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JOINT MORBIDITY STUDY IN MONTANA - DOLJ CROSS-BORDER REGION

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JOINT MORBIDITY STUDY IN MONTANA - DOLJ CROSS-BORDER REGION

The study was conducted under the project „Increasing the efficiency of municipal health care in the border region Berkovitsa – Bailesti (HEALTHEFF), project code 16.5.2.019/ROBG 259, implemented with the financial support of INTERREG V-A Romania - Bulgaria 2014-2020 Programme“

Berkovitsa 2020

TABLE OF CONTENTS

CHAPTER 1: PREREQUISITES FOR DEVELOPING THE STUDY

1.1. Introduction

The morbidity study in the Montana - Dolj cross-border region is prepared under the contract „Development of a Joint Study on Morbidity and a Handbook on Healthy Living, financed under the project „Increasing the efficiency of municipal health care in the border region Berkovitsa – Bailesti (HEALTHEFF), project code 16.5.2.019/ROBG 259, implemented with the financial support of INTERREG V-A Romania - Bulgaria 2014-2020 Programme“.

The document aims to ensure more thorough cooperation in the field of health services between the municipalities of Berkovitsa and Bailesti. Its successful implementation will provide more reliable information on morbidity in the cross-border region and better healthcare to the population. The following sub-objectives will also be achieved:

- Pooling of strategic planning capacity and expertise on both sides of the border to find the best solutions for improving health care in the Berkovitsa-Bailesti region.

- Obtaining due and up-to-date information on the most common diseases in the region for the purpose of producing common policies and taking joint action to provide better quality, more effective medical services in both municipalities.

- Disseminating information to limit the vicious habits in society in the cross-border region, which cause the most common diseases, as well as practical advice on imposing healthy practices to improve the health status of the population.

1.2. Prerequisites for developing the study

The morbidity refers to the level of diseases and disorders affecting the population of the country concerned. Morbidity has been of interest to societies throughout history because of people's desire to understand the disease and death. The predecessors of modern medical scientists have been faced with the responsibility to explain and manage diseases that are characteristic of their respective societies.

One of the scientific definitions of the term “morbidity” is the following: any physical or psychological condition considered to be outside the normal scope of human well-being. The term morbidity is often used to describe a disease, disorder or deterioration of health, especially when discussing chronic and age-related diseases, which can deteriorate over time.

The most common causes of morbidity are cardiovascular diseases, chronic diseases, lower respiratory tract diseases, strokes, Alzheimer, diabetes, pneumonia, Influenza, liver diseases and suicide, representing 75% of the causes of death, in the United States in 2013. Seven of the ten leading causes of death are associated with chronic diseases.

In recent years, an increase in infectious diseases has also been reported as a serious factor causing death. In addition to infectious diseases, food disorders, infections and sexually transmitted diseases also contribute to the increase in morbidity.

Approaches to reducing morbidity include increasing preventive examinations and early diagnosis, which would reduce the duration and impact of diseases on people's quality of life. Preventive activities would help to reduce complications and lowering mortality rate in some diseases, as early treatment is often the most effective.

Other ways of reducing morbidity involve education and access to preventive medical care. For example, a model to reduce the morbidity among pregnant women includes access to safe abortions, prenatal care throughout pregnancy and post-natal care, together with family planning education all the time.

As people have been living longer in recent decades, in terms of reducing morbidity the focus should be put on lifelong education. The aim is to establish healthy habits, including regular monitoring of health indicators. The regular life-long preventive examinations to diagnose possible diseases before witnessing any signs of their existence are a very important element.

The identification of the main causes of morbidity in the target cross-border region will contribute to the reduction of mortality rates and causes in the cross-border region of Montana - Dolj. The study will allow health authorities and local authorities to build up knowledge and tools to tackle the main causes of morbidity in the target region.

1.3. Methods for developing the study

Two main types of methods – quantitative and qualitative, have been used to draw up the document. The methodology involves a complex of multi-dimensional activities and it is based on both a strictly scientific approach and the experience of the members of the team of experts responsible for its development, the medical work, the investigation of the causes of morbidity, the elaboration of sustainable regional development policies, a sociological survey among the local population, etc.

Data collection methods - The methodology for collecting and analyzing data for producing a targeted problem analysis of the current situation is based on two types of data:

- **Primary data** - It was obtained from quantitative studies specifically designed and carried out for the purposes of this Contract. Primary data shall be collected by means of two methodological approaches: (1) Quantitative approach that has been implemented by conducting a quantitative study among stakeholders. 2) Qualitative approach to be implemented by means of a qualitative study through the method of in-depth interviews among health experts, complemented by expert assessments of experts among stakeholders.

- **Secondary data** - It was obtained as a result of the processing of existing/available and accessible data from various sources - Bulgarian and Romanian statistical services, strategic and planning documents, regulations, reports and analyzes from previous studies, publications.

According to the provisions of the Law on statistics, statistical activities in the field of healthcare are carried out by the Ministry of Health (through the National Center for Public Health and Analysis) and the national Statistical Institute.

The study subject of the morbidity study was the aggregation of cases of

diseased people. Observation unit are the registered cases, respectively the patients who have sought medical aid. Technical unit and source of the information shall be the medical treatment facility where the cases have been registered.

When studying the deaths by cause of death, the study subject will be all deaths in the country classified according to the International Classification of Diseases of the World Health Organization. Data on deaths by cause is produced and published in accordance with the nomenclature rules of the 10th revision of the International Classification of Diseases.

The main category used in the development of population data from current demographic statistics, as well as from censuses, is the permanent (residential) population. This category includes persons living permanently in the country as at 31.12. and officials not having left it for more than a year.

Data on population numbers and structures are the result of ongoing periodic censuses of the population and corresponding calculations based on natural and mechanical growth obtained from current demographic statistics for the years between censuses.

The ESGRAON-TDS templates (the Unified System for Civil Registration and Administrative Service of the Population) are the source of data on the natural and mechanical movement of the population: birth notification, death notification, marriage notification, civil marriage termination notification and current address card.

- **The Delphi Method** when holding consultations with the target groups and in developing recommendations to district and municipal administrations, and health institutions in cross-border region. The aim is to enable the formulation of various viewpoints, recommendations and

ideas for conducting the study. The consultative nature of the process under the Delphi Method has not only encouraged the open sharing and enhancement of ideas for change, but also encouraged the beneficiaries to engage and develop a sense of ownership of the evaluation process and to optimize the implementation of the program.

Data analysis methods - The methodology of analysis includes several groups of methods and approaches:

- Benchmarking - between proportions and countries, types of morbidity factors, morbidity by age groups and localities.

- Statistical analysis - based on macro-statistical data for the purpose of forecasting, and based on micro-statistical data for the purpose of describing and identifying the morbidity factors.

- Model analysis.

- Qualitative analysis – content analysis and other techniques for analyzing qualitative information.

Conducting a quantitative study among specific target groups:

- **Data collection method**: A quantitative method for collection of information, namely a semi-structured face-to-face interview, will be used to achieve the objectives and tasks of the study. This method is very suitable for respondents that are citizens, businesses, social institutions and other stakeholders with difficult accessibility, as it allows flexibility in arranging the interview.

- **Sample design**: The selection criteria for the target groups of the sample shall be: from Bulgaria - Montana District, with a focus on Berkovitsa Municipality, and from Romania - the Dolj County, with a focus on Bailesti Municipality. The planned sample volume is N = 150 for each of the districts in Bulgaria and Romania, with a ratio between individual

target groups in proportion to the totality of coverage.

- **Instrumentation**: To fulfill the objectives and tasks of the study, the study team has developed the following field work toolkit: questionnaire for the target respondents, instruction for conducting the interview.

- **Field work**.

- **Processing of collected information**: The processing of collected information includes logical inspection and data control and the production of an SPSS file (or other format at the request of the Client) with data from the conducted study.

- **Analysis of the results from the conducted study**: Drawing up an analytical report (with tables and graphs) based on the results of the study carried out.

Methods for implementing expert evaluations – This is a qualitative method we used to develop the targeted analyses. It has enabled us to obtain information on the relevant current conditions, limitations, problems and desirable developments.

In performing the evaluations, the following specific evaluation tasks were used:

- **Structuring** - The structuring phase will serve to establish a clear understanding of the evaluation tasks and to prepare the information and data, as well as the analytical tools needed to answer the evaluation questions.

- **Observation** - The available and relevant information, as well as the validity and usefulness of the quantitative and qualitative data used, will be identified within the observation phase.

- **Analysis** - The analysis of all available information with regard to the

main disease types in the target region and the most common causes of these diseases will be carried out within this phase.

• **Assessment** - At this stage of the evaluation process we will answer all evaluation questions and we will outline the conclusions of the analysis with regard to the evaluation criteria set out at the structuring phase. The conclusions and recommendations will address the impact of the single causes of morbidity and will be based on evidence from the quantitative and qualitative assessment.

Analysis of data from the hospitals in the targeted cross-border region:

The study subject included the medical and healthcare facilities in Berkovitsa Municipality, Montana District, and the Municipality of Bailesti, Dolj County, as follows: for hospital and non-hospital medical care and other healthcare and medical treatment facilities, including healthcare and medical treatment facilities with other institutions. The unit of observation shall be the individual medical treatment facility.

Certain specific characteristics of medical care activities will be reported when analyzing data on healthcare and medical treatment facilities and the respective bed and staff indicators. The medical treatment facilities are not directly linked with serving the population of one single town or even municipality. A large part of these serve the population of a district or a group of municipalities, and specialised medical treatment facilities - oncological, skin and veneric, psychiatric, pulmonary, etc., serve the population of two or three districts. Nation-wide establishments, regardless of their location, serve the population of the whole country.

The bed resources of the healthcare and medical treatment facilities comprise of the beds in all hospitals, outpatient clinics and other healthcare and medical establishments.

Medical treatment facilities for hospital care include hospitals, skin and veneric disease centres, comprehensive oncology centres, mental health centers. According to the Medical Treatment Facilities Act the centers fall under the other healthcare

and medical treatment facilities category, but in the process of registration they have indicated hospital activity as their main scope of activity.

The analyzes will be based on data from studies and consultations held with medical staff in the relevant medical treatment facilities, which will provide a clear picture of the situation in the district and the specific municipalities, what surrounding environment do we live in, What is the trend in the European Union, etc. For this purpose research data will be analyzed with the help of specialized studies:

- Statistical methods - we envisage using standard statistical methods - one-dimensional distributions, two-dimensional distributions, correlation analysis, dispersion analysis, factor analysis.
- Mathematical and econometric.
- Software products.

CHAPTER 2: STRATEGIC FRAMEWORK OF THE DOCUMENT

2.1. International strategy papers and regulations

The preparation of this **Study** is subject to a number of international and national documents and regulations.

In the paper issued by the World Health Organization Europe branch – "Health 2020. European policy framework and strategy for the 21 century", WHO has recognized that investing in health yields very significant benefits for the overall socio-economic life of societies. The document aims to achieve a measurable health impact in the region and in the EU Member States. It focuses on the main health issues today and identifies four priority areas for policy action, it is innovative in terms of responses at all levels and sectors of governance and society; underlining asset and resilience development in communities, empowering and establishing a supportive environment. It also describes in detail the strengthened roles of public health services and the health system. "Health 2020" aims to provide understanding and inspiration for everyone across the European region who wishes to use new opportunities to improve the health and well-being of present and future generations, revealing the challenges, the opportunities and the ways forward.

This document brings together the European countries in their goals to significantly improve people's health and well-being, reduce health inequalities, strengthen the public health sector and provide people-oriented health systems that are universal, fair, sustainable and of high quality.

"Good health benefits all sectors and society as a whole, it is a valuable resource."

Good health is essential for the economic and social spheres of development and utmost care for the lives of every person, all families and communities. Poor health results in lost potential, causes despair and drains resources in all sectors. Enabling people to have control over their health and its determinants strengthens

communities and improves life. Without the active involvement of people many opportunities to promote and protect their health and improve their well-being will be lost.

“Health 2020. European policy framework and strategy for the 21st century" also states that *Health performance and economic performance are interlinked* - improving the health sector’s use of its resources is essential. The health sector is important both for its direct and indirect impact on the economy: it is essential not only because of how it affects people's health and their productivity, but because it is now one of the largest economic sectors in every medium- and high-income country. This sector is a major employer, an important land owner, a builder and a consumer. It is also a key driver of research and innovation, and a serious player in the international competition for people, ideas and products. Its importance will continue to grow and with that the importance of its contribution to broader societal objectives.

What makes societies prosper and flourish also makes people healthy - the policies that recognize this have a greater impact. Fair access to education, decent work, housing and income - all of these support health. Health contributes to increased productivity, more efficient workforce, healthier aging and less expenditure on hospital and social benefits, and thus less tax revenue lost. The health and well-being of the population are best achieved if the whole government works together to tackle social and individual determinants of health. Good health can support economic recovery and development.

Health indicators and economic indicators are interconnected - improving the use of health sector resources is essential. The health sector is important both for its direct and indirect impact on the economy: it is essential not only because of how it affects people's health and their productivity, but because it is now one of the largest economic sectors in every medium- and high-income country. It is a major employer, an important land owner, a builder and a consumer. This sector is also a key driver of research and innovation, and it holds a serious place in the international competition

for people, ideas and products. Its importance will continue to grow and with that the importance of its contribution to broader societal objectives.

In the entire WHO's European Region as a whole, people's health has significantly improved over the last decades - but not everywhere and not equally for everyone. Many groups of people and areas have been left behind and, in many cases, when economies are lagging behind, health inequalities are growing. Ethnic minorities, some migrant communities and groups suffer disproportionately. Changing disease, demographic and migration patterns can influence the progress in healthcare and they require improved management. The rapid growth of chronic diseases and mental disorders, the lack of social cohesion, environmental threats and financial uncertainty make it difficult to improve health and jeopardize the sustainability of health and social systems. Creative and innovative measures are needed, together with a real commitment towards them.

