


<https://doi.org/10.21272/hem.2021.4-09>

JEL Classification: I11, I15, I18

Yevheniia Ziabina,

Ph.D, Sumy State University, Ukraine

 ORCID ID: 0000-0003-0832-7932

email: e.ziabina@biem.sumdu.edu.ua

Karolina Goncharova,

Sumy State University, Ukraine

Hlib Lieonov,

Technical University of Hamburg, Germany

email: hlib@lieonov.com

Correspondence author: e.ziabina@biem.sumdu.edu.ua

ANALYSIS OF TRENDS IN THE DEVELOPMENT OF AVAILABILITY OF MEDICAL SERVICES FOR RURAL POPULATION

Abstract. The article summarizes the arguments and counter-arguments within the scientific discussion on the availability of medical services for the rural population. The main purpose of the study is to analyze the current principles of state policy of Ukraine in the field of health and accessibility and quality of health care in rural areas. Systematization of literature sources and approaches to solving the problem of access to health services has shown that many problematic issues in the field of access to health services in rural areas in Ukraine and around the world, related to investment, personnel management and effective government regulation. The urgency of solving this scientific problem is that medical care should be provided in all regions and agglomerations of the country equally effectively and focus on patient requests. The study of the availability of medical care in rural areas in the article is carried out in the following logical sequence: bibliometric analysis of research, the next step is a survey of consumers of medical services on the basis of the district hospital; analysis of the results of the survey of respondents; providing guidance on key health issues and areas. The methodological tools of the study were survey methods and expert assessments, comparative and bibliometric analysis, the study period was chosen 2011-2021. The object of the study was the Sumy Central District Clinical Hospital, as it provides services to patients living in rural areas. The study empirically confirms and theoretically proves that there are problems with having a family doctor in families, as 1% of respondents indicated that they do not have a family doctor and have not consulted him, while more than half of respondents are satisfied with the result of a doctor's visit, however, a significant share did not indicate the exact answer, which gives reason to think about the existing problems that led to such results. The results of the study can be useful for further research and recommendations for future opportunities to effectively influence the development of access to health services in rural areas and at the same time improve and enhance the quality of services provided in cities.

Keywords: analysis of trends, medical services, rural population, health care.

Introduction. In the context of the transformation of the socio-economic sphere of Ukraine, the question arises as to the adaptation of treatment and prevention facilities to the requirements of today's realities. On the way to the implementation of such tasks there are a number of problematic issues, which are the focus of our study.

Given the economic value of public and individual health and the socio-political significance, public health is one of the most important functions of the state today. After all, it is the qualitative and quantitative indicators of the level of health and life expectancy of the population, a set of other indicators of social policy that separate the developed and wealthy countries of the world from the underdeveloped and poor countries. The state of human health is considered so important in the world that this indicator refers to

Cite as: Ziabina, Ye., Goncharova, K., & Lieonov, H. (2021). Analysis of Trends in the Development of Availability of Medical Services for Rural Population. *Health Economics and Management Review*, 4, 87-95. <http://doi.org/10.21272/hem.2021.4-09>



the human development index - a universal indicator of the level of development of the population of a country in the world. Under the current conditions, the development and formation of such health care systems are crucial, which can meet the ever-growing needs of mankind for quality and affordable health care, while restraining the rapid increase in health care costs. At the same time, the leading role should be given to the development of a certain regulatory framework, adequate resource provision and modernized performance management. It is important to study the current world experience in the functioning of models of health care systems, their improvement and development to explain the reform or evolutionary changes in national health care.

Literature Review. The issue of accessibility of medical services for the rural population is relevant not only in Ukraine but also around the world. Researching this issue revealed about one thousand publications on the search query «medical services» and «rural population» indexed by the scientometric databases Scopus and Web of Science. During the study, the structure of the subject area of the study of the availability of medical services for the rural population was determined (Fig. 1).

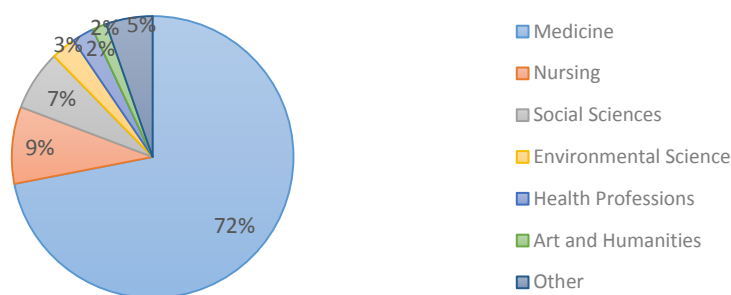


Figure 1. The structure of the subject area of research according to the scientometric databases Scopus and Web of Science, 2011-2021

Sources: developed by the authors based on the scientometric databases Scopus and Web of Science.

