

## **Helpdesk Report: Evidence on the impact of salary supplementation schemes on performance of health workers**

**Date:** 15<sup>th</sup> June 2016

**Query:** What is the evidence on the impact of salary supplementation schemes on the performance of health workers? This should explore various types of schemes, including general, performance based, schemes seeking to improve retention in hardship areas, etc.

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### **1. Overview**

Salary supplementation can be defined as monetary payments or in-kind benefits paid to staff above the standard compensation for their position. There are two key types of salary supplementation schemes: those aiming to improve the performance of existing staff, and those that are primarily concerned with attracting and retaining staff in either roles or regions which prove challenging to fill.

The use of salary supplementation, particularly performance-based supplementation, is however a contentious topic, with studies and reports in favour of it offset by those suggesting that in many ways it is ineffective or may do more harm than good for reasons including system gaming, unbalancing priorities and corruption. Overall, it seems that though results based financing can be beneficial in certain cases, it must be implemented very carefully, with extensive consideration of the wider system and motivations, and with very close monitoring to minimise system gaming and other unintended consequences.

Salary supplementation for attracting and retaining health workers is far less contentious, with a broad consensus that it is effective in a wide range of circumstances, though this approach too faces challenges, primarily in terms of ensuring sustainability of results and potential neglect of non-financial incentives. A clear exit strategy is also important, as perhaps the greatest issue with salary supplementation is the difficulty with phasing out support.

This rapid review has identified a range of evidence on the impact of salary supplementation on health workers in performance and attraction/retention based initiatives. Although several

studies are non-conclusive in their findings, this report broadly separates the evidence into five key categories:

- **Evidence broadly in support of performance-based financing**

This section discusses several studies that have found a statistically significant impact of results-based financing on indicators of health worker performance, such as number of perinatal referrals (Van de Looij et al., 2015), wasting in children under 5 (Binagwaho et al., 2014), and number of institutional deliveries (Basinga et al., 2011; Meessen et al., 2006), among other significant results. It was found that results-based financing is a cost-effective intervention (Meessen et al., 2006).

This section also discusses how there are benefits to results-based financing beyond the financial incentives themselves, including requisite improvements in management and reporting structures, which can in themselves improve performance (Van de Looij et al., 2015). Vujcic (2009) notes the importance of aligning health worker incentives with the goals of the system, and ensuring strong monitoring capacity. However, though Olken et al. (2012) found no system gaming behaviour, Hasnain et al. (2012) found that gaming behaviour and other unintended consequences can be a problem, and there is currently too little evidence on the long-term effects of performance-based financing. Though Adams & Hicks (2000) and Miller & Babiarz (2013) note that economic incentives appear to be successful in impacting health worker performance, they emphasise the importance of viewing incentives within the system as a whole, including unintended consequences.

This section includes:

- 'Early evidence from results-based financing in rural Zimbabwe' (Van de Looij et al., 2015)
- 'Impact of implementing performance-based financing on childhood malnutrition in Rwanda' (Binagwaho et al., 2014)
- 'Effect on maternal and child health services in Rwanda of payment to primary health-care providers for performance: an impact evaluation' (Basinga et al., 2011)
- 'Should Aid Reward Performance? Evidence from a Field Experiment on Health and Education in Indonesia' (Olken et al., 2012)
- 'Reviewing institutions of rural health centres: the Performance Initiative in Butare, Rwanda' (Meessen et al., 2006)
- 'Performance-Related Pay in the Public Sector: A Review of Theory and Evidence' (Hasnain et al., 2012)
- 'How You Pay Health Workers Matters: A Primer on Health Worker Remuneration Methods' (Vujcic, 2009)
- 'Pay and Non-Pay Incentives, Performance and Motivation' (Adams & Hicks, 2000)
- 'Pay-for-performance incentives in low and middle income country health programs' (Miller & Babiarz, 2013)

- **Evidence broadly against performance-based financing**

This section discusses the evidence against performance-based financing, including a study in the DRC (Fox et al., 2014), which found no evidence that results-based financing had an effect, and emphasises that health worker motivation cannot be taken as a given – particularly as results-based financing may require them to increase their workload – and many factors play a part in it. The OECD also found that, surprisingly, performance-related pay does not influence worker behaviour in the majority of cases. Witter et al. (2011) found that there was little evidence that performance-based financing influenced behaviour, and also noted that the performance-based incentives were implemented as a parallel system, with likely consequences for their sustainability.

Kalk et al. (2010) found in Rwanda that though performance as defined by indicators improved, along with other benefits including interaction between management, staff and patients, there were serious problems with system gaming including falsification of documents and neglect of non-remunerated activities, and feelings that the indicators were arbitrary.

This section includes:

- 'Paying health workers for performance in a fragmented, fragile state: reflections from Katanga Province, Democratic Republic of Congo' (Fox et al., 2014)
- 'Paying for performance' in Rwanda: does it pay off?' (Kalk et al., 2010)
- 'Paying health workers for performance in Battagram district, Pakistan' (Witter et al., 2011)
- 'Paying for performance to improve the delivery of health interventions in low- and middle-income countries' (Witter et al., 2012)
- 'Paying for Performance: Policies for Government Employees' (OECD, 2005)

- **Evidence broadly in support of salary supplementation for the attraction and retention of health workers**

There is considerable evidence in support of salary supplementation for the attraction and retention of health workers. Dieleman et al. (2012) found that in Zimbabwe, the tax-free top-up provided to health workers led to the number of vacancies falling in all health worker cadres, especially nurses and pharmacists. O'Neil et al. found that in Malawi, the combination of salary top-ups and investments in local health training institutions led to an increase of 53% in the number of professional health workers over 5 years. Palmer (2006) found that hospital managers in Malawi indicated that top-ups had significantly stemmed the flow of staff, particularly nurses, out of the public sector.

The WHO (2010) recommends hardship allowances, housing grants and other financial incentives to attract and retain health workers in remote and rural areas. In Zimbabwe (ReBUILD, 2015), it was found that health worker attrition rates reduced following the implementation of incentives for retention, though there were many challenges including allowances such as the rural area allowance not being sufficient to offset the disadvantages of rural working, inequities in the scheme unbalancing the labour market and staff becoming more money-motivated.

