






Ensuring Healthcare Efficiency in the Context of the Medical and Pharmaceutical Staff Regulation

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Abstract

This article aims to substantiate the impact of socio-economic labor protection for healthcare professionals based on developing legislative regulations in some OECD and EAEU countries and identifying their relationship with the efficiency of healthcare systems. The methodology includes general scientific methods (systemic analysis, synthesis, comparison, abstraction, induction, deduction, and modeling) and special research methods (formal logical, structural, and functional). The results of international rankings evaluating healthcare systems were used to determine the list of states for comparative legal analysis. Also, empirical methods were used: meetings, questionnaire surveys, and interviews held in 2021 with medical and pharmaceutical workers in Kazakhstan. The research results showed that states with special labor regulations for medical and pharmaceutical personnel occupy stable leading positions in international rankings regarding healthcare evaluation. On the other hand, based on the example of the EAEU countries with an insufficient level of specialization in labor regulation for these categories of workers, some states occupy weak positions in similar international ratings. This paper is novel because previously, there was no debate in the literature justifying the finding that specifics in the labor regulation of medical and pharmaceutical staff, along with other factors, influence the healthcare system's efficiency and development.

Keywords:

Sustainable Growth;
Socio-Economic Security;
Health Care System;
Efficiency;
Special Labor Regulation.

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1- Introduction

The issue of healthcare system efficiency holds the leading position on the global agenda, especially after the COVID-19 pandemic. It concentrates the essence of the wide range of problems that human beings face. A comprehensive approach to this phenomenon presumes various factors determining achieving the desired level of sustainable development in healthcare. The efficiency of health systems is a long-term research domain of experts and professionals worldwide. Detecting the sources of the inefficiency of the health system and defining optimal measures requires a long-term conceptual examination of all dimensions of the health system and strong cooperation between research teams and policymakers [1].

Human and financial resources in health care systems are limited and require efficient use. However, efficiency can be improved, e.g., by better care coordination between health care providers [2]. Recent studies show that research and development (R&D) and physicians enhanced health efficiency in the main panel, lower-middle-income, upper-middle-income, and high-income countries. However, inefficiencies within the health sector occur in diverse ways, such as hospital management, admissions, and health worker performance. Therefore, the efficiency of financial and human

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resources employed in the health sectors across emerging economies becomes an essential topic for researchers and decision-makers within the healthcare sector [3]. The recent review published by the Organization for Economic Co-operation and Development (OECD) entitled "Health at a Glance 2019: OECD Indicators" [4] provides more detailed information about the health and social care workforce in its member countries and partners. As reflected in this review, there is no ideal healthcare system globally. However, the characteristics that make such a system good include long-term investment in human resources, infrastructure, and primary healthcare [5].

The countries of Northern Europe pay great attention to preventive assistance to improve public health and build potential. State financing, which allows the poorest segments of the population to access healthcare and medicines, is a good model for imitation in many systems in the Commonwealth of the Independent States and the European Union [6]. In addition, the involvement of patients and the public, an innovative approach, and quick response are necessary for maximum coverage, as in Rwanda and India [7]. Furthermore, proper investment in information technologies and research and development is the key to making healthcare systems more accessible and to improving health indicators. Finally, attention to aged care services, as in Japan and China [8], and to mental wellbeing, as in Australia [9], along with the patient's choice of suppliers and services, as in England [10], is fundamental for healthcare systems. Undoubtedly, one of the most significant factors of healthcare efficiency is the quality of human capital in the medical sphere. There are currently approximately 60 million healthcare workers in the world. Health service providers constitute about two-thirds of the global health workforce. At the same time, the remaining third comprises health management and support workers, according to the latest information provided by the World Health Organization (WHO), as of the end of March 2020 [11]. Every 10,000 people in the world are served by 16 doctors and 38 nurses (including midwives).

However, there is currently a crisis of medical staff availability worldwide. The related problems include oversaturation with narrow specialists against the background of insufficient primary healthcare personnel, a lack of balance between high and average qualifications, and a limited number of healthcare professionals in rural areas. It is well known that there is a direct correlation between the healthcare professionals-to-population ratio and the level of public health. Moreover, the general deficiency of medical personnel is aggravated by the prevalence of medical staff in urban areas. According to WHO, adequate provision of qualified medical care requires at least 2,360,000 health service providers and approximately 1,890,000 employees in the administrative and auxiliary sectors. In general, this will total about 4,250,000 medical personnel [12].

The importance of the medical profession and pharmaceutical industry in upholding the constitutional rights of citizens to preserve and protect their health and the specifics of such regulated profession and industry is confirmed by scholars and experts. It necessitates the study of the relationship between medical and pharmaceutical staff labor and the healthcare system in developing healthcare legislation. Although the health efficiency evaluation has been studied in various dimensions, some gaps in these approaches remain—one of these gaps in the legal regulation of healthcare professionals' labor. Unfortunately, no identified works focused on and investigated this aspect of the healthcare system.

The laws of a particular country cannot be considered outside the context of global patterns and trends. That applies fully to issues related to the legal regulation of labor. However, while exploring the issues of foreign legal regulation of healthcare labor, it should be noted that there are different models of legal regulation of labor relations in medicine, considering the socio-economic conditions of each country. Unconditionally, there can be no single healthcare system model for the entire world. Accordingly, there is no single legislative framework for regulating labor in all countries except for the standards, recommendations, and technical guidelines of the WHO and the recommendations and conventions of the International Labor Organization (ILO). Each country has historically formed and developed by attracting economic resources to provide medical care and preserve and improve the population's health. The quantity and quality of resources allocated by society for healthcare and their effectiveness in the healthcare sector are determined by a complex system of economic, political, moral, ethical, and other relations historically established in the country.

According to Professor Blancpain of Belgium, analyzing foreign legal systems of labor regulation is advantageous because it enables the national experience to be seen vis-à-vis the international experience. Furthermore, it allows a country to see that a particular problem is addressed completely differently by another country's legal system. Thus it may lead the country to analyze and assess a problem related to the national labor law from a different angle with an enriched perception of the nature of the problem [13]. It is believed that this study will contribute to new insights into ensuring healthcare efficiency and the development of relevant policies. This research contains many examples and proofs demonstrating the integral relationship between healthcare indicators and medical staff regulation in labor and employment relations. The findings of the work will enhance the development of studies in this field and can be used by health policymakers and legislators.

2- Literature Review

The constitutions of most countries (e.g., USA, UK, Germany) state the importance of the healthy existence of a person and the right of everyone to medical care and health protection. These are also stipulated in the Constitution of Kazakhstan. Under Article 29 of such a constitution, the citizens are entitled to care for their health. Moreover, they can

receive guaranteed free medical care established by law [14]. Medical and pharmaceutical personnel's human resources development potential is one of the main components of healthcare today in Kazakhstan and elsewhere in the world. Moreover, such personnel plays the most significant role in providing high-quality medical care to the population [15]. Therefore, the qualifications, organization, and complexity of and the dangers faced by medical and pharmaceutical workers should be made high priorities and require thorough study and action, especially in connection with the coronavirus disease 2019 (COVID-19) pandemic, which began in early 2020 [16].

It is known that many factors affect public health. Among these are medical and pharmaceutical activities, development and reforms, advanced technological equipment and devices, personnel availability and sufficiency, workers' labor organization, and staff training. However, the cutting-edge technological equipment will not be able to solve the problems of providing medical and pharmaceutical assistance to the population at a fairly qualitative level without the available appropriate personnel [17].

The effective legal regulation of medical and pharmaceutical workers' labor has economic and social significance. The global epidemic situation aggravated the already problematic aspects of the legal regulation of medical and pharmaceutical staff labor in Kazakhstan: the lack of motivational incentives to work, low wages, insufficient social security of healthcare professionals, personnel outflow to other industries, and other reasons, since issues of legal regulation of labor relations in Kazakhstan's healthcare sector have been little studied.

In 2016, the World Health Assembly adopted the Global Strategy on Human Resources for Health: Workforce 2030, which provides for promoting the efficiency of health resources management and their leading role by developing normative manuals, providing technical assistance, and ensuring inter-country coordination, consistency of efforts and accountability [18]. In 2020, the World Medical Association adopted the Declaration of Cordoba, which confirmed the following principles regarding the patient-physician relationship [19]:

- Reaffirm that professional autonomy and clinical independence are essential components of high-quality medical care and medical professionalism, protecting the right of the patients to receive the health care they need;
- Urge all actors involved in regulating the patient-physician relationship (governments and health authorities, medical associations, physicians, and patients) to defend, protect, and strengthen the patient-physician relationship, based on high-quality care, as a scientific, health, cultural and social heritage.

The standards of medical ethics for healthcare professionals are established by the World Medical Association in the following documents:

- Declaration of Geneva (The Physician's Pledge) [20];
- International Code of Medical Ethics [21];
- Declaration of Lisbon on the Rights of the Patient [22].

The above international standards indicate a special socially significant role of medical and pharmaceutical professions globally. Furthermore, the presence of professional ethics recognized by all states of the world and the peculiarities of healthcare activities give reason to assert the special legal standing of the medical and pharmaceutical workforce.

We should agree with Belokolodova's definition of medical activities' standard features [23]. The legislator should consider those in the norms that provide medical workers with special rights, impose obligations and give them the authority to act in a certain way and bear responsibility for their actions (grounds for differentiating the legal regulation of the medical workforce labor). The standard features include: a special goal in a medical professional's labor in maintaining or restoring a patient's health (health protection), which determines the public significance of this labor; actual inequality in patient-health professional relations, creating the prerequisites for the emergence of professional power concerning the patient and implying the need of confidence in a medical professional and a medical profession as a whole based on adherence to a set of moral and ethical norms; increased complicated and numerous conditions and prerequisites for the medical professionals' labor due to the creative and risky nature of their activities, accompanied by increased mental and intellectual stress.