According to Figure 1, we can conclude that the largest share (72%) falls on the subject area of Medicine and in second place Nursing. But it should be noted that the structure of the subject area of research of medical services for the rural population is quite diverse.

Also, there is a significant increase in the volume of publications over the last decade (Fig. 2).

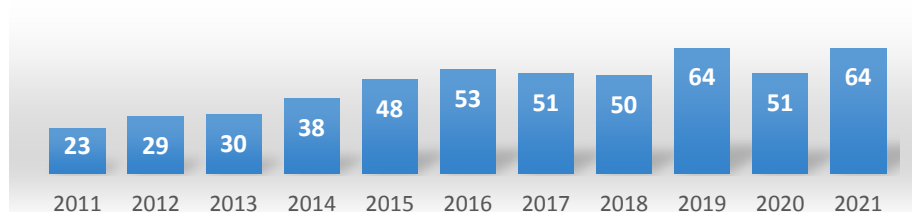


Figure 2. Dynamics of publishing activity on the search query «medical services» and «rural population» in the scientometric databases Scopus and Web of Science, 2011-2021

Sources: developed by the authors based on the scientometric databases Scopus and Web of Science.

Thus, compared to 2011, at the end of 2021 the increase in publications increased almost threefold. The main reasons for such research were the increase in the level of social security and trends in improving the standard of living and quality of health care. The same trend should be considered in geographical terms (Fig. 3).

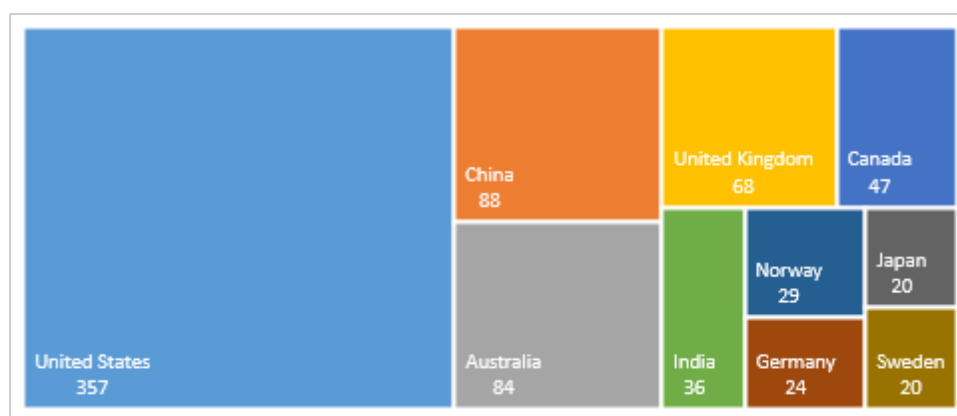


Figure 3. Distribution of publishing activity by geography of research on the search query «medical services» and «rural population» in the scientometric databases Scopus and Web of Science, 2011-2021

Sources: developed by the authors based on the scientometric databases Scopus and Web of Science.

Thus, according to the study, it should be emphasized that scientists from the United States, China and Australia are most active in researching the availability of health services for the rural population and their improvement. In Ukraine, this area of research is also quite relevant and gaining momentum among the scientific community. Thus, the authors studied the methods of assessing the quality of medical services (Mrabet et al., 2022; Syhyda et al., 2020), segmentation of medical services as a tool for access to services for different groups of the population depending on their income level (Antosova et al., 2019) and prospects for the formation of medical engineering clusters as part of territorial marketing and further development of regions (Zaloha et al., 2020).

