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# Evaluation of healthcare provider motivation in the Kenge Health Zone, Democratic Republic of Congo, within the framework of performance-based financing

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## ABSTRACT

### Introduction

Performance-based financing is one mechanism for improving the motivation of healthcare providers. To date, there is limited evidence on its effects on the motivation of healthcare staff in the Kenge Health Zone five years after project implementation.

### Purpose

This study aimed to describe the motivating factors among healthcare providers in the Kenge Health Zone, a beneficiary of performance-based financing (PBF).

### Methods

A descriptive cross-sectional study was conducted from 6 to 26 March 2024 among 302 healthcare providers selected through proportional sampling. Using SPSS version 25 and a 22-item Likert-scale questionnaire with five response options coded from 1 to 5, internal consistency was assessed using Cronbach's alpha coefficient (0.736). The level of motivation was determined by comparing each respondent's mean score with the overall mean of the scale, allowing classification of providers according to motivation level.

### Results

Satisfaction with hygiene conditions (61.9%) and management (80.8%) was high, whereas perceived salary satisfaction was low (37.4%). Approximately two-thirds of participants had not received recent continuing professional education. The mean motivation score was 3.76. Slightly more than half of the healthcare providers (57.3%) were classified as motivated. The proportion of motivated women was slightly higher than that of motivated men.

### Conclusion

The performance-based financing programme appears to have a positive effect on certain aspects of healthcare worker motivation; however, challenges related to remuneration and professional development persist. Staff motivation remains a concern for health authorities and is influenced by multiple factors. Further studies incorporating a broader range of motivational determinants are recommended to enable large-scale evaluation.

## INTRODUCTION

Performance-based financing (PBF) is a mechanism for the conditional allocation of resources based on the achievement of measurable performance indicators (USAID & MSH, 2011).

In the health sector, this approach aims to incentivise healthcare providers to improve both the quantity and quality of care delivered. Since its introduction in the Democratic Republic of Congo (DRC) in 2016—particularly through the Health System Development Project (*Projet de Développement du Système de Santé*, PDSS) supported by the World Bank—PBF has been implemented in more than 156 health zones (HZs) (CREDES, 2018; Diallo et al., 2023; Kalk et al., 2010; Mayaka, 2015; Witter et al., 2011).

The motivation of healthcare providers, defined as the degree of an individual's engagement in their work, is an essential component of the effective functioning of the healthcare system (World Health Organization [WHO], 2010; Thomas, 2016). It is influenced by several factors, including working conditions, recognition, remuneration, and opportunities for career development (Henderson & Tulloch, 2008; Office of the President of the Republic, 2016). Low motivation among healthcare providers remains one of the major human resource management challenges in the DRC. Healthcare workers are often poorly motivated due to unfavourable working conditions, insufficient incentives, and, in some cases, the non-payment of salaries. Even when salaries are paid, they are often inadequate (Democratic Republic of Congo, 2020). This situation negatively affects the quality of care delivery. These weaknesses justified the government's initiation of the PDSS project, which aimed to enhance the motivation of healthcare professionals.

According to Herzberg's two-factor theory, hygiene factors such as salary and working conditions, and motivating factors such as achievement, recognition, and responsibility, influence job satisfaction and motivation in different ways (Allam et al., 2024; Roussel, 2000).

Despite the implementation of the PBF approach between 2017 and 2022 in the Kenge Health Zone, the current level of motivation among healthcare providers in this zone remains poorly understood. Previous studies conducted during the project's implementation identified factors contributing to demotivation, including a study by Nkwahata et al. (2023).

However, since the completion of the PBF project, no recent evaluation has been conducted. Slightly over one year after the end of the project's implementation, this study sought to describe the motivational factors among staff working in the Kenge Health Zone.

## METHODS

### *Type and framework of the study*

This was a descriptive cross-sectional study conducted from 6 to 26 March 2024 in the Kenge Health Zone, Kwango Province, Democratic Republic of Congo. The health zone, comprising 29 health areas, received support from the PDSS project under the Performance-Based Financing (PBF) programme between 2017 and 2022.

