Performance Management Function and Retention of Health Workers: A Mixed-Methods Study from Public District Hospitals in Rwanda

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Research

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Abstract

**Background:** Human resources for health are the major component of the health system. Hence health workers are key to better health care service delivery. However, retention of the health workers is one of the major challenges facing the health system in Rwanda, especially in public district hospitals that serve as a major unit of health care service delivery in the country. The study investigated the effect of implementation of performance management function on the retention of professional health workers in public hospitals in Rwanda.

**Methods:** The study used convergent parallel mixed-methods design. A sample of 252 health workers was selected from a population of 402 doctors, nurses, midwives, pharmacists and dentists. Data collection was conducted by use of questionnaire, interviews and focus group discussions. Quantitative data analysis used descriptive statistics and logistic regression models. Qualitative data were analysed by doing thematic analysis, by identifying themes in textual data. Triangulation used qualitative data to expound quantitative data. Data analysis was supported by Stata 13.1 and NVivo 10 softwares.

**Results:** The findings from both quantitative and qualitative data show that health workers generally feel that there exists performance management function in hospitals with slight differences across its major indicators. The study also shows that while performance management planning and evaluation were found to be associated with health workers’ intentions to stay, there was no significant association between performance rewarding and intentions to stay. In fact, health workers who felt that performance management planning was at average and high level were 14.2 and 60 times more likely to stay (OR=14.2; P=0.000 and OR=60.13; P=0.000, respectively). Similarly, while health workers who rated performance evaluation exercise as average were more likely to stay (OR=1.472; P=0.029), perceiving a high level of implementation of performance evaluation in the hospital was associated with 2.215 odds of staying (OR=2.215; P=0.048).

**Conclusion:** Generally, there are divergent levels perceptions on performance management indicators across respondents, and high levels of intentions to leave are noticed among health workers. Although performance planning and rewarding are associated with health workers’ intentions to stay, the existing level of implementation performance management function may have adversely affect retention of health workers.

**Background**

Performance of workers has retained the attention of many scholars that Holtom, Mitchell, Lee & Eberly (1) concur that attraction of qualified employees has increasingly become more urgent today than ever before. An array of evolutions, such as globalization, increasing knowledge work, accelerating technological advancement and rising competition, makes it vital that institutions acquire distinctive human capital for competitive advantage and organizational success. In this view point, performance management has been considered as an important function for human resource management function...
that supports many organizations towards the achievement of institutional goals (2). This practice involves performance planning, coupled with performance appraisals and feedback, and serves as a staff evaluation tool and management system as an integral part of human resource management effectiveness (3). As argued further from Rue & Byars (4)’s views, performance management functions are used as means to determine and communicate how employees do their job and come up with effective plans to improve the process of carrying out responsibilities.

Evidence in the literature of human resource management shows that performance management is a managerial tool for employee motivation (5, 6). Further, Boselie (7) contends that this part of human resource management involves management decisions related to policies and practices that together guide the employment relationship aiming at common understanding and organizational goals’ achievement. In fact, effective performance management systems result in staff commitment and engagement behavior, then reducing intentions to leave the organization (2). Through affective, fair and appraisal systems and performance evaluation feedback, to this extent, the organization puts forth team spirit and a climate that generates a feeling of ownership and belonging that make employee stay for longer.

In the study conducted by Kuvaas (6), performance management systems were found to be associated with employee retention. Similarly, Mitchell, Holton, Lee, Sablynski & Erez (8) researched on the effect of performance management on retention of employees basing on the job embeddedness theory and concluded that honest management systems and fair performance management function within the organization create the basis for employees to stay longer. Krishnan, Warrier & Muslim (9) conducted a study to identify affect intentions to stay among employees and it was found that a robust performance management system that aligns employees with the organization goals results in high employee commitment, reduction of turnover and organization performance. Recently, Imna & Hassan (10) carried out an assessment on the effect of performance appraisal on employee retention. The findings proved performance appraisal to be a positive tool on employee task assignment and its performance. This process leads staff to further career development, communication between employee and management, and a paramount aspect of job satisfaction level among staff. The researchers found that systematic and effective employee performance evaluation activity, performance evaluation feedback, communication, goal setting, and periodic review are associated with employee job satisfaction and lead to reduction of turnover intentions.