In 2014 the European Union (EU) launched its ***Third Health Program***. The program aims to promote public health in Europe by fostering cooperation between EU Member States to improve health policies in favour of the citizens and at the same time to promote pooling of resources where economies of scale can provide optimal solutions. The program focuses on improving the health of EU citizens and reducing health inequalities by complementing Member States' health policies in four ways. The program was established with the objective to:

- Promote health and prevent diseases: here the countries will exchange information and good practices on how to cope with different risk factors, such as smoking, drug and alcohol abuse, unhealthy nutrition and sedentary lifestyle;

- Protect Union citizens from serious *cross-border health threats*: the increased number of international travels and trade means that we are potentially exposed to a wider range of health threats compared to the past, which requires a rapid and coordinated response;

- Contribute to innovative, efficient and sustainable health systems: The program aims to help build capacity in the health sector, to find a way to optimize scarce resources and to encourage the introduction of innovations in approaches, working practices and technology;

- Facilitate access to better and safer healthcare for EU citizens: this means, for example, ensuring that medical expertise is made available across national borders by encouraging the establishment of networks of expert centers across the EU.

The European Commission has proposed a new ambitious and independent health program for the period 2021-2027, called ***"EU4Health"***. EU4Health will make a significant contribution to the post-COVID-19 recovery by making the EU population healthier, strengthening the resilience of health systems and promoting innovation in the health sector. This new program will also bridge the gaps revealed by the COVID-19 pandemic and it will ensure that EU health systems are sufficiently resilient to deal with new and future health threats.

The COVID-19 pandemic showed the need for a significant increase in EU's preparedness and ability to respond effectively to serious cross-border health threats.

In particular it showed that EU needs:

- better coordination between Member States during a health crisis;
- increasing the capacity at EU level to prepare for and address health crises; and
- greater investment in health systems to ensure that they are ready to meet the challenges of tomorrow.
- With the EU4Health Program the Union will now have the opportunity to:
- invest in the establishment of medical supply reserves in the event of a crisis;
- establish a pool of healthcare professionals and experts that can be

mobilized to prevent or respond to health crises across the EU;

- train healthcare professionals to be used within EU;
- strengthen the monitoring of health threats; and
- improve the sustainability of health systems in order to ensure better health outcomes for all stakeholders.

This will allow the EU to have at its disposal more and more effective instruments to take swift, decisive and coordinated action with Member States, both in the preparation for and management of crises, and in improving the functioning and efficiency of EU health systems as a whole.

What are the main objectives of the EU4Health Program?

The EU4Health Program has three general objectives:

1. Protecting EU population against serious cross-border health threats and improving crisis management capacities;

2. Ensuring that medicines, medical devices and other crisis-related products are available and accessible, and supporting innovation;

3. Strengthening health systems and supporting healthcare professionals, including by means of investment in public health, e.g. through programs promoting healthy lifestyles and disease prevention, as well as improving access to health care.

In addition to boosting the EU's preparedness and capability to respond effectively to future health crises, the EU4Health Program will also address other major long-term challenges for health systems, in particular:

- inequalities in terms of health status of different population groups, countries and regions, as well as access to affordable, preventive and medical healthcare of good quality;
- the burden of non-communicable diseases, in particular cancer,

mental disorders, rare diseases and risks arising from health determinants;

- the uneven distribution of health systems' capacities;
- barriers to the widespread deployment and optimal use of digital innovations, as well as the expansion of their use;
- increasing the burden on health due to environmental degradation and pollution, in particular air, water and soil quality, as well as demographic changes.

Through the EU4Health Program the Commission is proposing to invest €9,4 billion to strengthen the resilience of health systems. There will be no pre-allocation for each of the objectives set out in the program. The allocation will be agreed in the course of the implementation of the EU4Health Program.

IN the future, different types of actions can be financed in the different areas covered by the Program. These include, but are not limited to, the following:

- Provision of country-specific and tailor-made advice and support to countries or groups of countries most in need through twinning, provision of experts' opinions, support from partners, etc.;
- Training and exchange programs for medical and health workers;
- New mechanisms, e.g. for awarding procurement contracts for goods and services needed to prevent and manage health crises;
- Audits, for instance on Member States' preparedness and response measures (e.g. for crisis management, antimicrobial resistance, vaccination), to ensure their effectiveness;
- Clinical trials to accelerate the development, authorization and access to innovative, safe and efficient medicines and vaccines;

- Cross-border cooperation and partnerships, also in cross-border regions, to transfer and apply on a large scale innovative solutions, including digital ones, for example through European reference networks;
- The establishment of Union reference laboratories and high excellence centers, as well as the coordination of their activities;
- Investing in pilot projects under high value-added initiatives and in critical health infrastructure;
- Deployment, operation and maintenance of digital service infrastructure;
- Analytical activities such as studies, data collection and benchmarking.

2.2. National strategy papers and regulations

National Development Program BULGARIA 2030 is a framework strategy document of the highest order in the hierarchy of national programming documents, which sets out the vision and overall policy objectives for development in all sectors of government, including their territorial dimensions. The document sets out three strategic objectives, whose implementation requires grouping government intentions into five development areas (axes), and defines 13 national priorities. National Development Plan BULGARIA 2030 has identified a very significant problem, namely: Unfavorable demographic trends, including negative natural growth, intensive external migration and population aging, pose serious challenges to the future functioning of social security and support, **healthcare**, education and public finances systems. For this reason Objective No. 2 of the document is *Demographic uplift*. As part of Development axis No. 5. *Spiritual and vital* Bulgaria the authors have set *Priority 12. Health and Sports*. The main objective of Priority 12 is improving the health characteristics of the population and thus improving the quality of human capital in the country. The policy will focus on ensuring for everyone equal access to quality health services. The achievement of the set objectives will have a key role to play in the implementation of Goal 3 "Ensure healthy lives and promote well-being for all at all ages" of the UN Sustainable Development Goals. According to this document, by 2030 the main focus will be on addressing high levels of risk factors threatening the health of the population, such as smoking, alcohol consumption, obesity, unbalanced diet and low physical activity. In order to reduce premature and avoidable mortality, ways and means will be sought to increase the effectiveness of efforts to strengthen health promotion and prevention, including to improve health culture.

In terms of hospital care, efforts will be made to optimize it, putting the focus on increasing efficiency. The hospital financing model will be revised as well as the valuation of clinical pathways and, if necessary, they will be redefined. At the same time, through the National Health Map, the structure of the health network will be

adapted to the needs of the population, ensuring that every Bulgarian citizen has equal access to health services at all levels of non-hospital and hospital care. The aim is to achieve a territorial focus of interventions that will improve the population's access to primary, specialized and hospital care, especially in **difficult to reach and remote locations in the country**.

The impact areas of Priority 12 include:

- **Health risk factors**: raising public awareness of the main risk factors relevant to chronic non-communicable diseases; measures for healthy nutrition, physical activity, reduction of tobacco use and alcohol and drugs abuse, health and sexual education among adolescents and young people; establishment of a system for monitoring and evaluation of feeding and nutritional status of different population groups.
- **Disease prevention**
    1. Implementing interdisciplinary approach in the implementation of prevention policies and establishing a database on health determinants, as a basis for the development of national and regional prevention and control programs;
    2. Reorienting the structures of the national health system towards preventive activities;
    3. Strengthening the processes of elimination and eradication of socially important communicable diseases such as poliomyelitis, tuberculosis, AIDS and viral hepatitis.

The National Regional Development Strategy (NRDS) for the period 2012-2022 is the main document, which sets out the strategic framework for government policy to achieve a balanced and sustainable development of the country's regions and to address intra-regional and inter-regional disparities/inequalities in the context of the common European cohesion policy and to achieve smart, sustainable and inclusive growth. Two of the founding and defining postulates for the vision and objectives of the NRDS, also linked to the objectives of this document, are the following:

- achieving better connectivity between regions by improving transport and other infrastructures that guarantee access to **healthcare**, education, high-speed

Internet and energy networks;

- use of cross-border, transnational, interregional cooperation as an influential instrument for solving a wide range problems at regional and local level - from issues of daily travel, to environmental issues, by implementing specific pilot practices;

One of NRDS's priorities also includes improving the condition of the health system, namely Priority 4.1. Integrated sustainable urban development and strengthening the polycentric network of towns. Specific objective No.1: Integrated urban revitalisation and development and improved quality of the urban environment mobilize the integrated city-level planning toolkit for its sustainable development and also includes actions to improve access to public services (education, **healthcare** and social services), including for people with disabilities.

In the National Recovery and Sustainability Plan of Bulgaria, adopted in October 2020 and aimed at contributing to the economic and social recovery from the crisis caused by the COVID-19 pandemic, there are 4 main pillars set:

- Innovative Bulgaria
- Green Bulgaria
- Connected Bulgaria
- Just Bulgaria

The “Healthcare” key area is set as part of the fourth pillar of Just Bulgaria. The main objective of this component is to increase the resilience of the health system to shocks after increasing the population's access to quality and timely health care. As part of the planned investments, it provides for Modernization of the asset base of state and municipal medical treatment facilities and introduction of innovative technologies for the treatment of the population. The planned measures for modernization and upgrading of the asset base will also achieve significant savings in terms of increased energy efficiency, reduced maintenance costs for equipment and facilities. This will lead to cost optimization in public healthcare facilities and it will improve the level of health services provided to patients in them. In addition to

allowing the provision of highly specialized medical services for the population throughout the country, the provision of state-of-the-art medical equipment for diagnostics and treatment will contribute to the satisfaction of medical staff with their work, this is a key factor in reducing the number of doctors and nurses leaving the country.

According to the ***Bulgarian Health Act*** the state and municipal authorities and institutions are responsible for the population healthcare activities, which plan, develop and implement a policy aimed at protecting the citizens' health by providing a healthy living environment, health education and health prevention. Healthcare mediators can support the activity of municipalities for implementing health prevention policies among the population and doctors in and for the medical care provided.

The Council of Ministers and/or municipal councils shall adopt and finance programmes to carry out activities related to the protection, improvement and restoration of the health of people living in localities for which links between environmental pollution and public health status have been found.

Furthermore, according to Article 33 of the Health Act, municipal authorities should play a role in prevention and also in the development of healthy habits among the population - they adopt and implement regional programs for restricting the use of tobacco and related products, alcohol abuse and avoiding the use of narcotics.

The National Health Strategy (2014-2020) is the flagship strategy document setting out the objectives for the development of the health system by 2020. It is built on the understanding that health is the result of the impact of various factors and the health system is only one of them.

Morbidity is affected by a number of biomedical, psychological, social, economic and environmental factors (determinants) that interact with each other in different ways and at different times throughout life. The health system is only one of the factors affecting health and well-being. Other determinants include the broader political,

economic and social context, as well as intermediate factors such as social stratification, inclusion and cohesion of society, or exposures that may affect the vulnerability of the population.

Source: Health 2020

Modern health policies should take account of the fact that individuals can do for their own health and well-being more than the most advanced health system. There are observations and scientific analyzes which show that the key to whether a person will be healthy or sick, whether long-lived or hit by premature death, lies in a number of individual behavioral factors, such as such as smoking, excessive alcohol consumption, poor nutrition and lack of physical activity; non-environmentally sound behavior; non-compliance with occupational health and safety requirements; road transport safety, etc.

Unhealthy personal behavior not only has a high personal cost, but also a high social cost. Bad habits or irresponsible behavior in a public environment can cause not only harm to personal health, but they can also threaten the health of other individuals. Furthermore, ever-increasing public and private health expenditure is also part of the consequences.

According to the National Health Strategy, chronic non-communicable diseases (cancer, diseases of the respiratory system, cardiovascular diseases, etc.) have become the leading cause of morbidity, disability and mortality. In order to improve quality of life and reduce the burden of chronic diseases and disabilities, an approach should be adopted that aims at promoting health, prevention of diseases, early diagnosis and better management of health by:

- implementing health promotion and disease prevention programs to build a healthy lifestyle from childhood onwards;
- promoting early detection of diseases through evidence-based, cost-effective and easily accessible programs and tools, including screening.

Support for healthy life actions by addressing key issues such as poor nutrition; low physical activity; alcohol, drugs and tobacco consumption; adverse environmental impacts; traffic accidents and domestic incidents is of paramount importance.

This implies a range of activities in different areas of society and policy involving institutions and all stakeholders, including healthcare professionals and patients, social partners, media and businesses.

In the ***Montana District Development Strategy*** there is the following Strategic objective No. 2: Preserving and improving the quality of human capital through social development, Priority 2. 3. is Improving access to quality healthcare services and to medical and healthcare facilities, and the specific measures envisaged are the following:

- Ensuring that the population has access to non-hospital and hospital (outpatient and inpatient) medical care;
- Improving the quality of health infrastructure.

The issue of health is also covered in the municipal development plan of Berkovitsa. Strategic objective No. 2 (SO2): Developing human capital in the municipality, improving quality and standard of living by promoting education and social inclusion

and improved local services, includes Priority 2.1 (P2.1): Improving the quality and access of the population to education, social infrastructure and other basic services. Some of the measures therein are related to the qualities of human resources and, in particular, to providing conditions for improving their health and social status. It is achieved by improving the health system, which guarantees quality health services. Limiting the impact of the risks of social exclusion of individuals and groups is the other line of action that is going to become more and more important.

The morbidity study represents an extremely important and first-ever cross-border document to allow local authorities in Montana District and Dolj County to develop coordinated policies in the health sector, making every effort to improve the quality of life in the Municipalities of Berkovitsa and Bailesti.

CHAPTER 3.

HEALTH AND DEMOGRAPHIC ANALYSIS

HEALTH AND DEMOGRAPHIC ANALYSIS OF THE CURRENT SITUATION AND IDENTIFYING THE FACTORS BEHIND MORBIDITY IN THE CROSS-BORDER REGION

3.1. DEMOGRAPHIC CHARACTERISTIC OF THE POPULATION IN BERKOVITSA MUNICIPALITY, MUNICIPALITY OF BAILESTI, MONTANA DISTRICT AND DOLJ COUNTY.

