Motivation Factors Affecting the Job Attitude of Medical Doctors and the Organizational Performance of Public Hospitals in Warsaw, Poland

CURRENT STATUS: UNDER REVISION

BMC Health Services Research

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DOI:
10.21203/rs.3.rs-24282/v1

SUBJECT AREAS
Health Economics & Outcomes Research  Health Policy

KEYWORDS
Performance feedback, Supervision, Management, Motivation, Attitude to work, Organizational performance
Abstract

**Background:** This paper explores the relationship between organizational performance of hospitals and selected motivation factors that affect the attitude to work among medical doctors at public hospitals.

**Methods:** This study was based on World Health Organization questionnaires designed to estimate motivation factors and to measure the levels of organizational performance of hospitals in the social aspect. A survey was conducted among physicians (N=249) with either surgical or non-surgical specialty, in 22 departments/units of general public hospitals in Warsaw (Poland).

**Results:** The survey revealed that motivation factors related to “quality and style of supervision” have the greatest impact on the hospital’s organizational performance (Spearman’s rank correlation coefficient = 0.490; p<0.001), whereas “performance feedback” was rated the lowest among the surveyed healthcare professionals (54% of physicians).

**Conclusion:** The principles of Individual Performance Review should be incorporated into strategies designed to improve the organizational performance of hospitals (with NHS serving as a role model) in order to establish specific rules on how to share performance feedback among individual physicians. This study makes a research contribution to literature on human resource management in the healthcare sector, highlighting the importance of social aspects in improving organizational performance in a hospital setting.

1. **Background**

Work motivation and the relationship between motivation and performance are one of the key issues in studies concerning organizational behavior and human resource management [1].

Human resources are the main cost item in any healthcare system worldwide. Also, the major and still growing share of healthcare funds are absorbed by in-patient hospital care [2]. According to WHO, as much as 70% of overall healthcare costs can be attributed to in-patient services [3]. The available data indicate that the best way to rationalize the costs of in-patient care is to make better use of the human resources available [4].

Many countries implement solutions that are not rooted in scientific evidence or empirical research.
This trial-and-error approach does not make a rational choice or correct decision-making any easier [5].

Hospital performance largely depends on the way a hospital is managed and how it operates as a whole [6]. In many cases, literature review revealed that hospital performance is largely shaped by the engagement of medical staff, especially in terms of increasing the effectiveness of how a hospital is organized [7,8,9,10].

**Literature**

**Complexity of healthcare management**

Organizational management in the healthcare sector is different than and difficult to compare with that of industrial organizations [11]. Its distinguishing factors include [12]:

– high variability and multi-directionality of work, which makes it more difficult to regulate and measure performance,

– most activities should be performed immediately and precisely, with minimum tolerance for error,

– individual work activities are highly independent and require perfect coordination between various groups of professionals,

– the education of medical staff is highly specialized and they feel more loyal towards their professional group rather than the organization they work for,

– medical doctors make the greatest contribution to the overall healthcare services, and they therefore are committed to autonomy and only reluctantly submit to effective organizational and executive supervision,

– there are two types of professional subordination in hospitals: clinical and administrative.

A different mindset (mentality) of executives and medical staff, further amplified by the diverse nature of the work performed by both of these groups, is another source of issues in the management of healthcare professionals. The work of a medical doctor is based on science and rationality, whereas management is inherently less deterministic and more open to free interpretation. Hospital doctors are empowered to decide how to perform healthcare services as well as whether, and which, resources to use. The executive director of a hospital may find it difficult to regulate, measure, and
control the work of medical professionals who are free to make autonomous decisions [13]. The differences are evident in the preference of hospital performance indicators. The executives prefer structural indicators which they can shape, while physicians opt for process-based indicators that they can control [2].