Studies in this section include:

- 'Impact Assessment of the Zimbabwe Health Worker Retention Scheme' (Dieleman et al., 2012)
- 'Evaluation of Malawi's Emergency Human Resources Programme' (O'Neil et al., 2010)
- 'Tackling Malawi's Human Resources Crisis' (Palmer, 2006)
- 'Increasing access to health workers in remote and rural areas through improved retention: global policy recommendations' (WHO, 2010)
- 'The challenge of retaining health workers in Zimbabwe: findings from ReBUILD research' (ReBUILD Consortium, 2015)

- **Evidence broadly against salary supplementation for the attraction and retention of health workers**

A key problem with salary supplementation for the attraction and retention of health workers has been found to be sustainability. Rohwerder (2015) describes numerous cases in which support from donors has had to be continued as the planned phasing out of support has not been possible due to governments being unable or unwilling to take on the costs themselves. Other issues include that distortions caused by top-ups being provided to some positions and not others can cause staff to be drawn away from

essential roles, that top-ups can sometimes be incorrectly used for roles that are already attractive, and that temporary salary supplementation tends to become permanent (Mukherjee & Manning, 2002). Wurie et al. (2016) emphasise the importance of addressing non-financial incentives for the attraction and retention of health workers since very often this is the issue rather than financial barriers.

Only three studies were identified that were broadly negative in their assessment:

- 'Salary Top-ups' (Mukherjee & Manning, 2002)
- 'Retention of health workers in rural and urban Sierra Leone: findings from life histories' (Wurie et al., 2016)
- 'External Support for Retention Allowances' (Rohwerder, 2015)

#### • Other useful resources

This section includes studies and reports which did not fit directly within the previous categories or do not necessarily refer directly to salary supplementation, but are nonetheless highly relevant to the research query. It includes an evaluation of DFID's support to Healthcare Workers' Salaries in Sierra Leone (Stevenson et al., 2012) which did not fit into the previous sections as it attempted to use financial incentives to improve attraction, retention and behaviour concurrently. The programme was found to be successful in attracting new recruits and reducing improper charging of user fees, though the latter did continue to some degree.

Lindner (2013) explores the impact of salary top-ups on corruption, stating that despite the challenges, including undermining accountability and creating perceptions of corruption due to differences in pay, it reduces the incentive for corrupt behaviour since the salary is now easier to manage, and the opportunity cost of engaging in corruption increases since staff would be at risk of losing a well-remunerated job. Rao (2013) describes other factors that may result in poor worker retention and performance. Van Lerberghe et al. (2002) describe the results of underpaid health workers, including under-the-counter fees and workers holding multiple jobs.

It includes:

- 'Evaluation of DFID Support to Healthcare Workers Salaries in Sierra Leone' (Stevenson et al., 2012)
- 'Salary top-ups and their impact on corruption' (Lindner, 2013)
- 'Measuring the impact of PFM reforms on service delivery' (Rao, 2013)
- 'When staff is underpaid: dealing with the individual coping strategies of health personnel' (Van Lerberghe, 2002)

## 2. Evidence broadly in support of performance-based financing

### Early evidence from results-based financing in rural Zimbabwe

Van de Looij, F., Mureyi, D., Sisimayi, C., Koot, J., Manangazira, P., Musuka, N. (2015)  
African Health Monitor

<http://www.who.afro.who.int/en/ahm/issue/20/articles/early-evidence-results-based-financing-rural-zimbabwe>

In July 2011, through a World Bank grant, Zimbabwe commenced a results-based financing project to improve utilisation of quality maternal, neonatal and child health (MNCH) services. This article discusses its early results. A statistical analysis of intervention districts and control districts shows that RBF districts demonstrate higher increases in utilisation levels for the MNCH services than control districts. Month-on-month growth rates for antenatal care, perinatal referrals and growth monitoring are statistically significant after the intervention,

whilst they were not before the intervention and no significant trend was found in control districts. Qualitative study provides insight in the mechanisms through which RBF contributed to better performance: the use of contracts, increased autonomy of health facilities, increased community involvement, intrinsic motivation of healthcare workers, existence of a reliable health information system, abolishment of user fees, improved supervision of health facilities, separation of functions, and the Government of Zimbabwe's results-based management (RBM) policy. The study also points at externalities that influence behaviour of health service providers.

### **Impact of implementing performance-based financing on childhood malnutrition in Rwanda**

Binagwaho, A., Condo, J., Wagner, C., Ngabo, F., Karema, C., Kanter, S., Forrest, J., Bizimana, J. (2014) *BMC Public Health* 14 (1): 1132

<https://dash.harvard.edu/handle/1/13454793>

This article explores the impact of performance-based financing, which has been implemented at the national level in Rwanda since 2008, on the three classifications of malnutrition – stunting, wasting and underweight status in children under 5 years of age in Rwanda. The study is a cross-sectional study comprising of 713 children under 5 years old from 557 households, whose anthropometric measurements (height, weight and age) had been obtained as part of the 2008 Rwanda General Health and HIV household survey. Z-scores for height-for-age, weight-for-age, weight-for-height, and body mass index-for-age were analysed according to the World Health Organization 2006 Child Growth Standards. Random intercept logistic regression models were used to regress each anthropometric measure against child, maternal and household characteristics. The study found that living in districts implementing PBF was protective of wasting (Adjusted Odds Ratio: 0.43; 95% confidence interval: 0.19-0.97). Living in a district with PBF was not found to be associated with either stunting or underweight status among children under 5.

### **Effect on maternal and child health services in Rwanda of payment to primary health-care providers for performance: an impact evaluation**

Basinga, P., Gertler, P., Binagwaho, A., Soucat, A., Sturdy, J., Vermeersch, C. (2011) *The Lancet* 2011; 377: 1421–28

[http://www.thelancet.com/article/S0140-6736\(11\)60177-3/abstract](http://www.thelancet.com/article/S0140-6736(11)60177-3/abstract)

This study assessed the effect of performance-based payment of healthcare providers (payment for performance, P4P) on use and quality of child and maternal care services in healthcare facilities in Rwanda.

