

RESEARCH ARTICLE

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Evaluating Healthcare Accessibility in Kazakhstan: Urban and Rural Perspectives

Lazat Spankulova¹Zaure Chulanova^{2*}Adilet Konyrbay¹

¹ Al-Farabi Kazakh National University, Almaty, Kazakhstan

² Institute of Economics CS MSHE RK, Almaty, Kazakhstan

Corresponding author:

* Zaure Chulanova – Cand. Sc. (Econ.), Institute of Economics CS MSHE RK, Almaty, Kazakhstan.
Email: chulanova.zaure@ieconom.kz

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ABSTRACT

Despite the policy pursued by the Head of State and the government to improve the current healthcare system and certain successes achieved, the quality and availability of services provided by medical organizations to the Kazakhstan population remain low. This is evidenced by statements by officials, as well as a survey of the population. This article examines the primary trends in healthcare development with a particular focus on the urban-rural divide and proposes strategies to enhance service quality and accessibility in rural areas. Given the complexity of the tasks, both theoretical and empirical research methods were used in the research process, in particular economic and statistical methods and structural and institutional analysis. A special role in the study belongs to a sociological survey, which made it possible to obtain information about the quality and availability of medical services for various groups of the population, depending on their place of residence. Based on a comprehensive study, the main trends in the development of healthcare in the republic in recent years have been identified. It has been determined that in the context of the availability of medical services, the main gap lies along the rural-urban line. Based on the identified problems, recommendations were developed to eliminate them and improve the quality of medical services. Further, the study explores the attitudes towards medical treatment based on the place of residence, leading to targeted proposals to enhance the quality and accessibility of medical care in rural areas.

KEYWORDS: Economy, Socio-Economic Potential, Healthcare, Medical Services, Availability, Quality, Population, Village, City

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1. INTRODUCTION

According to the World Health Organization, health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity (WHO, 2022). As they say, health is not everything, but without health, everything else is worthless. This is because good health is a prerequisite for enjoying life and participating in many of its key components, including education, work, and society. In today's world, with significant gaps in primary health care, trends such as population aging, the growing burden of non-communicable diseases and multimorbidity, as well as the epidemic of chronic diseases, persistent inequalities, and widening gender gaps deserve special attention.

A key component and indicator of the national health system's effectiveness is the population's health in rural areas. According to the World Bank, approximately 43% of the world's population lives in remote rural areas, which often experience inequalities in the provision of health services compared to urban agglomerations (World Bank, 2022). Numerous studies show that rural residents have shorter life expectancies, lead less healthy lifestyles, and generally live in poorer health due to higher rates of chronic diseases. They also face various social and health threats driven by rising poverty and unemployment. Providing quality healthcare services in rural areas is also hampered by the general trend of an increasingly aging population, barriers to accessing health services, and challenges in finding and retaining qualified healthcare personnel locally (OCDE, 2020). Rural areas typically have lower incomes, lower levels of education, slower progress in eliminating unhealthy habits, and reduced investment in health infrastructure due to higher costs.

In Kazakhstan, the nation's health is the subject of official discourse at the highest level. The importance of the problem is evidenced by the increase in funds for the healthcare system (Tokayev, 2023), plans to equip laboratories with high-tech equipment, create a Center for

laboratory and technical testing of medical products (Akorda, 2021), and build medical and paramedic-midwife stations within two years in 650 villages, modernize district hospitals, create stroke centers, surgery, intensive care and rehabilitation departments in them, develop telemedicine for residents of remote areas (Akorda, 2022).

A separate difficulty is access to medical care in rural areas, where 38% of the country's population lives. The availability of expensive drugs for rural patients with chronic diseases is two times lower than for urban patients. Rural medicine is experiencing a shortage of personnel: The supply of doctors in rural areas is 17.2 per 10 thousand population (in general in the Republic of Kazakhstan – 40.9). More than 200 rural settlements do not have medical facilities; about 400 medical facilities are in rented, emergency, adapted buildings. The rural primary healthcare infrastructure is more than 50% worn out.

On the other hand, the discourse of problems with the availability of medical care is also present in the speeches of the President of the Republic of Kazakhstan: President K.-J. Tokayev mentions that in addition to infrastructural differences, there is a striking imbalance in the provision of personnel in cities and villages, difficulties remain with access to essential medical services in the regions, talks about the artificiality of dividing medical care into state-guaranteed and insurance packages, mentions underfunding of the industry, notes the poor equipment of maternity hospitals and intensive care units (Akorda, 2024).