Implementing modern organizational and medical technologies also imposes increased requirements on employees, including the volumes of running and long-term memory, increased concentration of attention, and the ability to effectively carry out labor activity in extreme conditions [24]. Therefore, health care professionals need special conditions for medical activities, additional guarantees, and compensation designed to reduce the influence of negative socio-psychological factors of labor, difficult working conditions, and other possible bodily effects [25]. These factors confirm the special role and status of medical and pharmaceutical personnel in ensuring the constitutional rights of citizens to protect health.

Foreign labor law researchers conducted comprehensive studies of medical workforce labor regulation issues. They include the peculiarities of regulating an employment contract with medical workers [26]; the regulation of health workforce labor and social security [27]; features of the legal regulation of medical workforce labor in the context of health care reform [28]; the medical professional’s labor-legal status [23]; legal issues of medical workforce remuneration [29]; the peculiarities of the legal regulation of medical and pharmaceutical professionals’ labor [17].

Since its independence in 1991, Kazakhstan has created its statehood by establishing, developing, and strengthening the foundations of its independence, providing for the country’s territorial integrity and inviolability of borders, transferring the economy to a free-market development and successful integration into the global market. However, the legal sphere needs further reforms [30]. Some scholars suggest distinguishing three main types of healthcare systems from the viewpoint of approaching the essence of relations in healthcare: utilitarian, communitarian, and liberal [31].

The WHO experts proposed the classification, which differentiates three primary types of healthcare systems: a state-owned system or the Beveridge model; a system based on comprehensive social health insurance, or the Bismarck model; and a market-driven health care system, or the Out-of-Pocket Model [32]. Furthermore, there is a current trend towards a mixed model. Thus, the National Health Insurance model has elements of the Bismarck and Beveridge models. The government acts as the single-payer for medical procedures; however, providers are private. These universal insurance programs tend to be cheaper and much simpler administratively. Along with the various health care systems, one can also distinguish social and labor relations models within the framework of which medical and pharmaceutical workforce labor relations are regulated. Three large models of social and labor relations can be identified: Anglo-Saxon, European (continental), and Asian models.

The United States, Great Britain, Australia, and New Zealand are united by the official language and Anglo-Saxon social and labor relations model. The features of this model are presented in Figure 1.

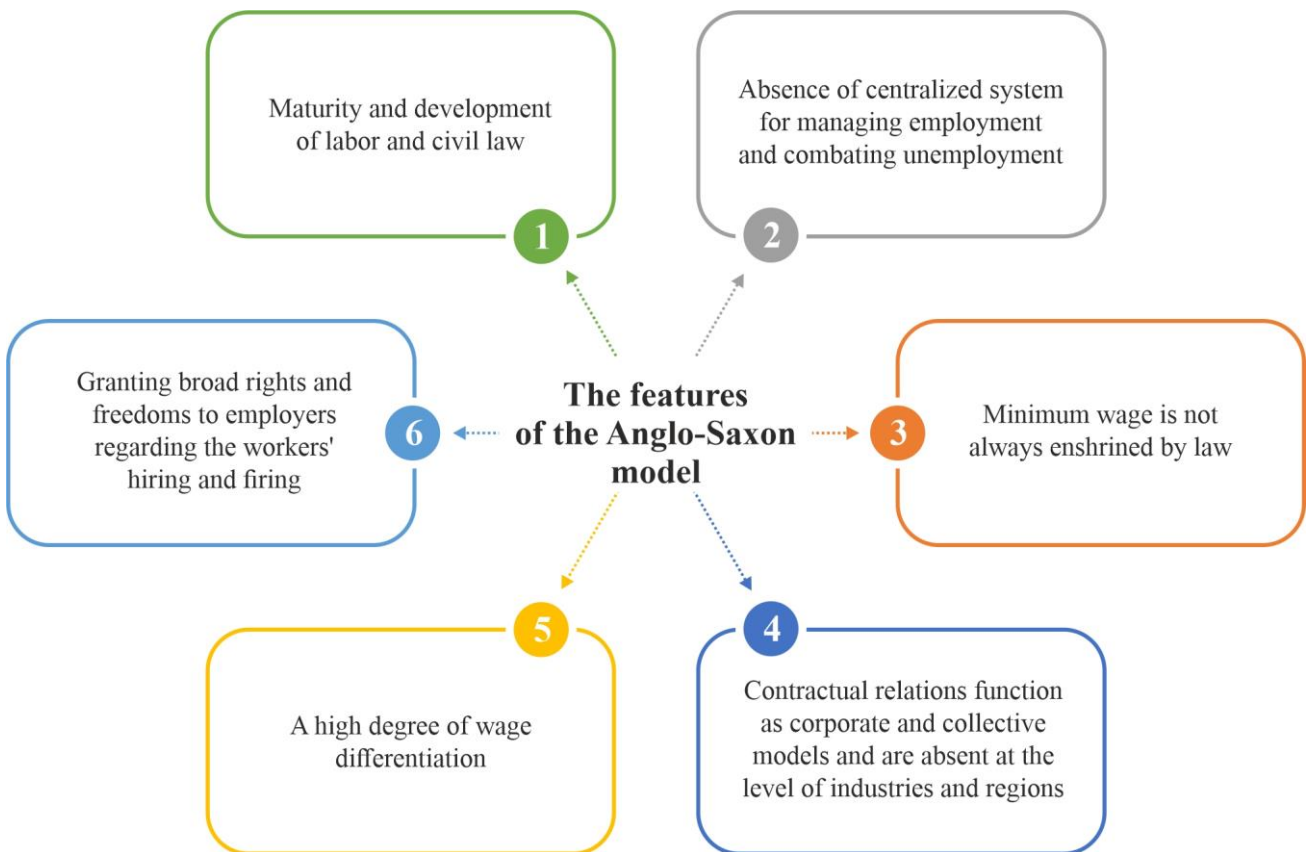


Figure 1. Features of the Anglo-Saxon model of social and labor relations

The Anglo-Saxon model is based on the closeness of civil and labor employment, the entrepreneurs' freedom in employment, which provokes greater labor mobility.

The existing European or, as it is otherwise called, the continental model has a number of its peculiarities (Figure 2).

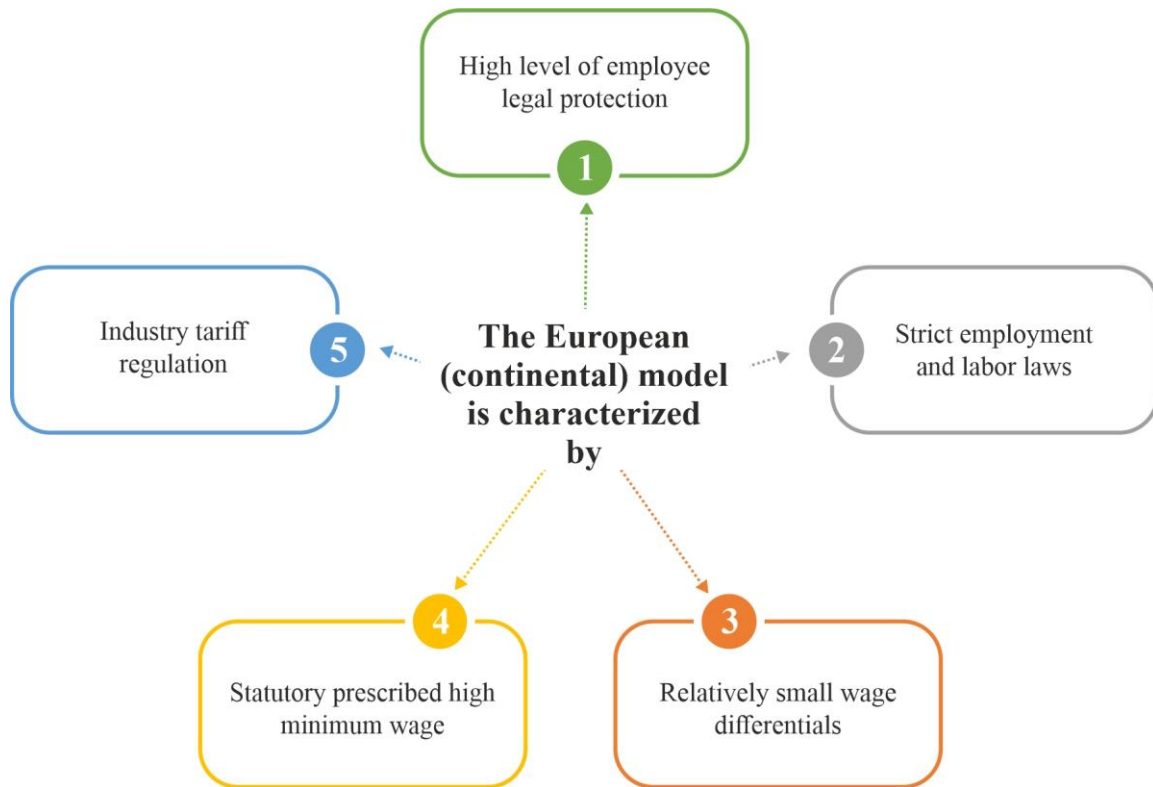


Figure 2. Features of the European (continental) model of social and labor relations

The above description of the characteristics of the European model clarifies that, in essence, it is a social-democratic model. It is inherent, first of all, in such Scandinavian countries as Sweden, Norway, and Denmark.