### *Study population and sampling*

The target population consisted of all healthcare providers, across all professional categories, working in healthcare facilities (HFs) that participated in the PBF project in the Kenge Health Zone. Inclusion criteria were being actively employed at the time of the survey, having at least two years of seniority in a healthcare facility, and providing informed consent to participate.

Seven health establishments (HEs)—six health centres and one general referral hospital—were selected based on their continued involvement in the PBF programme (Family Planning and Performance) and their geographic accessibility. Sampling was proportional to the size of each HE and stratified by professional category.

### *Study variables*

Based on a review of the literature, the variables of interest were grouped into several categories, including working conditions, work organisation, professional skills development, compensation, and management practices. These factors comprised a series of descriptive variables. Healthcare worker motivation was measured as a key outcome variable within the context of these factors.

### *Data collection and quality control*

Data were collected using a structured questionnaire administered via the KoboCollect application (version

2023.2.4). The tool was pre-tested and validated prior to data collection.

The internal consistency of the measurement scales was assessed using Cronbach's alpha coefficient (α = 0.736), indicating good reliability (Taber, 2018). Data were cleaned using Microsoft Excel before being analysed with SPSS version 25.

### *Statistical analyses*

Categorical variables were summarised using absolute and relative frequencies. Motivation scores were calculated by comparing each participant's mean score across the 22 items with the overall mean of the scale (Lindner & Lindner, 2024).

Aside from sociodemographic and professional characteristics, the questionnaire consisted mainly of items measured using a five-point, odd-numbered Likert scale coded from 1 to 5. A total of 22 such items were included. The mean score for each respondent was calculated across all items, followed by computation of the overall mean score for the scale. This overall mean served as the reference value for classifying respondents into two categories: motivated respondents (mean score ≥ overall mean) and unmotivated respondents (mean score < overall mean). Differences in motivation were also analysed according to selected sociodemographic and professional characteristics. The questionnaire is available upon request.

### *Ethical considerations*

The study protocol was approved by the Ethics Committee of the School of Public Health of the University of Kinshasa (approval number: ESP/CE/30/2024). Verbal informed consent was obtained after participants were provided with an information note, and strict confidentiality of the data was maintained.

## RESULTS

### *Sociodemographic and professional characteristics of respondents*

**Table 1** presents the sociodemographic and professional characteristics of the respondents.

**Table 1:**
Sociodemographic and Professional Characteristics of Respondents (n = 302)

| Variable | Category | n | % |
|---|---|---|---|
| **Sex** | Female | 181 | 59.9 |
| | Male | 121 | 40.1 |
| **Age range (years)** | 22–32 | 96 | 31.8 |
| | 33–43 | 105 | 34.8 |
| | 44–54 | 61 | 20.2 |
| | 55–65 | 33 | 10.9 |
| | 66 and over | 7 | 2.3 |
| **Marital status** | Divorcee | 7 | 2.3 |
| | Married | 221 | 73.2 |
| | Single | 60 | 19.9 |
| | Widower | 14 | 4.6 |
| **Professional category** | Doctor | 18 | 6.0 |
| | Administrator/Manager | 11 | 3.6 |
| | Laboratory Technician | 17 | 5.6 |
| | Nurse | 199 | 65.9 |
| | Nutritionist | 19 | 6.3 |
| | Others | 38 | 12.6 |
| **Professional experience (years)** | 0–9 | 184 | 60.9 |
| | 10–18 | 73 | 24.2 |
| | 19–27 | 27 | 8.9 |
| | 28–36 | 13 | 4.7 |
| | 37–45 | 3 | 1.0 |
| | 46 and over | 2 | 0.7 |
| **Level of education** | None | 2 | 0.7 |
| | Primary | 18 | 6.0 |
| | Secondary | 43 | 14.2 |
| | Higher Education | 239 | 79.1 |

Among the participants, women were in the majority (59.9%). Slightly more than one-third of respondents (34.8%) were aged between 33 and 43 years, and nearly three-quarters (73.2%) were married. Nurses constituted the largest professional group (65.9%). Approximately six out of ten healthcare providers (60.9%) had less than 10 years of professional experience, and the majority (79.1%) had attained a higher education level.