This study provides an insightful exploration of the disparities in healthcare provision between urban and rural settings in Kazakhstan, a subject of crucial importance given the significant portion of the nation's population living in rural areas. This gap is exacerbated by socioeconomic factors such as poverty, unemployment, and lower levels of education in rural regions. Unlike previous studies that may have focused on singular aspects of healthcare disparities, this study employs a holistic approach that considers

conomic, social, and infrastructural dimensions concurrently. Considering all the above-mentioned, the purpose of this article is to study the main trends in the development of healthcare, with an emphasis on the urban-rural context, and to develop proposals for improving its quality and accessibility in rural areas. The study concludes that medical and social problems are especially pronounced in rural areas: high morbidity and mortality rates and low levels of quality of life of the population. The supply of medicines to the rural population was 30% lower than that of the urban population. Therefore, issues of organization and quality of medical care for the rural population require further study. First, social programs for young professionals should be developed to make work in rural areas socially attractive.

2. LITERATURE REVIEW

According to the WHO definition, ensuring the quality of health services is the result of several components: the integrity of the health care system, adequacy of the actions of service providers, good governance, qualified and competent labor resources; ensuring timely and adequate financing; creation of information systems that allow for constant monitoring of the quality of medical care; provision of medicines; equipping medical institutions with modern equipment and technologies; equal access to health care (WHO, 2022).

The basic definitions of equality and, accordingly, inequality in providing the population with medical care were formulated in the last decades of the twentieth century. Subsequently, it did not undergo any significant changes. Access to medical care is a multifaceted indicator that is very difficult to measure. Therefore, in developed countries, instead of the concept of “equal access”, the idea of “equality of access” is often used to achieve fairness in the distribution of medical services and resources in the health sector (Asante et al., 2006).

O'Donnell et al. (2015) note that health inequality is both a cause and a consequence of

income inequality. The level of health affects the ability to earn income (wages), and the level of income determines the ability to improve health by purchasing medical services, proper nutrition, and other benefits determined by lifestyle and affecting health. The income level also affects indirect factors, such as the quality of housing, the level of crime in the area, the level of education and lifestyle, etc., which determine the level of health.

Research on equity in access to health care has primarily focused on comparing the level of access or consumption of health care services to their level of need. Needs are derived from the relationship: the level of health and assistance received. The question of whether the existing relationship between health and care is vertically equitable tends to be left behind the scenes, and researchers study inequalities within socioeconomic groups (Sutton, 2002).

Schmidt et al. (2015) identify several ways in which implementing universal access to health care will impact equity. The subject of the analysis is possible mechanisms for ensuring universal access and its impact on inequality in health care. Gwatkin and Ergo (2011) note that this concept is most often implemented as “trickle down”: first, the wealthier members of society receive benefits, and then the least affluent segments of the population.

As an example of foreign empirical research, we can highlight the work of Morris et al. (2005). To analyze healthcare consumption in the National Health Service in England, the authors used a large dataset from 1998 to 2000. They set a goal to determine whether there was inequality in access to health care. The research method chosen was multiple regression analysis using many variables characterizing morbidity, demographic and socio-economic status of individuals, and factors in the supply of medical services. The level of provision of medical care (supply factors at the local level) also influences inequality in access to medical care, depending on place of residence.

A significant part of the empirical literature is devoted to inequality in access to health care in specific countries. In the 1990s–2000s, research was carried out mainly in developed countries. After the UN adopted the Millennium Goals and the Sustainable Development Goals, including universal health coverage, developing countries, including the poorest countries in Africa, became the focus of country studies.

Among comparative cross-country studies of inequality in the receipt of health care, the work of van Doorslaer et al. (2004), which analyzed data from the European Community Household Panel, should be highlighted. Inequality in the variable “probability of visiting a general practitioner” due to differences in income was not identified. However, inequality in consumption was found for the variable “probability of visiting a specialist doctor”: the affluent segments of society benefited. Despite their lower need for medical care, more affluent and more educated individuals are more likely to visit a specialist than poorer people.

Among the new directions are studies of access to medical care for older people and the impact of social reforms, particularly pension reform, on access (Hagen, 2018). The area related to racial discrimination and inequality in access to medical care has developed in the United States. Examples of country studies include the work of Trannoy et al. (2010) on France and Rosa Dias (2010) on the UK. Among other researchers on this topic, it is worth mentioning Roemer & Trannoy (2016), Jones et al. (2014), Pasqualini et al. (2017), and Anirban Mitra (2021), who look at this problem from the point of view of the relationship between age and inequality in the provision of health care.

A study by Maeda et al. (2014), based on data from 11 countries with different income levels, identified a mechanism for introducing universal health coverage. The study focused more on public sector workers and urban residents employed in the economy. Clearly, this category of the population has a greater demand and receives more medical services

compared to the poor or people living in rural areas.

Modern research is devoted to the results of reforms and assessing the dynamics of inequality. China has significantly reduced inequality (Li et al., 2011; Long et al., 2013; Yu, 2015). Researchers are studying access to medical care not only in China but also in other countries in the region: Vietnam (Nguyen et al., 2012; Palmer, 2014), Thailand (Li et al., 2011), Taiwan (Jui-fen, Tung-Liang, 2018), etc.

