

THE IMPACT OF SUPPORT FOR MEDICAL PERSONNEL WORKING IN A HIGH-TECH ENVIRONMENT ON THE SELF-ASSESSED HEALTH STATUS OF INHABITANTS

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The rapid advancement of high technologies in healthcare requires medical personnel to continuously adapt to new tools and processes. This study explores the impact of remuneration as organisational culture on the well-being of medical professionals working with high technologies and self-perceived health status of inhabitants. The study identifies key factors that influence performance of medical professionals to decrease patients' fear of medical personnel and institutions and increase awareness of qualified medical personnel related to more adequate remuneration. The objectives of this study are to analyse scientific findings on organisational culture and its relation to performance of medical personnel, as well as analyse data from the database IVP070 and DSV030 of the Central Statistical Bureau of the Republic of Latvia. For data analysis, descriptive statistics methods were used. Findings indicate that a strong organisational culture characterised by collaboration, leadership support, and continuous learning plays a crucial role in enhancing professional efficiency and patient outcomes. Furthermore, the study highlights how improved well-being and efficiency among medical personnel contribute to the economic sustainability of the healthcare sector, general population and, consequently, the overall economic stability of the country. By improving efficiency through a supportive work environment, healthcare organisations can contribute to better service delivery and a more resilient economy, ultimately leading to increased national productivity and growth. This research highlights the importance of cultivating a positive organisational culture not only to improve individual worker performance and patient outcomes but also to promote the long-term economic sustainability and growth of a country.

Keywords: *Economic sustainability, efficiency, lifelong learning, organisational culture, supervision.*

1. INTRODUCTION

During the Fourth Industrial Revolution, the rapid advancement of high technologies has transformed medical practice, improving diagnostic precision, precision medicine, treatment effectiveness, and overall patient care. However, alongside these advancements, healthcare professionals working with high-tech medical and other equipment face increasing demands, including the need for continuous upskilling, lifelong learning, decision-making under high pressure, and emotional resilience. These challenges can significantly impact their well-being, job satisfaction, and overall efficiency.

Organisational culture plays a critical role in shaping the work environment and influencing how medical personnel adapt to technological advancements as well. A strong and supportive organisational culture can foster professional growth, reduce stress, and enhance collaboration, ultimately leading to better healthcare outcomes. Conversely, inadequate remuneration, lack of institutional support, unclear communication, and high expectations without adequate resources can contribute to burnout, decreased efficiency, more sickness leaves, absenteeism, leaving the profession in the healthcare field and higher employee turnover rates, thus reducing sustainability of the sector and the country. A shortage of healthcare professionals is observed all over the world, including Latvia. Consequently, the risk of losing employees brings economic losses, affects the outcome of patient care, and results in the inability to provide the standards for quality healthcare set by the World Health Organization (WHO).

According to the WHO, quality of healthcare service should be effective, safe,

and people-centred. To achieve this goal, it must be timely, equitable, integrated, and efficient [1], [2].

High technologies in healthcare are related to many innovations, such as Messenger Ribonucleic Acid (mRNA), virtual reality, neurotechnology, artificial intelligence, 3D printing, precision medicine, Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) – gene editing technology, tele medicine, health wearables.

Organisational culture is a set of basic values, norms, and beliefs that are commonly accepted in a given organisation [3]. Healthcare professionals as representatives of helping professions [4] are related to a higher burnout risk. The term “burnout” was first used in a clinical sense in the early 1970s by Herbert Freudenberger, a practicing American psychologist [5], [6]. The concept was developed further by the academic researcher and social psychologist Christina Maslach, who subsequently developed the most widely used questionnaire for assessing burnout [7].

The WHO has defined burnout as a syndrome caused by chronic workplace stress that has not been effectively managed [8]. According to the WHO, burnout consists of three key dimensions: feelings of exhaustion, growing mental detachment from work, and decreased personal effectiveness.