Methods: 166 facilities were randomly assigned at the district level either to begin P4P funding between June 2006, and October 2006 (intervention group; n=80), or to continue with the traditional input-based funding until 23 months after study baseline (control group; n=86). Randomisation was done by coin toss. They surveyed facilities and 2,158 households at baseline and after 23 months. The main outcome measures were prenatal care visits and institutional deliveries, quality of prenatal care and child preventive care visits and immunisation. They isolated the incentive effect from the resource effect by increasing comparison facilities' input-based budgets by the average P4P payments made to the treatment facilities. They estimated a multivariate regression specification of the difference-in-difference model in which an individual's outcome is regressed against a dummy variable, indicating whether the facility received P4P that year, a facility-fixed effect, a year indicator, and a series of individual and household characteristics.

Findings: Their model estimated that facilities in the intervention group had a 23% increase in the number of institutional deliveries and increases in the number of preventive care visits by

children aged 23 months or younger (56%) and aged between 24 months and 59 months (132%). No improvements were seen in the number of women completing four prenatal care visits or of children receiving full immunisation schedules. They also estimate an increase of 0.157 standard deviations (95% CI 0.026–0.289) in prenatal quality as measured by compliance with Rwandan prenatal care clinical practice guidelines.

Interpretation: The P4P scheme in Rwanda had the greatest effect on those services that had the highest payment rates and needed the least effort from the service provider. P4P financial performance incentives can improve both the use and quality of maternal and child health services, and could be a useful intervention to accelerate progress towards development targets for maternal and child health.

### **Should Aid Reward Performance? Evidence from a Field Experiment on Health and Education in Indonesia**

Olken, B., Onishi, J., Wong, S. (2012) NBER  
<http://www.nber.org/papers/w17892>

This paper reports an experiment in over 3,000 Indonesian villages designed to test the role of performance incentives in improving the efficacy of aid programmes. Villages in a randomly-chosen one third of sub-districts received a block grant to improve 12 maternal and child health and education indicators, with the size of the subsequent year's block grant depending on performance relative to other villages in the sub-district. Villages in remaining sub-districts were randomly assigned to either an otherwise identical block grant programme with no financial link to performance, or to a pure control group. We find that the incentivised villages performed better on health than the non-incentivised villages, particularly in less developed areas, but found no impact of incentives on education. We find no evidence of negative spill-overs from the incentives to untargeted outcomes, and no evidence that villagers manipulated scores. The relative performance design was crucial in ensuring that incentives did not result in a net transfer of funds toward richer areas. Incentives led to what appear to be more efficient spending of block grants, and led to an increase in labour from health providers, who are partially paid fee-for-service, but not teachers. On net, between 50-75% of the total impact of the block grant programme on health indicators can be attributed to the performance incentives.

### **Reviewing institutions of rural health centres: the Performance Initiative in Butare, Rwanda**

Meessen, B., Musango, L., Kashala, J., Lemlin, J. (2006) *Tropical Medicine and International Health*, volume 11 no 8 pp 1 303–1317  
<http://onlinelibrary.wiley.com/doi/10.1111/j.1365-3156.2006.01680.x/epdf>

This paper presents the experience of the Performance Initiative, an innovative contractual approach that has reshaped the incentive structure in place in two rural districts of Rwanda from 2001-2004. It describes the general background, the initial analysis, the institutional arrangement and the results after 3 years of operations. It indicates that 'output-based payment + greater autonomy' is a feasible and effective strategy for improving the performance of public health centres. It was decided to move from a fixed individual bonus to facility performance funding. The previous system, with a fixed allowance, was not working optimally as the allowance had come to be seen as a guaranteed supplementary salary, without taking performance into account; and the amount invested in a health centre was not related to performance in terms of outputs but simply the number of people employed.

Performance has been defined in a quite basic way through a limited set of five key activities with a potentially high impact on the population's health status: curative consultations, institutional deliveries, antenatal visits, family planning and child immunisation. It was decided

that any single unit produced by a health centre deserved a payment. This was chosen to avoid a threshold effect where units do not generate payment until a certain number is reached and as was considered a good proxy of the marginal effort of the staff. 19 health centres were selected for the initiative, along with non-intervention groups.

In Gakoma district (four health centres), there were improvements across all indicators except coverage rate for family planning (which remained the same). There was a 1,405% increase in new subscribers to family planning. In Kabutare district (15 health centres), there were improvements across all indicators. The improvements were substantially greater than those in the control groups. It appears that the Performance Initiative was not an expensive intervention. Yearly cost was around US\$93,300 (or US\$0.24 per capita per year) distributed in the following way: 62% for incentives to the health centres, 27% for incentives to district and province managers and 11% for the transaction costs (i.e. organisation of the Steering Committee meetings and two surveys by the School of Public Health).

### **Performance-Related Pay in the Public Sector: A Review of Theory and Evidence**

Hasnain, Z., Manning, N., Pierskalla, J. (2012) World Bank.

<http://elibrary.worldbank.org/doi/abs/10.1596/1813-9450-6043>

This report is based on a comprehensive review of 110 studies of public sector and relevant private sector jobs. The results are as follows. First, it was found that overall a majority (65 of 110) of studies find a positive effect of performance-related pay, with higher quality empirical studies (68 of the 110) generally more positive in their findings (46 of the 68). These show that explicit performance standards linked to some form of bonus pay can improve, at times dramatically, desired service outcomes.

Second, however, these more rigorous studies are overwhelmingly for jobs where the outputs or outcomes are more readily observable, such as teaching, health care, and revenue collection (66 of the 68). There is insufficient evidence, positive or negative, of the effect of performance-related pay in organisational contexts that are similar to that of the core civil service, characterised by task complexity and the difficulty of measuring outcomes, to reach a generalised conclusion concerning such reforms.

Third, while some of these studies have shown that performance-related pay can work even in the most dysfunctional bureaucracies in developing countries, there are too few cases to draw firm conclusions.

Fourth, several observational studies identify problems with unintended consequences and gaming of the incentive scheme, although it is unclear whether the gaming results in an overall decline in productivity compared to the counterfactual.

Finally, few studies follow up performance-related pay effects over a long period of time, leaving the possibility that the positive findings may be due to Hawthorne Effects, and that gaming behaviour may increase over time as employees become more familiar with the scheme and learn to manipulate it.

### **How You Pay Health Workers Matters: A Primer on Health Worker Remuneration Methods**

Vujcic, M. (2009). World Bank.