It should be noted that the continental model reflects and implements the ILO requirements and recommendations to the greatest extent. At the same time, the growth of unemployment, the problems of employing young people and people with low qualifications, and the weakening of the stimulating role of wages observed in the last decade indicate a certain crisis in this model [33]. Social dialogue and solidarity make the fundamental principle of building a European model. Thus, in most European states, tripartite social partnership bodies can work permanently or be convened as needed. Moreover, labor disputes are settled in specialized structures within this model, such as labor courts or state arbitration bodies. The European model is also characterized by a clear regulation of the trade unions' activities and the available system of collective bargaining [34]. The past decade will likely be remembered for the spectacular rise of digitally mediated work and the unprecedented development of robotics, algorithms, and artificial intelligence [35].

It has been proven that with a sufficient number and level of medical personnel training, the uniformity of their distribution among the population, the level of healthcare system success, and people's general health increase. Social guarantees and measures of social protection for medical and pharmaceutical professionals are inherent benefits, that is, legal incentives provided to individual citizens in whose socially useful activities the state and society are interested as a whole [27]. At the same time, it should be noted that the legally established social guarantees and social protection measures apply only to medical personnel of governmental medical organizations, including those operating in rural areas. As for the social protection guarantees and measures for employees of private-funded medical organizations, Kazakh law is silent. Legal incentives laid down in the legislation should apply to all medical organizations, regardless of the organizational and legal form. Another thing is that the source of funding will be different [36].

Various skill levels and nurse-to-doctor ratios characterize different countries. Disproportions in the range of major specialties and qualifications, and the level of job satisfaction, also remain significant. Job satisfaction has negative statistics even in some OECD countries. Thus, according to the Korean Health and Medical Workers' Union, in 2019, most nurses considered the option of quitting medical practice due to unsatisfactory working conditions and heavy workloads. The respondents called terrible working conditions and excessive workload (80.2%), the toxic atmosphere in the team, and management policy (25.9%) the main reasons for the desire to quit in percentage terms. About 56.8% of respondents complained about the high workload level per nurse, and 31.3% reported a lack of time for food due to the large amount of work. In addition, some respondents noted a deterioration in health due to a heavy workload because of a personnel shortage; more than 65% of people reported an increase in accidents [37]. This situation is also explained by the fact that the countries with advanced economies focused on administrative specialists during the last 30 years. In this connection, the training of senior and paramedical personnel has declined.

The health care system in Sweden can be considered one of the best due to its high efficiency at moderate cost. Health care in Sweden is 92% public, characterized by a high degree of decentralization with the division of responsibility for health care between the state, landstings (country councils), and municipalities. The state is the main coordinating body, which governs the work of local authorities, forms policies and strategies in the health sector, and adopts laws. In particular, the Swedish Health and Medical Services Act define the responsibilities of the landstings and municipalities and grants autonomy to local governments. All medical workers are supervised by the National Board of Health and Welfare. The governing bodies also include the Medical Products Agency controlling the quality and effectiveness of the use of medicines; the National Institute of Public Health monitoring prevention; the state-owned pharmaceuticals retailer, Apoteket AB, controlling the pharmacies' activities and provides medicines; the Swedish Social Insurance Agency paying insurance benefits and compensation; and the Swedish Association of Local Authorities and Regions, representing the interests of the regions at the mid-level [38].

In Germany, the central government and regional authorities regulate the health care system. As a result of the country's price caps and flat fee rates, physicians, forced to work under strict tariffs and lack financial incentives, are reluctant to provide more than the bare minimum of care to patients. In this regard, questions arise about the quality of their services [39]. According to the National Association of Statutory Health Insurance Funds, as of the beginning of 2018, there were 110 public health insurance companies in Germany, covering 70 million inhabitants, which is 90% of the population [40].

At the same time, the tight selection of medical and pharmaceutical professionals, a strict certification system, a high level of competition, and a limited number of people wishing to engage in private-funded medical practice make the German healthcare system one of the most effective in the world. Physician integration with employed physicians was intended to help hospitals lower costs and gain bargaining power. The expectation was that employed physicians would be more cooperative with hospital administration to manage costs and secure more hospital admissions. As hospitals continue to face pressure from third-party payers to control costs, it is incumbent on hospitals to define and differentiate the relationships maintained with employed physicians and admitting physicians. To minimize the risk of liability, hospitals must ensure that the standards and policies, peer review programs, and corrective action procedures they impose on admitting physicians are aligned with government standards and not aimed at influencing physician behavior or maximizing revenue [41].

In Kazakhstan, regulation, management, control, and supervision in health care are carried out by the state represented by the central body (ministry) and regional (local) health authorities of regions, cities of republican significance, and the capital within their competence (chapters 2, 5 of the Code of the Republic of Kazakhstan on Health and Healthcare). Compulsory social health insurance, introduced two years ago in Kazakhstan, is a relatively new institution, but the idea of health insurance has been around for ages.

According to the example of Western countries, the initiative to reform the health care structure arose as early as 1995, in connection with which the Compulsory Medical Insurance Fund (CMIF) was created at that time. However, due to some reasons (the high cost of healthcare services because of the low technical equipment of the industry in the 1990s, social discontent, mediocre management, and others), the health insurance system collapsed. Paradoxically, the health insurance system in Kazakhstan started working only on January 1, 2020. However, the special Law of the Republic of Kazakhstan, "On Compulsory Social Health Insurance", was adopted on November 16, 2015 [42]. Currently, the only social health insurance fund operates in the country, acting as a non-profit organization that accumulates deductions and contributions from payers, purchases, and pays for the services of healthcare entities providing health services.

A comparative analysis of the healthcare systems in Germany and Kazakhstan revealed that, compared to the German one, the Kazakhstani healthcare system is much inferior regarding the quality of private-funded medical organizations' activities. However, the population of Kazakhstan still has greater confidence in the activities of state medical institutions, including state-funded medical research centers, which are distinguished by a higher level of advanced medical equipment, and more qualified medical personnel. The extensive healthcare system in Germany is dominated by state structures (committees, institutions, funds) that control the activities of the health services market subjects. The developed system of compulsory medical insurance, where the coverage of the population is about 90%, may become the object of closer study for implementing the most progressive elements of the German healthcare system into Kazakhstani legislation. The research demonstrated an imbalance in distributing the medical personnel in Kazakhstan: from 20 to 45.7 medical professionals per 10 thousand people. Furthermore, the provision of medical personnel in rural areas is still low, even though about 60% of the country's population lives in rural areas. This situation complicates the possibility of providing timely and comprehensive medical care to the population. In addition, in recent years, the physicians' average age has increased to 50 years, which indicates a possible acute shortage of doctors shortly. Such negative factors as medical workforce shortage, an imbalance in its distribution between urban and rural areas, a structural imbalance in personnel, and often an insufficient quality in providing medical care are also explained by the low qualification of doctors, nurses, pharmacists, and other entities involved in medical activities. Unfortunately, state programs aimed at the healthcare personnel policy have so far been ineffective [43].

The national legislation of Kazakhstan also has problematic aspects. For example, the Code of the Republic of Kazakhstan "On the public health and the healthcare system" (from now on referred to as Kazakhstan's Healthcare Code) is the main document in the regulation of the Kazakhstani healthcare system, along with some regulatory legal acts that contain provisions on the medical professionals' activities: "On the system of payment for labor for civil servants, employees of organizations, maintained at the expense of the state budget, employees of state enterprises" [44], Labor Code of the Republic of Kazakhstan [45], Industry Agreement between the Ministry of Healthcare of the Republic of Kazakhstan, the Sectoral Professional Union of Healthcare Workers and the National Chamber of Health for 2020-2022 years [46], and the Code of Honor for Medical and Pharmaceutical Workers of the Republic of Kazakhstan adopted in February 2020 [47].

In the authors' opinion, the national legislation does not pay enough attention to the issues of legal regulation of the medical and pharmaceutical workforce labor. For example, the Labor Code of the Republic of Kazakhstan [45] does not contain norms focused on the healthcare sector. However, this Code has articles regulating the labor of civil aviation personnel, sea vessel crew members (sailing personnel), civil servants, deputies of Parliament and local representative bodies, judges, and bank and trade union workers.

The Healthcare Code compensates for the gaps in Kazakhstan's labor legislation. Thus, Chapter 30 defines medical and pharmaceutical professionals' status, rights, duties, and social guarantees (Articles 270, 271, and 272) [44]. At the same time, the provisions of this codified act have serious deficiencies. Thus, according to Article 1 of the RK Healthcare Code, a health worker is an individual who has professional medical education and carries out healthcare activities [48]. It is impossible to single out all the features characteristic of the special legal status of a health worker from this definition. It identifies only two features: first, a person with a professional education; and second, a person carrying out professional activities, which excludes the labor and legal, social, and legal aspects of the activity. We adhere to a slightly different approach in determining the legal content of the concept of "health worker" and find it necessary to consider this category of workers as subjects of labor relations. Therefore, in our opinion, the following definition is more appropriate: a health worker is an individual who carries out healthcare activities on a professional basis, has an employment relationship with a medical organization, has concluded an employment contract as prescribed by law, and performs special labor functions.

A generalized concept (health workers) is often found in global terminology. Thus, under the WHO definition: "*Health workers are all people primarily engaged in actions with the primary intent of enhancing health*" [11]. That is consistent with the WHO definition of health systems as comprising all activities with the primary goal of improving health, including healthcare providers (doctors, nurses, midwives, mid-level health workers, pharmacists, dentists, lab technicians) as well as managers and support workers [49].

The definition we propose requires justification since it emphasizes the special nature of the medical and pharmaceutical professionals' labor functions. Therefore, it is necessary to precisely determine the labor and legal features of medical and pharmaceutical staff activities, which determine the expansion of the range of legislative norms aimed at the legal regulation of the medical and pharmaceutical workforce labor.