In Latin America, many studies have focused on the impact of political systems on health care. For example, Hartman (2016) examines the effect of post-neoliberal policies on reducing inequalities in health care. In addition, studies are conducted on the availability of medical care for certain social groups or classes of diseases.

The problems of improving the organization and management of medical care to the rural population, aimed at increasing its accessibility and timeliness, considering territorial and local differences, are relevant and are solved in the studies of many authors from the post-Soviet space. In particular, we can note empirical studies that made it possible to identify how, in the event of illness, the opportunities to receive medical care differ for citizens differing in gender, age, education, income level, and place of residence (Vyalykh, 2012, 2015; Kochkina, Krasilnikova, Shishkin, 2015; Gavrilov et al., 2016).

In Kazakhstan, we can highlight the research of Utegenova (2014), Baigenzhin et al. (2015), Kalmataeva and Kalieva (2016), and Spankulova et al. (2022). We conducted research focused on improving the quality and availability of pharmaceutical care for the rural population in the Republic of Kazakhstan. The need for a comprehensive solution to rural problems is reflected in ongoing national projects, in which priority is given to protecting public health and improving rural living standards (Adilet, 2022).

In general, it should be noted that the results obtained relate mainly to certain aspects of healthcare and form a somewhat fragmented picture of social differences in the availability

of medical care. In Kazakhstan, the research has pointed out specific issues related to rural healthcare provision, where disparities in access to pharmaceutical services and medical care are significant. Despite national efforts to improve conditions, rural areas still lag behind urban centers in terms of both resources and outcomes. Going forward, it is essential to integrate healthcare policy with broader socio-economic strategies.

3. METHODOLOGY

Considering the complexity of the problems involved, theoretical and empirical research methods were used in the study. These include economic and statistical methods, structural and institutional analysis, and sociological survey methods.

The study's main purpose is to study the characteristics of attitudes towards treatment related to the place of residence and the family's socio-economic status.

As part of this study, we investigated differences in the availability of medical care for the main socio-economic groups of the population living in urban and rural areas. The subject of the analysis is, first of all, the dynamics of differences in the appeal of

citizens for different types of medical care when health problems arise. A detailed analysis is then carried out of many factors determining whether access to medical care differs. The reasons for refusing to see doctors, different opportunities to receive free medical care, and various reasons for seeking paid medical services are considered.

The motives for the preferences of consumers of medical services in Kazakhstan were studied using a theoretical model that considers the behavioral characteristics of the perception of medical services. One of these features is the respondent's understanding of the basic level of his health.

In behavioral economics - in particular, in prospect theory (Kahneman & Tversky, 1979) it is shown that people assess their willingness to pay for certain goods depending on this reference point. In addition, biases in these estimates may depend on socio-demographic characteristics, which we also take into account for the sample of residents of Kazakhstan.

During the sociological survey, 1673 people were interviewed, of which 59.3% lived in cities and 50.7% in rural areas. Below is a detailed Table 1 summarizing the demographic and employment sector distribution of the survey respondents based on the information provided.

TABLE 1. List of the interview questions

Category	Description	Percentage	Count. (Approx.)
Geographic Distribution	Urban Residents	59.3%	993
	Rural Residents	50.7%	848
Employment Sector	Healthcare Workers	13.8%	231
	Education, Science, Culture	17.8%	298
	Housing and Communal Services	2.5%	42
	Trade, Public Catering	11.3%	189
	Communications, Transport	6.7%	112
	Communications, Transport	6.7%	112
	Construction	2.5%	42
	Industry	6.4%	107
	Communications, Transport	6.7%	112
Construction	2.5%	42	

	Industry	6.4%	107
	Agriculture	12.7%	213
	Finance, Banks	5.5%	92
	Temporarily Unemployed	1.8%	30
	Student	8%	134
	Pensioner	0.9%	15
	Unemployed	3%	50
	Housewife	4.1%	69
	Other Occupations	3%	50
Age Distribution	18-24 years	10.1%	169
	25-34 years	26.9%	450
	35-44 years	24.2%	405
	45-54 years	22.1%	370
	55-64 years	10.0%	167
	65 years and older	6.7%	112
Gender Distribution	Female	61.8%	1034
	Male	38.2%	639
Total			1673

Note: compiled by authors

The respondents were differentiated by level of education: incomplete secondary, general secondary, specialized secondary, and higher. Respondents were also divided into quintiles according to the income level per household member.

The survey was conducted in September-October 2023. The sample was stratified by key demographics such as location (urban vs. rural), age, gender, and employment sector to ensure that it represents the diversity of the Kazakhstani population. Within each stratum, respondents were randomly selected to minimize sampling bias and enhance the reliability of the survey results. Data was collected through electronic surveys, depending on the accessibility and preference of the respondents. This approach helped to increase the response rate and the accuracy of the data collected.