To prevent and treat burnout, scientific interventions such as workshops, training programmes, counselling service, including supervision, are used and incorporated in organisational culture. Supervision is the provision of space and time to reflect on the professional functioning in daily and complex work situations to improve

their working life [9]. Supervision service ensures sufficient awareness of professional boundaries, finding action alternatives in specific work situations, building relationships with colleagues, subordinates, customers, patients and their relatives, establishing team cooperation, using work strategies, reducing stress factors and burnout, and solving other issues that take place in daily work [10]. An increase in the professional efficiency is the main result of supervision.

The Cabinet of Ministers of the Republic of Latvia adopted Regulation No. 617 “Regulations on the competence of medical practitioners and students studying medical education programmes in medical practice and the extent of theoretical and practical knowledge of these persons” as of 24 September 2024 (hereinafter – Regulation No. 617) to open greater opportunities for support of healthcare professionals, thereby ensuring supervision in educational and work process [11]. Article 3 of Regulation No. 617 stipulates that the scope of theoretical and practical knowledge and acquisition of competences includes the acquisition of transversal competencies using supervision as a method of improving self-directed learning, emotional intelligence, communication skills, cooperation and reflection abilities, as well as includes competencies

in the field of law and ethics, patient data protection, digital skills, patient safety, protection of children’s rights, recognition of violence and gender equality.

Burnout among healthcare professionals impact the healthcare system by an increased rate of employee turnover, higher absenteeism and sick leave, lower productivity and efficiency, greater patient care costs for the National Economy by the loss of skilled workforce, higher healthcare expenditures, reduced economic growth, and increased social security costs. Burnout is not just a personal or workplace issue – it has broad economic implications. Addressing burnout through better workplace policies, mental health support, supervision programmes, and fair compensation can improve efficiency in healthcare, reduce national economic losses, and ensure a healthier workforce now and in the future [12], [13].

Effective burnout prevention, alongside with other interventions such as supervision, is viewed by the authors as a fundamental approach to a modern organisational culture in the healthcare profession.

The paper explores a link between the remuneration of medical personnel and the assessment of healthcare status of inhabitants.

2. METHODOLOGY AND RESULTS

The study used several research methods, including the analysis of scientific publications, state regulations, and legislation. It also used OSP database DSV030, analysed in SPSS through gender-based cross-tabulation tests, and data from the Official Statistics Portal (OSP) of Latvian database IVP070 to provide evidence-

based recommendations for fostering a healthy and productive work environment in the healthcare sector.

Researchers worldwide pay attention to work related stress and burnout, prevention and treatment interventions to cope with it. Burnout of healthcare professionals [14], [15] was especially

highlighted during COVID-19. Creative and innovative approaches [16], [17] applied in avoiding burnout for medical personnel is in the focus of attention by academic researchers and practitioners to introduce new and useful approaches in everyday working life. Researchers as well as policy developers and decision makers on different levels look for innovative ways to support medical personnel in avoiding burnout [18] where attention is paid to various relevant aspects [19]: various approaches and solutions for different kinds of medical personnel [20]–[25], several innovative solutions based on comprehensive research results, the application of diverse research methods and identifying the influence of various factors on burnout. The link to the organisational culture becomes prominent through the performed analysis on burnout prevention.

Organisational culture, including remuneration, significantly influences job satisfaction and has clear implications in relation to professional burnout among medical personnel. A supportive culture can enhance motivation and reduce burnout, which is crucial for retaining talent and reducing turnover [26]. By optimising work processes and minimising waste, a supportive organisational culture can mitigate workplace stress, thereby improving overall employee well-being [27]. This is particularly important in high-stress environments and helping professions like healthcare, where the mental and physical health of employees directly impacts patient care. The integration of advanced technologies, such as collaborative software and artificial intelligence, has transformed organisational culture, making it more open, inclusive, and efficient. This shift supports a culture of lifelong learning, which is essential

for adapting to the complex and rapidly changing healthcare environment [28]. Effective leadership and management styles are crucial in shaping and transmitting organisational culture. Leaders play a key role in fostering a culture that supports quality improvement activities and enhances the overall organisational performance [29]. The analysis of more specifically focused research [30]–[33] shows how employees feel at their working place, enabling the development of practical recommendations for organisational culture improvement. Researchers [34] indicate that organisational culture in healthcare institutions significantly influences feelings of patients and clients in healthcare institutions.