Many authors also argue that mismanagement or poor governance is the main obstacle to improving situation in healthcare [14,6]. With the absence of a clearly defined strategy of human resource management, many countries are facing employment instability which threatens to paralyze the healthcare system [15]. A severe shortage of medical professionals, especially medical and nursing staff, becomes a global problem. A downward trend in physician employment figures is also seen in Poland [17]. The current number of physicians per 1000 population is only 2.3 and is the lowest in the European Union, with the average doctor-population ratio of 3.5.

Effective work motivation of the medical staff may be of particular relevance for improving the overall healthcare performance; here, the role and skills of hospital management can hardly be overestimated [18]. The rule is simple: if the executives endeavor to satisfy the essential workplace-related needs of medical staff, healthcare professionals will care more about the reputation of the institution they work for, and will be more likely to recognize and satisfy patient needs [19].

**Motivation among medical doctors**

The significance of work motivation among medical staff is more evident than among other public service employees. What all medical doctors have in common is that they work with patients who require special care and attention. This implies commitment and dedication, as well as the ability to cope with the mental burden of having to deal with the difficult patient experiences [19]. WHO (the World Health Organization) suggests that the motivation of healthcare professionals should be seen as the main indicator of the quality of healthcare services [20]. Physicians who are more engaged in their work obtain better treatment outcomes as well as higher personal and patient satisfaction compared to physicians who are less motivated [21,22].

Low employee morale leads to reduced performance and may impinge on the quality of healthcare services [24,25]. Hence, work motivation among medical staff is the central concern in healthcare
policy [26].

Given the scarcity of literature on this subject, we know little about the factors which influence the commitment of medical staff as opposed to nursing staff [23].

An important study has found that achievements (meaning of work, respect, interpersonal relations) constitute the main motivation factor for medical doctors, followed by remuneration, cooperation, and attributes of work [24].

It should be highlighted here that individuals who choose to become medical doctors are very focused on professional success, and are more interested in motivation drivers. For example, they want to know how well they perform [25,26].

**Performance feedback**

In order to gain competitive advantage, hospitals should engage more in training and development programs for medical staff [27,28]. Performance feedback is particularly important for medical doctors. Knowledge and skills underpinned by clinical experience are the fundamental driving forces of this profession [29]. Performance feedback is the starting point in planning the professional development. It also helps reasonably use the capacity of medical staff and contributes to better overall organizational performance [29].

As a rule, hospitals in Poland do not have any formal systems with which they can set goals, criteria, and ratings in the management of human resources [29]. They most often operate according to informal principles, which can hardly be considered as a sound basis for decision-making concerning human resources [30].

It is important to create formal assessment processes beneficial for personal development, recognizing individual accomplishments of employees. In UK National Health Service uses Individual Performance Review (IPR) to evaluate performance of medical staff. This method helps meet professional requirements in terms of goal-setting or employee development review, also among high achievers. David Wigley argues that the IPR system should cover individual motivation [31] and external motivation [32], and then combine it with organizational development programs to create appropriate organizational culture [31]. IPR is a tool which helps lead to high productivity, improved
performance, and overall commitment [32], as well as improved behavior and professional autonomy of medical doctors, and their involvement in the ongoing changes [33].

HR management systems which understand and respect feedback – the ability to receive information about performance at work, performance review, and involvement in goal-setting – have a positive impact on the behavior of medical staff and clinical care indicators [33,34,35].

NHS also reviews clinical outcomes at the individual level by means of “rigid systems”, measuring and publicly disclosing data concerning the obtained treatment outcomes [36,37,38,39]. Clinicians are awarded bonuses for positive performance [32].

Researchers highlight the significance of evaluation (unless something can be measured, it cannot be improved) [39]. They also point to the absence of systems to monitor and improve the performance of medical doctors [40]. Hospitals need better performance metrics and more widespread implementation of research and remedial action plans.

Motivation of medical staff versus organizational performance of hospitals

According to the reported results of studies exploring the link between the motivation of medical doctors and the organizational performance of hospitals, the commitment and support of medical staff are the determinants of hospital performance whenever changes are introduced aimed to improve the hospital's organizational performance, value, or quality [7,8,9].