[https://www.rbfhealth.org/sites/rbf/files/RBF\\_Tech\\_howyoupayhealthworkers\\_R1.pdf](https://www.rbfhealth.org/sites/rbf/files/RBF_Tech_howyoupayhealthworkers_R1.pdf)

The way doctors and nurses are paid can provide strong incentives for improving health worker productivity and quality of care—issues that are pertinent in many developing country health systems. In many low-income countries, health workers in the public sector receive

most of their compensation in the form of a salary. This report provides a brief overview of some alternative payment schemes and how they affect selected elements of health workforce performance—namely absenteeism, productivity and quality of care. The report states that simply increasing salaries of health workers is not an effective strategy to improve health workforce performance; salary increases are more effective when tied to performance goals.

The balance of evidence shows that pay for performance at both the individual or facility level could be a very effective way of improving health workforce performance in the public sector. When compensation of health workers is tied to performance, significant improvements in health workforce performance and service delivery outcomes can occur. However, performance-based pay requires careful selection of indicators that performance will be measured against, and careful design of incentives so they align health worker behaviour with the goals of the health system. Many countries have experimented with performance-based pay and it is clear that monitoring capacity, management capacity and a flexible institutional and legal framework are important factors for success.

### **Pay and Non-Pay Incentives, Performance and Motivation**

Adams, O., Hicks, V (2000) Prepared for WHO's December 2000 Global Health Workforce Strategy Group

[http://www.who.int/hrh/en/HRDJ\\_4\\_3\\_02.pdf](http://www.who.int/hrh/en/HRDJ_4_3_02.pdf)

This paper provides an overview of evidence of the effects of incentives on the performance and motivation of independent health professionals and health workers. The review defines the nature of economic incentives and of non-financial incentives. Particular attention is paid to the need for developing countries to understand the impacts of health reform measures on incentives. A review of current literature found that the response of physicians to economic incentives inherent in payment mechanisms appears to follow directions expected in theory. Incentive structures are becoming more complex, however, as a result of managed care and blended payment mechanisms. There is insufficient evidence of the effects of incentives on motivation and performance of other health workers, due perhaps to a preoccupation of researchers with economic responses. Incentives must be viewed in a broad context in order to understand constraints and success factors that affect their prospects of success. Health human resources should be seen as a complex and interrelated system where incentives aimed at one group of professionals will impact on the entire system.

### **Pay-for-performance incentives in low and middle income country health programs.**

Miller, G., Babiarz, K. S. (2013) National Bureau of Economic Research.

<http://www.nber.org/papers/w18932.pdf>

This paper surveys experience with performance pay in developing country health programmes. In doing so, it focuses on four key conceptual issues:

1. What to reward – The authors point out that if a health programme's primary objective is good patient or population health outcomes, it would seem natural for performance incentives to reward good health or health improvement directly rather than the use of health services or other health inputs. Rather than tying rewards to prescriptive algorithms for service provision (often developed by those unfamiliar with local conditions), rewarding good health outcomes encourages providers to use their local knowledge creatively in designing new delivery approaches to maximise contracted health outcomes. In practice, however, very few pay-for-performance schemes have rewarded good health.
2. Who to reward – macro-level or organisational rewards (which encourages teamwork but may provide limited incentives to leaders) vs. individual rewards (which disincentives teamwork).

3. How to reward – taking into account varied motivations for work including financial, moral, social and more.
4. What unintended consequences might performance incentives create – including reallocation of effort and resources away from non-incentivised outcomes. The report highlights that the use of performance pay has outpaced growth in corresponding empirical evidence.

### 3. Evidence broadly against performance-based financing

#### **Paying health workers for performance in a fragmented, fragile state: reflections from Katanga Province, Democratic Republic of Congo.**

Fox, S., Witter, S., Wylde, E., Mafuta, E., Lievens, T. (2014) *Health Policy Plan*; 29(1):96-105. <http://www.ncbi.nlm.nih.gov/pubmed/23325585>

The health financing system in the Democratic Republic of Congo (DRC) presents an extreme example of low government investment, high dependency on user fees and poor harmonisation across donors. Within this context, performance-based financing mechanisms are being implemented by various donors in the expectation that they will improve health worker motivation and service delivery performance. Drawing on qualitative and quantitative data at different levels of the health system, this study focuses on one such programme in Katanga Province, which combines paying for performance (P4P) with a reduction in fees to users. Despite adding considerably to facility resources (providing the majority of the resources in the case study facilities), there was no evidence of benefits in terms of any of the service inputs, processes or outputs measured.

The findings suggest that the positive effects on health worker motivation cannot be taken as a given, particularly, when staff are often expected to increase their workload to achieve the performance objectives and when another source of income, the income from user fees, may be reduced due to a fall in the prices of services. Moreover, in a context where health workers were already almost entirely dependent on users for their remuneration before the donor programme was introduced, the incentive effects of a performance contract may be muted. In addition, other income sources have particular value for staff, it seems even though salaries and government allowances were low, and frequently delayed, health workers were highly dissatisfied at not receiving them. Salaries were seen as a more assured and long-term source of funding and an important recognition of their role as agents of the state. The authors conclude that while there may be a role for P4P in fragile contexts such as the DRC, to be effective it needs to be rooted in wider financing and human resource policy reforms.

#### **'Paying for performance' in Rwanda: does it pay off?**

Kalk A, Paul FA, Grabosch E (2010). *Trop Med Int Health* <http://www.ncbi.nlm.nih.gov/pubmed/19930141>

This study analyses strengths and weaknesses of the 'Paying For Performance' (P4P) approach rolled out in the Rwandan health sector since 2002. It uses three research methods: a cross-sectoral literature review on P4P, its history and its context; 69 mostly semi-structured interviews conducted with health staff, patients and key informants in Rwanda; and an analysis of factors eventually confounding the impact evaluation of the Rwandan P4P approach. Regarding the Rwanda payment-for-performance model, it describes how there is no doubt that the introduction of incentives for certain activities within the Rwandan health sector contributed (unsurprisingly) to better attention being paid to these activities by health staff, but questions if this is undermining the concept of fair pay for work as workers would struggle to cope without these incentives, and whether it is ultimately beneficial as it promotes system gaming and neglect of non-incentivised tasks. The report

argues that the focus on improving indicators rather than systemic changes can be regarded as vertical and counter-productive.

Strengths of the payment-for-performance approach reported by interviewees included: improved performance as measured by indicators; increased number of activities; improved staff motivation; decreased absenteeism; decreased dysfunctional staff behaviour; respect for established procedures; increased perception of responsibility; increased strive for quality; increased spirit of entrepreneurship; improved interaction between management and staff; improved interaction between staff and patients; increased team spirit within departments; improved availability of all documentation; and certain increase of staff in numbers.