At the same time, the scientific international community is considering the issue of reducing the time of transportation of critically ill patients from rural areas (Gonzalez et al., 2006) and the level of quality of preventive medical obedience in rural areas (Zhang et al., 2000), but Ukrainian researchers are currently studying the legal framework and regulation of health care reform at the regional level (Aliyeva, 2020). This is due to the significant lag in the development of medical services in rural areas, one of such problems is the ineffective involvement of health care workers in the regions and low motivation. Therefore, researchers are also actively studying the potential of management system development in medical institutions at both local and regional levels (Kraft, 2021; Shipko et al., 2020), motivational ways to encourage effective work of employees in medical institutions (Grabowska et al., 2020) and opportunities to improve HR policy in the health care system (Ziabina et al., 2021; Bejtkovsky, 2020) as tools for effective management transformation and the formation of quality management models.

Investing in health care is one of the priority issues in Ukraine, so in the course of bibliometric analysis we found some studies that emphasize this. In particular, the authors (Yelnikova and Kwilinski, 2020) consider the effect and feasibility of impact investment as a tool for sustainable development. Accordingly, the effectiveness of investment lies in the development of innovation in the research areas. In particular,

researchers (Hanulakova et al., 2021) have studied marketing tools that influence social innovation in health care.

According to the results of bibliometric analysis, it can be concluded that many problematic issues have been identified in the field of access to health services in rural areas in Ukraine and around the world. It is obvious that in the countries-leaders of economic development the issue of issues is aimed at improving and enhancing services, and in countries that are at the stages of development the basis for discussions on this issue is much more.

Methodology and research methods. The bases of the state policy in the field of health care are indicated in a number of program documents and normative legal acts, the main ones of which are: Convention for the Protection of Human Rights and Fundamental Freedoms; Convention for the Protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine; Convention on Human Rights and Biomedicine; St. 49 of the Constitution of Ukraine; Law of Ukraine «On improving the availability and quality of health care in rural areas»; Law of Ukraine «On State Financial Guarantees of Medical Care»; Resolution of June 20, 2000 № 989 «On comprehensive measures for the introduction of family medicine in the health care system»; Order of the Ministry of Health of Ukraine № 504 of March 19, 2018 «On approval of the Procedure for providing primary care»; Resolution of the Cabinet of Ministers of Ukraine «Some issues of providing a subvention from the state budget to local budgets for the implementation of measures aimed at developing the health care system in rural areas» and the Order of the IFI and the Ministry of Health «On approval of the Standard list of budget programs and performance indicators for local budgets in the field of «Health Care».

The Ministry of Health of Ukraine implements the state policy in the field of health care, the activity of which is aimed at achieving both strategic goals and implementation of long-term priorities (Fig. 4).

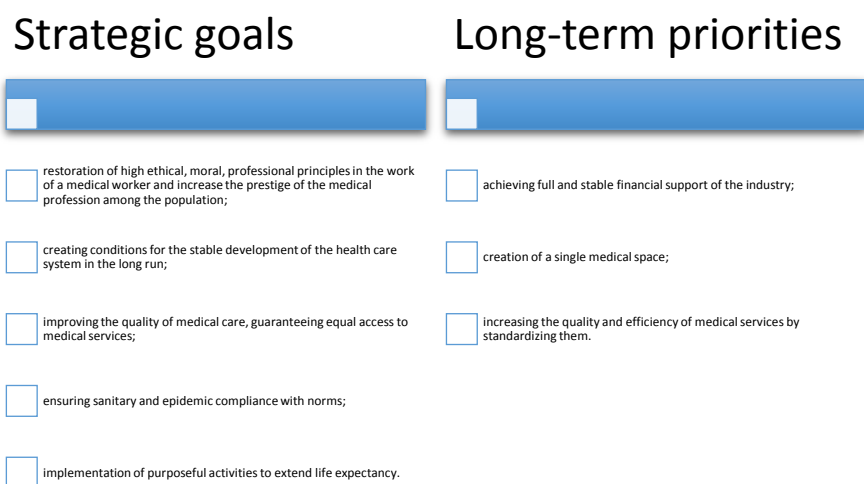


Figure 4. Long-term priorities and strategic goals of the Ministry of Health of Ukraine
Sources: developed by the authors on the basis of (Goncharova, 2021).

We believe that in order to form and implement an effective state policy in order to modernize the health sector, three successive stages should be undertaken: the implementation of management and policy decisions, their implementation and evaluation of the results of reforms. Foreign scientists

emphasize the need to implement three groups of measures for the effective implementation of state policy in the field of health care:

- liberalizing the demand for medical services by increasing the range of consumer choices and changing the role of consumers, the country, medical institutions and doctors who interact with each other and become more active partners in the field of health care;
- diversification of medical services by using the method of creating a new favorable environment for private and private activities through the redistribution of production, ownership and financing of health care;
- improving incentives for healthcare professionals and medical institutions to save costs and increase the quality of medical services in a new competitive market.