The data was processed using the SPSS program and involved a series of analytical techniques to ensure rigorous interpretation and meaningful insights. By employing these methods, the study aims to provide a robust analysis of the factors influencing healthcare access and to suggest targeted interventions for improving healthcare equity in Kazakhstan.

4. FINDINGS AND DISCUSSION

As a result of the policy pursued by the Head of State and the government, radical and effective measures are being taken in the republic to improve the current healthcare system. Some progress has already been achieved. Over the past three years, the volume of healthcare financing in Kazakhstan has increased from 1.1 trillion to 2.8 trillion tenge, which has made it possible to significantly increase the volume of medical services provided to the population. Overall, the share of healthcare spending in total GDP increased from 2.8% in 2019 to 3.7% in 2022. On the contrary, the share of out-of-pocket expenses of the population for medical services decreased from 34% in 2018 to 31% in 2022. Life expectancy in 2023 was 74.4 years, an increase of 6.8 years compared to 1991, while for men, the figure increased by 7.7 years and for women by six years (Minzdrav of RK, 2023).

However, despite this, the quality and availability of services provided by medical organizations to the population of Kazakhstan still need to improve. This is evidenced by statements by officials, as well as a survey of the population. In 2022, more than three million people remained outside the health

insurance system. The problem is the need for more healthcare organizations in 850 villages of Kazakhstan, and the shortage of health workers in rural areas of 2000 staff positions. The doctor spends time and resources searching for the disease code and finding out the source of funding (guaranteed mandatory medical care (GMMC) or compulsory medical insurance (CMI)) for the necessary services. At the same time, the doctor must consider the monthly financing plan from two sources (GMMC and CMI), which must be fulfilled. This complex division of funding creates confusion and mistakes. Experts call another problem the creation of a digital healthcare environment by people who do not know much about the work of doctors.

The main divide runs along the rural-urban line in the context of access to medical services. Today, there are 6,256 rural settlements in the republic, home to 7.6 million people, which is 38.4% of the country's total population. At the same time, the share of the rural population with incomes below the subsistence level is 7.2%, and the unemployment rate is 4.7%. The share of self-employed people was 33% or 1.2 million people. Migration flows serve as a response of the rural population to geographical inequality of living and working conditions. The main population influx in 2020 occurred in the cities of Almaty, Astana, and Shymkent. From the perspective of migrants, these cities are regions with more favorable living and employment conditions. The attractiveness factors of megacities are more developed areas of employment compared to other regions, the development of infrastructure facilities, higher levels of wages and quality of life, the concentration of training institutions, and other facilities (Gaisina et al., 2023).

As a result of the work carried out following the requirements of the Law of the Republic of Kazakhstan "On the administrative-territorial structure of the Republic of Kazakhstan" over the past ten years, the number of rural settlements has decreased from 6,838 to 6,256, or by 582 units. There was a reduction in villages with a population of less than 50

people, with the population tied to nearby settlements. Monitoring and analysis of village security is carried out annually following the System of Regional Standards requirements. Thus, in 2023, the level of protection was 64.3%, which is 2.1 points more than in 2022. At the same time, the highest provision of medical facilities and services is observed in the Mangistau region - 72.4%, Atyrau region - 70% and Aktobe region - 69.6%. The low level of security in the East Kazakhstan region is 58%, Ulytau - 57% and Abay - 55.4%.

At the same time, according to the results of an analysis of indicators of regional standards, there is an increase in the number of villages with high and average levels of wealth. Thus, the number of villages with a high level of security is 1,296 units, 169 units more than in 2022. At the same time, the share of villages with a low-income level decreased from 1,676 to 1,399 villages. To improve the quality of life of the rural population and increase the level of provision with regional standards, the Concept for the Development of Rural Territories of the Republic of Kazakhstan for 2023–2027 is being implemented.

The concept is aimed at unlocking the socio-economic potential of rural areas, considering their geographical features and competitive advantages. It defines the main directions for reducing imbalances in the provision of essential services, increasing the income level of the rural population, developing border areas, and systematizing a set of measures aimed at developing villages.

To expand access to medical care for village residents, the work of 149 mobile medical complexes and two medical trains "Zhardem" and "Salamatty Kazakhstan", 33 aircraft were organized. The project "Modernization of Rural Healthcare" was developed (Prime Minister, 2022).

At the same time, it is essential to note the existing problems, in particular, the complexity of the rules for the functioning of health insurance systems: according to the ministry, the presence of two insurance contracts for the Statewide Compulsory Medical Insurance/Compulsory Medical Insurance

leads to the involvement of health workers in the process of administering the packages, and distracts them from their main activities, leading to a decrease in quality provision of medical services. According to the monitoring data of the Medical and Pharmaceutical Control Committee, six regions were named unfavorable in terms of health care according to the criterion of justified complaints: Pavlodar, Almaty, Mangistau, Jambyl, Kyzylorda regions and Almaty-city (Minzdrav of RK, 2022).

