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HUMAN RESOURCE MANAGEMENT IN PUBLIC HEALTHCARE INSTITUTIONS: A COMPARATIVE ANALYSIS OF THE CLINICAL HOSPITALS IN TETOVO AND BITOLA, NORTH MACEDONIA

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Abstract

This scientific paper aims to analyse the process of human resource management (HRM) in public healthcare institutions through a comparative study of the Clinical Hospital in Tetovo and the Clinical Hospital in Bitola. Particular attention is given to organisational structure, workforce planning, motivation, professional development, leadership and working conditions as factors influencing the efficiency of healthcare services.

This study adopts a descriptive–analytical comparative approach based on secondary data, national statistical publications, institutional documents and relevant domestic and international scientific literature. The analysis includes available workforce indicators for 2023 and findings from previous research. The year 2023 was selected because these were the most recently available data for the purposes of this study. No new primary data were collected through surveys or interviews.

The analysis shows that both institutions have significant staffing capacity and employ qualified and professionally trained personnel. However, they also face broader systemic challenges affecting the health sector in North Macedonia, in particular in relation to workforce planning, retention and professional development. The emigration of physicians abroad must also be recognized as a serious national challenge. According to the statistics of the Institute of Public Health for 2023, the Clinical Hospital in Bitola had a total of 963 employees, and the Clinical Hospital in Tetovo – 836. Simultaneously, Tetovo possessed a higher quantity of medical practitioners, indicating that the sheer count of personnel is inadequate as a measure of workforce structure or organizational efficacy.

The paper proposes establishing a workforce planning system on the basis of actual needs, introducing transparent recruitment procedures, improving motivational mechanisms, strengthening continuing education and developing responsible, supportive leadership.

This study enables an institutional comparison of two important public healthcare institutions and contributes to understanding the role of human resource management in improving organisational performance and healthcare outcomes.

Keywords: human resource management, public healthcare institutions, clinical hospitals, motivation, organisational efficiency, health management.

1. INTRODUCTION

Human resources in healthcare are among the most important factors in the functioning and development of modern health systems. Unlike many other organisational sectors, healthcare institutions are characterised by a high degree of professional specialisation; direct responsibility for human life; the need for continuous education; and ongoing adaptation to medical, technological and organisational change. In this context, human resource management cannot be limited to the administrative recording of employees, the allocation of duties and the implementation of recruitment procedures. It is a complex strategic process encompassing workforce planning, recruitment and staff selection, professional development through training, motivation, performance appraisal by experts and healthcare managers, organisational culture, the retention of qualified personnel and, ultimately, the role of the healthcare manager.

In the Republic of North Macedonia, human resource management in the public healthcare sector is particularly important because of shortages in certain medical specialties, the migration of healthcare workers, the uneven distribution of personnel and the need to strengthen institutional capacity. According to the European Observatory on Health Systems and Policies, shortages of health professionals and migration are long-term challenges for the sustainability of the country's health system (Milevska Kostova et al., 2024).

These challenges are particularly significant for public clinical hospitals, which play an important role in providing secondary healthcare and treating patients from wider regional areas.

The clinical hospitals in Tetovo and Bitola provide suitable institutional examples for a comparative study of this issue. Although they operate within the same national healthcare system and under the same hospital legislation, their staffing capacities, organisational needs and local circumstances are not identical. They serve different urban and regional populations and operate in distinct institutional and workforce contexts.

Therefore, the main objective of this paper is to analyse the characteristics and challenges of human resource management in these two institutions, with particular emphasis on opportunities to improve workforce planning, motivation and organisational efficiency.

2.1. Workforce Planning Strategy and Allocation of Human Resources

Workforce planning is the process of identifying the number and composition of employees required to ensure the continuous and high-quality operation of a healthcare institution.

In hospital settings, workforce planning should consider the following:

- the number and profile of patients;
- the number of hospital beds and their occupancy rate;
- the needs of departments and specialist services;
- the number of physicians, nurses and other healthcare professionals;
- employees' age, professional experience and potential retirement;
- the need for new specialisations and additional competencies.

Inadequate workforce planning may lead to an uneven distribution of duties, increased professional pressure and reduced efficiency in healthcare service delivery.

Kostovska Milevska, Zisovska and Dimkovski (2017), in their publication Profile of Human Resources for Health, emphasised the need for a comprehensive system for planning and monitoring human resources in healthcare in North Macedonia. The authors noted that absence of relevant workforce information limits the ability to forecast long-term needs and to use existing capacity rationally.