### *Perception of working conditions*

**Figure 1** illustrates respondents' perceptions of the hygiene conditions of the physical work environment. More than half of the surveyed healthcare providers (61.9%) rated the hygiene conditions of their workplace as pleasant, whereas less than one in ten respondents (0.6%) considered these conditions unpleasant.

**Figure 1:**
Respondents' perceptions of the hygiene conditions of the physical work environment

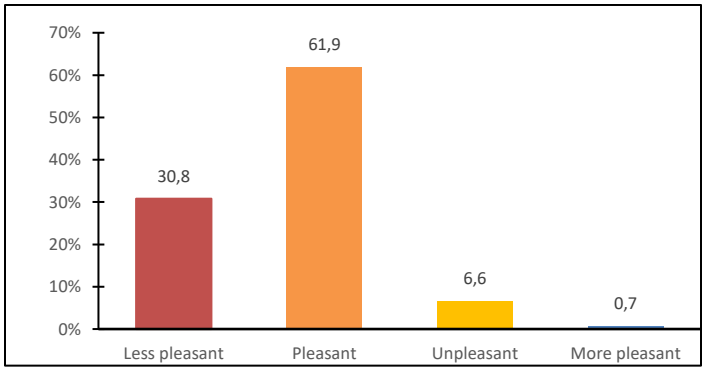



Figure 2 shows perceptions of hygiene conditions by professional category. In five out of the six professional categories represented in the sample, the majority of respondents perceived the hygiene conditions of the physical work environment as pleasant.

**Figure 2:**
Perceptions of different professional categories regarding the hygiene conditions of the physical work environment

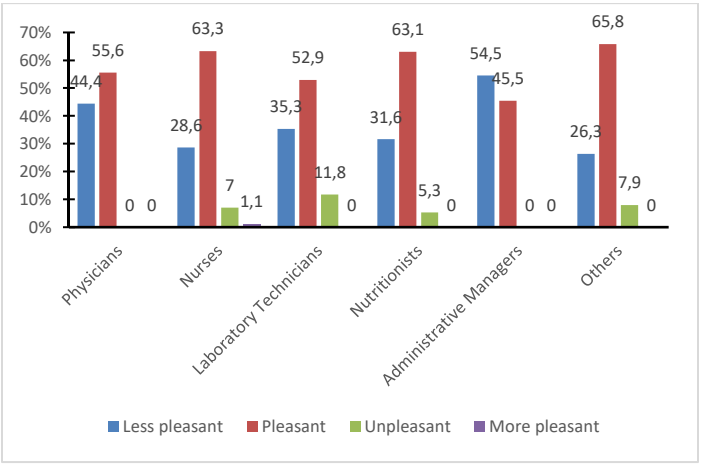
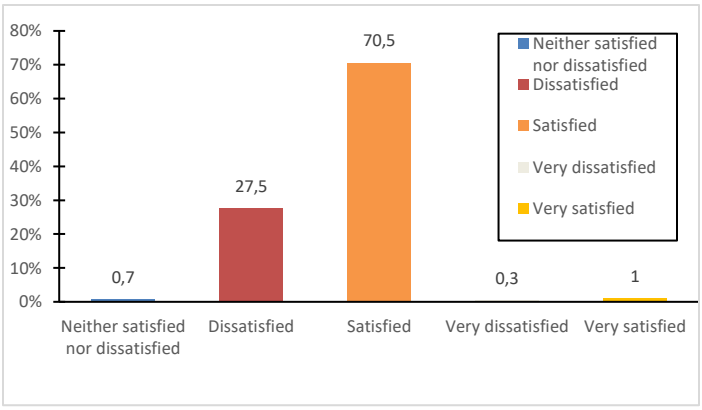



Figure 3 presents staff satisfaction levels regarding the availability of minimum materials and equipment within their departments.