Weaknesses of the payment-for-performance approach reported included: perception of P4P as unnecessary control mechanism; performance documentation seen as extremely time-consuming; conflict between time requirements for documentation and those for patient care; lack of infrastructure and equipment only partially tackled by P4P Indicators seen as 'imposed from outside'; choice of indicators seen as arbitrary and favourable for medical doctors; 'gaming' in all forms (neglect of non-remunerated activities, irrational behaviour in order to fulfil requirements and falsification of documents); and misinterpretation of the essence of indicators.

#### **Paying health workers for performance in Battagram district, Pakistan.**

Witter, S., Zulfiquar, T., Javeed, S., Khan, A., Bari, A. (2011). *Hum Resour Health* 9: 23.

<http://www.ncbi.nlm.nih.gov/pubmed/21982330>

There is a growing interest in using pay-for-performance mechanisms in LMICs in order to improve the performance of healthcare providers. However, at present there is a dearth of independent evaluations of such approaches which can guide understanding of their potential and risks in differing contexts. This article presents the results of an evaluation of a project managed by an international non-governmental organisation in one district of Pakistan. It aims to contribute to learning about the design and implementation of pay-for-performance systems and their impact on health worker motivation. Methods: Quantitative analysis was conducted of health management information system data, financial records, and project documents covering the period 2007-2010. Key informant interviews were carried out with stakeholders at all levels. At facility level, in-depth interviews were held, as were focus group discussions with staff and community members.

Results: The wider project in Battagram had contributed to rebuilding district health services at a cost of less than US\$4.5 per capita and achieved growth in outputs. Staff, managers and clients were appreciative of the gains in availability and quality of services. However, the role that the performance-based incentive (PBI) component played was less clear – PBI formed a relatively small component of pay, and did not increase in line with outputs. There was little evidence from interviews and data that the conditional element of the PBIs influenced behaviour. They were appreciated as a top-up to pay, but remained low in relative terms, and only slightly and indirectly related to individual performance. Moreover, they were implemented independently of the wider health system and presented a clear challenge for longer term integration and sustainability. Conclusion: Challenges for performance-based pay approaches include the balance of rewarding individual versus team efforts; reflecting process and outcome indicators; judging the right level of incentives; allowing for very different starting points and situations; designing a system which is simple enough for participants to comprehend; and the tension between independent monitoring and integration in a national system. Further documentation of process and cost-effectiveness, and careful examination of the wider impacts of paying for performance, are still needed.

### **Paying for performance to improve the delivery of health interventions in low- and middle-income countries.**

Witter, S., Fretheim, A., Kessy, F.L, Lindahl, A. K. (2012). Cochrane Database Syst Rev 2: CD007899.

<http://www.ncbi.nlm.nih.gov/pubmed/22336833>

This is a narrative synthesis which aims to assess the current evidence for the effects of paying for performance on the provision of healthcare and health outcomes in LMICs. There is a growing interest in paying for performance as a means to align the incentives of health workers and health providers with public health goals. However, there is currently a lack of rigorous evidence on the effectiveness of these strategies in improving healthcare and health. Moreover, paying for performance is a complex intervention with uncertain benefits and potential harms. The authors searched more than 15 databases in 2009, and concluded that the current evidence base is too weak to draw general conclusions; more robust and also comprehensive studies are needed. Performance-based funding is not a uniform intervention, but rather a range of approaches. Its effects depend on the interaction of several variables, including the design of the intervention (e.g. who receives payments, the magnitude of the incentives, the targets and how they are measured), the amount of additional funding, other ancillary components such as technical support, and contextual factors, including the organisational context in which it is implemented.

### **Paying for Performance: Policies for Government Employees**

Organisation for Economic Cooperation and Development (2005) OECD

<https://www.ciaonet.org/attachments/11422/uploads>

Performance-related pay (PRP) is also used in public administration of OECD countries. This report states that the results of such policies have in many ways been surprising. While PRP appears to motivate a minority of staff in the public sector, a large majority just do not see it as an incentive to work better. Extensive staff surveys showed that despite broad support for the principle of linking pay to performance, only a small percentage of employees thought their existing performance pay schemes provided them with an incentive to work beyond job requirements and in many cases they found it divisive. Most government workers, particularly those in non-managerial roles, consider basic pay and how it compares to the wider job market to be more important than supplementary pay increases for performance. This is because performance rewards are often limited in the public sector, but also because job content and career development prospects have been found to be the strongest incentives for public employees. PRP is unlikely to motivate a substantial majority of staff, irrespective of the design. Despite these important limitations, PRP appears to be a window of opportunity for wider management and organisational changes. In other words, introducing PRP may not in itself improve motivation and performance, but the changes required to introduce PRP might. PRP gives managers an added incentive to manage effectively and stimulates them to fully endorse a goal-setting approach.

#### 4. Evidence broadly in support of salary supplementation for the attraction and retention of health workers

##### **Impact Assessment of the Zimbabwe Health Worker Retention Scheme**

Dieleman, M., Watson, M., Sisimayi, C. (2012) DFID

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/213900/Impact-assess-zimb-health-workers-retention-schemeFinal\\_20Report\\_20.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/213900/Impact-assess-zimb-health-workers-retention-schemeFinal_20Report_20.pdf)

This is an impact assessment of the Global Fund and DFID-funded Zimbabwe Health Worker Retention Scheme. The report details how Zimbabwe has experienced an unprecedented decline in health service provision, exacerbated by the exodus of skilled health workers, in particular from the public sector. Low staffing levels, together with limited access to facilities, poor infrastructure, inadequate drug supplies and fees have impacted adversely on health outcomes in Zimbabwe. The Harmonised Health Worker Retention Scheme (HHWRS) was set up in 2009 by the Government and development partners. The goal was to reverse the emigration of health staff, and ensure there were enough newly-trained health workers entering the system to fill the emerging staff vacancies. Total funding up to the date of the report had been US\$70m (Global Fund 65%, DFID 19%, others 16%). The scheme provided a tax-free salary top-up to health workers, paid on a monthly basis, conditional on attendance at work (or on authorised leave). The top-up was dependent on grade and location of work. It was subject to modification over time (lower grade cadres and city council health workers stopped receiving the top-up). It was agreed that the scheme would be phased out by the end of 2013, with corresponding increases in salaries paid by the Government to make up the shortfall.