An analysis of staffing in rural areas shows a shortage of more than 1,700 medical workers, including more than 1,000 doctors (734 nurses). The following situation has developed in the countryside: more than 200 settlements do not have medical facilities, and about 400 villages are in rented, emergency, adapted buildings. The deterioration of the medical infrastructure of primary health care in rural areas exceeds 50%.

Previously, these medical organizations not only assisted villagers but also ensured the supply of necessary medical supplies. But at present, many small and remote settlements do not have a single pharmacy, and the problem of

providing rural residents with medicines remains one of the most acute.

As a result of the ongoing “optimization”, residents of rural areas have much fewer opportunities to receive quality medical care than residents of cities, not to mention high-tech care, for which rural residents have to turn to large urban medical institutions, often in conditions of incredible territorial inaccessibility. This can largely be explained by the underdevelopment of the road and transport infrastructure - people simply do not have the opportunity to get to the first aid station.

The survey results show that 45.8% of rural residents travel to cities for medical care, highlighting the increasing relevance of access issues in these areas. According to the same survey, when asked, "How do you assess the state of your health?" 35.4% rated it as satisfactory, 20.9% as good, and 20.3% reported chronic diseases. Additionally, only 19.5% visit a doctor when feeling unwell, 41.8% do so when their health deteriorates, and 31.7% seek medical attention only in cases of severe illness (Figure 1).

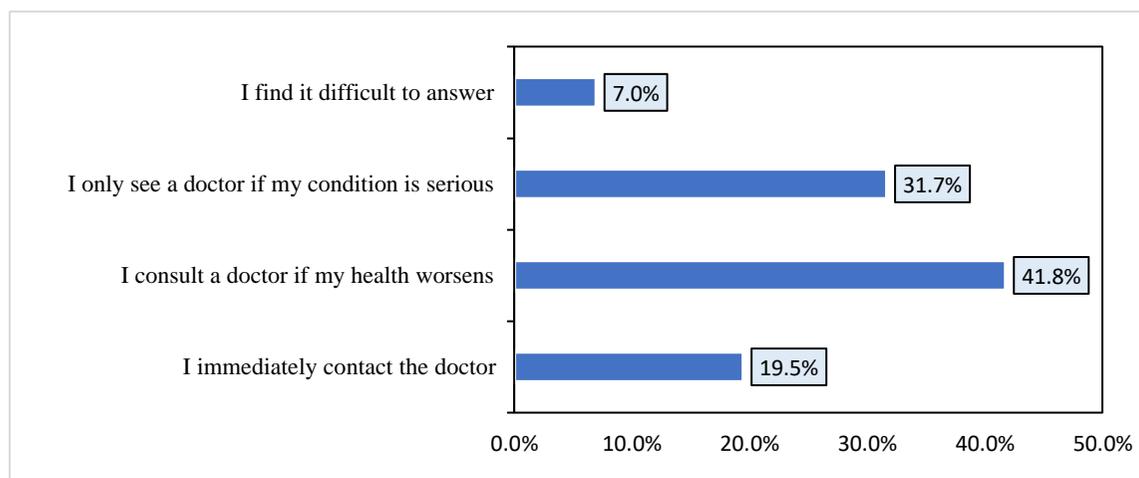


FIGURE 1. Distribution of survey participants according to specialties, in % Answers to the question “If you feel unwell, then...”

Note: compiled by authors

Due to frequent lack of access to medical care, a significant 68.5% of rural residents resorted to self-medication. This rate of self-

treatment is notably higher among rural residents compared to their urban counterparts, underscoring the urgent need for increased

availability of doctors, ambulances, and medicines in village areas. Financially, 45.5% of individuals paid for their treatment out-of-pocket, while only 14% received treatment funded by public resources. Additionally,

16.8% of treatments were financed through the Compulsory Health Insurance Fund, and 11% of individuals received assistance from relatives (refer to Figure 2).