3- Methodology

While conducting this research, we used general scientific methods (logical, structural, and systemic analysis, synthesis, comparison, abstraction, induction, deduction, and modeling). Also, special techniques and methods were utilized for studying phenomena and processes (concrete, historical, dialectical, formal-logical, structural, and functional). The results of international rankings that evaluate the effectiveness of healthcare systems were used to determine the list of states and perform a comparative legal analysis.

The Global Competitiveness Index, administered by the World Economic Forum since 2004, is a universal tool for assessing states' development. This rating contains the complete set of competitiveness indicators for various world countries. According to the rating, the top ten most competitive countries include states that equally represent two main models of legal regulation for labor relations: the European/continental model (Germany, Denmark, the Netherlands, Switzerland, and Sweden) and the Anglo-Saxon model (Great Britain, Hong Kong, Singapore, the USA, and Japan). In addition, the Healthcare system is a separate control indicator of the rating. Japan, Hong Kong, Singapore, Spain, Switzerland, Italy, France, South Korea, Israel, Iceland, Cyprus, Sweden, Kuwait, and Canada lead this rating [50]. The Legatum Prosperity Index is another reputable rating with a separate Health index score [51]. According to the results of the 2021 Index, the healthcare leaders are Japan, Singapore, South Korea, Norway, Taiwan, Israel, China, Iceland, the Netherlands, Sweden, Malta, Luxembourg, Switzerland, Finland, and Hong Kong, Italy, Germany, and Denmark.

The third-ranking, the CEOWORLD Magazine Health Care Index, ranks 89 countries by factors that affect overall health. The CEOWORLD Health Care Index is a statistical analysis of the overall quality of the healthcare system, including health infrastructure; competencies of healthcare professionals (physicians, medical staff, and other health workers); cost (USD per year per capita); the available quality medicines and the readiness of the state [52]. According

to the results of this Index in 2021, the countries with the best healthcare systems are South Korea, Taiwan, Denmark, Austria, Japan, Australia, France, Spain, Belgium, the United Kingdom, and the Netherlands. Thus, the states that lead in at least one of the above ratings were selected for comparative analysis: Austria, Japan, the United Kingdom, the Netherlands, Switzerland, Germany, Israel, Austria, and Canada.

Empirical methods (sociological surveys and interviews) were also used to investigate this problem. During the study, meetings, questionnaire surveys, and interviews were held in 2021 with medical and pharmaceutical workers in Kazakhstan (the so-called field study).

Thus, we conducted practice research for a more comprehensive immersion in the issue. In total, 26 medical institutions were visited, and 1051 medical and pharmaceutical professionals were interviewed within the study framework. It should be noted that the limited analysis of the legal regulation of pharmaceutical workers' labor peculiarities is associated with the small number of full-time pharmaceutical professionals in state-funded medical institutions (1-2 persons represent this category of employees). Moreover, pharmacists working in the private sector did not want to participate in the survey. However, this fact did not prevent a desk study of pharmaceutical workers' labor peculiarities, both in the Republic of Kazakhstan and in the EAEU countries.

Healthcare facilities in certain regions of Kazakhstan (in Shymkent, Kostanay, Ust-Kamenogorsk, Almaty, and Atyrau) were visited during the research.

The purpose of the field research was a direct and comprehensive study in real conditions: preparation for making effective strategic decisions regarding the legal mechanism for regulating the medical and pharmaceutical workforce labor. The field study collected preliminary information and operational data on the healthcare professionals' working conditions. Primary information was collected through interviews and questionnaires (presented in the Appendix I), the results of which are presented below. Figure 3 presents methodology of field research in details.

Field research in healthcare organizations

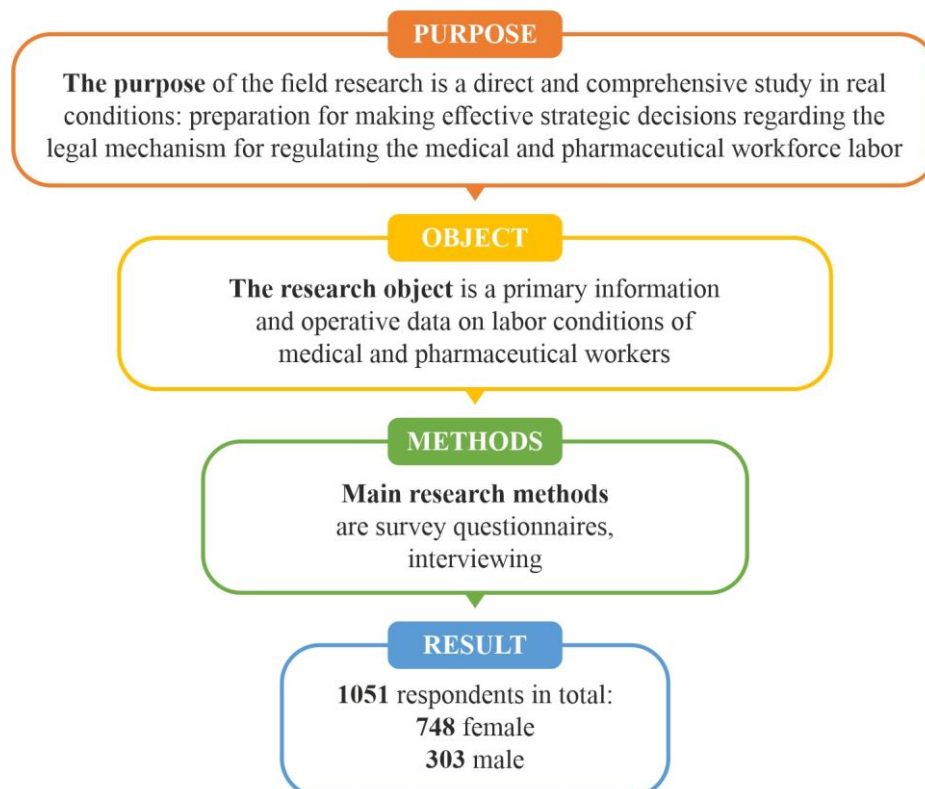


Figure 3. Methodology of field research

Thus, as became known during the survey, 84% of respondents agreed with their employment entitlement, while 11% assessed the employment entitlement as satisfactory, and 5% noted their employment non-entitlement. Moreover, a high level of employment entitlement broken down by cities was identified in Almaty (87%), and a low level of employment entitlement was indicated by respondents in Atyrau (20%) (See Figure 4):

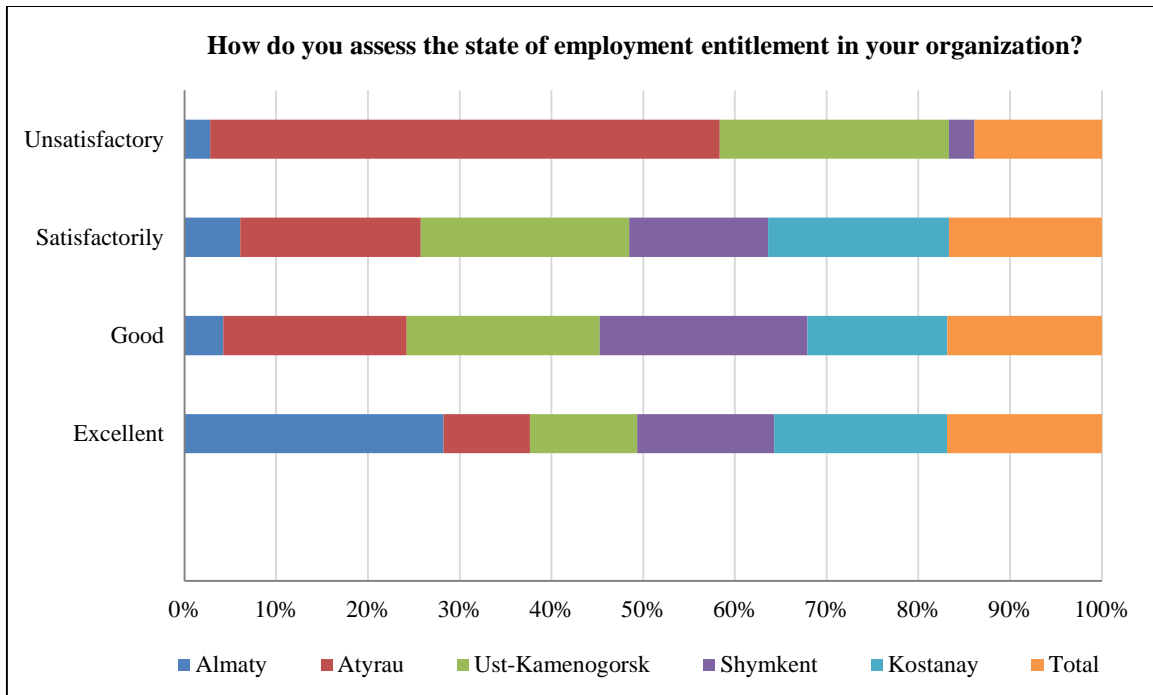


Figure 4. Data on respondents' employment entitlement

Compliance with wages and social guarantees with the work performed was indicated by 69% of respondents, while 30% were informed about partial compliance. A high level of compliance was revealed in Almaty, and it was relatively above average in other cities. At the same time, in the Almaty and Ust-Kamenogorsk regions, 1% each indicated a discrepancy between the level of wages and social guarantees and the work performed in the field of medicine and pharmaceuticals (see Figure 5):