There were some implementation issues, with delays in channelling funds to Crown Agents resulting in health workers not getting their monthly top-ups on time on 23 occasions. Vacancy rates fell for all health worker cadres since 2008: the biggest reductions were for nurses (31% to 14%), and pharmacists (53% to 25%), but vacancy rates remained high for doctors, environmental health workers and laboratory personnel, at 52%, 53% and 50% respectively. The density of doctor and nurses in the public sector in Zimbabwe remained low compared to WHO standards and that of neighbouring countries. There was significant variation in vacancy rates of critical cadres in the governmental health services between provinces, with some having a surplus while others (in particular Masvingo) having high vacancy levels.

##### **Evaluation of Malawi's Emergency Human Resources Programme**

O'Neil, M., Jarrah, Z., Nkosi, L., Collins, D., Perry, C., Jackson, J., Kuchande, A., Mlambala, A. (2010) DFID.

[http://www.who.int/workforcealliance/media/news/2010/Malawi\\_MSH\\_MSC\\_EHRP\\_Final.pdf](http://www.who.int/workforcealliance/media/news/2010/Malawi_MSH_MSC_EHRP_Final.pdf)

This is the final evaluation of Malawi's six-year Emergency Human Resources programme (EHRP), produced for DFID by Management Sciences for Health and Management Solutions Consulting. The EHRP was designed primarily to address the health crisis in Malawi that was largely caused by the acute shortage of professional workers in the public health sector. The programme aimed to improve staffing levels and increase the production of health workers through a coherent package of financial incentives (salary top-ups) and investments in local health training institutions. The evaluation included a combination of traditional research methods and other field tested approaches to gather data, including both qualitative and quantitative techniques.

**Findings:** Overall, the findings of this evaluation indicate that the EHRP successfully accomplished its primary goal, to increase the number of professional health workers in the Ministry of Health and training institutions. Across the 11 priority cadres, the total number of

professional health workers increased by 53%, from 5,453 in 2004 to 8,369 in 2009. In addition, total graduates from Malawi's four main training institutions showed an overall increase of 39%, from 917 in 2004 to 1,277 in 2009. However, it was unclear how these gains could be maintained following on from this programme.

### **Tackling Malawi's Human Resources Crisis**

Palmer, D. (2006). *Reproductive Health Matters* 14(27): 27.

<http://www.who.int/healthsystems/gf17.pdf>

This is a report on the Emergency Human Resources Programme in Malawi. The programme was funded as declining human resource levels had fuelled an accelerating collapse of public health services since the late 1990s. In an effort to improve health outcomes, in 2004 the Government launched a new health initiative to deliver an Essential Health Package, including a major scale-up of HIV and AIDS related services. Improving staffing levels was the single biggest challenge to implementing this approach. Donors agreed to help the Government develop an Emergency Human Resources Programme with five main facets: improving incentives for recruitment and retention of staff through salary top-ups of 52%, expanding domestic training capacity, using international volunteer doctors and nurse tutors as a stop-gap measure, providing international technical assistance to bolster planning and management capacity and skills, and establishing more robust monitoring and evaluation capacity.

The decision to finance salary top-ups in the health sector reflected an explicit decision by donors "to consider measures that might otherwise be dismissed as unsustainable" because of the scale of the crisis and its implications. Results at the time of the study indicated that salary top-ups were having a positive impact on staffing levels, which a steady rise in the government and mission hospital employees. Informal interviews with hospital managers across the country indicated that top-ups had significantly stemmed the flow of staff, particularly nurses, out of the public sector. Contrary to expectations, other public servants did not protest at the improved pay for health workers. The Government presented the case for higher pay for health workers as a reward for their longer training and higher professional skills.

### **Increasing access to health workers in remote and rural areas through improved retention: global policy recommendations**

WHO (2010). World Health Organization.

[http://www.searo.who.int/nepal/mediacentre/2010\\_increasing\\_access\\_to\\_health\\_workers\\_in\\_remote\\_and\\_rural\\_areas.pdf](http://www.searo.who.int/nepal/mediacentre/2010_increasing_access_to_health_workers_in_remote_and_rural_areas.pdf)

This WHO report focuses on the attraction and retention of health workers in rural and remote areas. It discusses how policymakers in all countries, regardless of their level of economic development, struggle to achieve health equity and to meet the health needs of their populations, especially vulnerable and disadvantaged groups. One of their most complex challenges is ensuring people living in rural and remote locations have access to trained health workers. Skilled and motivated health workers in sufficient numbers at the right place and at the right time are critical to deliver effective health services and improve health outcomes. A shortage of qualified health workers in remote and rural areas impedes access to health-care services for a significant percentage of the population, and challenges the aspirations of achieving health for all.

WHO produced these recommendations in response to requests from global leaders, civil society and Member States. The evidence-based recommendations relate to the movements of health workers within the boundaries of a country and focus solely on strategies to increase the availability of health workers in remote and rural areas through improved

attraction, recruitment and retention. Among various other recommendations for improving attraction and retention of health workers in rural and remote locals, the WHO recommends a combination of fiscally sustainable financial incentives, such as hardship allowances, grants for housing, free transportation, paid vacations, etc., sufficient enough to outweigh the opportunity costs associated with working in rural areas, as perceived by health workers.

### **The challenge of retaining health workers in Zimbabwe: findings from ReBUILD research**

ReBUILD Consortium (2015) ReBUILD Consortium

<https://rebuildconsortium.com/media/1254/zim-project-2-briefing-aug-2015.pdf>

This is a briefing document which explores how HRH policy evolved during and post-crisis, what incentives are available for health workers, and what have been the implementation challenges and the effects of the incentives programmes. The study looked at three contrasting districts in Zimbabwe, including rural and urban areas, looking at government, municipality/RDC, private and mission health providers. The methodology combined: document review (76 documents), analysis of routine staffing data, key-informant interviews (24 at national and district level), career histories of health workers (35 life histories), and a survey of health workers (227 doctors, nurses, midwives and EHPs). It includes a summary of the effects of incentives and recommendations.