In order to boost motivation of medical staff, and hence to safeguard proper performance at individual and hospital level, healthcare centers need to implement organizational and management processes to align the needs of healthcare professionals and organizational goals [41].

A number of measures need to be taken in order to improve work motivation and performance, some of which may be very difficult to implement. They should recognize correlations between problems, combine ideas from various fields of knowledge, and approach problems from various perspectives.

Also, the theories of motivation should be studied and blended into employee motivation programs [46,47,48].

2. Methods
2.1. Main objective
This study examined whether a statistically significant correlation exists between the influence of
work motivation of medical doctors and on the organizational performance of public hospitals.
Secondary objectives were as follows:
- determining work-related factors which may have a determining influence on the work motivation
  of medical staff
- exploring the correlation relationship between work motivation of medical doctors and the
  organizational performance of hospitals.

2.2. Concept of the study (Fig.1)
Motivation is an independent variable and was examined using two motivation factors: quality of
supervision and performance feedback. Organizational performance of public hospitals is the
dependent variable.
The following relationships were investigated, based on relevant literature and the proposed model of
the study:
1. relationship between the quality of supervision of medical doctors and their work
   motivation.
2. relationship between providing feedback about the performance of medical doctors
   and their work motivation (attitude to work), and
3. relationship between work motivation of medical doctors and the organizational
   performance of hospitals.

2.3. Research tools and data sampling
WHO questionnaires were used, either as a random employee survey distributed among physicians on
duty, during a briefing or scientific consultation, accompanied by a short discussion of this research
project, or as a direct survey handed over to physicians in the place where they performed their
duties, e.g. in a surgery or a break room etc. The physicians were randomly selected.
In the first step, 22 public hospital departments/clinics in Warsaw, Poland, were selected at random.
Next, the survey was conducted among all physicians who agreed to take part (n=249) and worked at the listed departments. 5% of the approached physicians refused to take part in the survey. The survey was conducted on a group of physicians (n=249) working at 22 public hospital departments/clinics in Warsaw, Poland. Only general (multispecialty) public hospitals were included in the survey.

The motivation factors (factors which influenced the attitude to work) were identified and evaluated according to Herzberg’s motivation theory, whereas the variables of organizational performance were examined according to the McKinsey Framework.

2.4. Herzberg and McKinsey Concepts

F. Herzberg model, or the two-factor theory, is the most universally used motivation theory in the management [42,43,44,45,24,46,47], and the most common methodology applied by organizations [42]. Herzberg has a two-dimensional approach to motivation in the workplace – he states that there are motivating factors that lead to job satisfaction and a separate set of demotivating factors that cause job dissatisfaction [48]. Herzberg also identifies hygiene factors that do not in themselves motivate employees, however, if they are missing at the workplace, they would cause dissatisfaction with work. Hygiene factors include company policy and administration, supervision, relationships with superiors, working conditions, salary, relationships with same-rank coworkers, personal life, relationships with subordinates, status, and security [49]. These elements can be shaped to minimize work dissatisfaction. The motivating factors (motivators/satisfiers) involve achievement, recognition for achievement, the nature of work itself, responsibility, advancement, and opportunities for growth. The motivation-hygiene theory suggests that “job enrichment” is necessary to improve employee performance [49] in an effort which should not be a one-off exercise, but a continuous process coordinated by the management. Herzberg suggests to provide performance feedback, to secure and create conditions for professional growth, to empower employees to self-organize their work, and to discuss with the employees about the goals they have achieved. Herzberg argues that even small amount of time and money invested in job enrichment will translate into employee satisfaction and economic effects that will provide the most substantial dividend achieved in a society. Also, the skills
of employees should be effectively taken advantage of [49].

The relationship between motivation and organizational performance in this research project is based on McKinsey's 7S framework, or the management model for organizational effectiveness. It postulates that organizational effectiveness is contingent on several different factors [50]. McKinsey's model specifies seven factors (7S) as the main variables that shape the organizational effectiveness [50]: shared values, strategy, structure, system, staff, style, and skills. Organizational effectiveness in the McKinsey’s model is a result of interactions among these variables.