This figure shows that approximately three quarters of the staff surveyed were satisfied with the availability of the minimum equipment/materials required for their daily work in the service.

**Figure 3:**
Staff satisfaction level regarding the availability of minimum materials/equipment in the department




### *Work organisation, training, and supervision*

Table 2 summarises respondents' opinions on staffing levels, task distribution, workload, participation in on-the-job training over the past two years, and exposure to internal and external supervision during the three months preceding the survey.

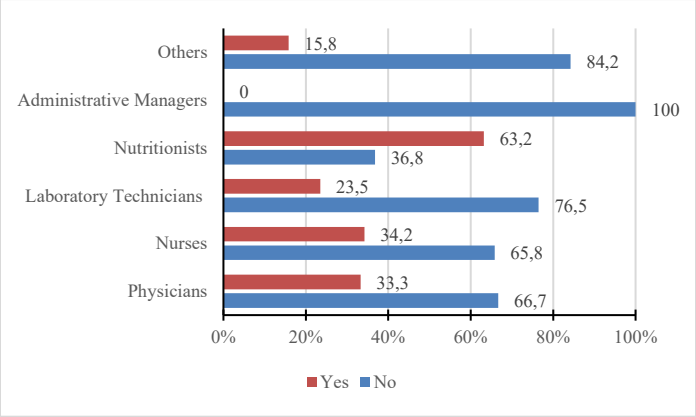
**Table 2:**
Organisational and Work-Related Characteristics of Respondents (n = 302)

| Variable | Category | n | % |
|---|---|---|---|
| **Number of staff assigned to the service** | Insufficient | 62 | 20.5 |
| | Neither sufficient nor insufficient | 2 | 0.7 |
| | More than insufficient | 1 | 0.3 |
| | More than enough | 92 | 30.5 |
| | Sufficient | 145 | 48.0 |
| **Task allocation within the department** | Balanced | 231 | 76.5 |
| | Neither balanced nor unbalanced | 1 | 0.3 |
| | Unbalanced | 61 | 20.2 |
| | More than balanced | 5 | 1.7 |
| | More than unbalanced | 4 | 1.3 |
| **Workload** | I have a normal workload | 233 | 77.2 |
| | I have a more than normal workload | 4 | 1.3 |
| | My workload is neither normal nor excessive | 2 | 0.7 |
| | I am more than overloaded | 10 | 3.3 |
| | I am overwhelmed | 53 | 17.5 |
| **On-the-job training** | No | 206 | 68.2 |
| | Yes | 96 | 31.8 |
| **Internal supervision** | No | 100 | 33.1 |
| | Yes | 202 | 66.9 |
| **External supervision** | No | 74 | 24.5 |
| | Yes | 228 | 75.5 |

Nearly half of respondents considered the number of staff assigned to their departments sufficient relative to the workload. Approximately three-quarters perceived task allocation as balanced, and close to eight out of ten reported having a normal workload. More than half of the respondents had not received any on-the-job training in the two years preceding the survey. However, nearly seven out of ten respondents reported having received at least one internal supervision session, while approximately three-quarters had participated in at least one external supervision session during the three months preceding the survey.

**Figure 4** shows on-the-job training participation by professional category. In five out of six professional categories, more than half of employees had not received any on-the-job training during the previous two years. Notably, no employee in the "Administrative Managers" category had participated in such training.