Today in Ukraine, the problem of limited market mechanisms in health care is the asymmetry of information and low competitiveness between public health facilities and private urban and rural communities.

Results. The possibilities of solving the problem of low efficiency of the health care system in Ukraine are more declarative. It is implied that it cannot be solved by conventional methods. There is a need for new approaches that must objectively solve the problem without postponing indefinitely, in other words, clearly setting the timing of the transformation. Some changes should be implemented in the short term, but the primary focus should still be on the medium term. This means that we need a real action plan for the next 3-5 years, there is a need for a strategy for the next 5-10 years, but for this we need to develop a concept of development for 10-15 years.

In order to create significant «bottlenecks» in the work of rural-oriented medical institutions, we conducted a sociological survey to find out whether the villagers are satisfied with medical care, to investigate the rural population's access to medical care and to determine the causes of poor health care.

The survey was conducted among the residents of Sumy district on the basis of Sumy Central District Clinical Hospital and on the Google forms platform. We developed a special anonymous questionnaire on 14 questions. According to the data on the number of permanent rural population by sex, type of area and individual age groups in the Sumy City Council on January 1, 2021 the Main Department of Statistics in Sumy region determined a general population of 2420 people aged 16 and older, so 200 respondents took part in the survey.

The first questions helped to make a portrait of the respondent by key characteristics - man / woman and age (Fig. 5).

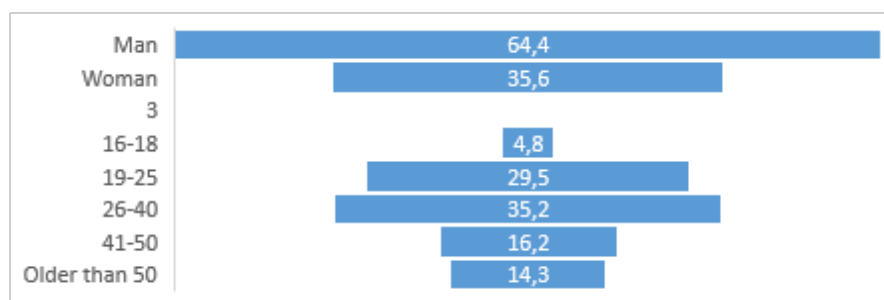


Figure 5. Portrait of respondents by age and gender

Sources: developed by the authors on the basis of (Goncharova, 2021).

The largest number of respondents were aged 26 - 40 years – 35,2 %; 19 - 25 years – 29,5 %; 41 - 50 years – 16,2 %; for 50 years – 14,3 % and a small percentage of 16-18 years (Fig. 5).

The next question that respondents will have to answer is: «The type of medical institutions that respondents choose». Thus, it turned out that the most common medical institutions in the area of residence are: 45,8 % - medical and obstetric point; 33,6 % - hospital; 15 % - family outpatient clinics and a low percentage of ambulance stations and private clinics.

Also, the study needed to understand the difficulties faced by patients for the future solution of these problems and optimize the work of medical institutions (Fig. 6).

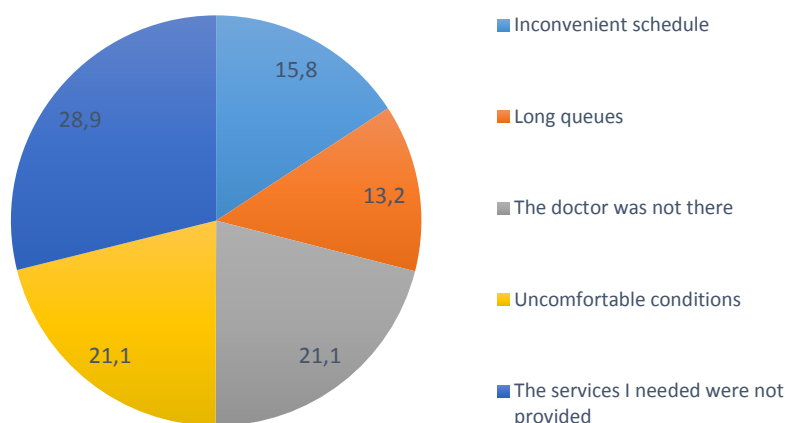


Figure 6. Difficulties faced by respondents when applying to the hospital

Sources: developed by the authors on the basis of (Goncharova, 2021).