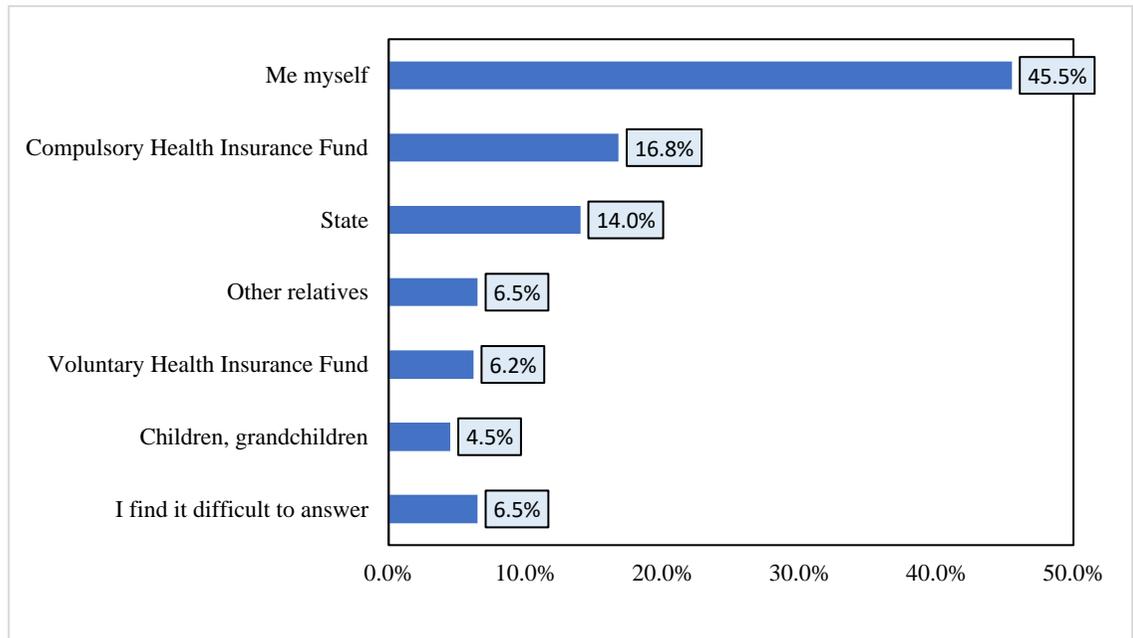


FIGURE 2. Answers to the question “I believe that if I or my family members need treatment, the cost will be covered by....”

Note: compiled by authors

The data collected reveals a significant reliance on self-funding for medical expenses among rural residents in Kazakhstan, especially as it pertains to inpatient treatments where individuals often pay out-of-pocket for necessary medications, syringes, and bandages. Monthly purchases of these medical supplies are made by 42.2% of rural residents, with the demand escalating sharply with age. Specifically, while only 15.1% of the population aged 14-29 years report such expenditures, this figure jumps dramatically to 68.3% for those aged 60 and older. Concerning the financial strategies adopted for covering high-cost treatments not subsidized by state or insurance funds, the strategies varied significantly among the respondents: a substantial 48.3% of individuals managed these expenses themselves. About 22.5% borrowed money from relatives to cover costs. Another

20.2% resorted to taking out bank loans. The remaining 8% turned to alternative treatments, such as folk remedies. These findings highlight the financial burdens and coping mechanisms associated with healthcare in rural Kazakhstan, illustrating a heavy dependency on personal and familial resources, as well as institutional loans, to manage health-related expenditures (see Figure 3).

The analysis reveals significant challenges in healthcare access and quality experienced by rural residents. The primary issues identified include:

(1) **Extended Waiting Times:** Approximately 41.2% of rural residents report long waiting times to see the appropriate specialists. This delay in accessing care underscores inefficiencies within the rural healthcare delivery system.

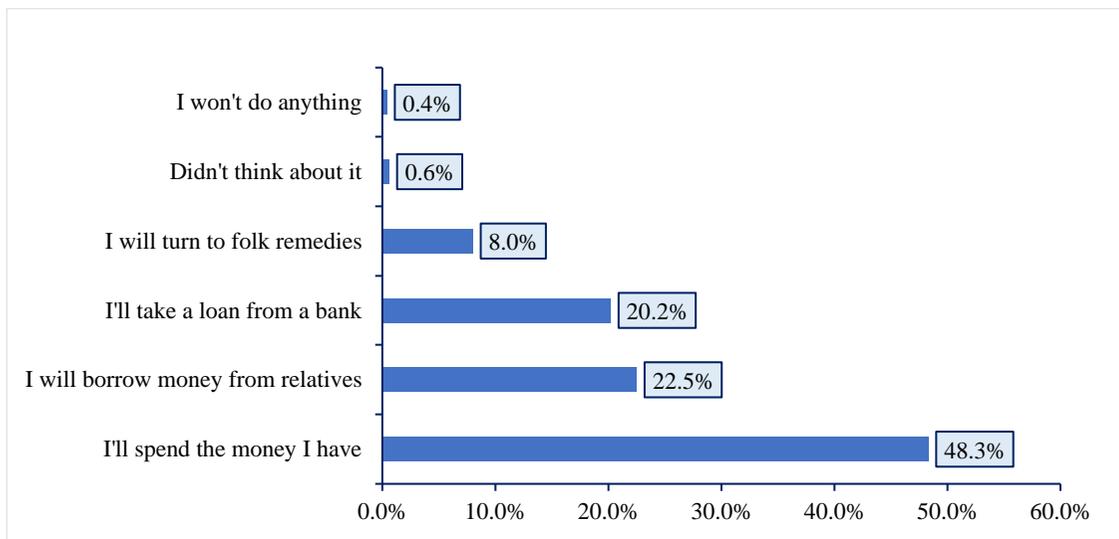


FIGURE 3. Answers to the question, “If I need expensive treatment that is not paid for by the state and insurance funds, then...”