#### Effects of incentives

- The rural areas were not well staffed with some health facilities not having a single midwife.
- Remuneration stands out as the single most important factor influencing health worker behaviour - health workers would prefer salary increases to piecemeal incentives
- Life histories find an erosion of nursing ethics over time— health workers are now more concerned with monetary returns to their labour inputs
- Provision of accommodation emerges as a major factor which encourages staff to work in rural areas (mentioned by half of the staff surveyed)
- Health worker attrition rates have reduced following implementation of the harmonised retention scheme in the public sector, suggesting that incentives can work to retain skilled HRH in the short term
- The poor harmonisation of retention schemes (HRS, HTF, RBF) in the sector affects motivation and service delivery
- The inequities in remuneration and incentives within the service (municipal, RDCs, government, mission, private) creates an unequal internal labour market. Urban municipalities are able to pay health staff on more lucrative local government scales or top up health worker salaries from numerous revenue sources which are not available to other sectors. This concentrates critical skills in municipalities, at the lowest end of the referral chain (e.g. midwives at primary care level) and with lower workloads.
- Allowances like the rural area allowance are not substantial enough to offset the disadvantages of rural living and working.
- Training opportunities have become a demotivating factor because of the perception that selection is not based on merit

### **5. Evidence broadly against salary supplementation for the attraction and retention of health workers**

#### **Salary Top-ups**

Mukherjee, R. and Manning, N. (2002). GSDRC.

<http://www.gsdrc.org/document-library/salary-top-ups/>

This report provides an overview of the potential negative results of salary supplementation. It refers to the use of salary supplementation in the civil service rather than specifically for health workers. It was previously hosted on the World Bank website but can no longer be accessed in full; the following information has been drawn from summary provided on the GSDRC website. The summary describes how distortions in incentives resulting from salary top-ups are damaging, particularly because scarce knowledge and skills can be drawn away from essential positions. It suggests that although salary top-ups often make unattractive jobs more appealing, they are sometimes misused and in reality only add incentives to already interesting positions, particularly for jobs that offer high recognition or accelerated promotion opportunities. The report also found that performance-based salary supplementation paid on a temporary basis tends to become permanent, and can make certain careers less attractive by reducing the number of promotion opportunities. They also found that performance-based salary supplementation can create huge disparity in payment and workload for staff carrying out similar tasks.

### **Retention of health workers in rural and urban Sierra Leone: findings from life histories.**

Wurie, H., Samai, M., Witter, S. (2016) *Human Resources for Health*, 14 (3).  
<http://www.human-resources-health.com/content/pdf/s12960-016-0099-6.pdf>

**Background:** Sierra Leone has faced a shortage and maldistribution of staff in its post-conflict period. This long-standing challenge is now exacerbated by the systemic shock and damage wrought by Ebola. This study aimed to investigate the importance of different motivation factors in rural areas in Sierra Leone and thus to contribute to better decisions on financial and non-financial incentive packages, here and in similar contexts.

**Methods:** This article is based on participatory life histories, conducted in 2013 with 23 health workers (doctors, nurses, midwives and Community Health Officers) in four regions of Sierra Leone who had worked in the sector since 2000. Although the interviews covered a wide range of themes, here we present findings on motivating and demotivating factors for staff, especially those in rural areas, based on thematic analysis of transcripts.

**Results:** Rural health workers face particular challenges, some of which stem from the difficult terrain, which add to common disadvantages of rural living (poor social amenities, etc.). Poor working conditions, emotional and financial costs of separation from families, limited access to training, longer working hours (due to staff shortages) and the inability to earn from other sources make working in rural areas less attractive. Moreover, rules on rotation which should protect staff from being left too long in rural areas are not reported to be respected. By contrast, poor management had more resonance in urban areas, with reports of poor delegation, favouritism and a lack of autonomy for staff. Tensions within the team over unclear roles and absenteeism are also significant demotivating factors in general. While financial incentives were helpful (if paid – they were reported to often not be forthcoming), this report emphasises the importance of also addressing non-financial incentives for the attraction and retention of health workers.

### **External Support for Retention Allowances**

Rohwerder, B. (2015). GSDRC.  
<http://www.gsdrc.org/publications/external-support-for-retention-allowances/>

This GSDRC Helpdesk report provides an overview of the topic of external support for retention allowances. It describes how retention allowances can come in the form of separate payments or salary top-ups. Donors have generally been reluctant to support retention allowances because they feel salaries are a government responsibility and because of concerns over the sustainability of such support. However, the scale of the crisis has sometimes been so great that they have stepped in to provide support. It is generally agreed

that this support cannot be ongoing and that measures should be put in place to replace external financing with additional domestic revenues. Yet external support has often had to remain in place longer than originally planned as the government has been unable to take responsibility for the additional costs. Support is often provided by a variety of donors, and may come in the form of budget support for the government. Schemes have tended to focus on financial incentives and allowances, despite evidence indicating that a balanced package of measures is better for retaining staff. This report provides brief case studies of donor support for retention allowances in the health sector in Zimbabwe, Malawi, Sierra Leone, Liberia and Zambia:

- Zimbabwe: The Global Fund, EC, Expanded Support Programme on HIV/AIDS (ESP), DFID, UNICEF, WHO, UNFPA and the Government provided support to the Harmonised Health Worker Retention Scheme (HHWRS). The 5-year scheme (2006-2013) provided a tax-free salary top-up to health workers, paid monthly, conditional on attendance at work and dependent on grade and location of work. The Global Fund and the Government agreed that the scheme would be phased out by the end of 2013, with the first (25 per cent) reduction in funding in January 2011, and the Government increasing health worker salaries at a rate corresponding to the reduction. Despite this exit strategy being agreed, it has did not go to plan and exit plans needed to be renegotiated. Evaluations recommended extending support, alongside improving the sector, realistic sector financing plans, and combined interventions to support retention which go beyond financial incentives.
- Malawi: DFID, the Global Fund and the Government provided support to the 6-year (2004-2010) Emergency Human Resource Programme (EHRP). The scheme enabled the government to offer a 52 per cent salary top-up for public health workers, and included other measures to support human resources for health. Despite provision for it, little was done to create a system that would sustain the top-ups, and evaluations suggested donors would have to continue to support the programmes.
- Sierra Leone: DFID and the Global Fund provided support to top-up frontline health workers' salaries and pay remote area allowances for 5 years (2010-2015) in support of the introduction of the 'Free Healthcare Initiative'. Funding for the salary top-ups was allocated as budget support to the Government, while the remote area allowances were paid through the Ministry of Health and Sanitation. An agreement was made that the Government would progressively increase its share of the increased cost and until the economic downturn and the Ebola crisis it was on track to absorb the full cost of health workers salaries by 2015. The final project report recommended continuing support.
- Liberia: DFID provided funding for an incentive allowance for Ministry of Health workers, organised through the NGO, Merlin. The scheme was only supposed to last for two years (2005-2006) and Merlin worked to prepare the Ministry for the end of the incentive scheme, although little change occurred. Merlin recommended continuing to pay incentive payments in the short-term to allow for more time to prepare the government to support the incentive payments themselves.
- Zambia: The Netherlands embassy, and later basket funding, supported a pilot retention scheme for doctors. An evaluation suggested that stakeholder participation and a balance of financial and non-financial incentives was important for its sustainability.