Follow-up of demographic developments and the health status of the population is one of the important requirements for determining the health and demographic potential of municipalities. Overall, the main characteristics of the demographic situation in Bulgaria include the ongoing trend towards decreasing population numbers and aging and the associated low birth rates, increasing mortality rates and negative external migration balance, mainly made up of young people. Changes in population numbers and structures, as well as trends in demographic processes, have a strong impact on society's economic, health, social and educational systems at district and municipal level.

The study on the health status of the population of Berkovitsa Municipality and Bailesti Municipality was carried out on the basis of demographic indicators and comparative analysis of health data for Montana District and Dolj County.

Population age structure (data from the last census of 2011 and current estimate for 2019) and the gender breakdown for Berkovitsa Municipality imply an "aging type", with the largest representation of the active population and people over 65 years of age. The age structure of the population is instrumental, both for the quantity and quality of human resources in the municipality, also for its demographic potential and, last but not least, for the workload on the municipality's social system. It is also crucial for the natural reproduction of the population.

The breakdown of the population by age group for Berkovitsa Municipality is similar to that of Montana District as a whole and less favorable than the national average (*Tables 3.1, 3.2, 3.3 and 3.4*).

Table 3.1. Breakdown of the population in Berkovitsa Municipality and Montana District (number).

Object and indicators	Population census 2011	Current assessment 2019
Population of Berkovitsa Municipality	18 803	16 044
out of them men women	9 179 (48.3%) 9 624 (51.7%)	7 822 (48.8%) 8 222 (51.2%)
up to 19 years 20-64 years over 65 years	3 406 (18.1%) 10 904 (58.0%) 4 453 (23.9%)	2 298* (14.3%) 8 790*(54.8%) 4 956* (30.9%)
Population of Montana District	148 098	127 001
out of them men women	72 841 (49.2%) 75 257 (50.8%)	62 121 (48.9%) 64 880 (51.1%)
up to 19 years 20-64 years over 65 years	26 738 (18.1%) 86 619 (58.5%) 34 741 (23.4%)	18 471* (14.5%) 70 624* (55.6%) 37 906* (29.9%)

** in, below and above working age.*

Table 3.2. Breakdown of the population of the Republic of Bulgaria.

Object and indicators	Population census 2011 (number)	Current assessment 2019 (number)
Population of Bulgaria	7 364 570	6 951 482
out of them men women	3 586 571 (48.7%) 3 777 999 (51.3%)	3 369 646 (48.5%) 3 581 836 (51.5%)

up to 19 years	1 352 857 (18.4%)	1 066 554* (15.3%)
20-64 years	4 650 316 (63.1%)	4 156 198* (59.8%)
over 65 years	1 361 397 (18.5%)	1 728 730* (24.9%)

** in, below and above working age.*

Table 3.3. Population distribution in the Municipality of Bailesti (number).

Object and indicators	2017	2018	Current assessment 2019
Population of the Municipality of Bailesti	19 763	19 561	19 373
out of them men	9 634 (48.8%)	9 544 (48.8%)	9 454 (48.8%)
women	10 129 (51.2%)	10 017 (51.2%)	9 919 (51.2%)

Table 3.4. Population distribution in the Dolj County (number).

Object and indicators	2016	2017	2018
Population of Dolj County	698 933	695 661	691 276
out of them men	338 706 (48.5%)	337 098 (48.5%)	334 825 (48.4%)
women	360 227 (51.5%)	358 563 (51.5%)	356 451 (51.6%)

Table 3.5. Settlements in Berkovitsa Municipality with their respective population.

Locality	Population census - 2011	Locality	Population census - 2011
Berkovitsa	13 463	Kotenovtsi	139
Baluyvitsa	58	Leskovets	51
Bistrilitsa	177	Mezdreya	218
Bokilovtsi	130	Pesochnitsa	29
Borovtsi	655	Parlichevo	72

Locality	Population census - 2011	Locality	Population census - 2011
Barziya	1513	Rashovitsa	3
Gaganitsa	300	Slatina	243
Zamfirovo	1297	Tsvetkova Bara	24
Komarevo	90	Chereshovitsa	72
Kostentsi	83	Yagodovo	186
		Total for the Municipality:	**18 803**

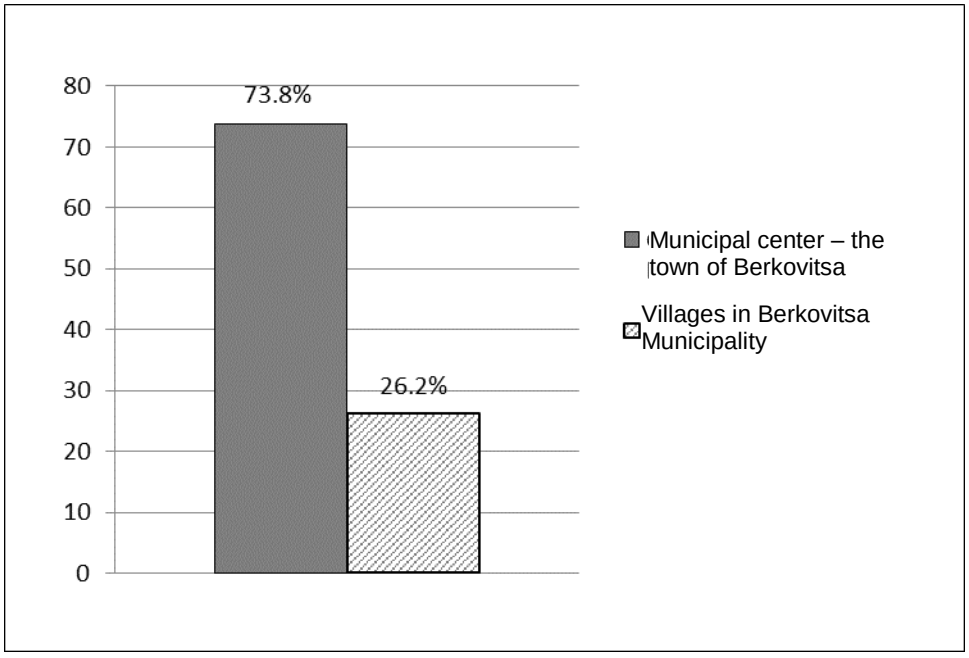


Figure 3.1. Percentage of the population in the municipality center - Berkovitsa and overall for the villages in Berkovitsa Municipality as a relevant share of the population in the municipality.

The distribution by localities at municipal level is presented in *Table 3.5* and *Figure 3.1*, showing the uneven representation of the population in Berkovitsa and the 19

villages in the Municipality. 73.8% of the population is concentrated in the municipal center.

On the Bulgarian side data for the period 2017-2019 summarizes the indicators for infant mortality, total mortality (all-cause mortality), birth rate and natural growth for Berkovitsa Municipality, Montana District and national average for Bulgaria, and on the Romanian side - for the Municipality of Bailesti, Dolj County and Romania as a whole.

The birth rates and total mortality rate are presented as a value per 1 000 inhabitants and vary significantly between corresponding territorial units in Bulgaria and Romania. The total mortality rate for the population of Berkovitsa Municipality is considerably higher than the rate for the Municipality of Bailesti, the same applies to Dolj County and Romania as a whole. The birth rate is significantly lower for the period 2017-2019 than the average values for the Municipality of Bailesti, but higher than the average values for Montana District in 2019.

The natural growth as a composite indicator from the two main demographic indicators - birth rate and total mortality, over the three-year period is significantly less favorable, with higher negative figures for the population of Berkovitsa Municipality and for Montana District as a whole, compared to the average figures for Bulgaria and also compared to all Romanian territorial units. This is an indicator of a serious and steadily deepening demographic crisis at national level (*Table 3.6*). The current demographic situation in Berkovitsa Municipality and Montana District is characterised by a continuing decrease of the population number, population aging, persistently low birth rates and constantly high total mortality.

Table 3.6. Demographic indicators for Berkovitsa Municipality, Bailesti Municipality, Montana District, Dolj County, Bulgaria and Romania.

Year	Indicators per 1,000 inhabitants	Berkovitsa Municipality	Bailesti Municipality	District Montana	County Dolj	Republic of Bulgaria	Romania
2017	Birth rate	7.4	12.5	7.7	8.1	9.1	8.6
	Mortality	23.1	14.0	21.3	13.7	15.6	11.8
	Natural growth	-15.7	-1.5	-13.6	-5.6	-6.5	-3.2
	Infant mortality, up to 1 year (per 1,000 live-born)	8.1	-	9.8	6.2	6.4	7.1
2018	Birth rate	8.6	11.0	7.7	8.1	8.9	8.6
	Mortality	23.9	13.6	21.9	13.7	15.5	11.9
	Natural growth	-15.3	-2.6	-14.2	-5.6	-6.6	-3.3
	Infant mortality, up to 1 year (per 1,000 live-born)	7.1	-	3.0	6.4	5.8	6.4
2019	Birth rate	8.0	9.7	7.4	8.1	8.9	8.5
	Mortality	22.4	12.9	22.0	13.6	15.5	11.7
	Natural growth	-14.4	-3.2	-14.6	-5.5	-6.6	-3.2
	Infant mortality, up to 1 year (per 1,000 live-born)	-	-	3.2	6.8	5.6	6.1

Figure 3.2. Shows the dynamics in the mechanical movement of the population (settled and displaced) for Berkovitsa Municipality and Montana District. It covers the period 2012-2019, where the mechanical growth in both populations represented has negative values, with the number of displaced people exceeding the number of newly settled people. The dynamics of the process is highly negative at the level of Montana

District with an increase in the number of displaced people after 2015, the negative mechanical growth in 2019 is almost two times higher than the 2012 and 2013 figures. For Berkovitsa Municipality, despite negative figures in terms of mechanical movement of the population, there is no trend toward deterioration in the dynamics of the process and the mechanical growth has been stable at the same level for the period 2012-2019.

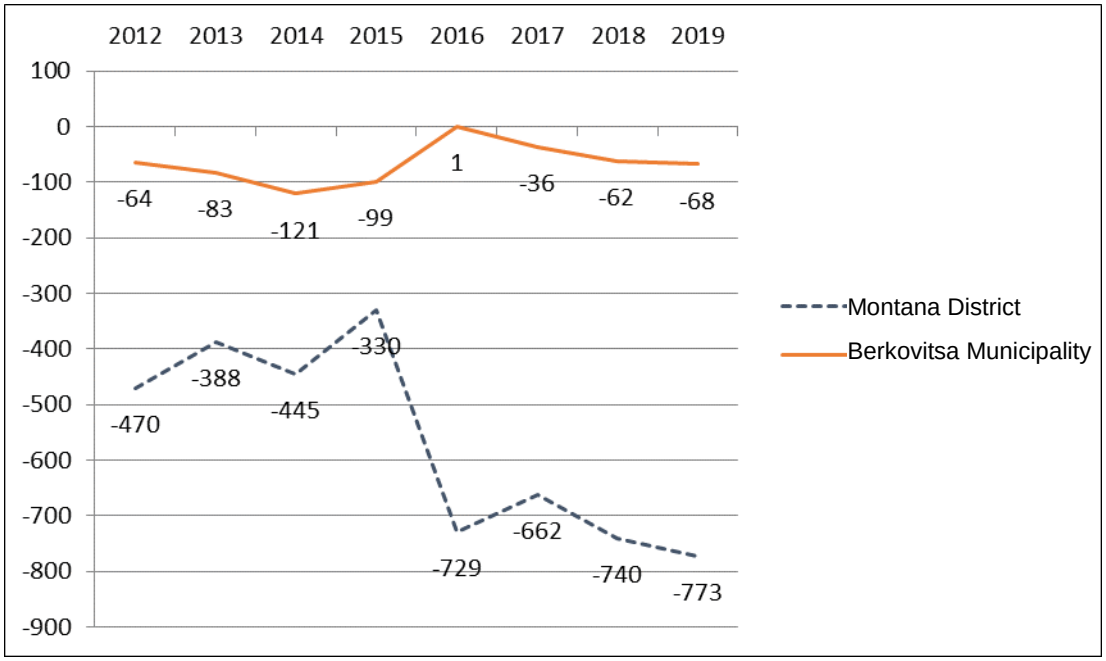


Figure 3.2. Mechanical growth of the population of Berkovitsa Municipality and Montana District for the period 2012-2019 according to NSI data (difference between the number of settled and displaced people).

It can be summarized that at present the demographic characteristics of Berkovitsa Municipality is significantly worse than the national average and it is extremely unfavorable. Due to the increased intensity of various demographic processes, natural and mechanical movements of the population, there is currently a significant negative population dynamic for the municipality. The trend of maintaining high negative rates of natural growth adversely affects the demographic situation.

Mortality by cause of death over the 2017-2019 three-year period

Montana District.

Information on demographics and health is contained in the data on mortality by certain disease classes as cause of death in accordance with ICD-10 - one of the indirect indicators of the population's health status. The information is available for the last three-year period from 2017 to 2019 for Montana District as a whole, which includes Berkovitsa Municipality with a population of 12.6% (2019) of the Distric's population (*Table 3.7*).

The disease classes, which are most common as cause of death and which are most relevant to the environmental factors, are the following:

Class II: neoplasms;

Class IV: endocrine, nutritional and metabolic diseases;

Class IX: diseases of the circulatory system;

Class X: diseases of the respiratory system;

Class XI: diseases of the respiratory system;

Class XII: diseases of the skin and subcutaneous tissue;

Class XIV: diseases of the genitourinary system;

Class XVII: congenital malformations.

Table 3.7. Deceased by cause of death (disease classes), Montana District and the country (per 100,000 inhabitants).