Note: compiled by authors

(2) **Low Doctor Qualification:** Concerns over the qualifications of doctors are significant, with 33% of respondents doubting the competency of medical professionals available to them. This perception not only reflects on the training and skills of the healthcare workforce but also impacts patient trust and satisfaction levels.

(3) **Inadequate Medical Equipment:** A further 35% of the participants highlighted poor equipment provision at medical facilities. The scarcity of modern diagnostic and treatment tools in rural areas hampers the ability of healthcare providers to offer comprehensive and advanced medical care.

These factors contribute to nearly half of the rural population seeking medical assistance from regional centers. Despite 84.7% of rural residents having access to local clinics or health centers, the inadequacy in the quality of care compels 43.9% to travel to urban centers for healthcare services. This situation indicates a mismatch between the availability of healthcare infrastructure and the quality of services provided.

Moreover, the deficiency in healthcare services is influencing migration sentiments among the rural populace, with 20.8% citing

"problems with medical care" as a primary motive for relocating to urban areas. It is noteworthy that a significant proportion of rural residents, 40.2%, refrained from seeking medical help in 2023—a rate higher than the national average of 29.5%.

The reluctance to seek medical help among rural residents is primarily driven by skepticism toward the effectiveness of the treatment available and dissatisfaction with the operations of medical organizations. These insights reveal a critical need for improvements in healthcare service delivery, particularly in enhancing the capabilities of healthcare professionals and infrastructure in rural areas to ensure equitable access to quality medical care across the country.

Modern rural settlements of our country experience a shortage of medical personnel, including specialized specialists, an insufficient supply of medicines, and the need to update the material and technical base of healthcare.

The main reasons rural residents do not seek medical help include: I do not expect effective treatment and am not satisfied with the work of the medical organization (see Table 2).

TABLE 2. Reasons why persons aged 15 and over do not seek medical help if they need medical care

Respondents	Total	Including those living:		
		Urban	with a population of 1 mln. ppl. or more	Rural
Did not apply to medical organizations if there was a need for medical care				
Age 15 +	20,9	21,5	15,9	20,4
Reasons for not applying				
Do not expect effective treatment	29,2	35,4	35,2	18,2
There was no time	22,3	23,1	27,2	20,0
Necessary treatment can only be obtained on a paid basis	12,0	12,0	11,2	12,0
It was challenging to get to the medical facility	5,1	3,8	4,0	9,0
Cannot get to a medical facility without assistance	4,9	4,1	3,2	7,3
Did not have information about where to get the necessary medical care	1,2	1,3	1,8	1,5
Other reasons	6,7	6,5	6,7	7,8

Note: compiled by authors

Even though more than 9,000 facilities in Kazakhstan provide pharmaceutical services to the population, about 4,000 rural settlements do not have pharmacies, and only 64% of them organize the sale of medicines through healthcare institutions. Providing the rural population with medicines on market principles has led to limited availability of the rural population for the following reasons: remoteness of the territory, difficulties with delivery, and insolvency of the population (Turgambayeva et al., 2021).

In Kazakhstan, the government has approved a list of medicines that are provided free of charge as part of the guaranteed volume of free medical care. Even though the procurement of medicines is carried out mainly through tenders, the Kazakh system involves the establishment of a price ceiling. Thus, the health of rural residents depends on many factors. However, we can confidently say that a significant role in preserving and restoring the health of rural residents still belongs to healthcare institutions and the organization of medical care in rural areas. "Seeking medical care" is influenced not only by health status and the need and desire for preventive examinations but also by the availability of various types of medical care.

When determining the factors that negatively affect the availability and quality of medical care in modern Kazakhstan, the relative unanimity of experts regarding the importance of financing the sector was recorded. Lack of financial resources or their untimely provision is assessed as a critical obstacle to the development of medical institutions.

According to experts, another factor that has negative consequences is the low penetration of digital technologies into medical practices. In this context, experts supported the idea that the digitalization of routine medical practices and the development of telemedicine will, over time, significantly bridge the gap in access to quality medical services. At the same time, the problem with integrating digital technologies into the public health care system is more than just medical. In this case, experts note that we are discussing a problematic taxon. Thus, the solution to the problem depends on providing access to broadband high-speed Internet throughout the country, the availability of highly qualified medical personnel capable of working in digital medicine, and the provision of medical institutions with the necessary equipment. According to the experts interviewed, it is evident that the digitalization

of medical services will also require significant investments in medical sciences and the development of related industries.