2.5. Statistical Analysis

The examined factors of job motivation and organizational effectiveness have been grouped into stens with an assigned value calculated as arithmetical mean of individual components of a sten.

Normal distribution of the stens was verified with the Kolmogorov-Smirnov test.

Stens were compared against each other using 95% confidence intervals.

Significant differences of the examined stens according to physician’s specialty were analyzed with the Student's t-test for independent samples.

Spearman's Rank correlation coefficient was used to analyze the relationship between various aspects of work and the mean organizational effectiveness.

The significance level of < 0.05 was applied.

2.6. Ethical considerations

This study was notified to the Ethics Committee of the Medical University of Warsaw, and no objections were raised (decision no. AkBE/116/15). The researchers duly informed heads of hospital departments and medical doctors about the study. Researchers’ contact details and research information were included in the questionnaires. Participation in the study was voluntary and the questionnaires were completed anonymously. No single respondent could be identified based on raw data or the results of the study.

3. Results

The evaluation of factors influencing work motivation (attitude to work) was analyzed first. Questions about various aspects of work as per Herzberg’s motivation theory were divided into nine groups – stens (Figure 2).
Quality of Work and Status were found to be the greatest source of job satisfaction (a score of 3 on a four-point scale). Autonomy, Companionship, and the Quality and Style of Supervision were also high above the neutral level. Respondents declared to be least satisfied with the Source of Income and Stability of Employment.

The study revealed significant differences in the way physicians of two different specialties ranked individual aspects of their work (Fig 3).

All of the analyzed stens (apart from Quality of Work) were ranked lower (but not all of them to the point of significance) by surgeons. Significant differences were detected for the following stens: Security of Employment p=0.027, Companionship p=0.009, Quality and Style of Supervision p=0.002, Status p=0.009, and Recognition p=0.014.

Next, the organizational performance of public hospitals (Figure 4) was analyzed. In general, respondents gave low ratings to each variable of organizational performance of the hospitals they worked for.

Strategy and Goal were scored the highest. Employees were ranked the lowest. It is worth noting, however, that all scores were relatively poor or average. The mean score was 3.5.

It is also noteworthy that, in all of 7 aspects included in the survey, the ratings of surgeons were significantly lower than those of non-surgeons (Table 1).

| Organization characteristics | Surgical specialty | Significance |
|-----------------------------|--------------------|-------------|
|                             | No | Standard error | Yes | Standard error |
| Goal/Shared values           | 3.27 | 0.11 | 2.76 | 0.13 | 0.003 |
| Strategy                    | 3.47 | 0.12 | 2.87 | 0.14 | 0.001 |
| Structure                   | 3.06 | 0.12 | 2.56 | 0.12 | 0.003 |
| Systems                     | 2.92 | 0.10 | 2.26 | 0.09 | <0.001 |
| Style                       | 2.94 | 0.11 | 2.18 | 0.09 | <0.001 |
| Staff                       | 2.70 | 0.13 | 1.95 | 0.11 | <0.001 |
| Skills                      | 2.91 | 0.13 | 2.09 | 0.12 | <0.001 |
| Total                       | 3.00 | 0.10 | 2.32 | 0.09 | <0.001 |

Next, it was examined whether a statistically significant correlation existed between the work motivation of medical doctors and the mean the organizational performance of public hospitals the respondents were employed at (Figure 5).

A significant correlation was observed between the examined aspects of work and the hospital’s organizational performance. The Quality and Style of Supervision as well as Recognition were found to be most strongly correlated.
Further analysis showed how the respondents evaluated individual aspects of the Quality and Style of Supervision (Figure 6).

It was found that, in terms of Quality and Style of Supervision, the respondents were least satisfied with Performance Feedback and Assignment of Clear Goals. This means that, if physicians felt more satisfied with these aspect(s) of their work, they would have a more positive assessment of their organization.