Class diseases	2017		2018		2019	
	Montana District	Bulgaria	Montana District	Bulgaria	Montana District	Bulgaria
Total mortality	*2107.3*	*1551.6*	*2169.9*	*1544.8*	*2181.3*	*1549.4*

II	260.8	246.3	236.0	248.6	257.2	262.3
IV	66.7	22.4	46.6	24.3	71.7	22.4
IX	1390.1	1017.5	1371.0	1004.2	1394.2	998.2
X	124.4	64.5	203.2	69.3	141.8	60.1
XI	54.0	54.8	74.9	56.2	80.3	59.0
XII	1.5	0.8	2.3	0.7	2.3	0.7
XIV	26.2	21.9	34.4	21.9	56.9	26.2
XVII	2.2	1.5	0.8	1.4	1.6	1.6

The total mortality of the population in Montana District is significantly higher than the national average, including with regards to the most common disease class as cause of death - Diseases of the circulatory system. During the 2017-2019 period, the above-mentioned mortality difference between Montana District and the country is mainly generated by higher mortality rates in the District caused by Diseases of the circulatory system and Diseases of the respiratory system. In 2018 and 2019 the mortality of neoplasms in Montana District was lower than the national average.

The main cause of death in Montana District are Diseases of the circulatory system, which are 1394.2 per 100 000 or 63.9% relative share (2019). The 2019 figure for the country is 998.2% per 100 000 or 64.4% respectively. The second most common cause of death are Neoplasms, which for Montana District are 257.2 per 100 000 (relative share of 11.8%). They are followed by Diseases of the respiratory systems and Diseases of the digestive system. These 4 disease classes account for 85.9% of all deaths in Montana District for 2019. (*Figure 3.3.*).

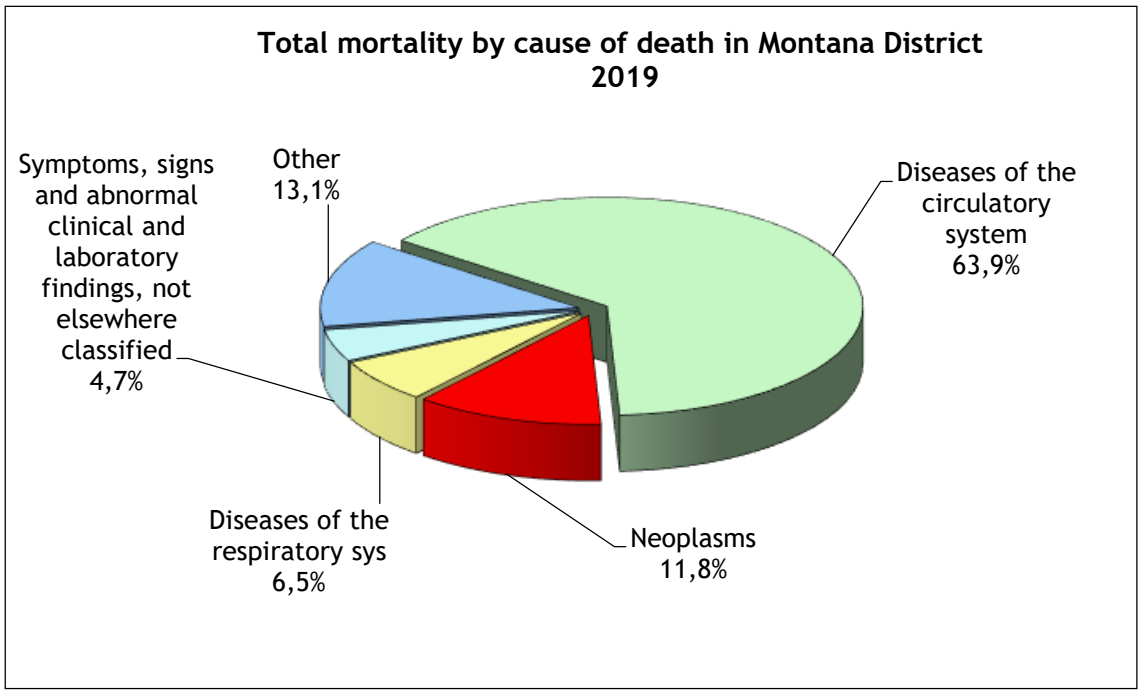


Figure 3.3. Structure of total mortality in Montana District for 2019 by cause of death (in %). *Source: RHI Montana*

Table 3.8 presents a comparison between the mortality structure for 2018 by causes of death for the population of Montana District, Dolj County and the corresponding indicators at national level for Bulgaria and Romania.

The total mortality of the population in Montana District and in our country as a whole is significantly higher than mortality in Dolj County and Romania. In all four populations represented, the most common disease class as cause of death is Diseases of the circulatory system, followed by Neoplasms and Diseases of the respiratory system. The higher total mortality in Bulgarian territorial units compared to the Romanian ones is mainly due to the higher mortality rates for Diseases of the circulatory system, and also due to a lower degree to Diseases of the respiratory system.

Table 3.8. Mortality structure for 2018 by causes of death (per 100,000 inhabitants) of Montana District, Dolj County and related indicators at national level for Bulgaria and Romania.

Class No.	DISEASES UNDER ICD-10	Montana District	Bulgaria	Dolj County	Romania
	TOTAL	**2169.9**	**1544.8**	**1373.0**	**1190.1**
I	Certain infectious and parasitic diseases	5.3	8.5	9.8	16.5
II	Neoplasms	236.0	248.6	218.3	232.8
III	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	4.6	2.1	-	0.8
IV	Endocrine, nutritional and metabolic diseases	46.6	24.3	3.0	13.4
V	Mental and behavioural disorders	-	1.3	2.2	1.5
VI	Diseases of the nervous system	28.3	13.4	17.9	19.9
IX	Diseases of the circulatory system	1371.0	1004.2	893.6	673.0
X	Diseases of the respiratory system	203.2	69.3	72.9	77.0
XI	Diseases of the digestive system	74.9	56.2	76.1	69.8
XII	Diseases of the skin and subcutaneous tissue	2.3	0.7	-	0.5
XIII	Diseases of the musculoskeletal system	-	0.5	-	0.3
XIV	Diseases of the genitourinary system	34.4	21.9	12.0	18.6
XVI	Certain conditions originating in the perinatal period	1.5	2.5	1.3	2.1
XVII	Congenital malformations,	0.8	1.4	2.2	1.6

	deformations and chromosomal abnormalities				
XVIII	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	126.8	53.9	18.1	17.3
XX	External causes of morbidity and mortality	34.4	36.2	45.6	44.9

Berkovitsa Municipality

The leading cause of death in 2017 for Berkovitsa Municipality are the Diseases of the circulatory system with a relative share of 61.7% /66.0 for Montana District/. The second most common cause are the neoplasms (14.3%, the figure for the district is 12.4%) followed by diseases of the respiratory system (7.8%), for Montana District 5.9% *(Table 3.9)*

Table 3.9. Deceased by cause of death in 2017 in Berkovitsa Municipality.

Cause of death /ICD - 10/	Total	Men	Women	Rel. share
Berkovitsa	**384**	**181**	**203**	**100.0**
DISEASES	**380**	**178**	**202**	99.0
(A00-B99) Class I Certain infectious and parasitic diseases	1	1		0.3
(C00-D48) Class II Neoplasms	55	32	23	14.3
(D50-D89) Class III Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	1	1		0.3
(E00-E90) Class IV Endocrine, nutritional and metabolic diseases	18	6	12	4.7
(G00-G99) Class VI Diseases of the nervous system	5	2	3	1.3
(I00-I99) Class IX Diseases of the circulatory system	237	108	129	61.7

(J00-J99) Class X Diseases of the respiratory system	30	10	20	7.8
(K00-K93) Class XI Diseases of the digestive system	7	5	2	1.8
(M00-M99) Class XIII Diseases of the musculoskeletal system and connective tissue	1	1		0.3
(N00-N99) Class XIV Diseases of the genitourinary system	6	5	1	1.6
(P00-P96) Class XVI Certain conditions originating in the perinatal period	1	1		0.3
(R00-R99) Class XVIII Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	18	6	12	4.7
INJURY AND POISONING	**4**	**3**	**1**	1.0
(S00-T98) Class XIX Injury, poisoning and certain other consequences of external causes	4	3	1	1.0

The leading cause of death in 2018 for Berkovitsa Municipality are the Diseases of the circulatory system with a relative share of 59.0% /63.2 for Montana District/. The second most common cause are the diseases of the respiratory system (11.0%) for Montana District 9.4%, followed by neoplasms (10.8%), that figure for the district is 10.9%/ *(Table 3.10)*

Table 3.10. Deceased by cause of death in 2018 in Berkovitsa Municipality.

Cause of death /ICD - 10/	Total	Men	Women	Rel. share
Berkovitsa	**390**	**183**	**207**	**100.0**
DISEASES	**384**	**179**	**205**	**98.5**
(C00-D48) Class II Neoplasms	42	27	15	10.8
(D50-D89) Class III Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	1		1	0.3
(E00-E90) Class IV Endocrine, nutritional and metabolic diseases	10	2	8	2.6

(G00-G99) Class VI Diseases of the nervous system	7	4	3	1.8
(I00-I99) Class IX Diseases of the circulatory system	230	99	131	59.0
(J00-J99) Class X Diseases of the respiratory system	43	21	22	11.0
(K00-K93) Class XI Diseases of the digestive system	17	11	6	4.4
(N00-N99) Class XIV Diseases of the genitourinary system	8	3	5	2.1
(P00-P96) Class XVI Certain conditions originating in the perinatal period	1	1		0.3
(R00-R99) Class XVIII Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	25	11	14	6.4
INJURY AND POISONING	**6**	**4**	**2**	**1.5**
(S00-T98) Class XIX Injury, poisoning and certain other consequences of external causes	6	4	2	1.5

The leading cause of death in 2019 for Berkovitsa Municipality are the Diseases of the circulatory system with a relative share of 59.6% /63.9 for Montana District/. The second most common cause are the neoplasms /12.3%, the figure for the district is 11.8%/ followed by diseases of the respiratory system /4.2%/, for Montana District 6.5% and endocrine diseases - 4.2%/, for Montana District - 3.3%/ /*Table 3.11*/.

Table 3.11. Deceased by cause of death in 2019 in Berkovitsa Municipality.

Cause of death /ICD - 10/	Total	Men	Women	Rel. share
Berkovitsa	**359**	**164**	**195**	**100.0**
DISEASES	**348**	**156**	**192**	**96.9**
(C00-D48) Class II Neoplasms	44	21	23	12.3
(E00-E90) Class IV Endocrine, nutritional and metabolic diseases	15	7	8	4.2
(G00-G99) Class VI Diseases of the nervous system	10	5	5	2.8

(I00-I99) Class IX Diseases of the circulatory system	214	95	119	59.6
(J00-J99) Class X Diseases of the respiratory system	15	7	8	4.2
(K00-K93) Class XI Diseases of the digestive system	11	8	3	3.1
(N00-N99) Class XIV Diseases of the genitourinary system	12	6	6	3.3
(P00-P96) Class XVI Certain conditions originating in the perinatal period	1	1		0.3
(R00-R99) Class XVIII Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	26	6	20	7.2
INJURY AND POISONING	**11**	**8**	**3**	**3.1**
(S00-T98) Class XIX Injury, poisoning and certain other consequences of external causes	11	8	3	**3.1**

3.2. INCIDENCE AND PREVALENCE OF THE POPULATION IN THE CROSS-BORDER REGION.

Montana District

The overall morbidity (prevalence), as measured by the registered cases of people visiting outpatient care departments, gives an indication of the frequency and structure of diseases, for which the population is seeking health care.

In 2019 a total of 299 765 cases have been registered in the medical treatment facilities for non-hospital care in Montana District - prevalence of 2 336.1 per 1 000 inhabitants.

Compared to that in 2018 a total of 328 805 cases have been registered, which is prevalence of 2 511.3 per 1 000 inhabitants.

Prevalence in 2019 is slightly lower than in 2018.

In the disease structure, the leading place of registered cases is occupied by Class IX - Diseases of the circulatory system with 598.8 per 1,000 inhabitants, a relative share of 25.6%, as was in 2018 – 632.5 per 1000 inhabitants, a relative share of 25.2%. Second place in the nosological structure in 2019 is occupied by the registered cases of Class X - Diseases of the respiratory system, a prevalence of 379.7 per 1,000 people, relative share of 16.3%, and in 2018 this disease class was also ranked second - a prevalence of 422.2 per 1 000 people, relative share of 16.8%. Third place in 2019 was for the cases of Class VII - Diseases of the eye and adnexa, prevalence 169.1, relative share 7.2%, and in 2018 third place was occupied by Class XIV - Diseases of the genitourinary system - prevalence 187.0, relative share 7.4%.

Newly discovered diseases, incidence. The newly diagnosed cases in 2019 were 83 902, and the figure for 2018 was – 89 707. The morbidity rate in 2019 was significantly lower than the one in 2018 The cases morbidity rates in 2019 was 653.9 per 1,000 inhabitants and it fell marginally compared to 2018 – 685.2 per 1,000 inhabitants.

In the breakdown of morbidity by classes for 2019 first spot is occupied by class X Diseases of the respiratory system with 101.8 per 1 000 inhabitants, a relative share of 15.6%, in 2018 – 108.9 per 1 000 inhabitants, a relative share of 15.9%.

Second place in 2019 was occupied by Class XIX Injury, poisoning and certain other consequences of external causes 79.2 per 1 000 inhabitants, a relative share of 12.1% as was in 2018. 85.0 per 1,000 inhabitants, a relative share of 12.4%.

Third ranked for 2019 remain the diseases of the genitourinary system /Class XIV/ - 63.4 per 1 000 inhabitants, relative share of 10.0% and also for 2018 – 71.9 per 1 000 inhabitants, relative share of 10.5%.