In the area of human resources for health, studies were conducted to examine extent to which performance management function affects retention of health workers, and there was evidence such systems lead to motivation, which in turn affects retention of the health personnel (11–13). In a study conducted in Ghana (14), the researchers found out that motivation of the health personnel was a result of a combined human resource management strategies and policies including focus on the fair and objective performance appraisal systems in the health care institutions. Alam and Oliveras (15) conducted a similar study and realized that performance appraisal systems was an important determinant of retention of health workers.
Performance management is not a new concept in Rwanda as it has been widely used in both public and private institutions for the purpose of employee performance evaluation (16). In fact, the recent trends to strengthen performance management systems are dated back in 2006 (17) with much more focus on public management performance-based contracts (18). In the Rwandan health care system, the issues around human resource management practices especially in the area of performance management and its association with retention of health workers lacks relevant evidence in literature. This study was conducted to examine the effect of performance management planning, performance evaluation and performance feedback on professional health workers in the Rwandan public District hospitals.

Methods

Study setting

This study was conducted in the three public district hospitals located in City of Kigali in Rwanda between May and July 2017. The City of Kigali is one of the five provincial administrative entities of Rwanda, and each provincial entity is subdivided into districts. There are 30 districts in Rwanda, where the City of Kigali counts three districts. The Rwanda health care system is decentralized at district level, where a district health office is well established and responsible for the management of the health needs of the population, and all health facilities and services, whether provided through the governmental or private sector.

Approach and Design

The study used cross-sectional survey design with mixed methods approach. The use of mixed-methods approach was driven by the researcher's intention to refer to both quantitative and qualitative methods of inquiry so as to better understand the phenomenon under study by use of complementary methods of data collection and analysis. The mixed-methods approach was also used to overcome challenges that would be caused by reference one single paradigm. For validation purposes, the study adopted a convergent parallel strategy of mixing by collecting two independent strands of quantitative and qualitative data at the same time and prioritizing both methods equally.

Population and Sample Design

The study targeted a total population of 402 health professionals, including doctors, nurses, midwives, pharmacists and dentists from the 3 district hospitals in Kigali City. Through purposive stratified and simple random sampling strategies, 252 study participants were selected.

Measurement of the Study Variables and Instruments of Data Collection
Health workers’ retention was measured through intentions to stay. In fact, intention to stay being a major predictor of retention of employees, it has been largely used in studies capturing current employees’ willingness to stay, which determines the future retention capacity (19–21). To this end, a two-item close-ended adapted questionnaire was used to measure health workers’ intentions to stay in the hospital (22–24). In addition, this questionnaire also contained one open ended question which was formulated to allow respondents have the opportunity to express their own views and opinions in a full writing style.

Performance management function was measured by a 13-item adapted questionnaire (25, 26) for health workers’ perceptions on development and planning of performance (6 items), performance review or evaluation (5 items), and rewarding performance (2 items). Qualitative data were also collected under these main indicators through open-ended questions for the survey, interviews and focus group discussions.

The structured questionnaire was built on the four-point Likert scale (27, 28), in order to provide the respondents with opportunities to make a definite choice expressing the direction and strength of each statement by expressing their perceived reality of issues being investigated on, instead of giving answers that could be simply socially pleasant. As for that, the neutral response was left out from traditional five-point Likert scale as recommended by some previous studies (27).

The control variables included in the study were gender of respondents, age, marital status, experience (tenure) and the type of work (whether the respondent is a doctor, a nurse, midwives, dentist or pharmacist). The need to include control variables was to reduce their possibility to confound with the associations between dependent and independent variables, which may lead to spurious results.

**Data Collection Procedures**

The questionnaire was distributed in every department of the hospital and an appointment for collection was set between the researcher and respondents. During the same period of time, interviews and focus group discussions were conducted. These were electronically recorded to avoid any viewpoint that could go unnoticed or forgotten before transcription. The number of interviews to be carried out was determined following the phenomenon of data saturation (29, 30) and 29 of them were recorded in total. The first focus group discussion was conducted in the first hospital where the data collection started. The dual-moderator focus group discussion type was used and each of them had 7 individuals (31). As the study was implemented in 3 public district hospitals, once it was realized that no more new ideas were coming up from members of the groups before all planned focus group discussions were conducted in all hospitals, it was decided to wind up the activity. A total of 4 focus group discussions were recorded.

During focus group discussions and interviews, respondents were coded in order to identify respondents in the analysis of data. In this regard, DO, NU, MI, PHA and DE were used to represent “doctor”, “nurse”, “midwife”, pharmacist” and “dentist”, respectively. H was used to represent “hospital” and the Figs. 1, 2, 3 after H represented the first, second and third hospital where interviews and focus group discussions were conducted. The last two digits like 01 or 12 were used to represent the order of respondents. As for
that, for instance, NUH102 represented Nurse from Hospital 1, respondent 2, and MIH320 meant Midwife from Hospital 3, respondent 20.