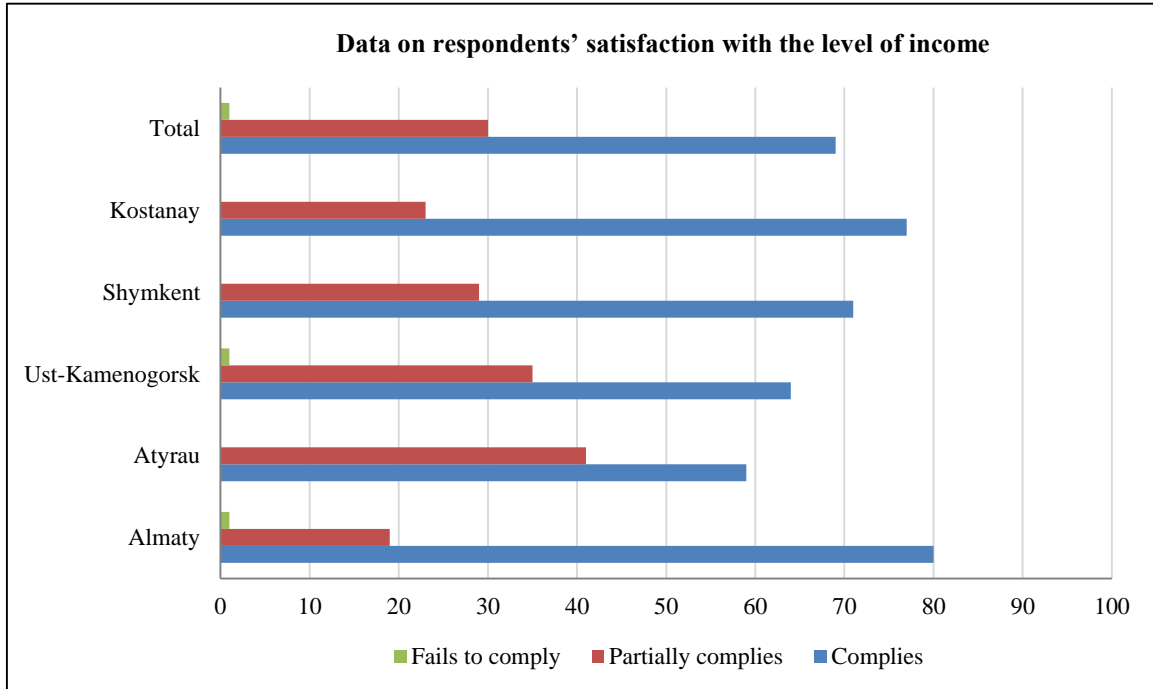


Figure 5. Data on respondents' satisfaction with the level of income

The survey showed that 80% of the respondents had benefits, bonuses, or additional payments; 18% did not have these, and 2% were not informed about the possibility of receiving such additional payments and benefits. At the same time, as broken down by the cities, Almaty and Ust-Kamenogorsk demonstrated higher rates (86% and 83%, respectively). A low indicator among the respondents was noted in Atyrau: 27% of respondents who do not have bonuses to the basic pay rate (see Table 1):

Table 1. Data on healthcare workers who have got/receive bonuses and benefits to the basic pay rate

Question/Region	Almaty	Atyrau	Ust-Kamenogorsk	Shymkent	Kostanay	Total
Total respondents surveyed	316	200	210	175	150	1051
Do you have benefits, bonuses, and additional payments?						
Yes	86%	71%	83%	82%	78%	80%
No	9%	27%	16,00%	18%	16%	18%
Unaware	5%	2%	1%	0	6%	2%

*Involved in overtime work is often observed in Almaty (61%), while in Kostanay, this figure was only 9%. The majority of respondents (65%) indicated that they were not involved in overtime work. At the same time, 59% received overtime pay, 31% worked without payment, and 10% of employees were partially paid. A high rate of involvement in overtime work without pay is noted in Kostanay (63%).

Most surveyed workers were members of a trade union (84%), 14% were not unionists, and 2% noted the absence of a trade union in the organization. On the other hand, additional vacation days added to their annual paid leave were provided to 72% of respondents, 25% did not have such benefits, and 35% were unaware of this right. The lowest indicator was in Almaty, where only 24% of the surveyed employees indicated the use of additional leave. Most often, such leave was provided to employees in Kostanay (86%), see Figure 6:

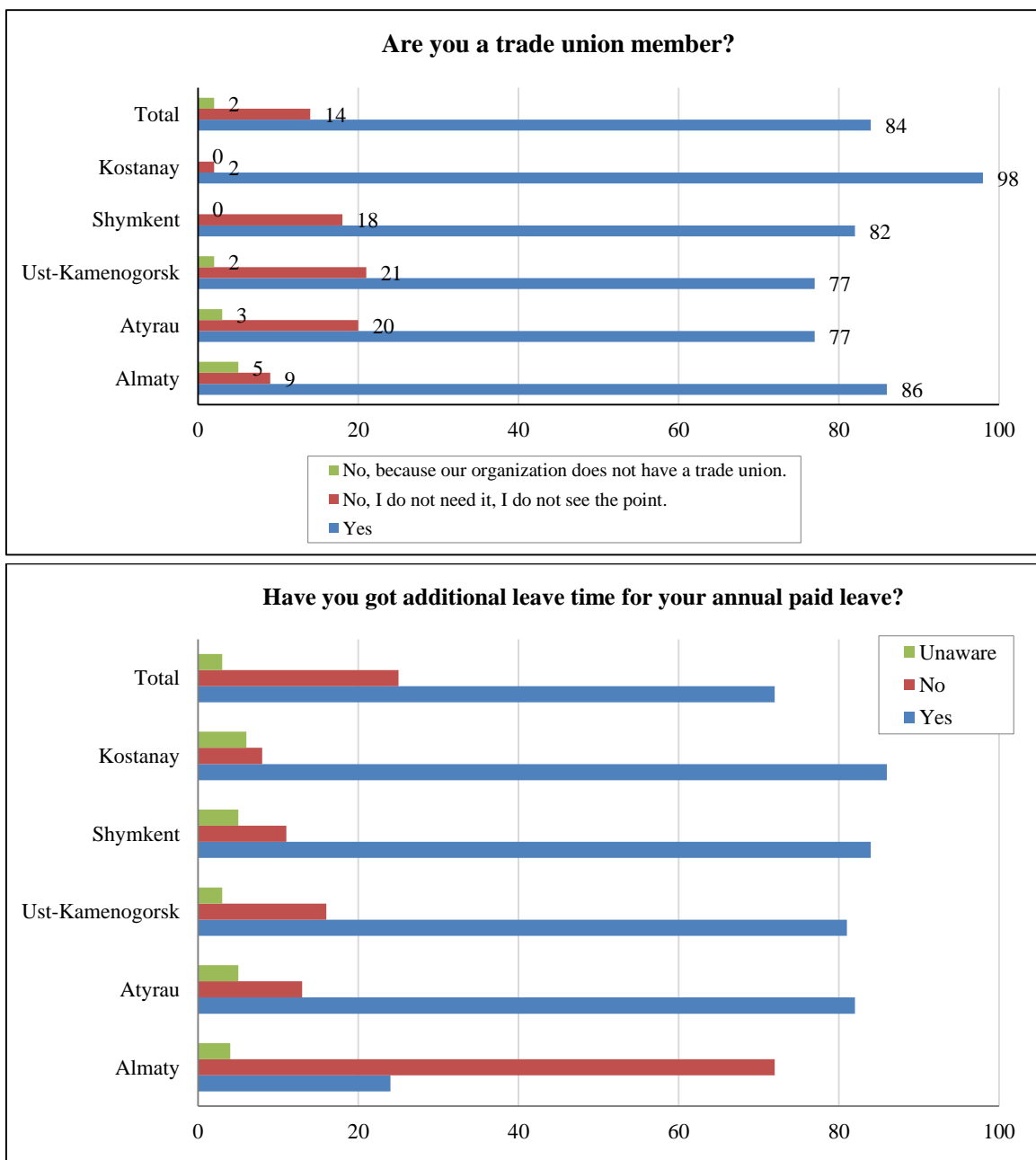


Figure 6. Data on the employees' trade union membership and other holidays

Thus, the survey results demonstrated a positive trend. Most respondents pointed to the compliance of wages to work performed, and the hours worked complied with the working time rate established by the employment contract. However, almost every third employee is involved in overtime work without appropriate payment, although almost all respondents (96%) receive higher pay for work on holidays and weekends under the law.

The principle of unity and differentiation in the legal regulation of labor relations is one of the main principles of labor legislation. Here unity characterizes the general level of legal regulation of labor that applies to all employees, and differentiation means the establishment of special legal norms in the legislation governing the labor of certain categories of workers. Undoubtedly, the Labor Code and the Healthcare Code of the Republic of Kazakhstan should establish special rules for regulating the labor of medical and pharmaceutical workers as a special category of employees through differentiation. Unfortunately, the RK Labor Code does not regulate the labor of this category of workers. The Healthcare Code contains five articles, which are extremely insufficient to reveal the specifics of healthcare professionals' labor. Therefore, in-depth scientific and theoretical studies of the legal regulation of the medical and pharmaceutical workers' labor are needed, concerning the established practice in Kazakhstan, based on the positive international experience.

Interviews with heads of healthcare organizations confirmed the absence of special legislative norms governing the healthcare workers' labor and the urgent need for their development and differentiation in the labor legislation of Kazakhstan. Despite all the legislative achievements in healthcare, the main current difficulties are associated with law enforcement practice and an abundance of bylaws that complicate law enforcement work. The available Labor Code of the Republic of Kazakhstan and other bylaws adopted in pursuance of this act do not fully resolve the issues of legal regulation of labor relations in the healthcare sector. The adopted Healthcare Code of the Republic of Kazakhstan includes the most significant labor, legal and social issues related to the legal regulation of medical and pharmaceutical workers' labor in this codified act.

All these methods allowed us to formulate the main conclusions of this study.