4. Discussion
Measuring what medical doctors working in the public healthcare consider to be the determinants of job satisfaction may provide valuable insights into whether any measures are necessary to improve the conditions which underlie their dissatisfaction with work, and in consequence, to improve health care services in general [51,52]. It goes without saying that neither job satisfaction nor motivation are easy to capture, however, once they are measured, they can help maintain and improve the performance of healthcare professionals [53,54]. Experts in HR management increasingly recognize motivation as the key feature in predicting the behaviors or aspirations of individual employees.

The results of this study indicate that, among various aspects of work, the main determinants of job satisfaction among medical doctors include Quality of Work (the essence of work), Status (respect from co-workers and respectable social status), and Autonomy. Source of Income, Security of Employment, and Recognition were deemed to be the greatest source of dissatisfaction with work. Similar results were obtained in a survey conducted among 76 physicians working at a public hospital in Cyprus [24] in 2010, although the examined categories were put in a slightly broader context; the meaning of work, respect, and interpersonal relations were ranked the highest in the ‘Achievements’ category. The ‘Co-workers’ category was ranked second and featured five items: teamwork, sense of pride, recognition among superiors, and integrity, followed by remuneration and training. Corresponding results were reported in a study by N. Kontodimopoulos et al. [55] in 2009, in which achievements (categorized as in the study by P. Lambrou [24]) were found to be the most important motivation factor among 354 surveyed physicians. The question of autonomy was seen differently – it was ranked third in the discussed study, and was considered to be among the least important motivation factors in the study performed
in Greece. Kisa et al. [56] reported similar results in 2009 [56]. In a study of 351 physicians in public hospitals in Turkey, the nature of work (diversity of cases, working with people, social importance of the work performed, patient care) was considered most satisfying. The least satisfying aspects included the lack of career prospects, knowledge development, and involvement in organizational and administrative decision-making. Also, the respondents were very dissatisfied with remuneration. Vasconcelos et al. studied the population of 141 physicians working in a public hospital; it was shown that a good relation with other medical professionals was the greatest source of job satisfaction. Apart from this aspect, respondents also appreciated the opportunities of development and research, social prestige attributed to working for a prominent institution, and the hospital’s affiliations with a medical university [57]. Linzer et al. [58] also reported the beneficial effects of positive relations among medical staff and job satisfaction. The significance of other motivating factors, i.e. providing help to patients, or personal and professional values, was also demonstrated in qualitative interviews conducted in Benin and Kenya; respondents from Kenya also highlighted the importance of recognition [59]. Studies performed in Vietnam [60] provided different results in terms of the rank of individual motivating factors. Here, the relationships with superiors and co-workers were found to be of equally high importance, but the remaining items varied considerably. Security of employment and salary were ranked third, at a level equivalent to “autonomy” in this study. As for demotivators, there is a clear convergence of views of healthcare professionals concerning dissatisfaction with low wages, lack of information, and absence of training. Employment instability (security of employment) is one missing dissatisfaction factor, compared to this study. Different results were obtained in studies performed in Vietnam [58] and A research project in Tanzania [61] also points to the importance of incentives for work among healthcare professionals, particularly the importance given to appreciation by superior, co-workers, and the community, as well as stability of employment, salary, and training. Tanzania [59]. Here, the relationships with superiors and co-workers were found to be of equally high importance, but the remaining results varied considerably. Security of employment, remuneration, and training were considered more significant as compared to other studies. Similar levels of dissatisfaction with work were demonstrated in a population of 132 physicians in Pakistan. Apart from remuneration, these physicians mainly complained about stress at work, poor opportunities for extending medical knowledge, and the lack of individual career development paths [62]. In a study by Rosta of 2006 [63], 1917 hospital physicians from Germany expressed only
moderate satisfaction with their work. Working hours (3.25), Remuneration (3.59), Physical Conditions of Work (3.96), and Recognition for Good Performance (4.08) were among the highest ranked factors. It was concluded that the German physicians are less satisfied with work than their counterparts in England, New Zealand, and Norway. Nylenna surveyed 1174 physicians in Norway in 2005 [64]. This study confirmed that the job satisfaction levels increased over the last decade. Researchers even claim that Norway challenges the worldwide trend of high dissatisfaction levels among medical staff. American researchers Hinami et al. [65] also demonstrated high levels of job satisfaction among 816 hospital physicians. 62.6% of respondents were highly satisfied with work, >4 on a five-point scale. Physicians were most satisfied with the quality of services provided, and the relations with staff and other healthcare professionals, and relatively satisfied with the organizational culture, autonomy, remuneration, and time off.