Data analysis

Quantitative data were entered into computer using Stata 13.1. A composite variable summarizing respondents’ answers calculated for indicator of the independent variable, and findings were presented in three categories of perceived high, average or low level of existence of implementation of performance management function. Responses on intentions to stay were analysed and reported as whether the health worker intended to stay in the hospital or not. Frequency distributions and binary logistic regression analysis based on the health professional intent to stay were conducted to get insight from the quantitative data. Each variable with test P-value less than 0.05 was included in the logistic regression analysis. The 95 percent confidence intervals (95% CI) for the adjusted Odds Ratios (OR) were estimated and used for results interpretation.

Qualitative data were transcribed in the word format for better organization and uploading into NVivo software and the codes were assigned to different data themes and sub-themes. In the same way, personal reflections were noted and, therefore, thematic analysis was done to identify key themes in the textual data by sorting and sifting through the data in order to identify similar phrases and statements, relationships between variables, patterns or themes, and distinct differences between subgroups and common sequences. Using narrative forms therefore, similar categories were brought under the main over-arching themes in order to make a comprehensive text displaying data findings.

Results

The status of performance management function and intentions to stay

Descriptive statistics used to report the status of performance management function as perceived by professional health workers in the hospital along with their intentions to stay. In fact, the aim of displaying such results was to show how intentions to stay stand out in relation with low, average and high levels of professional health workers’ perceptions on performance management function in public district hospitals as summarized in Table 1.
Table 1
Perceptions on performance management function according to intentions to stay (n = 252)

| Outcome variable                  | With no intentions to stay | With intentions to stay | Total  |
|----------------------------------|----------------------------|-------------------------|--------|
| Performance management planning  |                            |                         |        |
| Low                              | 67.80                      | 5.60                    | 35.80  |
| Average                          | 27.97                      | 42.40                   | 35.39  |
| High                             | 4.24                       | 52.00                   | 28.81  |
| Performance appraisal/review     |                            |                         |        |
| Low                              | 72.03                      | 20.80                   | 45.68  |
| Average                          | 24.58                      | 33.60                   | 29.22  |
| High                             | 3.39                       | 45.60                   | 25.10  |
| Rewarding for performance        |                            |                         |        |
| Low                              | 50.85                      | 14.40                   | 32.10  |
| Average                          | 46.61                      | 40.80                   | 43.62  |
| High                             | 2.54                       | 44.80                   | 24.28  |

The results in Table 1 show that 67.80% of professional health workers who perceive a low level of performance management planning have no intentions to stay. Similarly, a very high rate of professional health workers with no intentions to stay perceive performance appraisal and performance management rewarding as low (72.03% and 50.85%, respectively). High perceived levels of performance management planning, performance appraisal and performance feedback among health workers correspond to respective percentages of 52.00%, 45.60% and 44.80 of professional health workers who reported that they intended to stay. While a respective percentage of 27.97, 24.58 and 46.61 of respondents with no intentions to stay feel that there is an average level of performance planning, appraisal and feedback, close to a half of respondents who participated in the study were of the belief that performance management planning, appraisal and feedback systems were high in the hospitals (with a 52.00%, 45.60% and 44.80%, respectively).

Descriptive findings from quantitative data showed divergent perceptions on performance planning among professional health workers. The same trend was observed in the respondents’ assertions from interviews and focus group discussions. As it was captured from respondents’ submissions, most cases reported difficulties in performance planning as the core business of performance function in hospitals. In fact, health workers had the feeling that job rotation in hospitals created challenges to performance planning as movement of staff to different services comes with different responsibilities, as it was asserted by one nurse that: “...what I know is that a staff may be deployed in a different. It seems almost
impossible to stick to what is expected of you for the next year…” (NUH303). This idea is concurs with the midwife’s one who mentioned that:

“As you know things are not that easy in the health sector. I may sign performance contract in service of ambulance today; the next month I’m rotated to another service with different tasks. There are a lot of challenges. And during performance planning, health workers are not involved and the rotation process has an impact vis-a-vis the implementation of performance. Out of 5 performance targets that have been set you may just achieve 2 or 3 only… which means that you cannot achieve them all…” (MIH101, 2017)

Such shortcomings related to performance planning added to some health workers’ views who were not aware of when it takes place “I don’t know….maybe you can ask somebody else, but I can’t say that I know when it takes place” (NUH105, 2017). The divergent experiences on performance planning in the hospitals, however, led to finding out that this function existed in some hospitals as it was confirmed by respondents DEH208, NUH211, DOH204 and PHAH312. Another one uttered that:

Well… Staff and managers in the same services work and prepare performance contracts. They set performance targets; for example, stating what will be achieved in the maternity department (...) nothing is difficult as this concerns their own performance contracts (MIH211).