Data for the period 2017-2019 is presented in *Tables 3.12, 3.13* and *3.14*:

Table 3.12. Diseases registered in the outpatient clinics of the medical treatment facilities in Montana District by type of disease in 2017

Class No.	DISEASES UNDER ICD-10	Prevalence			Incidence		
		Registered cases	per 1,000 inhabitants	Relative share	Registered cases	per 1,000 inhabitants	Relative share
	TOTAL Class I - XIX	**324024**	**2428.2**	**100.0**	**88032**	**659.7**	**100**
I	Certain infectious and parasitic diseases	13621	102.1	4.2	3951	29.6	4.5
II	Neoplasms	6842	51.3	2.1	328	17.4	2.6
III	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	1297	9.7	0.4	612	4.6	0.7
IV	Endocrine, nutritional and metabolic diseases	17875	134.0	5.5	1621	12.1	1.8
V	Mental and behavioural disorders	4313	32.3	1.3	932	7.0	1.1
VI	Diseases of the nervous system	16997	127.4	5.2	3805	28.5	4.3
VII	Diseases of the eye and adnexa	24836	186.1	7.7	8725	65.4	9.9

VIII	Diseases of the ear and mastoid process	11876	89.0	3.7	3809	28.5	4.3
IX	Diseases of the circulatory system	82277	616.6	25.4	7958	59.6	9.0
X	Diseases of the respiratory system	52307	392.0	16.1	13555	101.6	15.4
XI	Diseases of the digestive system	19599	146.9	6.0	7278	54.5	8.3
XII	Diseases of the skin and subcutaneous tissue	11057	82.9	3.4	5389	40.4	6.1
XIII	Diseases of the musculoskeletal system and connective tissue	18611	139.5	5.7	4759	35.7	5.4
XIV	Diseases of the genitourinary system	24170	181.1	7.4	9177	68.8	10.4
XV	Pregnancy, childbirth and the puerperium	617	4.6	0.2	166	1.2	0.2
XVI	Certain conditions originating in the perinatal period	75	0.6	0.0	12	0.1	0.0
XVII	Congenital malformations, deformations and chromosomal abnormalities	592	4.4	0.2	182	1.4	0.2
XVIII	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	5780	43.3	1.8	1899	14.2	2.2
XIX	Injury, poisoning and certain other consequences of external causes	11874	89.0	3.7	11874	89.0	13.5

Table 3.13. Diseases registered in the outpatient clinics of the medical treatment facilities in Montana District by type of disease in 2018

Class No.	DISEASES UNDER ICD-10	Prevalence			Incidence		
		Registered cases	Per 1000 inhabitants	Relative share	Registered cases	Per 1000 inhabitants	Relative share
	TOTAL I - XIX class	**328805**	**2511.3**	**100.0**	**89707**	**685.2**	**100.0**
I	Certain infectious and parasitic diseases	14991	114.5	4.6	4444	33.9	5.0
II	Neoplasms	7137	54.5	2.2	2650	20.2	3.0
III	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	1262	9.6	0.4	552	4.2	0.6
IV	Endocrine, nutritional and metabolic diseases	19111	146.0	5.8	1729	13.2	1.9
V	Mental and behavioural disorders	4262	32.6	1.3	890	6.8	1.0
VI	Diseases of the nervous system	16460	125.7	5.0	3778	28.9	4.2
VII	Diseases of the eye and adnexa	23845	182.1	7.3	7847	59.9	8.7
VIII	Diseases of the ear and mastoid process	11273	86.1	3.4	3476	26.5	3.9
IX	Diseases of the circulatory system	82807	632.5	25.2	8125	62.1	9.1
X	Diseases of the respiratory system	55274	422.2	16.8	14254	108.9	15.9
XI	Diseases of the digestive system	19636	150.0	6.0	8525	65.1	9.5
XII	Diseases of the skin and subcutaneous tissue	11432	87.3	3.5	5594	42.7	6.2
XIII	Diseases of the musculoskeletal system and connective tissue	18628	142.3	5.7	4656	35.6	5.2
XIV	Diseases of the genitourinary system	24482	187.0	7.4	9417	71.9	10.5
XV	Pregnancy, childbirth and the puerperium	587	4.5	0.2	183	1.4	0.2
XVI	Certain conditions originating in the perinatal period	77	0.6	0.0	19	0.1	0.0
XVII	Congenital malformations,	708	5.4	0.2	196	1.5	0.2

	deformations and chromosomal abnormalities						
XVIII	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	5698	43.5	1.7	2237	17.1	2.5
XIX	Injury, poisoning and certain other consequences of external causes	11135	85.0	3.4	11135	85.0	12.4

Table 3.14. Diseases registered in the outpatient clinics of the medical treatment facilities in Montana District by type of disease in 2019

Class No.	DISEASES UNDER ICD-10	Prevalence			Incidence		
		Registered cases	Per 1000 inhabitants	Relative share	Registered cases	Per 1000 inhabitants	Relative share
	TOTAL I - XIX class	**299765**	**2336.1**	**100.0**	**83902**	**653.9**	**100.0**
I	Certain infectious and parasitic diseases	14901	116.1	5,0	4840	37.7	5.8
II	Neoplasms	5950	46.4	2,0	2270	17.7	2.7
III	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	1253	9.8	0.4	622	4.8	0.7
IV	Endocrine, nutritional an d metabolic diseases	18009	140.3	6.0	1512	11.8	1.8
V	Mental and behavioural disorders	3646	28.4	1.2	645	5.0	0.8
VI	Diseases of the nervous system	14784	115.2	4.9	3968	30.9	4.7
VII	Diseases of the eye and adnexa	21702	169.1	7.2	6975	54.4	8.3
VIII	Diseases of the ear and mastoid process	10736	83.7	3.6	3550	27.7	4.2
IX	Diseases of the circulatory system	76839	598.8	25.6	7945	61.9	9.5
X	Diseases of the respiratory system	48728	379.7	16.3	13065	101.8	15.6

XI	Diseases of the digestive system	17226	134.2	5.8	7478	58.3	8.9
XII	Diseases of the skin and subcutaneous tissue	11584	90.3	3.9	5941	46.3	7.1
XIII	Diseases of the musculoskeletal system and connective tissue	16571	129.1	5.5	4102	32.0	4.9
XIV	Diseases of the genitourinary system	20845	162.4	7.0	8140	63.4	10.0
XV	Pregnancy, childbirth and the puerperium	283	2.2	0.1	95	0.7	0.1
XVI	Certain conditions originating in the perinatal period	69	0.5	0	20	0.2	0
XVII	Congenital malformations, deformations and chromosomal abnormalities	725	5.6	0.2	266	2.1	0.1
XVIII	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	5745	44.8	1.9	2299	17.9	2.7
XIX	Injury, poisoning and certain other consequences of external causes	10169	79.2	3.4	10169	79.2	12.1

Berkovitsa Municipality

The incidence and prevalence registered for the population in Berkovitsa Municipality is presented for the 2017-2019 three-year period in *Tables 3.15*, *3.16* and *3.17*:

Table 3.15. Diseases registered in the outpatient clinics of the medical treatment facilities in Berkovitsa Municipality by type of disease in 2017

Class No.	DISEASES UNDER ICD-10	Prevalence			Incidence		
		Registered cases of children up to 17 years of age	Registered cases of people over 18 years of age	Registered cases, total	Registered cases of children up to 17 years of age	Registered cases of people over 18 years of age	Registered cases, total

	TOTAL I – XIX class	**4382**	**18355**	**22737**	**2644**	**7371**	**10015**
I	Certain infectious and parasitic diseases	502	335	837	332	215	547
II	Neoplasms	12	395	407	5	138	143
III	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	9	118	127	3	48	51
IV	Endocrine, nutritional and metabolic diseases	17	1192	1209	8	196	204
V	Mental and behavioural disorders	21	207	228	13	63	76
VI	Diseases of the nervous system	45	1513	1558	20	632	652
VII	Diseases of the eye and adnexa	205	912	1117	104	426	530
VIII	Diseases of the ear and mastoid process	80	470	550	51	257	308
IX	Diseases of the circulatory system	5	5220	5225	2	1018	1020
X	Diseases of the respiratory system	2243	2507	4750	1222	1215	2437
XI	Diseases of the digestive system	234	914	1148	124	494	618
XII	Diseases of the skin and subcutaneous tissue	160	473	633	115	277	392
XIII	Diseases of the musculoskeletal system and connective tissue	58	1538	1596	44	699	743
XIV	Diseases of the genitourinary system	167	1375	1542	100	627	727
XV	Pregnancy, childbirth and the puerperium	6	44	50	4	31	35
XVI	Certain conditions originating in the perinatal period	8	-	8	2	-	2
XVII	Congenital malformations, deformations and chromosomal abnormalities	35	5	40	17	1	18

XVIII	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	354	321	675	257	218	475
XIX	Injury, poisoning and certain other consequences of external causes	221	816	1037	221	816	1037

Table 3.16. Diseases registered in the outpatient clinics of the medical treatment facilities in Berkovitsa Municipality by type of disease in 2018

Class No.	DISEASES UNDER ICD-10	Prevalence			Incidence		
		Registered cases of children up to 17 years of age	Registered cases of people over 18 years of age	Registered cases, total	Registered cases of children up to 17 years of age	Registered cases of people over 18 years of age	Registered cases, total
	TOTAL I - XIX class	**4480**	**18221**	**22701**	**2060**	**6779**	**8839**
I	Certain infectious and parasitic diseases	524	293	817	259	168	427
II	Neoplasms	6	365	371	3	128	131
III	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	14	96	110	7	34	41
IV	Endocrine, nutritional and metabolic diseases	18	1200	1218	5	178	183
V	Mental and behavioural disorders	25	218	243	13	59	72
VI	Diseases of the nervous system	38	1596	1634	9	657	666
VII	Diseases of the eye and adnexa	212	831	1043	104	386	490
VIII	Diseases of the ear and mastoid process	93	388	481	49	213	262
IX	Diseases of the circulatory system	7	5283	5290	4	811	815

X	Diseases of the respiratory system	2317	2579	4896	883	1180	2063
XI	Diseases of the digestive system	229	897	1126	90	428	528
XII	Diseases of the skin and subcutaneous tissue	171	503	674	100	295	395
XIII	Diseases of the musculoskeletal system and connective tissue	60	1494	1554	36	645	681
XIV	Diseases of the genitourinary system	179	1316	1495	80	582	662
XV	Pregnancy, childbirth and the puerperium	1	33	34	1	18	19
XVI	Certain conditions originating in the perinatal period	5	-	5		-	-
XVII	Congenital malformations, deformations and chromosomal abnormalities	30	9	39	11	2	13
XVIII	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	352	348	700	207	223	430
XIX	Injury, poisoning and certain other consequences of external causes	199	772	971	199	772	971

Table 3.17. Diseases registered in the outpatient clinics of the medical treatment facilities in Berkovitsa Municipality by type of disease in 2019

Class No.	DISEASES UNDER ICD-10	Prevalence			Incidence		
		Registered cases of children up to 17 years of age	Registered cases of people over 18 years of age	Registered cases, total	Registered cases of children up to 17 years of age	Registered cases of people over 18 years of age	Registered cases, total
	TOTAL I - XIX class	**4794**	**17920**	**22714**	**1876**	**6414**	**8290**
I	Certain infectious and parasitic	558	296	854	237	162	399

	diseases						
II	Neoplasms	9	461	470	3	143	146
III	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	17	135	152	7	49	56
IV	Endocrine, nutritional and metabolic diseases	16	1177	1198	7	148	155
V	Mental and behavioural disorders	30	205	235	19	53	72
VI	Diseases of the nervous system	50	1528	1578	21	642	663
VII	Diseases of the eye and adnexa	220	796	1016	92	320	412
VIII	Diseases of the ear and mastoid process	71	445	516	34	231	265
IX	Diseases of the circulatory system	14	5261	5275	13	769	782
X	Diseases of the respiratory system	2579	2285	4864	757	994	1751
XI	Diseases of the digestive system	253	864	1117	76	405	481
XII	Diseases of the skin and subcutaneous tissue	156	518	674	90	316	406
XIII	Diseases of the musculoskeletal system and connective tissue	52	1543	1595	31	603	634
XIV	Diseases of the genitourinary system	167	1245	1412	88	559	647
XV	Pregnancy, childbirth and the puerperium	2	40	42	1	25	26
XVI	Certain conditions originating in the perinatal period	5	-	5	2	-	2
XVII	Congenital malformations, deformations and chromosomal abnormalities	31	11	42	11	4	15
XVIII	Symptoms, signs and abnormal clinical and laboratory findings,	375	305	680	198	186	384

	not elsewhere classified						
XIX	Injury, poisoning and certain other consequences of external causes	189	805	994	189	805	994

In 2019 a total of 22 714 cases have been registered in the medical treatment facilities for non-hospital care in Berkovitsa Municipality - prevalence of 8290 newly diagnosed cases.

Compared to that, in 2018 a total of 22 701 conditions have been registered as prevalence, the incidence is 8,839 cases. Prevalence in 2019 is slightly lower than in 2018.

In the disease structure, throughout the whole studied period 2017-2019, the leading position for registered cases in the age group over 18 years is taken up by Class IX - diseases of the circulatory system. The registered cases of Class X - Diseases of the respiratory system, are second ranked in the nosological structure. This class of diseases is ranked first in the age group 0-17 years for both prevalence and incidence.

The above data is also confirmed by the survey of the available health statistics in Appendixes No. 5 and No. 6 to form No. 365 reported in the RHI-Montana by all medical treatment facilities for non-hospital care in Berkovitsa Municipality in 2019, the results for the morbidity of which are presented in *Table 3.18.* In both age groups Class X - Diseases of the respiratory system, had a dominant presence and was reported as the most common diagnosis. In the 0-17 age group, the first three most common diseases include Class XI - Diseases of the digestive system, Class I - Certain infectious and parasitic diseases, Class XVIII - Symptoms, signs and abnormal clinical and laboratory findings, etc. In the age group above 18 years, common diagnoses include Class IX - Diseases of the circulatory system, Class XIII - Diseases of the musculoskeletal system and connective tissue, Class XIX - Injury, poisoning and certain other consequences of external causes, etc.

Table 3.18. Number of newly diagnosed cases of the three most common disease classes* in 2019 in the outpatient clinics for primary medical care (AIPMP) in Berkovitsa Municipality in the age groups 0-17 years and over 18 years.