Figure 4:
On-the-job training undertaken according to occupational category




*Perception and satisfaction with remuneration*

**Table 3** presents respondents' perceptions and levels of satisfaction with remuneration.

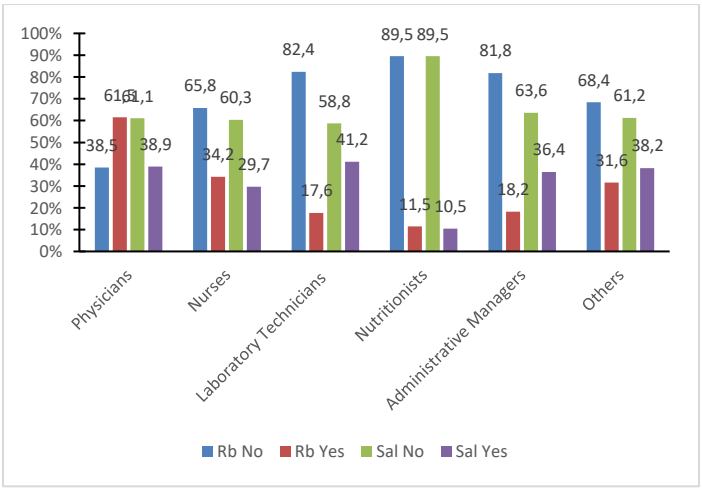
**Table 3:**
Salary, Incentives, and Compensation Perceptions among Respondents (n = 302)

| Variable | Category | n | % |
|---|---|---|---|
| **Salary perception** | No | 189 | 62.6 |
| | Yes | 113 | 37.4 |
| **Salary satisfaction** | No | 171 | 56.6 |
| | Yes | 131 | 43.4 |
| **Risk premium collection** | No | 202 | 66.9 |
| | Yes | 100 | 33.1 |
| **Risk premium satisfaction** | No | 175 | 58.0 |
| | Yes | 127 | 42.0 |
| **Recognition of the local bonus** | Yes | 302 | 100.0 |
| **Satisfaction with the local bonus** | No | 205 | 67.9 |
| | Yes | 97 | 32.1 |

Among all service providers surveyed, 62.6% did not receive a salary paid by the state. Among those who did receive a salary, only 43.4% reported being satisfied with it. With regard to the risk allowance, the majority of respondents did not receive this benefit, and among those who did, more than half expressed dissatisfaction. All respondents received a local allowance paid by their respective institutions; however, more than two-thirds (67.9%) reported dissatisfaction with this allowance.

**Figure 5** illustrates perceptions of salary and risk allowance by professional category. In five out of six professional categories, more than half of respondents did not receive the state-paid risk allowance, and more than half of healthcare providers across all categories were not salaried employees.

Figure 5:
Perception of risk bonus and salary according to professional category




*Management style and motivation*

**Figure 6** shows respondents' perceptions of their organisation's management style. The majority of respondents considered the management practices of the surveyed organisations to be good.



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**Figure 6:**
Service providers' perception of their organization's management style

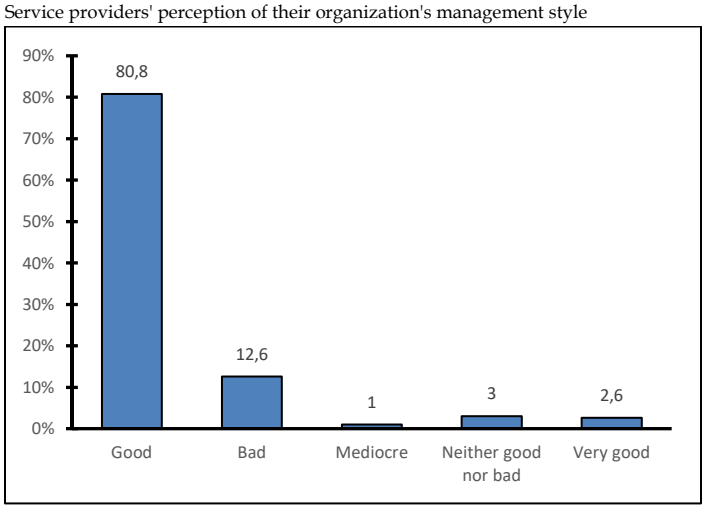


Figure 7 presents the proportion of respondents according to their level of motivation. More than half of the surveyed healthcare providers had a motivation score greater than or equal to the overall average score, indicating that they were motivated at work.