However, having performance planning was reported with some challenges associated with the fact that health workers’ achievements will sometimes require from staff from other departments “we agree on performance targets items but it is sometimes difficult as, for example, in the maternity department, you need to meet other doctors, midwives and nurses for you to complete the task. (DOH204, 2017).

As for performance appraisal, it was revealed that the activity mostly involved line managers as one of the staff stated that: “...I have little information about that... It is done by our managers and we are informed of the outcome...” (NUH103, 2017). On the same, another professional health worker stated that: “I have never been involved... We did set targets and you may have a challenge all the way throughput.... But the managers perform the appraisal exercise and you are provided with the results” (NUH315, 2017). Respondents also insisted on lack of systematic evaluation mechanism and interaction between line managers and staff in some institutions as it was argued that: “you are provided with performance evaluation forms that are filled and sent back to the Human Resource department, then marks are allocated (MIH101, 2017).

In other instances, it was observed that the annual overall performance review was associated with monthly evaluation reports, which serve as a basis performance-based funds allocated to staff. One respondent submitted that:

Yes, this is a monthly evaluation where recommendations are made by a team composed of 3 heads of units. Marks are allotted to each health worker and they serve as the basis for monthly pay for performance. Normally, there is a team which makes a monthly evaluation. The evaluation is performed by the team I have talked about. (DOH3319)
As far as performance rewarding is concerned, most staff recognized that there was performance rewarding in hospitals, and this related to the bonus provided to employees at the end of the evaluation, and sometimes this could be the punishment as the staff had gone below the threshold set by the ministry of labour (MIH313, FH11, MIH313, 2017). However, it came out of some respondents' submissions that the annual performance rewarding as result of performance appraisal grades was confused with employee recognition as per the common practice in some institutions of electing the employee of the year, as it was revealed by one health worker who mentioned:

Each year it happens that two health workers who performed very well than the others are provided with a bonus. There are given an envelope during the staff meeting. This is done through elections because in each service it is the same, they elect 2 persons and finally, at the end of elections, only two persons must be selected at the hospital level to be awarded. (NUH1208, 2017)

**Associations between Performance Management Function and Retention of Health Workers**
Table 2
Logistic regression models of performance management function and intentions to stay

| Intentions to stay | Model 1 |                  |                  | Model 2 |                  |                  |
|--------------------|---------|------------------|------------------|---------|------------------|------------------|
|                    | Odds    | 95% conf. interval | P>|z|    | Odds    | 95% conf. interval | P>|z|    |
| Performance        | ratios  |                  |                  | ratios  |                  |                  |
| management         | planning|                  |                  | planning|                  |                  |
| Low                | Reference | Reference | Reference | Reference | Reference | Reference |
| Average            | 4.022   | 1.827 | 8.856 | 0.001 | 14.257   | 3.955 | 51.39 | 0.000 |
| High               | 24.238  | 5.871 | 100.05 | 0.000 | 60.130   | 7.913 | 4.920 | 0.000 |
| Performance review |
| Low                | Reference | Reference | Reference | Reference | Reference | Reference |
| Average            | 0.550   | 0.247 | 1.224 | 0.143 | 1.472    | 0.139 | 1.604 | 0.029 |
| High               | 0.968   | 0.177 | 5.291 | 0.970 | 2.215    | 0.165 | 8.895 | 0.048 |
| Rewarding          | performance|                  |                  | performance|                  |                  |
| Low                | Reference | Reference | Reference | Reference | Reference | Reference |
| Average            | 0.320   | 0.170 | 0.601 | 0.000 | 1.176    | 0.430 | 3.213 | 0.751 |
| High               | 1.731   | 0.310 | 9.654 | 0.531 | 6.884    | 0.938 | 50.474 | 0.058 |
| Gender             |
| Male               | Reference | Reference | Reference | Reference | Reference | Reference |
| Female             | 1.274   | 0.496 | 3.276 | 0.614 |
| Age group          |
| 30 and below       | Reference | Reference | Reference | Reference | Reference | Reference |
| 31–45              | 0.788   | 0.231 | 2.681 | 0.703 |
| 46+                | 0.423   | 0.092 | 1.935 | 0.268 |
| Marital status     |
| Single             | Reference | Reference | Reference | Reference | Reference | Reference |
| Married            | 0.231   | 0.071 | 0.746 | 0.014 |
| Ever married       | 1.454   | 0.192 | 11.002 | 0.717 |
| Model 1                     | Model 2                     |
|---------------------------|-----------------------------|
| **Level of education**    |                             |
| Diploma or less           | Reference                   |
| Bachelor's Degree         | 0.781                       |
|                           | 0.336                       |
|                           | 1.814                       |
|                           | 0.566                       |
| Others                    | 5.524                       |
|                           | 0.997                       |
|                           | 30.582                      |
|                           | 0.050                       |