The majority of respondents had difficulties in seeing a doctor, namely: 28,9 % - did not provide the services needed by the patient, 21,1 % - the doctor was not on site and uncomfortable conditions, 15,8 % - inconvenient schedule and 13,2 % - long queues (Fig. 6).

Table 1. The results of the survey of respondents

Spent time on the way to the medical facility		Satisfaction with the location of the medical institution	
Less than 20 minutes	49,5%	Yes	69,2%
20-40 minutes	39%	No	28,8%
More than an hour	11,4%	No, why?	2,0%
Visiting a family doctor for the last 2 years		The results of communication with the doctor	
Yes	91,5%	Satisfied overall	69,0%
No	7,5%	Difficult to answer	22,0%
I don't have a family doctor	1,0%	Dissatisfied	9,0%
Way of movement		Reasons for refusing hospitalization	
On foot	52,9%	Lack of vacancies in the hospital	8,7%
By minibus	26,9%	Bad road that prevents you from getting to the hospital	1,4%
Own car	14,4%	Referral to another hospital	40,6%
By train	5,8%	The state of health did not require inpatient treatment	49,3%

Sources: developed by the authors on the basis of (Goncharova, 2021).

According to the results of the survey, we can summarize the following values: in total 49,5 % - spend less than 20 minutes to get to a medical institution, 39 % - 20 - 40 minutes, 11,4 % - spend more than an hour to get to a medical institution. At the same time, 52,9 % get there on foot, 26,9 % by minibus, 14,4 % have their own car, and 5,8 % get to the hospital by train.

It should be noted that 69,2 % of respondents are satisfied with the convenience of the location of the medical institution, 28,8 % - are not satisfied. From the data obtained, we note that the reform of signing contracts with a family doctor has worked, as 91,5 % of people have consulted their family doctor in the last 2 years, 7,5 % - no and 1 % do not have a family doctor. After talking to a doctor, 69% of respondents are generally satisfied, 22% are hesitant to answer and 9% are dissatisfied.

We also note that more than half of the respondents – 60,4 % did not face refusals to hospitalize, but 39,6 % had this problem. The reasons for refusal were among 69 respondents: 49,3 % - the state of health did not require inpatient treatment, 40,6 % - were referred to another hospital, 8,7 % - lack of vacancies in the hospital.

Based on the answers, we can conclude that in rural areas there are, for the most part, a hospital or obstetrics and gynecology center.

There is still a problem with the availability of a family doctor in families, as 1 % of respondents indicated that they do not have a family doctor and have not consulted him. In general, people are satisfied with the result of a visit to the doctor, but almost half did not indicate the exact answer, which gives reason to think about the existing problems that caused such figures.

The majority of the population is satisfied with the quality of health care in rural areas, but the results may not be accurate, as the survey covered a small percentage of the total population in rural areas and answers the questions.

Also, there is a problem in providing appropriate services by doctors, as their percentage is 28,9 %.

The main problem and lack of the current mechanism of providing medical services for the rural population is the low level of access of the rural population to medical care.

Conclusions. Taking into account the results of the survey and the bibliometric analysis, we can conclude that the process of optimization and reform of public health policy in a globalizing society should include the following strategic areas of regulation:

- bringing national health legislation in line with European Union law;
- legislative consolidation and determination of the scope of guaranteed state obligations regarding free and insurance medical care;
- development of existing mechanisms of state regulation of the private sector of the health care system, ensuring the efficiency and quality of its activities;
- transition to a multi-channel system of financing the medical sector;
- ensure healthy competition for public and private medical institutions;
- development of motivational mechanisms to encourage employees of medical institutions;
- increasing the requirements for the training of scientific personnel, ensuring the proper use of scientific and information resources in the field of health care.

All these measures, using an integrated approach, have the opportunity to effectively influence the development of access to health services in rural areas and at the same time improve and enhance the quality of services provided in cities.

Author Contributions: conceptualization, Ye. Z. and K. G.; methodology, Ye. Z. and H. L.; software, Ye. Z. and K. G.; validation, Ye. Z. and H. L.; formal analysis, K. G.; investigation, Ye. Z.; resources, K. G.; data curation, Ye. Z.; writing-original draft preparation, K. G.; writing-review and editing, Ye. Z.; visualization, K. G.; supervision, Ye. Z.; project administration, Ye. Z.; funding acquisition, Ye. Z.