General practice doctors (General Practitioners) in Berkovitsa Municipality	0-17 years				over 18 years			
	Total	I	II	III	Total	I	II	III
AIPPMP Dr. GEORGI ZARKOV EOOD	35	Class X (19)	Class XI (3)	Class XIV (19)	231	Class IX (80)	Class X (39)	Class XIII (22)
AIPPMP Dr. GOSHO GEORGIEV	49	Class X (32)	Class XI (6)	Class VIII (2)	613	Class VI (127)	Class X (107)	Class XIX (98)
AIPPMP Dr. VILMA DIMITROVA EOOD	383	Class X (127)	Class I (54)	Class XIX (39)	709	Class VI (97)	Class X (93)	Class XIV (84)
AIPPMP Dr. DANIELA GIZDOVA EOOD	68	Class X (24)	Class XVIII (10)	Class XIV (5)	384	Class IX (72)	Class X (60)	Class VI (46)
AIPPMP DOUBLE D EOOD	236	Class X (102)	Class I (37)	Class XVIII (33)	570	Class X (114)	Class XIV (57)	Class XIX (44)
AIPPMP Dr. NINA MARKOVA EOOD	266	Class X (125)	Class I (41)	Class XVIII (35)	508	Class X (84)	Class XIII (80)	Class IX (69)
AIPPMP Dr. TODOR ZAYAKOV EOOD	62	Class X (29)	Class XI (13)	Class XVIII (8)	635	Class IX (168)	Class X (99)	Class XIV (68)
D-R ANTONINA PETROVA AIPPMP EOOD	204	Class X (74)	Class I (43)	Class XIX (16)	331	Class X (45)	Class IX (38)	Class XIII (38)
AIPPMP Dr. IVAN MINCHEV EOOD	80	Class X (33)	Class I (11)	Class XIX (11)	720	Class X (94)	Class XIII (82)	Class XIX (82)
AIPPMP Dr. IVAN IVANOV DISTO	44	Class X (12)	Class XI (10)	Class XIX (6)	545	Class X (106)	Class XIII (74)	Class XIX (57)

AIPPMP SOLE PROPRIETOR Dr. MARIEL NAYDENOVA	96	Class X (70)	Class XVIII (5)	Class XIX (5)	185	Class X (42)	Class IX (38)	Class XIV (14)
AIPPMP SOLE PROPRIETOR Dr. MARIYA IVANOVA MIBO	316	Class X (110)	Class I (44)	Class XVIII (41)	737	Class X (111)	Class XIII (85)	Class XIX (72)

**Disease classes according to the ICD:*

I Certain infectious and parasitic diseases

II Neoplasms

III Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism

IV Endocrine, nutritional and metabolic diseases

V Mental and behavioural disorders

VI Diseases of the nervous system

VII Diseases of the eye and adnexa

VIII Diseases of the ear and mastoid process

IX Diseases of the circulatory system

X Diseases of the respiratory system

XI Diseases of the digestive system

XII Diseases of the skin and subcutaneous tissue

XIII Diseases of the musculoskeletal system and connective tissue

XIV Diseases of the genitourinary system

XV Pregnancy, childbirth and the puerperium

XVI Certain conditions originating in the perinatal period

XVII Congenital malformations, deformations and chromosomal abnormalities

XVIII Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified

XIX Injury, poisoning and certain other consequences of external causes

Hospitalized morbidity in Montana District and MBAL Berkovitsa EOOD.

In 2019, 46 812 patients have been hospitalized in in-patient units of the medical treatment facilities in Montana District /discharged + deceased/ with a coverage of 36 481.0 per 100 000 people. By comparison in 2018, 46 692 patients have been

hospitalized /discharged + deceased/ with a coverage of 35 662.9 per 100 000 people. Hospitalized patients compared to the previous 2018 were 120 more. In the structure of hospitalized patients by disease classes in 2019 *first* place is again occupied by Diseases of the circulatory system – 9 329 with a relative share of 19.9%, compared to 9 507 patients with a relative share of 20.4% in 2018. *Second* place is occupied by Diseases of the respiratory system – 5 050 patients with a relative share of 11% – compared to 4 956 patients with a relative share of 10.6% in 2018. *Third* place is occupied by Diseases of the digestive system – 3 442 patients with a relative share of 7.4% – compared to 3 362 patients with a relative share of 7.2% in 2018. *Fourth* place is occupied by Diseases of the genitourinary system – 3 089 patients with a relative share of 6.6%, compared to 3 167 patients with a relative share of 6.8% in 2018. *Fifth* place is occupied by Diseases of the nervous system – 2 419 patients with a relative share of 5.2%, compared to 2 592 patients with a relative share of 5.6% in 2018.

The high relative share of Class XXI – Factors influencing health status and contact with health services – 9 408 hospitalized (324 more) and a relative share of 19.3, remained stable in 2019, compared to 2018 – 9 084 hospitalized with a relative share of 19.5%. In the comparative analysis of hospitalized morbidity over the last 5 years, the Diseases of the circulatory system, Diseases of the respiratory system and Diseases of the nervous system have had consistently higher relative share. In the last 2 years Diseases of the genitourinary system and Diseases of the digestive system were also added.

Among hospitalized cases from 0 to 17 years of age, Diseases of the respiratory system have the highest relative share of 33.7% with 1 852 patients, followed by Certain infectious and parasitic diseases - 738 patients with a relative share of 13.4%; third place is occupied by Class XIX – Injury, poisoning and certain other consequences of external causes - 604 patients with a relative share of 11%. In Class XIX - Injury, poisoning and certain other consequences of external causes - with 1 076 patients the relative share is 19.6%.

Among hospitalized people aged 18 to 64 the highest share belongs to Diseases of the circulatory system - 14.9% and 3 103 hospitalized, followed by Diseases of the

genitourinary system – 1,821 hospitalized with a relative share of 8.7%, third place is occupied by Pregnancy, childbirth and the puerperium – 1 785 hospitalized with a relative share of 8.6%; fourth place - Diseases of the digestive system – 1 722 hospitalized with a relative share of 8.3%; fifth place is occupied by Diseases of the respiratory system – 1 629 hospitalized with a relative share of 7.8%.

Among the people over 65+ years of age, the highest number of hospitalized patients are those with Diseases of the circulatory system – 6 225 with a relative share of 30.3%; followed by Diseases of the respiratory system – 1 569 with a relative share of 7.6%; third place is occupied by Diseases of the digestive system – 1 397 with a relative share of 6.8%; fourth place is occupied by Diseases of the genitourinary system – 1 129 hospitalized with a relative share of 5.5%; fifth place is occupied by Injury, poisoning and certain other consequences of external causes – 1 065 with a relative share of 5.19%.

The above-mentioned structure of hospital morbidity by cause of death is also observed in MBAL Berkovitsa EOOD (according to Appendixes 5B, 6B-1 and 6B-2 to Form 365B of National Health Statistics) as an element of the hospital care system in Montana District.

Data on the hospitalized morbidity of the population in Montana District and Berkovitsa Municipality are available for 2017, 2018 and 2019, as presented in *Tables 3.19, 3.20, 3.21, 3.22, 3.23, 3.24 and 3.25*:

Table 3.19. Hospitalized cases in the medical establishments for hospital care in the Montana District for 2017

Disease classes /ICD - 10/	Total	Per 100,000	Rel. share
TOTAL I - XXI	**46 495**	**34 842.9**	**100.0**
I. Certain infectious and parasitic diseases	1732	1297.9	3.7
II. Neoplasms	419	314.0	0.9
III. Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	204	152.9	0.4

IV. Endocrine, nutritional and metabolic diseases	1026	768.9	2.2
V. Mental and behavioural disorders	1337	1001.9	2.9
VI. Diseases of the nervous system	2991	2241.4	6.4
VII. Diseases of the eye and adnexa	573	429.4	1.2
VIII. Diseases of the ear and mastoid process	625	468.4	1.4
IX. Diseases of the circulatory system	9622	7210.6	20.7
X. Diseases of the respiratory system	4793	3591.8	10.3
XI. Diseases of the digestive system	3126	2342.6	6.7
XII. Diseases of the skin and subcutaneous tissue	1073	804.1	2.3
XIII. Diseases of the musculoskeletal system and connective tissue	1160	869.3	2.5
XIV. Diseases of the genitourinary system	3178	2381.6	6.8
XV. Pregnancy, childbirth and the puerperium	1975	1480.0	4.3
XVI. Certain conditions originating in the perinatal period	228	170.9	0.5
XVII. Congenital malformations, deformations	15	11.2	0.0
XVIII. Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	504	377.7	1.1
XIX. Injury, poisoning and certain other consequences of external causes	2915	2184.5	6.3
XXI. Factors influencing health status and contact with health services	8999	6744.0	19.4

Table 3.20. Hospitalized cases in the medical establishments for hospital care in the Montana District for 2018

Disease classes /ICD - 10/	Total	Per 100,000	Rel. share
TOTAL I - XXI	**46692**	**35662.9**	**100.0**
I. Certain infectious and parasitic diseases	1627	1242.7	3.5
II. Neoplasms	496	378.8	1.1
III. Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	207	158.1	0.4
IV. Endocrine, nutritional and metabolic diseases	1075	821.1	2.3
V. Mental and behavioural disorders	1439	1099.1	3.1

VI. Diseases of the nervous system	2592	1979.7	5.6
VII. Diseases of the eye and adnexa	559	427.0	1.2
VIII. Diseases of the ear and mastoid process	553	422.4	1.2
IX. Diseases of the circulatory system	9507	7261.4	20.4
X. Diseases of the respiratory system	4956	3785.3	10.6
XI. Diseases of the digestive system	3362	2567.9	7.2
XII. Diseases of the skin and subcutaneous tissue	1176	898.2	2.5
XIII. Diseases of the musculoskeletal system and connective tissue	1388	1060.1	3.0
XIV. Diseases of the genitourinary system	3167	2418.9	6.8
XV. Pregnancy, childbirth and the puerperium	1892	1445.1	4.1
XVI. Certain conditions originating in the perinatal period	227	173.4	0.5
XVII. Congenital malformations, deformations	18	13.7	0.0
XVIII. Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	524	400.2	1.1
XIX. Injury, poisoning and certain other consequences of external causes	2843	2171.5	6.1
XXI. Factors influencing health status and contact with health services	9084	6938.3	19.5

Table 3.21. Hospitalized cases in the medical establishments for hospital care in the Montana District for 2019

Disease classes /ICD - 10/	Total	Per 100,000	Rel. share
TOTAL I - XXI	**46812**	**36481.0**	**100.0**
I. Certain infectious and parasitic diseases	1733	1350.5	3.7
II. Neoplasms	440	342.9	0.9
III. Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	188	146.5	0.4
IV. Endocrine, nutritional and metabolic diseases	1146	893.1	2.4
V. Mental and behavioural disorders	1062	827.6	2.3
VI. Diseases of the nervous system	2419	1885.1	5.2
VII. Diseases of the eye and adnexa	556	433.3	1.2

VIII. Diseases of the ear and mastoid process	628	489.4	1.3
IX. Diseases of the circulatory system	9329	7270.2	19.9
X. Diseases of the respiratory system	5050	3935.5	10.8
XI. Diseases of the digestive system	3442	2682.4	7.4
XII. Diseases of the skin and subcutaneous tissue	1335	1040.4	2.9
XIII. Diseases of the musculoskeletal system and connective tissue	1465	1141.7	3.1
XIV. Diseases of the genitourinary system	3089	2407.3	6.6
XV. Pregnancy, childbirth and the puerperium	1969	1534.5	4.2
XVI. Certain conditions originating in the perinatal period	274	213.5	0.6
XVII. Congenital malformations, deformations	21	16.4	0.0
XVIII. Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	591	460.6	1.3
XIX. Injury, poisoning and certain other consequences of external causes	2667	2078.4	5.7
XXI. Factors influencing health status and contact with health services	9408	7331.7	20.1

Hospitalized morbidity in Berkovitsa Municipality

Table 3.22. Hospitalized cases (number) in MBAL-Berkovitsa by type of disease for the age group 0-17 years.

Diseases under ICD-10	2017		2018		2019	
	Discharged	Occupied bed-days	Discharged	Occupied bed-days	Discharged	Occupied bed-days
TOTAL Class I-XIX	**457**	**2537**	**388**	**2325**	**435**	**2409**
X. Diseases of the respiratory system J00-J99	**358**	**2138**	**307**	**1941**	**339**	**2041**
Viral pneumonia, not elsewhere classified J12	*2*	*13*	*17*	*110*	*43*	*255*

Bacterial pneumonia J13-J18	*152*	*930*	*123*	*791*	*135*	*836*
Acute bronchiolitis J21	*204*	*1195*	*167*	*1040*	*161*	*950*
XI. Diseases of the digestive system K00-K93	**3**	**13**	**11**	**58**	**10**	**45**
Diseases of appendix K35-K38	*3*	*13*	*10*	*51*	*8*	*37*
Inguinal hernia K40					*1*	*4*
Diseases of anus and rectum K60- K62					*1*	*4*
Peritonitis K65			*1*	*7*		
XII. Diseases of the skin and subcutaneous tissue L00-L99	**7**	**35**	**4**	**23**	**8**	**34**
XIV. Diseases of the genitourinary system N00-N99	**33**	**170**	**36**	**202**	**26**	**138**
Acute tubulo-interstitial nephritis N10	*33*	*170*	*35*	*197*	*26*	*138*
Salpingitis and oophoritis N70			*1*	*5*		
XV. Pregnancy, childbirth and the puerperium O00-O99	**29**	**106**	**11**	**37**	**15**	**49**
Spontaneous abortion O03	*3*	*6*	*1*	*2*		
Other maternal disorders predominantly related to pregnancy O20-O29	*5*	*21*	*4*	*13*	*8*	*25*
Maternal care related to the fetus and amniotic cavity and possible delivery problems O30-O48	*6*	*18*	*1*	*3*	*4*	*13*
Delivery O80-O84	*15*	*61*	*5*	*19*	*3*	*11*
XVI. Certain conditions originating in the perinatal period P00-P96			**1**	**1**		
XVII. Congenital malformations, deformations and chromosomal abnormalities Q00-Q99	**2**	**8**				
XVIII. Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified R00-R99	**25**	**67**	**18**	**63**	**37**	**102**

Table 3.23. Hospitalized cases (number) in MBAL-Berkovitsa by type of disease for the age group 18-64 years.