As it can be seen from model 1, health professionals with perceive average level of performance management planning are more likely to stay than their counterparts with low perceptions (OR = 4.022; P = 0.001). In the same way, perceiving a high level of performance management planning is associated with professional health workers’ likelihood of staying, compared to those with low perceptions on this function (OR = 24.238; P = 0.000). While perceiving performance rewarding is associated with intents to stay in the hospital (OR = 0.320; P = 0.000), performance review was not found to be associated with health workers’ intentions to stay.

The second model was plotted on the basis that some social and demographic factors have the potential to confound with the results if they are not controlled for. By including them in the adjusted model, it was found that perceiving an average level of the way performance evaluation is conducted in the hospital was associated with health workers’ intentions to stay (OR = 1.472; P = 0.029). Similarly, perceiving a high level of performance evaluation exercise in the hospital was associated with 2.215 odds of staying (OR = 2.215; P = 0.048). Health workers who felt that performance management planning was at average and high level were 14.2 and 60 times more likely to stay (OR = 14.2; P = 0.000 and OR = 60.13; P = 0.000, respectively). Performance rewarding was not found to be associated with intentions to stay in the adjusted model.

**Discussion Of Findings**

The study showed the existence of performance management function in general as the key management tool that supports creation of the healthcare service provision environment with the health workforce with the potential to decrease inequalities and imbalances in the health systems. (32). The study, however, showed that there were some challenges in the planning in terms of setting performance targets and timelines and implementation of performance management evaluation and rewarding, and such shortcomings were reported in other studies that were conducted in Uganda (13) Malawi (33, 34) Kenya (35) and other sub-Saharan countries (36, 37). The divergent levels of perceptions on performance management review in terms of reported issues with fairness in performance appraisal systems corroborate with the findings from a study that was conducted in Kenya (35) which showed that health workers were undergoing performance appraisal while others seemed to ignore such practice in their institutions. In the same way, respondents’ perceptions and experiences showed that although feedback was recognized as an existing practice after a performance review, not everyone was exposed to receiving
feedback and so being rewarded for it, as it was reported in other studies that examined the same research topic (13, 33, 36).

The study findings show that a comprehensive performance management function in health care institutions from its planning phase through performance appraisal to feedback after a performance review will boost commitment of health workers and create good work behavior leading to reduced or no intentions to quit. The findings are therefore in congruence with the ones from a study conducted by Paul & Anantharaman (38) from which a significant effect of performance appraisal on reduced turnover intentions was noticed. The findings are in tandem with those of a study conducted by Krishnan, Warier & Kanaujia (39) who found a negative correlation between performance management function and intents to leave, then giving ways to conclude that retention of employees is positively affected by a comprehensive performance management system among other things. In another study conducted by Moran et al. (40), clear and fair performance evaluation systems and management conducted expertly along with other HRM interventions were found to increase commitment and retention of staff in the health care institutions.

**Conclusion**

This study was conducted in the public hospital to assess the effect of performance management function on the retention of health workers. The health workforce constitute major pillars for the success of any health system. Retention was measured through its main predictor, which is intentions to stay. The study found that there is a considerable number of health workers with no intentions to stay for the next three years. The study findings show that performance management function exists in hospitals in general, but it was revealed that there are some loopholes across its indicators: some health workers feel that there is a need for the improvement in the planning of performance targets, equity and fairness in performance appraisal and performance rewarding. Such findings are to inform the healthcare service provision institutions’ managers that there is a need to create performance management frameworks that work and support institutional overall goals. The study having found that there are associations between performance management planning and evaluation and retention of health workers, it was realized, however, that the current status of health workers’ perceptions on performance planning, appraisal and rewarding may adversely affect the retention of health workers.

**Abbreviations**

CI : Confidence Interval

DE : Dentist

DO : Doctor

H : Hospital
Declarations

Ethics approval and consent to participate

Not Applicable

Consent for Publication

Not Applicable

Availability of data and materials

The datasets used and analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

CN designed the study, collected and analysed the data, and did the write up. FN reviewed the methods and contributed to quantitative data analysis. SK contributed to the writing up of the background of the study, qualitative data analysis and discussion. RT and JK supervised the study, critically revised the manuscript. All the authors read and approved to the final version of the manuscript.

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