**Figure 7:**
Proportion of respondents according to their level of motivation

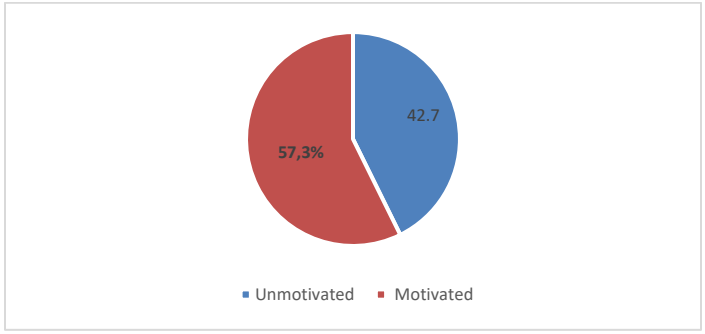


Figure 8 shows the level of motivation by healthcare facility. We note that in four of the seven healthcare facilities surveyed, the proportion of providers motivated at work was greater than 50%. Saint Esprit Health Centre (HC SE) ranked first with 78.9% of motivated providers, followed by Pont Wamba Health Centre (HC PW) and Barrière Health Centre (HC BR) with 76.3% and 63.9% of motivated staff, respectively.

**Figure 8:**
Level of motivation according to status in the civil service and health training

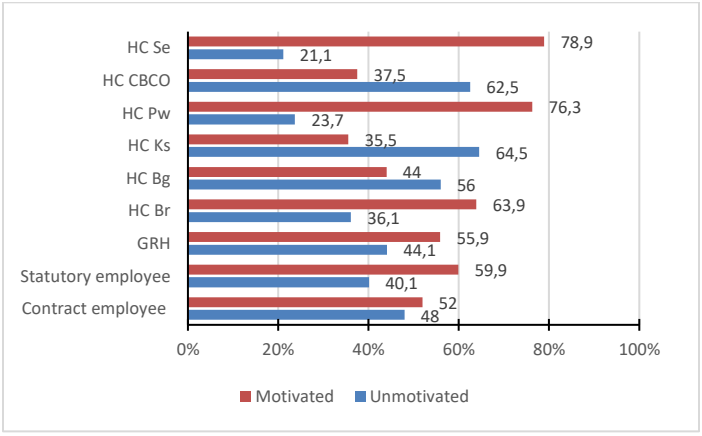


Figure 9 illustrates motivation levels by gender and age group. The proportion of motivated women was slightly higher than that of men, and across all age groups, the proportion of motivated staff remained above 50%.

**Figure 9:**
Level of motivation according to the gender and age of respondents

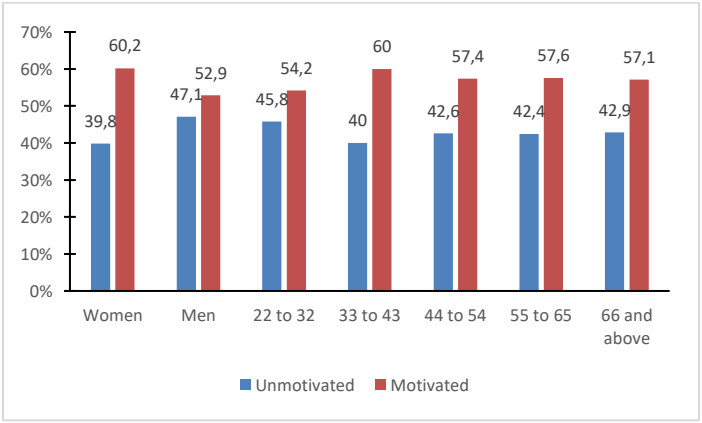


Figure 10 presents motivation levels by professional category and years of experience. In four out of six professional categories, at least half of employees were motivated. Similarly, in all professional experience categories, at least half of respondents were motivated.