Diseases under ICD-10	2017		2018		2019	
	Discharged	Occupied bed-days	Discharged (deceased)	Occupied bed-days	Discharged	Occupied bed-days
TOTAL Class I-XIX	**1143**	**5328**	**1117(2)**	**5397**	**1130**	**5381**
II. Neoplasms C00-D48	**13**	**64**	**16**	**88**	**13**	**67**
Benign neoplasms D10-D36	*13*	*64*	*16*	*88*	*13*	*67*
Uterus D25, D26	*11*	*53*	*15*	*83*	*11*	*57*
VI. Diseases of the nervous system G00-G99	**181**	**1030**	**246**	**1375**	**257**	**1366**
Nerve, nerve root and plexus disorders G50-G59	*181*	*1030*	*246*	*1375*	*257*	*1366*
IX. Diseases of the circulatory system I00-I99	**174**	**696**	**153**	**650**	**128**	**501**
Atrial fibrillation and flutter I48	*39*	*95*	*33*	*82*	*22*	*51*
Heart failure I50	*60*	*270*	*60*	*291*	*47*	*203*
Cerebral infarction I63	*59*	*273*	*47*	*219*	*34*	*157*
Haemorrhoids I84	*16*	*58*	*13*	*58*	*25*	*90*
X. Diseases of the respiratory system J00-J99	**77**	**513**	**82**	**576**	**83**	**580**
Bacterial pneumonia J13-J18	*63*	*417*	*69*	*489*	*75*	*526*
Acute bronchiolitis J21	*14*	*96*	*13*	*87*	*8*	*54*
XI. Diseases of the digestive system K00-K93	**64**	**276**	**63**	**286**	**63**	**252**
Hernia K40-K46	*9*	*41*	*8*	*34*	*2*	*9*
Other diseases of intestine K55- K63	*50*	*208*	*51*	*228*	*60*	*236*
Peritonitis K65	*3*	*18*	*3*	*18*	*1*	*7*
Disorders of gallbladder, biliary tract and pancreas K80-K87	*2*	*9*	*1*	*6*		
XII. Diseases of the skin and	**126**	**544**	**101(1)**	**486**	**111**	**496**

subcutaneous tissue L00-L99						
XIII. Diseases of the musculoskeletal system and connective tissue M00-M99	**26**	**157**	**16**	**85**	**24**	**134**
Intervertebral disc disorders M50, M51	*5*	*29*	*7*	*40*	*10*	*54*
Dorsalgia M54	*21*	*128*	*9*	*45*	*14*	*80*
XIV. Diseases of the genitourinary system N00-N99	**315**	**1423**	**273(1)**	**1227**	**319**	**1522**
XV. Pregnancy, childbirth and the puerperium O00-O99	**167**	**625**	**167**	**624**	**132**	**463**

Table 3.24. Hospitalized cases (number) in MBAL-Berkovitsa by type of disease for the age group over 65 years.

Diseases under ICD-10	2017		2018		2019	
	Discharged (deceased)	Occupied bed-days	Discharged (deceased)	Occupied bed-days	Discharged (deceased)	Occupied bed-days
TOTAL Class I-XIX	**816(10)**	**4253**	**767(10)**	**4060**	**664(11)**	**3411**
II. Neoplasms C00-D48	**2**	**11**	**2**	**10**	**2(1)**	**11**
Benign neoplasms D10-D36	*2*	*11*	*2*	*10*	*2(1)*	*11*
Uterus D25,D26	*2*	*11*			*2(1)*	*11*
VI. Diseases of the nervous system G00-G99	**159**	**856**	**157**	**843**	**119**	**637**
IX. Diseases of the circulatory system I00-I99	**343(6)**	**1566**	**305(8)**	**1418**	**234(7)**	**1041**
Conduction disorders and cardiac arrhythmias I44-I49	*79*	*217*	*74*	*244*	*63*	*176*
Heart failure I50	*132*	*724*	*117(5)*	*623*	*89(4)*	*455*
Cerebral infarction I63	*122(6)*	*581*	*113(3)*	*548*	*77(3)*	*377*
Haemorrhoids I84	*10*	*44(1)*	*1*	*3*	*5*	*33*
X. Diseases of the respiratory	**95(1)**	**662**	**89**	**607**	**89(1)**	**603**

system J00-J99						
Bacterial pneumonia J13-J18	*91(1)*	*631*	*84*	*575*	*88(1)*	*597*
Acute bronchiolitis J21	*4*	*31*	*5*	*32*	*1*	*6*
XI. Diseases of the digestive system K00-K93	**24(1)**	**141**	**22**	**113**	**11**	**51**
Hernia K40-K46	*8*	*41*	*10*	*50*	*4*	*24*
Other diseases of intestine K55-K63	*12*	*63*	*10*	*44*	*7*	*27*
Peritonitis K65	*4*	*33*	*2*	*19*		
XII. Diseases of the skin and subcutaneous tissue L00-L99	**90**	**528**	**91**	**563**	**97**	**534**
XIII. Diseases of the musculoskeletal system and connective tissue M00-M99	**16**	**81**	**6**	**31**	**16**	**86**
intervertebral disc disorders M50, M51	*2*	*10*	*2*	*10*	*5*	*26*
Dorsalgia M54	*14*	*71*	*4*	*21*	*11*	*60*
XIV. Diseases of the genitourinary system N00-N99	**87(2)**	**408**	**95(2)**	**475**	**95(2)**	**447**
XIX. Injury, poisoning and certain other consequences of external causes S00-T98					**1**	**1**

Table 3.25. Hospitalized cases (number) in MBAL-Berkovitsa by type of disease (total children and adults).

Diseases under ICD-10	2017		2018		2019	
	Discharged (deceased)	Occupied bed-days	Discharged (deceased)	Occupied bed-days	Discharged (deceased)	Occupied bed-days

TOTAL Class I-XIX	**2416(10)**	**12118**	**2272(12)**	**11782**	**2229(11)**	**11201**
II. Neoplasms C00-D48	**15**	**75**	**18**	**98**	**15(1)**	**78**
Benign neoplasms D10-D36	*15*	*75*	*18*	*98*	*15(1)*	*78*
Uterus D25, D26	*13*	*64*	*15*	*83*	*13(1)*	*68*
VI. Diseases of the nervous system G00-G99	**340**	**1886**	**403**	**2218**	**376**	**2003**
IX. Diseases of the circulatory system I00-I99	**517(6)**	**2262**	**458(8)**	**2068**	**362(7)**	**1542**
Conduction disorders and cardiac arrhythmias I44-I49	*118*	*312*	*107*	*326*	*85*	*227*
Heart failure I50	*192*	*994*	*177(5)*	*914*	*136(4)*	*658*
Cerebral infarction I63	*181(6)*	*854*	*160(3)*	*767*	*111(3)*	*534*
Haemorrhoids I84	*26*	*102*	*14*	*61*	*30*	*123*
X. Diseases of the respiratory system J00-J99	**530(1)**	**3313**	**478**	**3124**	**511(1)**	**3224**
Viral pneumonia, not elsewhere classified J12	*2*	*13*	*17*	*110*	*43*	*255*
Bacterial pneumonia J13-J18	*306(1)*	*1978*	*276*	*1855*	*298(1)*	*1959*
Acute bronchiolitis J21	*222*	*1322*	*185*	*1159*	*170*	*1,010*
XI. Diseases of the digestive system K00-K93	**91(1)**	**430**	**96**	**457**	**84**	**348**
XII. Diseases of the skin and subcutaneous tissue L00-L99	**223**	**1107**	**196(1)**	**1072**	**216**	**1064**
XIII. Diseases of the musculoskeletal system and connective tissue M00-M99	**42**	**238**	**22**	**116**	**40**	**220**
Dorsopathies M40-M54	*42*	*238*	*22*	*116*	*40*	*220*
XIV. Diseases of the genitourinary system N00-N99	**435(2)**	**2001**	**404(3)**	**1904**	**440(2)**	**2107**
XVII. Congenital malformations, deformations and chromosomal	**2**	**8**	**-**	**-**	**-**	**-**

abnormalities Q00-Q99						
XVIII. Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified R00-R99	**25**	**67**	**18**	**63**	**37**	**102**

Population's morbidity of socially significant diseases.

Registered malignant neoplasms.

Prevalence /total number of patients/

In 2019 the registered malignancies were 5 037, which was 3 925.4 per 100 000 people, and in 2018 – 5 143 cases of oncological diseases, or 3 928.2 per 100 000 people. Registered patients compared to the previous year were 106 less. The trend remains that the registered diseases of the female sex organs keep their *leading position* in the structure of the registered malignancies: for 2019 – 1 431.6 per 100 thousand women; for 2018 – 1 434.5‰oo; for 2017 – 1 430.1‰oo. The *second place* is occupied by the registered malignancies of melanoma and other malignant neoplasms of the skin, with the following figures by year – 741.9‰oo for 2019; 744.7‰oo for 2018; and for 2017 - - 751 ‰oo. The *third place* is occupied by diseases of the mammary gland – 731.01 ‰oo for 2019; and for 2018 - 724.1 ‰oo; and 2017 the cases are 693.9 per 100 000 inhabitants.

Incidence /newly diagnosed patients/

The newly-diagnosed patients with malignant neoplasms in 2019 are 440 (a relative share of 342.9‰oo per 100 000 inhabitants), which is 44 cases more than newly-diagnosed patients in 2018 - 396 (relative share of 303.5‰oo per 100 000 inhabitants).

In the morbidity structure of malignant neoplasms in 2019 the *leading* position was occupied by the newly diagnosed cases of diseases of the female sex organs – 82.3 per

100 000 women, for 2018 – 73.2 per 100,000 women and 102.7 per 100 000 women for 2017.

Second place for 2019 belongs to the newly diagnosed cases of malignancies involving digestive organs - 78.0 per 100 000 inhabitants, whereas for 2018 the figure is 62.6 per 100 000 inhabitants); and 88.4 per 100 000 inhabitants for 2017.

Third place for 2019 belongs to the newly diagnosed cases of male sex organs – 71.7 per 100 000 men; whereas for 2018 the figure is 50.0 per 100 000 men; and for 2017 68.9 per 100 000 men.

Data for 2019 compared to 2018 is presented in *Table 3.26*:

Table 3.26. Registered benign neoplasm cases in Montana District.

Malignant neoplasms	2019				2018			
	Total	Incl. newly diagnosed	Total	Incl. newly diagnosed	Total	Incl. newly diagnosed	Total	Incl. newly diagnosed
	number		*Per 100 000*		*number*		*Per 100 000*	
Total	**5037**	**440**	**3925.4**	**342.9**	**5143**	**396**	**3928.2**	**302.5**
Lip, oral cavity and pharynx	**116**	**10**	**90.4**	**7.8**	**120**	**4**	**91.7**	**3.1**
incl.: lip	56	1	43.6	0.8	62	0	47.4	0.0
Digestive organs	**747**	**100**	**582.1**	**78.0**	**782**	**82**	**597.3**	**62.6**
incl. oesophagus	17	7	13.2	5.5	14	4	10.7	3.1
stomach	72	16	56.1	12.5	80	12	61.1	9.2
colon	328	34	255.6	26.5	338	20	258.2	15.3
Rectosigmoid junction, rectum, anus and anal canal	240	21	187.0	16.4	241	29	184.1	22.1
liver and intrahepatic bile	17	5	13.2	3.9	22	0	16.8	0.0

ducts								
pancreas	55	12	42.9	9.4	70	13	53.5	9.9
Respiratory organs and chest	**220**	**44**	**171.4**	**34.3**	**219**	**41**	**167.3**	**31.3**
incl. larynx	67	5	52.2	3.9	67	4	51.2	3.1
trachea, bronchus, lung	143	39	111.4	30.4	145	37	110.7	28.3
Bones and joint cartilage	**14**	**0**	**10.9**	**0.0**	**17**	**0**	**13.0**	**0.0**
Melanoma and other malignant neoplasms of skin	**952**	**64**	**741.9**	**49.9**	**975**	**75**	**744.7**	**57.3**
incl. malignant melanoma of the skin	79	7	61.6	5.5	76	5	58.0	3.8
Mesothelial and soft tissue	**48**	**4**	37.4	3.1	**51**	**3**	39.0	2.3
Mammary gland	**938**	**56**	731.0	43.6	**948**	**55**	724.1	42.0
Female genital organs	**939**	**54**	**1431.6**(1)	**82.3**(1)	**960**	**49**	**1434.5**(1)	**73.2**(1)
incl. cervix uteri	363	16	553.4(1)	24.4(1)	361	17	539.5(1)	25.4(1)
corpus uteri	407	22	620.5(1)	33.5(1)	425	21	635.1(1)	31.4(1)
with unspecified uterine location	7	0	10.7(1)	0(1)	7	1	10.5(1)	1.5(1)
ovary	111	9	169.2(1)	13.7(1)	118	8	176.3(1)	12.0(1)
Male genital organs	**379**	**45**	**604.2**(2)	**71.7**(2)	**354**	**32**	**553.1**(2)	**50.0**(2)
incl. prostate	324	39	516.5(2)	62.2(2)	306	28	478.1(2)	43.7(2)
Urinary system	**374**	**35**	**291.5**	**27.3**	**388**	**35**	**296.4**	**26.7**
incl. urinary bladder	274	25	213.5	19.5	282	33	215.4	25.2
Eye, brain and other parts of the central nervous system	**41**	**4**	**32.0**	**3.1**	**45**	**4**	**34.4**	**3.1**

incl. eye and adnexa	9	1	7.0	0.8	10	2	7.6	1.5
brain	30	3	23.4	2.3	33	2	25.2	1.5
Thyroid and other endocrine glands	**77**	**2**	**60.0**	**1.6**	**76**	**3**	**58.0**	**2.3**
incl. thyroid gland	75	2	58.4	1.6	74	3	56.5	2.3
Incorrectly identified, secondary and unspecified localizations	**42**	**15**	**32.7**	**11.7**	**47**	**8**	**35.9**	**6.1**
Lymph, blood-forming and related tissues	**150**	**7**	**116.9**	**5.5**	**161**	**5**	**123.0**	**3.8**
Neoplasms in situ	**67**	**8**	**52.2**	**6.2**	**61**	**2**	**46.6**	**1.5**