Medical specialty is one of the key determinants of the nature and conditions of medical practice and job satisfaction [64,66]. This study revealed differences in the evaluation of work-related aspects (and variables of organizational performance) among surgeons and non-surgeons. A higher number of statistically significant correlations was found among surgeons, who were significantly less satisfied with work compared to non-surgeons. Similar results were reported by J.P. Leigh et al. [67] in a population of 6590 physicians working in the USA. Six out of ten medical specialties achieving higher job satisfaction were non-surgical specialties, while five out of eleven specialties characterized by the lowest levels of job satisfaction were surgical ones. In a study of 1917 physicians working in Germany by J. Rosta [63], radiologists were most satisfied, and surgeons were least satisfied with their work. Job satisfaction levels among urologists and internists were below average. In other reviewed studies, there was no consensus concerning the key factors behind job dissatisfaction resulting in a high turnover of medical staff in correlation with medical specialties [68,24,69,70,71,72]. Likewise, no correlation was found between satisfaction and medical specialty in a study by P.O. Vasconcelos et al. in 2016 [57], while a correlation was observed between job satisfaction and specialty in a study by H. Cerwenka et al. on 667 physicians with surgical specialties working in Austria [73]; here, only 37 percent of physicians with surgical specialty declared to be satisfied with the conditions of their work. Excessive bureaucracy, remuneration, and long working hours were considered the most dissatisfying aspects of work.

It is particularly important to identify key motivating factors which influence the relationship between job
satisfaction and organizational performance, and the main correlations among them [74]. Evidence from behavioral and social research suggests that job satisfaction and performance at work are positively correlated [75]. According to Mascia, job satisfaction among medical doctors is highly dependent on the organizational culture [76]. C.C. Demir et al. even went as far to claim that work-related factors have a greater influence on the physicians’ commitment to their current organization (i.e. loyalty) than their personal qualities, which in turn determines the fulfillment of organizational goals [23]. The surveys were conducted among 635 physicians from one of the largest military hospitals in Turkey.

The relevant literature also describes determinants of job satisfaction and their influence on the overall performance of organizations [77,74]. Management and supervision were shown to be the predictors of job satisfaction and organizational commitment of hospital staff. In a meta-analysis by R. Hogan et al., it was the head (leader) of an organization who was shown to play a key role in shaping job satisfaction and organizational performance, and therefore organizations take the question of leadership very seriously, as it can contribute to better team cooperation and patient care [78]. Other authors suggest an equally strong relationship between leadership and the quality of healthcare [79,80]. H.M. Elarabi [81] also demonstrated a positive correlation of all work-related factors and the general performance of a hospital in Tripoli. The physicians surveyed also highlighted the importance of treatment at work, convenience of work, as well as incentives and remuneration.