4- Results

There are two distinct models of medical and pharmaceutical workers' regulation in OECD countries. The European (continental) model is characterized by the social orientation of labor regulation and public law regulation of issues of disciplinary responsibility through quasi-state bodies of control and supervision. In the Anglo-American model, there is a shift in emphasis from social factors to the priority of freedom of economic development. It provides greater autonomy for the parties to labor relations in establishing working conditions and private law regulating disciplinary liability issues through self-regulated professional organizations. Moreover, this model is "flexible", allowing more freedom to build labor relations and develop the health care system.

At the same time, one should consider that, for example, in Switzerland, as compared to other European countries, the current legal regulation of medical personnel labor is more liberal, establishing only minimum standards on licensing and control over the medical profession at the state level. Labor remuneration is not regulated at the state level (except for state-funded healthcare organizations). Instead, a competitive labor market and healthcare in the private sector are set autonomously by agreement between employers and employees. Therefore, both models can be designated as systems of regulated competition based on a balance of self-regulation and state regulation.

Consequently, in OECD countries, for example, the remuneration of doctors (general practitioners and specialists) is significantly higher than the national average salary. In most countries, general practitioners earn 2-4 times the average salary, and specialists earn 2-6 times more. Specialists earn more than general practitioners in the majority of countries. In Australia, Belgium, and Luxembourg, self-employed professionals earn at least twice as much as self-employed general practitioners. In Germany, the difference between specialists and therapists' income is much smaller, totaling 20% [53]. In general, in the considered states, the peculiarities of labor regulation for healthcare workers are manifested in special rules for admission to professional activities and disciplinary responsibility. Other issues are regulated within the framework of labor legislation, which is common to all other employees.

In this regard, it can be concluded that the choice of the legal regulation model (European or Anglo-American) for labor relations with the participation of medical and pharmaceutical personnel does not significantly affect the competitiveness of the healthcare system and the country as a whole. The choice of the model may influence individual assessment indicators within international ratings. However, the country's socio-economic situation is determined by a set of factors, including legislation, education and science development level, healthcare sector funding, and the applied health insurance systems.

An analysis of the experience of the EAEU states made it possible to identify two models for regulating medical and pharmaceutical workers' labor in these countries: the first model is characterized by a certain degree of specialization in the legal regulation of healthcare workers' labor (Kyrgyzstan and Russia), and the second model is based on the general regulation of their labor without specialization (Armenia, Belarus, Kazakhstan). Thus, speaking of the first model, it should be noted that in Russia, some features of the regulation of healthcare workers' labor are provided by the Labor

Code (Article 350). For example, it establishes a reduced working time of no more than 39 hours per week. In addition, certain categories of healthcare workers may be provided with additional annual paid leave, and issues of home duty and other features are settled.

In Kyrgyzstan, the Labor Code regulates healthcare workers' labor (Article 396), establishing a reduced working time of no more than 39 hours per week. In addition, a separate law of the Kyrgyz Republic dated April 18, 2013, "On the status of a healthcare worker", establishes the rights and duties of healthcare workers and guarantees their activities. Regarding the second model, it should be noted that in Armenia, Belarus, and Kazakhstan, no special norms in the Labor Codes establish the specifics of regulating the medical and pharmaceutical workers' labor. For example, the Belarusian Labor Code contains only a reference rule that the specifics of the working conditions of healthcare workers are regulated by the Government of the Republic of Belarus or an agency authorized by it concerning the norms established by this Code.

The absence of special regulation of the pharmaceutical workers' labor is a common characteristic for all states; their activities are carried out according to the general rules of labor legislation, considering the requirements for qualifications and professional activities (regulated professions). The analysis of the states' positions selected for the comparative legal research in the international rankings of healthcare systems shows an obvious pattern (see Table 2).

Table 2. Positions of some OECD and EAEU states in international rankings of healthcare systems

Countries / Ratings	The Global Competitiveness Index, pillar 5 "Health", 2019	2021 Health Index Score	CEOWORLD magazine Health Care Index 2022
OECD Member States			
Austria	15	25	4
Canada	14	34	23
Germany	31	16	17
Israel	9	6	21
Japan	1	1	5
Netherlands	21	9	11
Norway	20	4	15
Switzerland	5	13	18
United Kingdom	33	31	10
Member states of the Eurasian Economic Union			
Armenia	68	65	-
Belarus	-	55	57
Kazakhstan	95	71	82
Kyrgyzstan	87	73	-
Russia	97	89	58

OECD countries having special institutions and norms regulating the healthcare workers' labor, in particular, control and prosecution (disciplinary, material) systems for medical and pharmaceutical professionals at the centralized and sectoral level, demonstrate fairly high rates of healthcare system development in all three key international rankings (from the 1st to 34th positions). At the same time, the EAEU states, where the level of specialization is insufficient and special institutions and norms that enshrine the issues of responsibility for these categories of workers are absent, have indicators much lower than in the OECD states (from the 57th to 97th positions).

Thus, it is possible to conclude a relationship between the health workers' labor regulation model and the level of healthcare system development, which indicates the need to bring the legislation of the EAEU states in compliance with the standards of the OECD models. The research resulted in the following proposals and recommendations aimed at improving Kazakhstan's labor and healthcare legislation:

The authors substantiated the necessity of introducing special regulations of disciplinary and material liability for medical and pharmaceutical professionals by establishing a centralized procedure and bodies to review relevant situations – medical boards, created under the Ministry of Healthcare of the Republic of Kazakhstan and its territorial units.

It is proposed to withdraw the issue of bringing medical and pharmaceutical workers to disciplinary responsibility for committing disciplinary offenses related to their professional activities from the employers' competence. The same refers to the issues of bringing them to liability for damage caused to the employer. Instead, relevant situations should be considered centrally by specially created independent bodies. Those could be medical boards in each territorial entity (a

region, city of republican significance, and the capital) to ensure objectivity, impartiality, and uniformity in the use of relevant standards, regulations, and the norms of professional ethics. In addition, the authors propose establishing special regulations at the level of the Labor Code and special legislative acts.

5- Discussion

The work and regulation of medical and pharmaceutical labor have their peculiarities in different states.

United Kingdom: Great Britain's National Health Service (NHS) is a comprehensive public health service under government administration established by the National Health Service Act of 1946 and subsequent legislation. The NHS covers the entire population, and health care is free, except for certain minor charges. In the UK, nine regulatory bodies are responsible for regulating 32 medical and pharmaceutical professions, covering about 1.44 million professionals (professional regulation) [54]:

- General Chiropractic Council;
- General Dental Council;
- General Medical Council;
- General Optical Council;
- General Osteopathic Council;
- General Pharmaceutical Council;
- Health and Care Professions Council;
- Nursing and Midwifery Council;
- Pharmaceutical Society of Northern Ireland.

Each regulatory body performs the same primary functions, namely: (1) setting the standards of conduct, competence, and education that medical and pharmaceutical professionals must meet; (2) dealing with concerns from patients, the public, and others about health and social care professionals who are alleged to be unfit to practice because of poor health, misconduct or poor performance; (3) keeping and maintaining registers of health and social care professionals who are fit to practice, and establishing requirements for temporary re-registration (and in some cases re-certification) for each profession.

The work of the nine regulatory bodies is supervised by the Professional Standards Authority (PSA). The authority supervises and scrutinizes the regulators' work, shares best practices and knowledge with regulators, and advises the four UK government health departments on regulating the medical and pharmaceutical professions [55].

The activity of the nine regulators is overseen by the Professional Standards Authority (PSA). The PSA is responsible for overseeing the operation of professional regulation but is not accountable for the performance of individual regulators. However, it can intervene by appealing decisions professional regulators make about a professional's fitness to practice and has powers to impose reforms. Professional regulators maintain a register of all qualified professionals, including general registers and registers for specific specialties. Registers are publicly available to enable public members to check if a healthcare professional is registered and whether or not they have any sanctions on their registration. The UK system of professional regulation is statutory but independent from the government. Professional regulators receive no government funding, so they rely on the fees paid by registrants for joining and maintaining the register of medical and pharmaceutical professionals [56].

Along with professional regulation in the UK, state regulation is represented by the General Medical Council (GMC), established by the Medical Act 1858. The GMC activities cover five main areas: 1) maintaining the UK medical register: checking the identity and qualifications of each doctor before he/she can register; 2) setting standards for doctors; 3) controlling medical education and training: setting standards for higher and postgraduate medical education, and monitoring learning conditions; 4) maintaining and improving standards through revalidation; 5) investigating and taking action on complaints against doctors: when there is a serious concern about the doctors' behavior or how they do their job when a physician jeopardizes the patients' safety or public confidence in doctors; in some cases, the case is referred to the Medical Practitioners Tribunal Service (MPTS) [57].

The Health and Social Care Act 2012 and the Medical Act 1983 are the fundamental legislative acts in this domain of legal relations.

General acts of labor legislation regulate the medical and pharmaceutical workers' labor:

- Employment Act 2002, Dispute Resolution Regulations 2004;

- Directions on Disciplinary Procedures 2005;
- Restriction of Practice and Exclusion from Work Directions 2003;
- Employment Equality (Religion or Belief) Regulations 2003;
- Employment Equality (Sexual Orientation) Regulations 2003;
- Employment Tribunals (Constitution and Rules of Procedure) Regulations 2001;
- Data Protection Act 1998;
- Working Time Regulations 1998;
- Employment Rights Act 1996;
- Disability Discrimination Act 1995;
- Trade Union and Labor Relations (Consolidation) Act 1992;
- Race Relations Act 1976;
- Sex Discrimination Act 1975.

Special legislation has been established in matters of medical personnel's disciplinary liability. In December 2003, the Ministry of Healthcare introduced a new regulatory framework for the disciplinary liability of physicians and dentists. The full title is "Maintaining High Professional Standards in the Modern NHS; a framework for the initial handling of concerns about doctors and dentists in the NHS". The framework was developed at the national level by the Ministry of Healthcare and NHS employers with the support of the British Medical Association (BMA) and the British Dental Association (BDA). It replaces the disciplinary procedures contained in Circular HC(90)9 and the special occupational groups ("the three wise men") provided for in HC(82)13. It also removes the right to appeal to the Secretary of State, used by some medical practitioners.