2.2. Methods of motivating employees and incentives

Motivation is a significant factor of the job performance and career commitment of healthcare workers.

Motivation in healthcare organisations is influenced by a number of factors including financial incentives, professional recognition, opportunities for advancement, job security, social interactions, task autonomy and the quality of the workplace.

Herzberg (1966) in his two-factor theory distinguishes between motivators such as recognition, responsibility and career advancement and hygiene factors such as pay and working conditions.

Applying this theory to healthcare organisations suggests that increasing salaries is an important, but not the only way of increasing workers’ motivation and their job satisfaction.

It is also important to create a work environment where employees are given a chance to be part of decision-making processes and initiatives that improve healthcare services and to value professional input.

2.3. Professional Development, Continuous Learning and Skill Development

The field of medicine is rapidly changing with constant introduction of new methods of diagnostics, therapeutic approaches and technological advancements.

Hence, for updating and upgrading the professional skills, continuous medical education is essential.

The professional development should be fully funded and include specialised and subspecialized programmes, career training, paid attendance at scientific conferences, interdisciplinary collaboration and experience sharing with other healthcare organisations, all financially supported by the organisation.

Professional development funding should be viewed as a strategic long-term investment in quality and safety in health care, not as an added cost.

2.4. Organisational Ethos and Governance

Leadership is vital in healthcare organisations in managing professional teams, establishing an effective organisational structure and ensuring positive working environment.

Transformational leadership based on vision, professional support, trust and employee motivation can improve organisational commitment and job satisfaction.

The research of Iliev, Szamosi, Serafini and Ilieva (2025) is of a special interest for the health care sector of North Macedonia. The study consisted of 166 medical professionals and found a positive relationship between transformational leadership and job satisfaction with a correlation coefficient of 0.73. The authors emphasise the importance of teamwork and leadership in increasing the motivation of doctors.

These findings confirm the need to develop leadership approaches based on open communication, professionalism, and active participation of employees in the company's operations.

3. SCIENTIFIC RESEARCH METHODOLOGY

This study adopts a rigorous scientific approach using a descriptive-analytical comparative method to examine similarities and differences in human resource management at the Clinical Hospital in Tetovo and the Clinical Hospital in Bitola.

The subject of the study is the process of human resource management in public clinical hospitals, with particular emphasis on workforce structure, planning, motivation, professional development and organisational leadership.

The aim of this study is to identify the main organisational challenges and propose opportunities for improving human resource management at both institutions.

The study is guided by the following research questions:

What are the staffing capacities and workforce structures of the two clinical hospitals?

What are the main challenges in planning and allocating healthcare personnel?

How does motivation and professional development influence the efficiency of an organization?

In what ways can leadership and the culture of an organization contribute to enhancing the quality of healthcare services?

The study draws on secondary sources, including publications by the Institute of Public Health of the Republic of North Macedonia, national strategic documents, scientific publications by domestic researchers, and reports by the World Health Organisation and the European Observatory on Health Systems and Policies.

The comparative analysis is based on available data on workforce composition for 2023, whereas organisational and motivational aspects are examined through the scientific literature and the institutional context.

An important methodological limitation is that no direct interviews, surveys or observations were conducted at either hospital. Consequently, conclusions regarding specific organisational practices are not presented as conditions directly measured within the institutions.

4. COMPARATIVE ANALYSIS OF CLINICAL HOSPITALS IN TETOVO AND BITOLA

4.1. Institutional and Workforce Context

The clinical hospitals in Tetovo and Bitola are important public healthcare institutions within the secondary healthcare system of the Republic of North Macedonia. Their operations involve the provision of specialist healthcare services, inpatient treatment, and diagnostic and therapeutic interventions.

Human resource management in these institutions should be examined in the context of the broader national health system, which faces the need for improved workforce planning, retention of professional staff and rational allocation of available resources.

According to the publication Healthcare Personnel in the Republic of North Macedonia in 2023 prepared by the Institute of Public Health, the staffing capacities of the two hospitals differ by total employment and structure of medical personnel.

Table 1. *Staffing Capacity of the Two Clinical Hospitals, 2023.*

Indicator	Bitola	Tetovo
Total number of employees	963	836
Specialist physicians	102	137
General practitioners	54	66
Total physicians	156	203

Source: Institute of Public Health of the Republic of North Macedonia (2024), Healthcare Personnel in the Republic of North Macedonia in 2023, Table 15 and graphical presentation, pp. 32–33.