Evidence from this study clearly demonstrates a strong and positive correlation between satisfaction with various aspects of work and the assessment of variables of organizational performance. The Quality and Style of Supervision were shown to be most strongly correlated, which is reflected in the discussed literature data. The quality of supervision and performance feedback from the management are the motivating factors which have a lasting effect on attitude to work. Not only do they enhance job satisfaction, but they also improve organizational and staff performance [25]. In this study, 54 percent of the study population declared to be relatively dissatisfied with the performance feedback they receive. Also, medical doctors with a non-surgical specialty represent a significant part of respondents who declared to be relatively satisfied. Similar conclusions can be drawn from a survey of surgical interns in Wales, 70 percent of whom were not subject to regular review [82]. In a study of surgical residents in Germany, only 18 percent of respondents believed that the hospital was interested in their progress [83]. The studies also point to another important issue, which mainly concerns
doctors in surgical training. It is alarming that – despite the legal requirements – many junior physicians are not provided with regular feedback, either from the head of department, or the supervising physician. This problem appears to be prevalent and worldwide in scope [73]. Likewise, a study of military doctors conducted by S. Chaudhury in 2002 revealed that HR policy was the key determinant of job dissatisfaction, including employee performance reviews and poor opportunities for promotion, as well as suboptimal use of the capacity of medical staff [51].

Although performance can be influenced by different types of motivation and a variety of factors, motivation is undeniably one of the preconditions for a job being well done [1].

5. Conclusions
Motivation is the driving force of success in any organization. This is especially true in the healthcare environment in which the performance of individual healthcare units to a greater extent depends on the commitment and dedication of healthcare staff 23,84. However, motivation is not in itself sufficient to provide high work efficiency. It must be accompanied by high standards of management able to ensure that the efforts of the staff are used as effectively as possible. The results of analyses confirm that the quality of supervision and work motivation of medical staff are interrelated. It is also worth pointing out that surgeons are significantly more likely to be more dissatisfied with most aspects of work and organization as compared to non-surgeons. Hence, programs designed to improve motivation should be modified accordingly. It should also be acknowledged that, in order to enhance the organizational performance of hospitals, the measures to drive motivation may have to be aligned with other aspects of management. An analysis of correlations revealed a strong relationship between motivation driven by organizational aspects and the mean rating of organizational performance, with the Quality and Style of Supervision being most strongly correlated. Therefore, hospital performance may increase if physicians are more satisfied with their superiors, rewards, trainings, and career opportunities. The results of further analyses confirm the existence of a relationship between Performance Feedback and work motivation of medical doctors. A vast majority of the physicians surveyed (over ½) declared they were least satisfied with Performance Feedback as an aspect of Quality and Style of Supervision. There seems to be a need to introduce formal assessments of physicians’ performance, which could also be used as a measure for recognizing individual achievements. Therefore consideration should be given to whether IPR tools should be introduced to hospitals, as
was done in the NHS, to facilitate goal-setting and performance rating, and to support staff development. It would be advisable to place greater emphasis on faster sharing of more comprehensive information about achievements of individual physicians at departmental and hospital levels.

List Of Abbreviations

HR: Human Resources; IPR: Individual Performance Review; NHS: National Health Service; UK: United Kingdom; USA: United States of America; WHO: World Health Organization

Declarations

Ethics approval and consent to participate

The Ethics Committee of the Medical University of Warsaw issued ethical approval for this study to be conducted (decision no. AkBE/116/15). Written informed and verbal consents were obtained from all respondents during the course of data collection. All responses and study locations were anonymized.

Consent for publication

“Not applicable”

Availability of data and materials

All data can be requested from the corresponding author.

Competing interests: The authors declare that they have no competing interests.

Funding

“Not applicable” (This research has not been funded)

Authors’ contributions: MC was responsible for conception of the study, conducting the literature review, research, acquiring and analyzing the data and drafting the manuscript. JS assisted in interpreting the results and JF assisted in finalizing the manuscript. TH was responsible for conception of the study and revising the manuscript for intellectual content. All authors have read and approved the final manuscript.

Acknowledgements

“Not applicable”

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Figures
Figure 1

Conceptual framework of the study
Figure 2

Assessment of various aspects of work
Figure 3

Assessment of various aspects of work according to physicians’ specialty
Assessment of organizational performance variables according to the criteria of McKinsey Framework
Coefficients of Spearman's rank correlation between various aspects of work and the mean assessment of organizational performance

Figure 5

Assessment of the level of physicians’ satisfaction with a group of motivation factors attributed to the Quality and Style of Supervision

Figure 6