Funding: This research received no external funding.

References

- Aliyeva, Z. (2020). The Law Aspects in Health Management: A Bibliometric Analysis of Issues on the Injury, Damage and Harm in Criminal Law. *Marketing and Management of Innovations*, 3, 293-305. [\[Google Scholar\]](#) [\[CrossRef\]](#)
- Antosova, I., Hazuchova, N., & Stakova, J. (2019). Market Segmentation in Healthcare. *Marketing and Management of Innovations*, 3, 151-166. [\[Google Scholar\]](#) [\[CrossRef\]](#)
- Bejtkovsky, J. (2020). Social Media Platforms as HR Marketing Tool in Selected Healthcare Service Providers. *Marketing and Management of Innovations*, 1, 294-302. [\[Google Scholar\]](#) [\[CrossRef\]](#)
- Constitution of Ukraine (VVR of Ukraine № 30-VR version of 28.06.96). Retrieved from [Link](#)
- Convention for the Protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine: Convention on Human Rights and Biomedicine (VVR of Ukraine, edition of 12.01.98). Retrieved from [Link](#)
- Convention for the Protection of Human Rights and Fundamental Freedoms (VVR of Ukraine № 475/97-VR, version of 17.07.97). Retrieved from [Link](#)
- Goncharova, K. (2021). Formation of local programs aimed at developing the availability of medical services for the rural population. Doctoral dissertation. [\[Google Scholar\]](#)
- Gonzalez, R. P., Cummings, G., Mulekar, M., & Rodning, C. B. (2006). Increased Mortality in Rural Vehicular Trauma: Identifying Contributing Factors Through Data Linkage. *The Journal of Trauma: Injury, Infection, and Critical Care*, 61(2), 404-409. [\[Google Scholar\]](#) [\[CrossRef\]](#)
- Grabowska, M., Kolesnyk, D., & Matlai, O. (2020). Recommendations for increasing the motivation of medical staff on the example of the regional clinical hospital. *Health Economics and Management Review*, 1(1), 60-68. [\[Google Scholar\]](#) [\[CrossRef\]](#)
- Hanulakova, E., Dano, F., Kukura, M., & Hula, R. (2021). Marketing in Social Innovations Targeted at Healthcare. *Marketing and Management of Innovations*, 3, 90-107. [\[Google Scholar\]](#) [\[CrossRef\]](#)
- Kraft, M.H.G. (2021). The Role of Health Promotion in Management Development. A Systematic Review of Training Concepts in an Organizational Context. *Business Ethics and Leadership*, 5(1), 89-97. [\[Google Scholar\]](#) [\[CrossRef\]](#)
- Law «On state financial guarantees for the provision of medical services and medicines» (VVR of Ukraine №2168-VIII-VR version of 19.10.2017). Retrieved from [Link](#)
- Law of Ukraine «On improving the availability and quality of medical care in rural areas» (VVR of Ukraine № 2206-VIII-VR version of 14.11.2017). Retrieved from [Link](#)
- Law of Ukraine «On state financial guarantees of medical care» (VVR of Ukraine № 2168-VIII-VR version of 19.10.2017). Retrieved from [Link](#).
- Mrabet, S., Benachenhou, S. M., & Khalil, A. (2022). Measuring the Effect of Healthcare Service Quality Dimensions on Patient's Satisfaction in The Algerian Private Sector. *SocioEconomic Challenges*, 6(1), 100-112. [\[Google Scholar\]](#) [\[CrossRef\]](#)
- Order of the IFI and the Ministry of Health (On approval of the Standard list of budget programs and performance indicators for local budgets in the field of «Health») (VVR of Ukraine № 283/437-VR version of 26.05.2010). Retrieved from [Link](#)
- Order of the Ministry of Health of Ukraine «On approval of the Procedure for providing primary health care» (VVR of Ukraine № 504-VR version of 03/19/2018). Retrieved from [Link](#)
- Orlova, N. (2010). Regional health care system: conceptual approaches to the formation of its modern policy. K. : *Knowledge*.
Resolution «On comprehensive measures for the introduction of family medicine in the health care system» (VVR of Ukraine № 989-VR version of 20.06.2000). Retrieved from [Link](#)
- Resolution of the Cabinet of Ministers of Ukraine «Some issues of providing a subvention from the state budget to local budgets for the implementation of measures aimed at developing the health care system in rural areas». Retrieved from [Link](#)
- Shipko, A., Demikhova, N., Pajak, K., & Motrechko, V. (2020). Health management at the regional level: multivariable performance assessment. *Health Economics and Management Review*, 1(2), 8-15. [\[Google Scholar\]](#) [\[CrossRef\]](#)
- Syhyda, L., Srovnalíková, P., & Onda, A. (2020). Estimation of quality of medical care. *Health Economics and Management Review*, 1(1), 93-105. [\[Google Scholar\]](#) [\[CrossRef\]](#)
- Yelnikova, J., & Kwilinski, A. (2020). Impact-Investing in The Healthcare in Terms of the New Socially Responsible State Investment Policy. *Business Ethics and Leadership*, 4(3), 57-64. [\[Google Scholar\]](#) [\[CrossRef\]](#)
- Zaloha, O. O., Vakulenko, I. A., & Jasnikowski, A. (2020). Prerequisites and possibilities of creating a medical engineering cluster as the part of regional territorial marketing. *Health Economics and Management Review*, 1(2), 51-60. [\[Google Scholar\]](#) [\[CrossRef\]](#)
- Zhang, P., Too, G., & Irwin, K. L. (2000). Utilization of preventive medical services in the United States: a comparison between rural and urban populations. *The Journal of Rural Health*, 16(4), 349-356. [\[Google Scholar\]](#) [\[CrossRef\]](#)
- Ziabina, Ye., Kwilinski, A. & Belik, T. (2021). HR management in private medical institutions. *Health Economics and Management Review*, 2(1), 30-36. [\[Google Scholar\]](#) [Link](#)