For example, suppose a doctor is referred to the General Medical Council (GMC) for disciplinary measures, and they decide to investigate the case. In that case, the Medical Practitioners Tribunal Service (MPTS) will set a hearing to discover if fitness to practice is impaired and sanctions are needed. After a complaint about a doctor and inquiries have been made, the GMC decides whether to refer the doctor to a medical practitioners' tribunal hearing with the MPTS – the adjudication function for UK doctors [58]. If a tribunal finds that fitness for employment is not impaired, it cannot impose sanctions. However, it may issue a warning.

On the other hand, suppose a tribunal finds that fitness to practice is impaired. In that case, it can take four courses of action:

- Take no action (this is very rare and accepts that the undertakings agreed between the doctor and the GMC are a suitable alternative to a sanction);
- Impose conditions on the doctor's registration for up to three years. In many cases, conditions' purpose is to help deal with health issues or remedy any deficiencies in practice while protecting the public. Conditions might include requirements to work under supervision. They can be renewed for a further three-year period each time they are reviewed;
- Suspend the doctor's registration for up to 12 months (suspension is considered appropriate for serious misconduct, but that which falls short of being incompatible with continued registration (for which erasure is more likely); suspension may be appropriate, for example, where there has been an acknowledgment of fault and where the tribunal is satisfied that the behavior or incident is unlikely to be repeated);
- Erase the doctor's name from the medical register. This sanction will be imposed if it is the only means of protecting the public and cannot be applied in cases relating solely to health or knowledge of the English language. Erasure may be deemed appropriate even if the doctor does not present a risk to patient safety, but it is considered necessary to maintain public confidence in the profession.

Germany: The German healthcare system is distinguished by the division of decision-making power between the federal and state governments and self-regulatory organizations of payers and healthcare providers.

The administration of the German healthcare system is carried out by the Federal Joint Committee (G-BA-Gemeinsamer Bundesausschuss). It is a public legal entity comprising the four leading umbrella organizations of the self-governing healthcare system: National Associations of Statutory Health Insurance Physicians and Dentists, the German Hospital Federation, and the Central Federal Association of Health Insurance Funds. In addition to these four pillar organizations, patient representatives participate in all sessions; they are entitled to put topics on the agenda but not vote.

The G-BA was established on January 1, 2004, as a result of adopting the Healthcare Modernization Act, and took over the mandates of its predecessor organizations: the former federal committees of physicians, dentists, and statutory health insurance providers, the hospital committee, and the coordination committee.

The legal basis for the work of the G-BA is the German Social Code, Book Five (SGB V). It represents lawmakers who have specified the mandates and responsibilities of the G-BA, the appointment of its members, patient involvement, the inclusion of third parties, and the general framework of the structures and procedures of the G-BA. In its bylaws and rules of procedure – both of which must be approved by the Federal Ministry of Health (BMG) – the G-BA defines the details of these statutory regulations. The Federal Joint Committee is under the statutory supervision of the Federal Ministry of Health. The Federal Ministry of Health audits resolutions and directives passed by the G-BA following the requirements outlined in SGB V and then published in the Federal Gazette if no objections are found [59].

The G-BA fulfills its duties mainly by passing directives: legally binding, non-legislative standards for all stakeholders and persons insured under statutory health insurance [60]. In general, the relationship between healthcare workers and institutions (hospitals) is regulated by labor law and civil service law. Depending on the hospital owner (municipality, religious organization, or private company) and contractual obligations, the healthcare worker carries out his activities as an employee or an official. Furthermore, depending on national or state law provisions, a hospital medical professional working for a government agency may be appointed a civil servant. Nevertheless, in most cases, the relationship is based on a private law contract, largely based on the Hospital Structure Act and the Hospital Fees Act (Krankenhausentgeltgesetz). In addition, these contracts can be subject to regulation by collective and tariff agreements [61].

Israel: Most doctors in Israel work in government organizations, and, accordingly, their relations are regulated by national legislative acts in the field of public law rather than by contract law [62]. The Physicians Ordinance 1976 and the Law on Patients' Rights 1996 are the main legal acts governing medical professionals' licensing and control. In addition, bylaws include the Regulations for Physicians and the Pharmacists Regulations.

In 2008, a special law on permits for medical professions (Act for Resolution of Health Profession) was adopted, establishing the mechanism and conditions for obtaining a license and permits for medical activities. In addition, the law establishes a list of disciplinary offenses, procedures, and a system of coercive measures. The Law on Patients' Rights empowered the Ministry of Health to set up ethics committees, later established at public hospitals. Ethics committees consist of five members: the chairman, a district court judge, one psychologist or social worker, and one representative of the public or the ministry of religious affairs.

The Israeli Medical Association (IMA) is an independent professional organization that brings together 90% of medical personnel working in medical funds, hospitals, government institutions, and private clinics. The IMA performs functions in labor, science, and ethics. It is responsible for monitoring working conditions, implementing the rules of medical ethics, establishing professional standards that guarantee the quality of medical services in Israel, approving clinical guidelines, and establishing basic requirements for the accreditation of medical organizations.

Three committees operate within the Association: 1) the Professional Committee (on labor relations) performing functions in the field of relations between employers and medical personnel; 2) the Science Committee, which establishes professional medical standards and the high level of medicine in Israel; 3) the Medical Ethics Committee establishing and applying ethical rules applicable to all physicians. In addition, the Central Committee (17 members) and local ethics committees deal with complaints against medical professionals. Ethics committees may apply the following disciplinary sanctions: reprimand, severe reprimand, reproof, severe reproof, temporary or permanent exclusion from membership in the Association, and impose fines and make their decisions public.

Canada: Canada's healthcare system is based on the Canada Health Act 1984. Most health matters are governed by the provinces under their constitutional jurisdiction under the British North America Act of 1867. In turn, the provinces delegated regulatory functions through laws to various agents, such as professional organizations and government agencies [63]. Each province has consolidated laws regulating the medical professions – Health Professions Acts, and established quasi-state bodies designed to control the activities of the medical professions (names differ depending on the province: Medical Council, College of Physicians, Medical Administration). These bodies establish and administer professional licensing standards, Codes of Professional Conduct, and mechanisms for considering complaints against physicians. In addition, these bodies are empowered to take disciplinary actions against medical professionals, thus performing a quasi-judicial function.

For example, in the province of Ontario, the Regulated Health Professions Code 1991 is in force, and in the province of Manitoba, the Regulated Health Professions Act 2009, which, in particular, establishes lists of grounds for bringing medical workers to disciplinary responsibility.

Switzerland: The medical profession activities are regulated by the Medical Professions Law [64].

Numerous authorities supervise medical activities, particularly the cantonal licensing and control authorities, functioning under the health departments. These bodies are authorized to apply disciplinary sanctions to healthcare workers.

Unlike Germany and Belgium, professional organizations in Switzerland are governed by private law; that is, they do not perform public functions except for medical education. The codes of conduct for such professional organizations are of a private law nature. Thus, there are two parallel systems of disciplinary regulation: the state system for persons engaged in private practice and the private law system (professional organizations) for employees in labor relations with employers (hospitals).

Switzerland has established disciplinary measures of a state: a warning, a reprimand, fines of up to 20,000 Swiss francs, a temporary suspension of professional activity, and a complete ban on professional activity. These disciplinary actions are recorded in the National Register of Health Professions but are not available to the public.

Netherlands: The medical profession activities are governed by the Individual Health Care Professions Act of 1997, which establishes the licensing and responsibilities of healthcare personnel. Competence for disciplinary proceedings concerning doctors is established for five regional disciplinary boards, the Central Disciplinary Board's appeal body. Each disciplinary board comprises two lawyers, one acting as chairman, and three doctors. The disciplinary boards may impose the following disciplinary sanctions: warning, reprimand, fine of up to 4500 euros, unconditional suspension of registration for up to a year, conditional suspension of registration for up to two years, partial disqualification from practice, and exclusion from the register. Disciplinary proceedings are initiated based on a complaint of an interested person or a medical inspectorate. Usually, the procedure can last from 1 to 2 years, from filing a complaint to ending with a decision [65].

Norway: The medical profession activities are governed by the Health and Care Services Act and the Health Supervision Act, which stipulate medical personnel licensing and control. Competence for disciplinary proceedings against doctors is assigned to the Norwegian Board of Health Supervision under the Ministry of Health Services Regulation [66].

There are five possible disciplinary penalties; a warning is the least severe, and revocation or suspension of a license is the strongest form of punishment. The most common and serious violations by physicians include sexual misconduct, failure to comply with required standards of care, and unprofessional behavior [67].

Japan: Japan's healthcare system is based on the Medical Care Act of 1948 and the Regional Public Health Act establishing public health centers. The medical profession activities are regulated by the Doctors Act, which establishes the procedure for licensing and duties of doctors, the Act on Nurses and Midwives, and other laws that regulate the activities of other healthcare personnel [68].

Medical activities are overseen by the Ministry of Health, Labor, and Welfare, which is responsible for licensing and disciplinary penalties against medical professionals.

Austria: The Austrian health care legislation is based on the Frame Law on Hospitals and Sanatoriums 1957, which was implemented in 9 Länder (subjects of the federation) by hospital laws. The Law on Doctors regulates the medical profession activities, which establishes a monopoly of physicians in the exercise of medical practice and the laws of hospitals and sanatoriums. All doctors are represented in the medical chambers of the federal states, consisting of two bodies ("Kurien"): one for hospital physicians and one for self-employed doctors. In addition, a separate Chamber of Dentists has been operating since 2006 [69]. Pharmacists' activities are regulated by the Pharmacy Act 2004 and the Ordinance on the Operation of Pharmacies 2005.