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The data reveal several important differences. Clinical Hospital in Bitola has 127 more employees than Clinical Hospital in TetovoHowever, Tetovo has 47 more physicians, 137 specialists and 66 general practitioners, compared to Bitola with 102 specialists and 54 general practitioners.

This is especially relevant for comparative purposes, as it demonstrates that the overall number of employees is not by itself a sufficient measure of the composition of a hospital's workforce or institutional capacity.

The greater total number of employees in Bitola does not automatically imply greater efficiency, just as the greater number of physicians in Tetovo does not, by itself, demonstrate better healthcare service quality.

A proper assessment should also examine the number of nurses, allied health professionals, administrative and technical staff, patients, hospital beds, volume of healthcare services and departmental workload.

Therefore, workforce analysis should focus on the functional composition of the workforce rather than solely on its overall size.

4.2. Workforce Planning and Organisation

One of the most important challenges in human resource management in public clinical hospitals is aligning the number and qualification profile of employees with the actual needs of healthcare services.

As demand for specialist healthcare increases, workforce planning should be based on a systematic analysis of positions, professional competencies and workload.

At the Clinical Hospital in Tetovo, the relatively greater number of physicians in relation to total employment indicates the need to examine the balance between medical

personnel and other categories of healthcare workers. At the Clinical Hospital in Bitola, the greater total number of employees calls for further examination of their professional distribution and functional deployment.

This does not mean that one institution has a better organisational structure than the other; rather, their staffing capacities should be assessed via a range of functional indicators.

The establishment of an electronic system for monitoring staffing needs is particularly important. Such a system would enable timely identification of staffing shortages in departments and forecasting of future needs for specialist personnel.

This approach is consistent with the recommendations of Kostovska Milevska, Zisovska and Dimkovski (2017), who emphasise the need to develop an integrated database on human resources for health.

4.3. Motivation, Working Conditions and Professional Satisfaction

The motivation of healthcare workers is directly linked to organisational stability and the quality with which professional duties are performed.

In public healthcare institutions, particularly important issues include levels of remuneration, workload, night shifts, opportunities for professional advancement and institutional recognition of employees' contributions.

In their previous study Valdrina Fetai and Naxhije Fetai (2022) studied the factors that influence the management of human resources at the Clinical Hospital in Tetovo.

The study is based on interviews carried out with staff in selected hospital departments in the first quarter of 2018.The issues raised were low salaries, lack of adequate additional compensation, need for stronger professional incentives and importance of continuous education.

The authors also emphasise the need for adequate equipping of hospital departments and the creation of conditions for efficient medical activities (Fetai & Fetai, 2022).

These results are of special interest for the analysis of the Clinical Hospital in Tetovo since they are previous research done in a certain institution.

Nevertheless, because the data relate to 2018, they cannot automatically be treated as a description of current conditions. Their value lies in identifying factors that should be reexamined and compared with conditions in other clinical hospitals.

With respect to the Clinical Hospital in Bitola, further research is needed to determine whether similar motivational challenges exist and which organisational mechanisms are used to retain and motivate employees professionally.

4.4. Continuing Medical Education (CME) and Professional Development

Continuing professional development is one of the most important ways of enhancing health care workers' skills.

Professional development should be part of the workforce strategy in the two studied hospitals. This implies systematic planning of specialization and sub-specialization programs and professional training and involvement in research and scientific activities.

Professional development should be supported by institutional programs and clear criteria for professional advancement, not by the initiative of employees.

Partnerships with medical faculties, scientific institutions and other healthcare institutions can promote the exchange of professional experience and the development of medical practice.

Mechanisms should also be developed for the monitoring of the impact of education and training on work performance and the quality of health care services.

4.5 Leadership and Organization Efficiency

The managers of public healthcare institutions are responsible for stability of the organization, functional allocation of duties and proper coordination between medical and non-medical staff.

Leadership in health management today must be based on professional communication, participation in decision-making and development of mutual trust, not only on hierarchical control.

Iliev et al. (2025) In their study in North Macedonia, found significant positive correlation between transformational leadership and job satisfaction of physicians. This finding proves the necessity of developing leadership competences of directors, department heads and other staff with managerial responsibilities.