Євгенія Зябіна, кандидат економічних наук, Сумський державний університет, Україна

Кароліна Гончарова, Сумський державний університет, Україна

Гліб Лєонов, Технологічний університет Гамбурга, Німеччина

Аналіз тенденцій розвитку доступності медичних послуг для сільського населення

Стаття узагальнює аргументи та контраргументи в межах наукової дискусії з питання доступності медичних послуг для сільського населення. Основною метою проведеного дослідження є аналіз сучасних засад державної політики України в галузі охорони здоров'я та доступності й якості медичного забезпечення в сільській місцевості. Систематизація літературних джерел та підходів до вирішення проблеми доступності медичних послуг засвідчила, що відкрито багато проблемних питань у сфері доступності медичних послуг в сільській місцевості як в Україні так і в усьому світі, які пов'язані з інвестування, управлінням персоналу та ефективним державним регулюванням. Актуальність вирішення даної наукової проблеми полягає в тому, що медична допомога повинна надаватися в усіх регіонах та агломераціях країни однаково ефективно та орієнтуватися на запити пацієнта. Дослідження питання доступності медичного забезпечення в сільській місцевості в статті здійснено в наступній логічній послідовності: проведений бібліометричний аналіз досліджень, наступним кроком здійснено опитування споживачів медичних послуг на базі районної лікарні; аналіз результатів опитування респондентів; надання рекомендацій виявивши ключові проблеми і сфері охорони здоров'я. Методичним інструментарієм проведеного дослідження стали методи опитування та експертних оцінок, компаративний та бібліометричний аналіз, періодом дослідження обрано 2011-2021 роки. Об'єктом дослідження обрана КНП СОР «Сумська центральна районна клінічна лікарня», оскільки саме вона надає послуги пацієнтам проживаючим в сільській місцевості. Дослідження емпірично підтверджує та теоретично доводить, що є проблеми з наявністю в сімей сімейного лікаря, адже 1% відсоток опитуваних вказало, що сімейного лікаря вони не мають і до нього не зверталися, при цьому більша половина респондентів задоволені результатом звернення до лікаря, проте вагома частка не вказало точну відповідь, що дає привід замислитися про наявні проблеми, через які виникли такі результати. Результати проведеного дослідження можуть бути корисними для подальшого дослідження та формування рекомендацій для майбутньої можливості ефективно вплинути на розвиток доступності медичних послуг в сільській місцевості і при цьому удосконалити та підвищити якість наданих послуг і в містах.

Ключові слова: аналіз тенденцій, медичне обслуговування, сільське населення, охорона здоров'я.