5. CONCLUSIONS

An analysis of the availability of medical services in rural areas shows that its level depends on many factors. The most significant component of this problem is the medical institutions' network and staffing. Unfortunately, the downsizing trend of hospitals and outpatient clinics in rural areas is not abating. Of course, this contributes to the aggravation of the already difficult situation of rural residents. Increasing accessibility and improving the quality of medical services are the most critical factors influencing the life expectancy of the rural population (as well as the urban population). In addition, they are a primary condition for ensuring the principle of social equality in the realization of the right of every citizen to life and health care.

According to subjective estimates of the population, according to the survey, the most significant differences are in place of residence. The least acute differences are age and gender. The survey data indicate an established stable interaction model with the healthcare sector, which is reproduced almost unchanged in all socio-demographic strata. The general attitude is more focused on self-treatment. However, it is predominant in rural areas.

In general, the analysis shows that, on the one hand, during outpatient treatment, the most remarkable socio-demographic differences are observed in the behavior of different groups of patients when choosing paid medical services. On the other hand, differences between citizens in income level, education, age, and place of residence only slightly increase or decrease the likelihood of using paid services. In addition, the unconditional right of all members of society to free (that is, at the expense of the state) medical care is firmly rooted in the population's minds.

If there is insufficient access to medical care from public health institutions, people with low incomes may be less likely to receive medical

services than their more affluent fellow citizens. Moreover, every sixth Kazakhstani citizen is not covered by compulsory medical insurance. The studied discourses also document discrimination concerning the rights of such vulnerable groups as people with chronic diseases and people with disabilities.

To reduce the shortage of medical personnel in rural healthcare, local executive bodies will provide social support to young specialists (providing lifting allowances, housing, and payment for utilities), the state order will increase the training of specialists in in-demand medical specialties at the regional level within the framework of target and local budgets, including the training of advanced medical personnel in the most in-demand specialties.

Ways to solve the identified problems at the present stage of development should be:

(1) To improve the quality of diagnostics in rural healthcare and ensure accessibility of laboratory tests, medical laboratories of district and interdistrict hospitals must be equipped with modern analyzers to perform basic laboratory tests.

(2) The population of remote and hard-to-reach rural areas should be provided with high-quality medical services through medical aviation services, and measures should be taken to ensure the safety of patients, personnel of mobile medical teams, and flight personnel.

(3) For the timely provision of medical care to the population, dynamic monitoring of patients with chronic diseases, and the introduction of best practices by local executive bodies, it is essential to resolve the issues of providing primary care doctors with sanitary vehicles.

The analysis of medical service availability in rural areas highlights a critical socio-economic issue influenced by the network and staffing of medical institutions. The trend of downsizing rural medical facilities exacerbates the challenge of providing adequate health care, directly impacting life expectancy and social equality. To address these issues, the proposed solutions include enhancing diagnostic quality through modern equipment, extending high-quality medical services, and

improving patient monitoring and care practices with better resources for primary care providers. These measures aim to mitigate the effects of healthcare shortages and ensure equitable access to medical services across all demographic segments. Further research is needed to understand the cultural dynamics that influence health behaviors in rural areas, particularly the preference for self-treatment. Studies should focus on developing culturally appropriate educational programs that promote awareness and understanding of available medical services.

AUTHOR CONTRIBUTION

Writing – original draft: Zaure Chulanova.

Conceptualization: Lazat Spankulova.

Formal analysis and investigation: Lazat Spankulova, Zaure Chulanova, Adilet Konyrbay.

Funding acquisition and research administration: Lazat Spankulova.

Development of research methodology: Lazat Spankulova, Zaure Chulanova.

Resources: Lazat Spankulova.

Software and supervisions: Lazat Spankulova, Zaure Chulanova, Adilet Konyrbay.

Data collection, analysis and interpretation: Lazat Spankulova, Zaure Chulanova, Adilet Konyrbay.

Visualization: Lazat Spankulova, Zaure Chulanova.

Writing review and editing research: Zaure Chulanova.

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AUTHOR BIOGRAPHIES

Lazat Spankulova – Doc. Sc. (Econ.), Professor, Al-Farabi Kazakh National University, Almaty, Kazakhstan. Email: lyazzat.spankulova@kaznu.kz, <https://orcid.org/0000-0002-1865-4681>

***Zaure Chulanova** – Cand. Sc. (Econ.), Leading Researcher, Institute of Economics CS MSHE, Almaty, Kazakhstan. Email: chulanova.zaure@ieconom.kz, <https://orcid.org/0000-0001-9333-7582>

Adilet Konyrbay – PhD student, Al-Farabi Kazakh National University, Almaty, Al-Farabi Kazakhstan. Email: adilet.kongyrbay@marsh.com, <https://orcid.org/0000-0003-1326-0410>