## 6. Other useful resources

### **Evaluation of DFID Support to Healthcare Workers Salaries in Sierra Leone**

Stevenson, D., Kinyeki, C., Wheeler, M. (2012) DFID.

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/206761/evaluation-support-healthcare-workers-salaries-Sierra-Leone.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/206761/evaluation-support-healthcare-workers-salaries-Sierra-Leone.pdf)

This evaluation was not included in the section on the attraction and retention of health workers since the programme aimed to do not only this but also to reduce improper charging of user fees, absence rates of health workers, and address other related challenges. The Government of Sierra Leone (GoSL)'s 'Free Healthcare Initiative'(FHCI) was launched in April 2010 to increase access to key healthcare services by removing user fees for priority groups, specifically, pregnant women, lactating mothers, and children under five. DFID SL responded by providing support to GoSLs in a number of areas including, at the request of GoSL, providing significant financial contributions to increase healthcare worker salaries up to an acceptable level in order to attract and retain more staff in challenging areas, and reduce the incentive for healthcare workers to continue to charge for services. This independent evaluation of the programme 'Support to Healthcare Workers Salaries in Sierra Leone' was commissioned by DFID SL to evaluate the impact of its support to the healthcare worker salary programme.

The report states that the salary uplift was critical to the success of the FHCI thus far. Prior to March 2010, the GoSL health workforce was functioning at a very low level of commitment, with high absence rates and the constant distraction of the search for additional income. At that time a strike of health workers was threatened in protest at their low wages. The announcement of greatly enhanced salary scales had an immediate effect in attracting new recruits and changing the incentive structure for existing employees. DFID SL's decision to support the salary uplift was also catalytic in the sense that it leveraged much larger contributions from GoSL and GF. Although the evaluation has identified a number of challenges that remain in regard to successful implementation of FHCI, including the reduced but continued practice of charging improper user fees to some patients, it is evident that considerable progress has been made in a relatively short time frame.

### **Salary top-ups and their impact on corruption**

Lindner, S. (2013) The U4 Anti-Corruption Resource Centre

<http://www.u4.no/publications/salary-top-ups-and-their-impact-on-corruption/>

This is a review of the evidence on the extent to which salary top-ups can be used as an anti-corruption strategy, within the context of how salaries can reduce or increase incentives for corruption. Evidence in this regard remains largely inconclusive. There is, however, an emerging consensus that increasing salary may not be sufficient for reducing corruption, in the absence of effective controls and management of staff and resources. Some studies show that salary top-ups are likely to be effective in low-income countries. Other than alleviating the 'need' for corruption due to salaries that are insufficient to support the employee, a main argument in favour of raising salaries to reduce corruption is that higher salaries make it more costly to engage in corruption due to the fear of losing a well-paid job.

Similarly, the 'fair wage model' contends that officials engage in corruption only when they see themselves as not receiving a 'fair' income, a perception that could be eliminated through higher salaries. Nevertheless, there are also a number of challenges posed by salary top ups, including that they might prevent necessary civil service reform, can generate warranted and unwarranted perceptions of corruption due to differences in payment, and could undermine accountability and management. If donors are inclined to use salary top-ups, steps can be taken to address these risks, including: harmonising donor practice, adapting to local

conditions, strengthening transparency and information-sharing, creating robust management and accountability systems, offering in-kind/non-monetary benefits, and ensuring sustainability of the intervention.

### **Measuring the impact of PFM reforms on service delivery**

Rao, S. (2013) GSDRC.

<http://www.gsdrc.org/publications/measuring-the-impact-of-pfm-reforms-on-service-delivery/>

This GSDRC Helpdesk report does not refer to salary supplementation but is relevant as it refers to public financial management (PFM) in relation to performance in service delivery. It constitutes an overview of the topic, with key points including that even where PFM systems are strong a number of factors can result in poor performance. For example, irregular salary payments can result in worker absenteeism whereas regular salary payments may not be sufficient to ensure presence at work where there are other factors that discourage attendance. PFM reforms are thus only likely to impact service delivery in a limited number of cases where PFM can address specific governance constraints or blockages that undermine performance. This would relate to a certain number of service sectors, such as labour-intensive sectors, where the service delivery mechanism is dependent on PFM systems, for example to ensure regular payment of salaries and wages.

### **When staff is underpaid: dealing with the individual coping strategies of health personnel**

Van Lerberghe, W., Conceicao, C., Van Damme, W, Ferrinho, P. (2002) *Bull World Health Organ* 80(7):581-4.

<http://www.ncbi.nlm.nih.gov/pubmed/12163923>

Though this paper does not directly discuss salary supplementation, it explores the responses of underpaid health personnel, which have potential to be alleviated through salary supplementation. It describes problems such as the implementation of under-the-counter fees, pressure on patients to attend private consultations and sale of drugs that are supposed to be free, etc. as rampant in many countries. In addition, it describes how many underpaid public sector clinicians switch between public and private practice to top up their income — whether public service regulations formally allow this or not. Health system managers have fewer opportunities for predatory behaviour than clinicians, but they also have to face a working environment that does not live up to their expectations — financially or professionally. Some may abuse their position for corruption or misappropriation, and to provide extra income many resort to teaching, consulting for development agencies, moonlighting in private practice or even dabbling in non-medical work. Others still manage to be seconded to nongovernmental projects or organisations or to concentrate on activities that benefit from donor-funded per diems or allowances.

## **7. Additional information**

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