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Figure 10:
Level of motivation according to professional category and experience

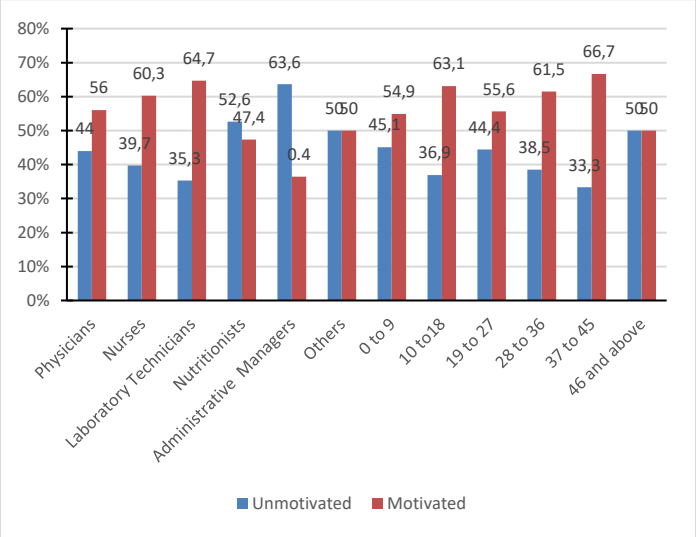
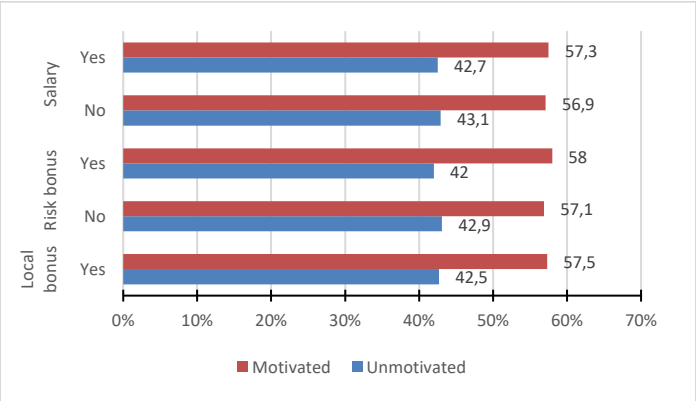



**Figure 11** shows motivation levels according to perceptions of remuneration. Among staff receiving the local allowance and either the risk allowance and/or a salary, approximately six out of ten employees were motivated at work.

**Figure 11:**
Level of motivation according to perception of remuneration




## DISCUSSION

### *Working conditions and work organisation*

This study showed that more than half of the surveyed healthcare providers perceived the hygiene conditions of their physical work environment as pleasant, a perception shared across five of the six professional categories. The majority of respondents were also satisfied with the availability of basic equipment required for daily activities within their departments. Furthermore, three-quarters of respondents perceived task distribution as balanced, and a similar proportion considered their workload to be normal. These findings align with Herzberg's two-factor theory, which identifies working conditions and organisational factors as hygiene elements that influence job satisfaction (Roussel, 2000). The relatively high levels of satisfaction observed for these factors may therefore positively influence overall job satisfaction and, consequently, motivation.

Our findings differ from those reported by Ataféi (2014) in Togo, where only 37% of respondents rated the physical work environment as satisfactory. This discrepancy may be explained by the fact that healthcare facilities included in the present study benefited from World Bank support through the PDSS project, implemented under the PBF approach for approximately six years. Funding received through this mechanism supported both operational activities and infrastructure investments.

Regarding the availability of minimum equipment, our results contrast sharply with those reported in a study conducted in Burundi, where seven out of ten respondents reported inadequate availability of work materials and equipment (Jackson, 2012). Although both studies involved facilities supported by the World Bank under a PBF framework, differences in national health policies and implementation strategies may explain these contrasting findings. In the Kenge Health Zone, healthcare facilities also received initial start-up funds at the beginning of the project, enabling reorganisation and procurement of essential equipment.

In terms of workload, our findings differ markedly from those reported by Ataféi (2014), where 75% of respondents felt overworked due to insufficient staffing. This contrast may reflect differences in internal organisational practices across healthcare facilities.

