Care - Home Based
- 11.08 Prevention - specialised - blood safety, drug abuse, VCT
- 11.09 BCC, Health Promotion, PRI/Advocacy
- 11.10 STDs
- 11.11 Social Marketing
- 11.12 Drugs & Commodities logistics

HIV/AIDS cont'd...

- 11.13 Social Devt / Gender / Equity
- 11.14 Partnership Building, NGOs, Public/Private, Capacity Building
- 11.15 Human Rights / PWAs / Legislation
- 11.16 Human Resources - implications of HIV/AIDS eg workforce planning
- 11.17 Education Sector
- 11.18 Target Groups
- 11.19 Monitoring - Epidemiology
- 11.20 Monitoring - MIS
- 11.21 Monitoring - General, Project, Programme
- 11.22 Design of HIV/AIDS Programmes
- 11.99 Other

12.00 Public health

- 12.01 Epidemiology-includes health needs assessment
- 12.02 Urban health
- 12.03 Rural health
- 12.04 Environmental health
- 12.05 Water and sanitation
- 12.06 Nutrition
- 12.07 Blood safety
- 12.99 Other

13.00 Disease control

- 13.01 Malaria
- 13.02 TB
- 13.03 Other communicable diseases
- 13.04 Non communicable diseases
- 13.99 Other

14.00 Child health

- 14.01 IMCI
- 14.02 Immunisation
- 14.03 Disability
- 14.99 Other

15.00 Mental health

- 15.01 Drug and alcohol abuse
- 15.99 Other

16.00 Primary care

- 16.01 PHC training (incl. GP)
- 16.99 Other

17.00 Secondary care

- 17.01 Hospital management
- 17.02 Hospital autonomy
- 17.03 Hospital rationalisation
- 17.99 Other

18.00 Health promotion/ health education/ IEC

19.00 Procurement/ logistics/ asset management

- 19.01 Asset and estate management
- 19.02 Transport
- 19.03 Equipment / commodities management
- 19.99 Other

20.00 Pharmaceuticals / Drugs

- 20.01 Drug registration
- 20.02 Essential drugs list
- 20.99 Other

21.00 Facilities planning

- 21.01 Hospital / capital commissioning
- 21.99 Other

22.00 IM & T

- 22.01 Information management
- 22.02 Information technology
- 22.99 Other

23.00 Project design / management

- 23.01 Project design
- 23.02 Logframes
- 23.03 Project management
- 23.04 Monitoring and evaluation
- 23.99 Other

24.00 Emergencies

25.00 Social marketing

26.00 Research

- 26.01 Academic

27.00 Public sector reform

50.00 Specific Professions

- 50.01 Medical doctor
- 50.02 Nurse
- 50.03 Accountant
- 50.04 Writer
- 50.99 Other