The Medical Chambers are public law corporations empowered to carry out disciplinary proceedings against physicians. Medical Chambers are self-regulatory organizations based on the mandatory membership of doctors. They have autonomy in finance and organization of activities, are independent from the state, and are authorized by law to represent the interests of all doctors.

In Austria, a whole branch of law has been formed, penal law, within which public law corporations are authorized to conduct disciplinary proceedings based on the Professional Code of Conduct. The following disciplinary sanctions have been established for doctors: reprimand, fine (up to 36,340 euros), temporary suspension of activities, and exclusion from the register. The Disciplinary Board of the Medical Chamber is the disciplinary body of the first instance, which consists of several commissions authorized for specific issues. The Disciplinary Senate of the Medical Chamber is the next disciplinary instance created under the Ministry of Health.

It is important to note that the Medical Chambers are not analogous to the trade union of doctors since they represent the interests of the medical profession as a whole rather than an individual medical worker and act within the framework of public law. Referring to the experience of the EAEU states, it should be noted that they do not sufficiently represent the special regulation of medical and pharmaceutical workers' labor. A disciplinary and financial liability is carried out generally and for other categories of workers, without regard to the specifics of the healthcare system.

6- Conclusion

The legal status of healthcare workers is determined by the socially significant role of the medical and pharmaceutical profession on an international scale. In addition, the special role of these categories of workers in ensuring the constitutional rights of citizens to healthcare is recognized. Science substantiates the special legal standing of medical and pharmaceutical professionals, which requires differentiation in labor regulation at the legislative level. The special nature of the relationship with the patients relies on the healthcare worker's professional authority toward the patient. It suggests the need for confidence in the healthcare worker and the medical profession as a whole, based on the adherence of its representatives to a set of moral and ethical standards, and suggests that a violation of these standards can cause the onset of labor liability for the category of workers in question. There is a direct relationship between the patterns of regulating medical and pharmaceutical workers' labor and the development of healthcare systems. Thus, states with special labor regulations for medical and pharmaceutical personnel occupy leading positions in international ratings regarding the efficiency and level of healthcare system development. Conversely, as exemplified by the EAEU countries with an insufficient specialization in labor regulation for these categories of workers, other states occupy weak positions in similar international ratings.

The study's limitations concern the general characteristics of the labor regulation model and do not embrace the individual differences in each explored country's healthcare regulation. Nevertheless, the study results are useful for health policymakers to evaluate and reform health systems in the relevant countries. The research will support the development of further studies in this field. The interrelation between health efficiency and healthcare professionals' regulation in the labor and employment law context represents a perspective area to be covered in further research.

7- Declarations

7-1-Author Contributions

Conceptualization, G.G.G., and Y.N.N.; methodology, E.B.O.; software, S.B.Z.; validation, G.G.G., Y.N.N., and M.K.K.; formal analysis, E.B.O.; investigation, S.B.Z.; resources, M.K.K.; data curation, G.G.G.; writing—original draft preparation, Y.N.N.; writing—review and editing, E.B.O.; visualization, S.B.Z.; supervision, M.K.K.; project administration, G.G.G.; funding acquisition, Y.N.N. All authors have read and agreed to the published version of the manuscript.

7-2- Data Availability Statement

The data presented in this study are available in the article.

7-3- Funding

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7-4- Institutional Review Board Statement

Not applicable.

7-5- Informed Consent Statement

Patient consent was waived due to the fact the human interaction was limited by anonymous interviewing.

7-6- Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancies have been completely observed by the authors.

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Appendix I

1. Interview questions for management representatives of healthcare organization:

General Information:

Organization name:.....

Full name, position:.....

Question 1: Was the collective agreement made in the enterprise? How would you assess the content of the collective agreement? Does it consider all employee representatives (trade union) positions? Is it available for acquaintance?

Question 2: What kind of industry agreement in healthcare industry is utilized in the work of organization?

Question 3: Which regulatory acts for work/recreation schedule and medical workers' salaries are utilized in the work of organization? Do you think it is necessary to develop regulatory acts for work/recreation schedule and medical workers' salaries with a consideration for staff categories differentiation?

Question 4: Which working hours modes are utilized in your organization? How much are work/recreation schedule and salaries differentiated for various staff categories?

Question 5: Do you provide extra days for employees' yearly vacations?

Question 6: Do employees approach you in regard of implementing their social-labor rights? How often? Which matters are in question the most often (wages, working hours, dismissals etc.)?

Question 7: Is the home duty mode adopted in your organization? If yes, which staff categories are employed in it, and what are payment terms for this mode?

Question 8: Is the 24 hours medical workers' mode adopted in your organization? If yes, which staff categories are employed in it, and what are payment terms for this mode?

Question 9: What kind of allowances, benefits and bonuses for employees are adopted in your organization?

Question 10: Do you call your employees for overtime work? How is overtime paid in your organization?

Question 11: Is a combination of positions utilized in your organization? For which staff categories?

Question 12: Do you think the legislation provides all the conditions for medical workers' activity and their rights and legal interests' protection? If no, which problems you can address?

Question 13: Is there a trade union in your organization? How do you estimate its activity with 5-point scale (5 – great, 1 – unsatisfying)?

Question 14: Do professional arguments often emerge in your organization? Which matters cause the majority of the arguments? How do you solve those?

Question 15: How do you estimate the observance of labor rights in your organization? Are there any arguments with employees? How often and about which matters mostly? Do you consider the organization a social responsible one?

Question 16: How do you estimate the actual Labor code with 5-point scale (5 – great, 1 – unsatisfying)? Do you find any flaws or problems in it? Do you have any suggestions for labor legislation improvement? Do you think it is necessary to introduce a separate chapter for medical workers' labor regulation? If yes, which specific norms should be regulated there?

Question 17: How do you estimate the actual Code on public health and healthcare system regarding the legal status of medical workers with 5-point scale (5 – great, 1 – unsatisfying)? Do you find any flaws or problems in it? Do you have any suggestions for labor legislation improvement?

2. Questionnaire form for medical and pharmaceutical workers

General information:

Sex: 1. Male 2. Female

Age:

1) 18-29 years;

2) 30-39 years;

3) 40-49 years;

4) 50 – retirement age;

5) Above retirement age.

Education:

- 1) Secondary incomplete
- 2) Secondary
- 3) Vocational (technical)
- 4) Higher
- 5) Postgraduate (MD, PhD, Doctor of sciences)

Staff group:

- 1) Medical staff
- 2) Nursing staff
- 3) Top qualified specialists
- 4) Middle qualified specialists
- 5) Other:

Category:

- 1) Top level
- 2) First level
- 3) Second level
- 4) Uncategorized

Harmfulness:

- 1) Present
- 2) Absent

Question 1: Seniority in your organization:

- A) <1 year
- B) 1-3 years
- C) 3-5 years
- D) 5 years and more.

Question 2: Total seniority in medical field:

- A) <1 year
- B) 1-3 years
- C) 3-5 years
- D) 5 years and more

Question 3: How do you estimate the level of labor rights observance in your organization?

- A) Great
- B) Good
- C) Satisfying
- D) Unsatisfying

Question 4: Is your wage and social guarantees level appropriate for the work you perform?

- A) Appropriate
- B) Partially appropriate
- C) Inappropriate

Question 5: How do you estimate the actual Labor code?

- A) Covers labor rights of workers completely
- B) Covers labor rights of workers partially
- C) Doesn't cover labor rights of workers properly
- D) Didn't read because had no time
- E) Didn't read because not interested

Question 6: Do you think the legislation protects you as a worker?

- A) Yes, completely
- B) Protects partially
- C) Doesn't protect at all

Question 7: Are you acquainted with main internal documents of your organization? Such as labor regulations, the appointed instruction, the regulation on safety and labor protection, provide for remuneration?

- A) Acquainted with all the mentioned
- B) Acquainted only with certain items (list the items)
- C) Not acquainted

Question 8: Do you have benefits, allowances and supplements?

- A) Yes
- B) No
- C) Unaware

Question 9: How many working hours per week is assumed by your labor contract?

- A) 40
- B) 36
- C) 38
- D) Summarized working hours with accounted overtime of weekly norm
- E) Other:

Question 10: Does the amount of working hours regulated by labor contract match the hours you actually work per week?

- A) Yes
- B) No
- C) Almost

Question 11: Are you often called for overtime?

- A) Yes, often
- B) No
- C) Sometimes

Question 12: Is your overtime paid for?

- A) Yes, always
- B) Yes, sometimes
- C) No

Question 13: Are 24 hours shifts employed in your organization?

- A) Yes, often
- B) Yes, sometimes
- C) No
- D) Unaware

Question 14: Is home duty utilized in your organization in general and for you personally?

- A) Yes, for multiple staff categories
- B) Yes, for some staff categories
- C) No
- D) Unaware
- E) Other:

Question 15: What are the terms of home duty payment (if utilized)?

- A) home duty hours are accounted as half of working hour per each home duty hour
- B) Other:
- C) Not utilized

Question 16: Do you experience combination of positions?

- A) Yes
- B) No
- C) Other:

Question 17: Are you a member of trade union?

- A) Yes
- B) No, I don't need that, and don't see reasons
- C) No, because there is no trade union in our organization

Question 18: Do you get additional days for yearly paid vacation leave?

- A) Yes
- B) No
- C) Unaware

Question 19: Are your working hours during weekends and holidays paid extra?

- A) Yes
- B) No

Question 20: Do you have any comments or suggestions for improving labor conditions and (or) legislation?

- A) Yes
- B) No