### *Professional skills development*

The study found that more than two-thirds of healthcare providers (68.2%) had not received any on-the-job training in the two years preceding the survey. However, the majority of respondents reported having benefited from both internal and external supervision during the three months preceding the survey.

Opportunities for professional development are recognised as motivating factors in Herzberg's theory. While supervision appears to be well established in the study setting, continuing professional development remains insufficient. These findings are consistent with those reported by Nkwahata et al. (2023), who found that 69.8% of healthcare providers in the same health zone had not received recent on-the-job training. This similarity may reflect the recurrent selection of the same staff members for training activities, with others receiving only indirect feedback.

The high proportion of respondents reporting participation in supervision activities corroborates the findings of Nkwahata et al. (2023), who reported a supervision coverage of 73%. Supervision sessions often have an educational dimension, which may explain their broad acceptance among healthcare providers.

### *Remuneration*

Approximately two-fifths of respondents (37.4%) reported receiving a salary, but fewer than half of these respondents were satisfied with it. According to Herzberg's theory, remuneration does not necessarily generate satisfaction, but its absence can lead to dissatisfaction and demotivation. Our findings highlight persistent challenges related to both access to remuneration and its adequacy among healthcare providers in the Kenge Health Zone.

Compared with previous studies, the proportion of salaried staff in our study was higher than that reported by Nkwahata et al. (2023), where only 18% of respondents received a state-paid salary. Nevertheless, in both studies, the proportion remains below 50%. This situation reflects shortcomings in the DRC government's salary policy, which does not consistently comply with statutory provisions requiring the availability of budgeted salaries prior to staff recruitment (Office of the President of the Republic, 2016).

Notably, the proportion of salaried healthcare providers increased from 18% in 2021 to 37% in 2024, indicating a gradual improvement over time.

### *Level of motivation*

The proportion of motivated healthcare providers identified in this study (57.3%) exceeds those reported in studies conducted by Nkwahata et al. (2023), Zedini et al. (2016) in Tunisia, and Jackson (2012) in Burundi, which reported motivation levels of 25%, 35%, and 52.5%, respectively. These differences may be attributed to variations in study contexts and analytical approaches.

Importantly, motivation levels in the Kenge Health Zone more than doubled between 2021 and 2023, suggesting a significant positive contribution of the PBF programme to healthcare provider motivation.

### *Limitations and strengths of the study*

This study did not account for all possible factors influencing healthcare provider motivation, as compiling an exhaustive list of motivational determinants is inherently challenging. As a cross-sectional study, the findings reflect perceptions at a single point in time and may change over time.

The non-probabilistic selection of seven healthcare facilities from the 22 involved in the project introduces selection bias and limits the generalisability of the findings. Additionally, the reliance on self-reported data introduces the possibility of reporting bias.

Nevertheless, this study represents, to our knowledge, the second investigation of healthcare provider motivation in the Kenge Health Zone within the context of performance-based financing. The acceptable internal consistency of the measurement scales enhances confidence in the reliability of the findings. Future longitudinal studies with larger sample sizes are recommended to further explore motivation trends in this setting.

## CONCLUSION

This study assessed healthcare provider motivation in the Kenge Health Zone within the framework of performance-based financing. The findings indicate a higher overall level of motivation compared with previous studies conducted in the same area, suggesting a positive effect of PBF on several determinants of motivation, including management practices, working conditions, and task organisation. However, persistent structural challenges—particularly limited access to continuing professional development, state-paid salaries, and risk allowances—continue to constrain the full impact of PBF.

It is recommended that relevant authorities ensure timely payment of salaries and risk allowances to all eligible healthcare providers, expand access to continuing education, institutionalise routine supervision mechanisms, and develop a comprehensive and sustainable mix of financial and non-financial incentives to strengthen healthcare worker motivation.

**Ethical Approval:** The study protocol was approved by the Ethics Committee of the School of Public Health of the University of Kinshasa (approval number: ESP/CE/30/2024).

**Conflicts of Interest:** None declared.

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Mpunga, D. M. : Nil identified



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