The introduction of a supportive leadership model at the Clinical Hospital in Tetovo and the Clinical Hospital in Bitola can improve interdepartmental communication, reduce organizational conflict and increase professional commitment.

5. DISCUSSION

The comparative analysis shows that human resource management in the Clinical Hospital in Tetovo and Clinical Hospital in Bitola should be viewed in the broader transformation of the public health system in North Macedonia.

Both institutions have many staff, but that is not the only reason for their organizational efficiency. The changes in the total employment and the number of physicians indicate a need for a more detailed analysis of the professional composition, workload and staff distribution.

This is especially important in light of the European Observatory on Health Systems and Policies findings of shortages of health professionals in North Macedonia, migration of the health workforce and the need for more systematic long-term planning (Milevska Kostova et al., 2024).

Also, the lack of integrated data is a limitation for the rational management of the health workforce as it is pointed in the national profile of human resources for health (Kostovska Milevska et al., 2017).

In contrast, Fetai and Fetai (2022) research emphasize the importance of motivation, working conditions, professional development and organizational support at the Clinical Hospital in Tetovo.

The results, together with the results of Iliev et al. (2025) allow us to conclude that effective human resources management requires an integrated approach, in which workforce planning, motivation, leadership and professional development work as interdependent elements.

For both hospitals the establishment of a management system that can guaranty the following is of particular importance:

- unbiased evaluation of staffing needs.
- transparency of recruitment and career progression in the profession;
- rational division of labor;
- better working conditions and incentives;
- equal access to education and vocational training;
- developing managerial and organizational capacities;
- continual monitoring and evaluation of the quality of health care services.

Another important aspect of the discussion is the need to promote an institutional culture in which healthcare workers are perceived as active participants in the course of organizational development and not as executors of predetermined administrative tasks.

5. RECOMMENDATIONS TO IMPROVE HUMAN RESOURCE MANAGEMENT AND THE ROLE OF HEALTHCARE MANAGER

Through the theoretical and comparative analysis, some areas for improvement of human resource management at the Clinical Hospital in Tetovo and Clinical Hospital in Bitola can be proposed.

We need long term planning of the workforce first. Staffing needs should be reviewed regularly on the basis of professional profiles, the volume of health care services, and demographic and epidemiological developments.

Secondly, the personnel policy must be more transparent. Recruitment, promotion and professional appraisal procedures must be based on clear criteria of expertise and professional competencies.

Third, the motivational mechanisms should be well grounded. Together with adequate financial remuneration mechanisms should be introduced to recognize professional contributions, to provide support and reward high quality performance.

Fourth, institutionalize life-long learning. The hospitals shall prepare annual professional development programs that provide equal and transparent access to training and specialization opportunities.

Fifth, enhance leadership competency. It is important for managers to have management knowledge, especially communication, conflict management, teamwork and performance appraisal.

Sixth, there must be a mechanism to assess organizational performance. Indicators like staff turnover, absenteeism, workload, employee satisfaction, and the quality of health care service should be monitored regularly.

These measures should be integrated into the wider national health policy and should be consistent with the objectives of the National Health Strategy 2021–2030.

6. CONCLUSIONS

Human resource management is one of the most important conditions for efficient and sustainable functioning of public health care institutions. The quality of healthcare services depends on not only the infrastructure and medical equipment, but also on the professional competencies, motivation, organizational support and management of the healthcare personnel.

Differences exist in staffing capacities and professional structures between Clinical Hospital in Tetovo and Clinical Hospital in Bitola. Data for 2023 show an increased total number of employees in Bitola and an increased number of doctors in Tetovo. This means that the capacity of the staff should be evaluated by several indicators and not only by the number of employees.

The study highlights the necessity for a coordinated approach to human resource management, connecting workforce planning, motivation, professional development and leadership.

Namely, domestic research and the latest research on transformational leadership in the health sector in North Macedonia, including the research of Fetai and Fetai (2022) support the necessity of paying more attention to the human factor in healthcare organizations.

Therefore, human resource management should be treated as a strategic priority in both clinical hospitals. Transparent personnel policies, systematic professional development, appropriate motivational mechanisms and responsible leadership can improve better organizational efficiency, employee job satisfaction and healthcare quality.

Ultimately, human resources are not simply an operational component of the health system, but its core developmental resource. For this reason, the effective management of these institutions is of crucial importance for the modernization, institutional stability and long-term viability of the public healthcare institutions in the Republic of North Macedonia.

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