A broad set of activities has been performed to improve working conditions for employees in medicine in Latvia, such as more adequate remuneration, supervision, renovation of health-care facilities, new and modern medical equipment, application of artificial intelligence that influences medical employees' work results and the overall organisational culture. It has been recognised that organisational culture, to a great extent, influences patients' willingness to visit doctor in Latvia, as it is shown by statistical data on unmet need of medical care. The performed survey shows that an important factor is the person having fear of doctors/hospitals/examination/ treatment in 2016–2024. There are indications that the situation is improving for female persons (see Fig. 1).

Another identified factor for unmet need of medical care is no information on a reliable high-level competence doctor or specialist. Within the period 2016–2024, the overall situation was improving for female persons (see Fig. 2).

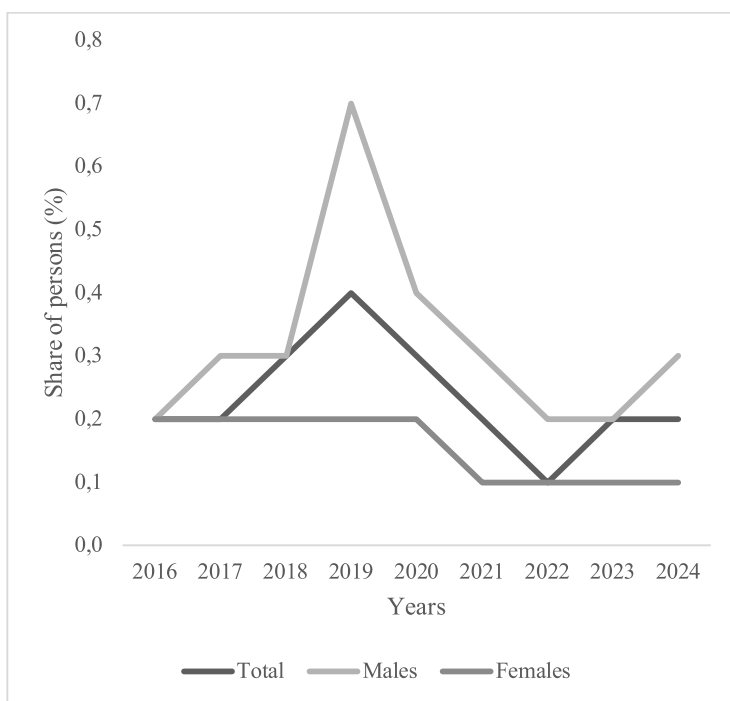


Fig. 1. Share of population in Latvia having fear of doctors/hospitals/examination treatment in 2016–2024 by gender.

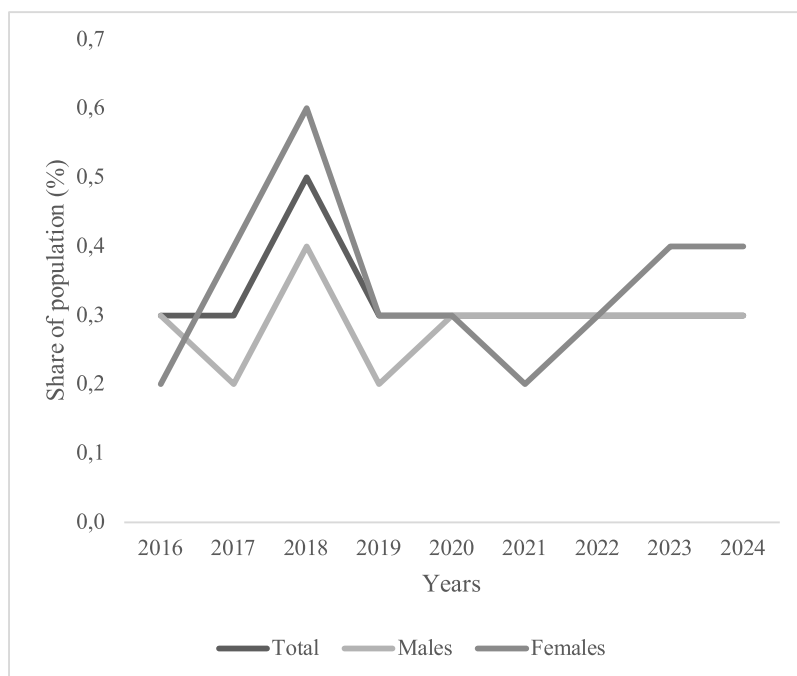


Fig. 2. Share of population in Latvia not knowing any good doctor or specialist in 2016–2024 by gender.

On the side of the healthcare employees, the work of healthcare institutions, to a great extent, is influenced by the payment for their work. Our survey data indicate that

salaries and wages of the human healthcare sector employees were gradually increasing in the period 2008–2024, accounting for an average 90 EUR per year (see Fig. 3).

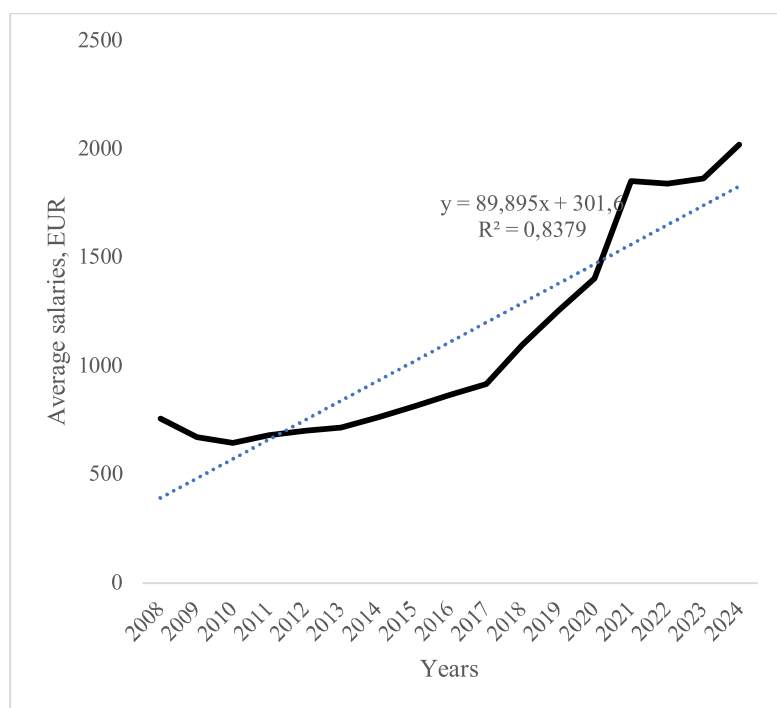


Fig. 3. Average gross salaries and wages for the human healthcare sector employees in Latvia in 2008–2024 and the trend of the period under analysis.

As scientific publications indicate the salary is one of the best motivators for work. A fair and attractive salary is one of the sources to recover from workload and

stress, as well as to be as professional as possible at work, including the willingness to apply all newest achievements in everyday work.

3. CONCLUSIONS

Organisation culture has a strong impact on working conditions of medical personnel, especially in avoiding burnout of medical personnel.

In Latvia, the share of population not receiving medical treatment due to fair of doctors/hospitals/examination/treatment has been decreasing recently, where female

persons show better results.

In Latvia, the share of population on unmet need of medical care because of as unawareness of any good doctor or specialist is decreasing, where female persons show better results.

Salaries and wages of human healthcare sector employees were increasing in the

period 2008–2024, accounting for approximately 90 EUR per year, thus supporting

healthcare employees' recovery from work and decreasing burnout.

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