1) Per 100 000 women *2) Per 100 000 men*

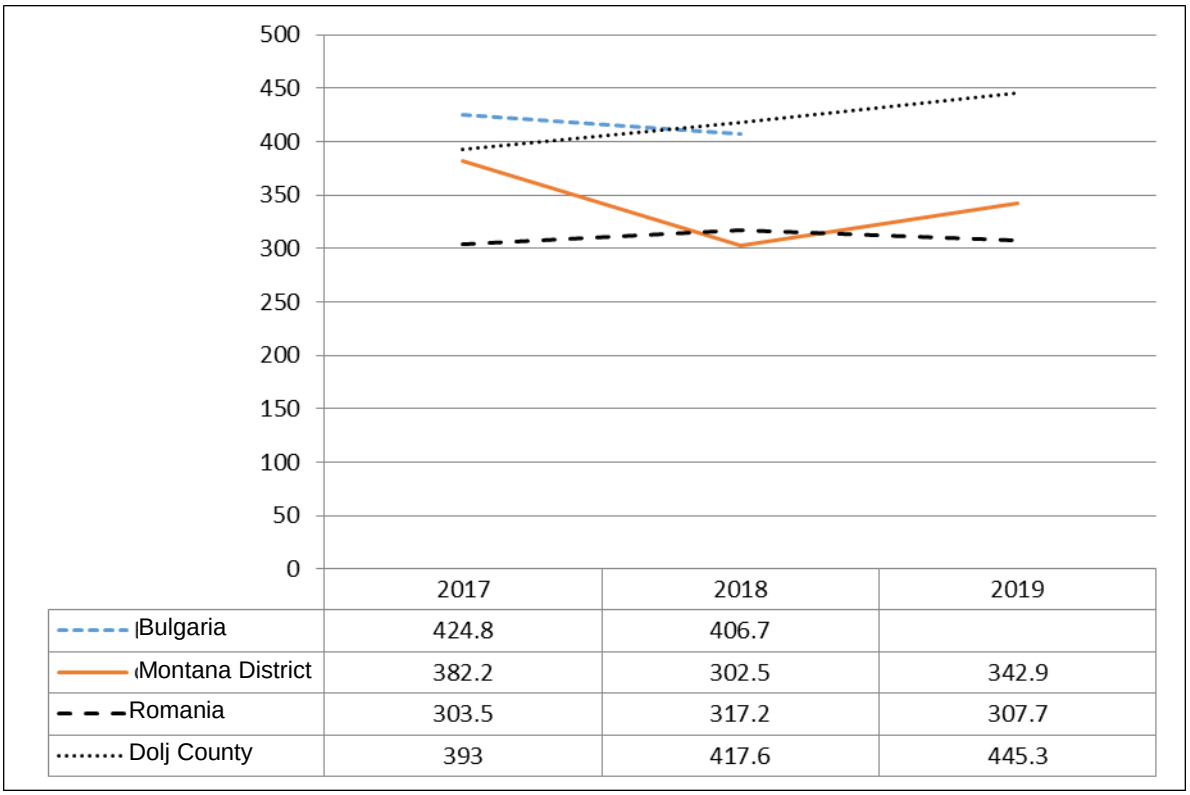
***Note**: Data is obtained from Complex Oncology Center, Vratsa*

Comparing data for Montana District with the average national figures for registered cases of malignant neoplasms by years for the 2016-2018 period, it is revealed that incidence and prevalence in the district are considerably lower than the national average *(Table 3.27)*. The incidence of newly diagnosed malignant neoplasms for Montana District is close to the average for Romania and significantly lower than the incidence for Dolj County (*Figure 3.4.*).

Table 3.27. Registered cases (incidence and prevalence) of malignant neoplasms by year for the period 2016-2018.

Years	Montana District				Republic of Bulgaria			
	Total	Incl. newly diagnosed	Total	Incl. newly diagnosed	Total	Incl. newly diagnosed	Total	Incl. newly diagnosed
	number		*Per 100 000 people*		*number*		*Per 100 000 people*	
2018	5143	396	3928.2	302.5	294366	28573	4190.2	406.7
2017	5112	510	3830.9	382.2	292721	30057	4136.8	424.8

2016	5143	442	3783.6	325.2	287682	31041	4036.0	435.5



	2017	2018	2019
Bulgaria	424.8	406.7	
Montana District	382.2	302.5	342.9
Romania	303.5	317.2	307.7
Dolj County	393	417.6	445.3

Figure 3.4. Newly diagnosed cases (per 100 000 people) of malignancies by year for the period 2017-2019 in Montana District, Dolj County and average values for Bulgaria and Romania.

Registered and newly diagnosed cases of tuberculosis in Montana District.

In the period 2017-2019 the total number of registered cases /prevalence/ with active tuberculosis per 100 000 inhabitants have decreased down to 45.2 in 2019, with 47.4 in 2018 and 48.0 in 2017. The newly diagnosed /morbidity/ have increased compared to the previous two years and in 2019 they were 24.9 per 100 000 people; 2018 – 18.3 and 2017 – 21.0 for Montana District. For the same period 2017-2019 the values for "prevalence" of active tuberculosis are lower than those for the country and in 2019 the value for "incidence" of active tuberculosis for the district /24.9/ is higher than the figure for the country /18.5 per 100 000 inhabitants/.

The total number of registered patients with active tuberculosis for 2019 is 58 or 45.2 per 100 000, including newly diagnosed and relapses 32, which results in morbidity of 24.9 per 100 000. The high relative share of patients with pulmonary tuberculosis remained relatively high in 2019 with 52 registered cases or 89.6%. Out of the 32 newly diagnosed cases detected, 29 were pulmonary tuberculosis (*Figure 3.5)*.

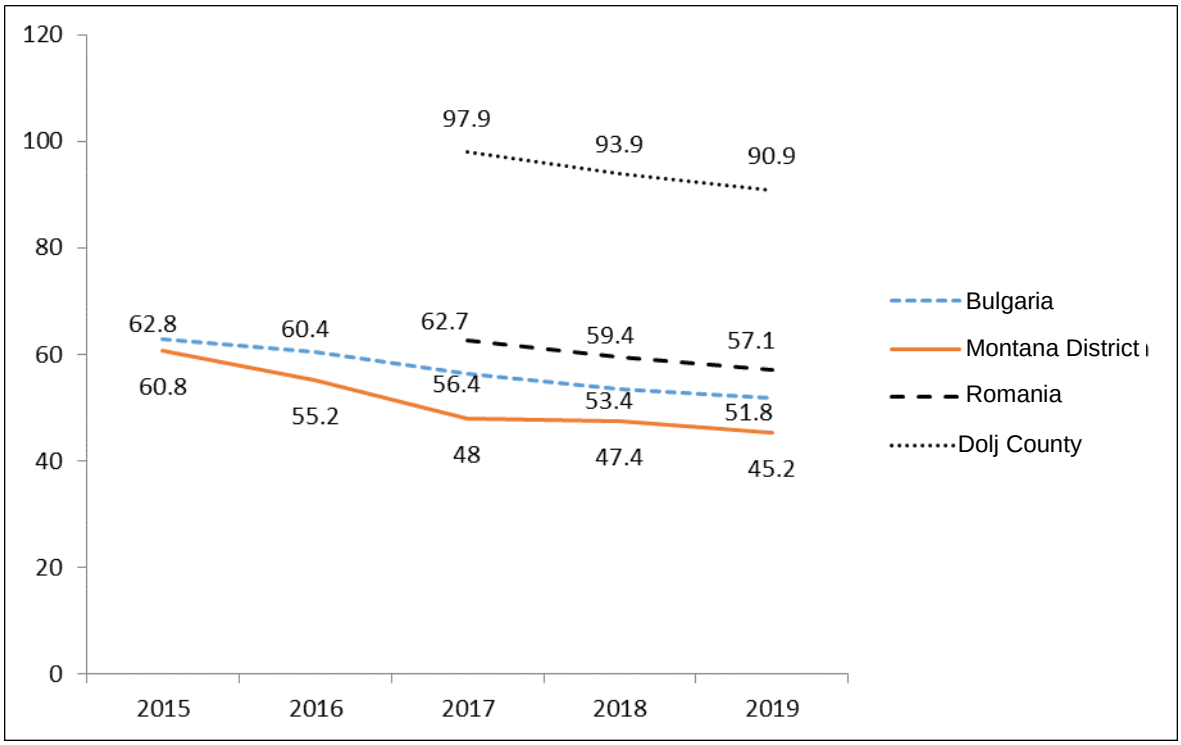


Figure 3.5. Reported cases of active tuberculosis (per 100 000 inhabitants) in Montana District, Dolj County and average values for Bulgaria and Romania for the period 2015-2019.

Table 3.28. and *Figure 3.6.* present morbidity rate of communicable diseases in Montana District and the average in Bulgaria for 2016-2018, with data varying in a wide range, and only for Lyme Borrelia there is a persistently higher morbidity in Montana District compared to the country average of 12.5 (per 100 000 people) in 2016, 27.7 in 2017 and 25.2 in 2018. The average value for Bulgaria in 2018 is 8.5 per 100 000 people.

Table 3.28. Registered cases of communicable diseases (per 100,000 inhabitants).

Diseases	2016		2017		2018	
	Montana District	Bulgaria	Montana District	Bulgaria	Montana District	Bulgaria
Scarlatina	42.7	67.6	38.2	52.1	51.2	54.5
Pertussis	2.2	1.4	-	1.6	1.5	1.6
Rubella (German measles)	-	0.0	-	-	0.8	0.0
Varicella (Chickenpox)	747.4	455.6	276.5	353.4	348.3	339.9
Dysentery (Shigellosis)	-	4.1	0.7	4.4	0.8	3.3
Viral hepatitis	4.4	30.4	53.2	44.3	33.6	28.0
Lyme Borrelia	12.5	4.1	27.7	5.7	25.2	8.5
Measles (morbilli)	-	0.0	3.0	2.4	-	0.2
Meningococcal meningitis	0.7	0.2	0.7	0.1	-	0.1
Leptospirosis	0.7	0.2	1.5	0.1	-	0.2
Mumps (parotitis)	0.7	0.3	-	0.2	-	0.4
Viral meningitis	0.7	2.8	-	2.2	-	2.3

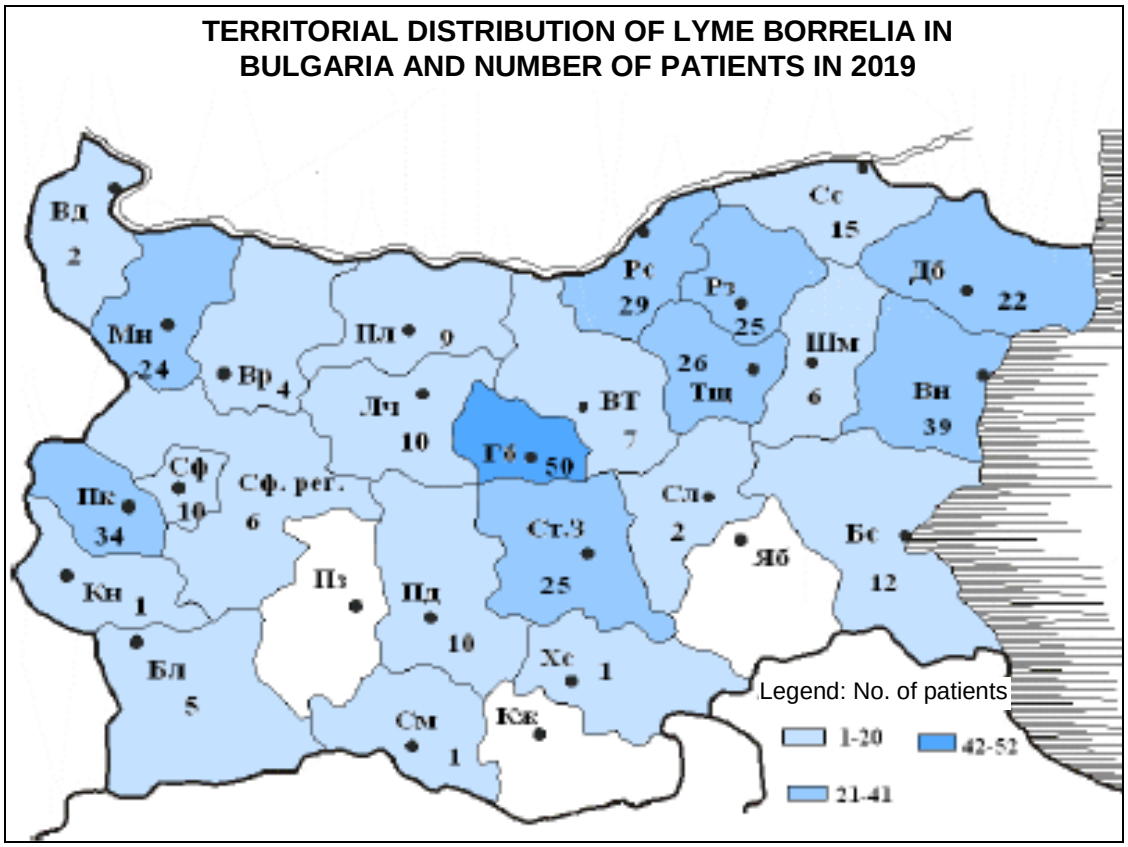


Figure 3.6. Number of patients with Lyme Borrelia by district in 2019.

Monitoring of morbidity and dispensary observation in groups of children and pupils in the territory of Berkovitsa Municipality.

RHI-Montana has drawn up an *Analysis of the health status of organized groups of children and pupils in Montana District for 2019*, which presents information on the health status of children and pupils from 57 schools and 54 childcare facilities in Montana District, including educational and childcare establishments in Berkovitsa Municipality.

For the 0-7 year-olds age group the leading diseases are bronchial asthma, overweight, visual disturbances, chronic bronchitis, pulmonary pneumonia, etc. For diseases requiring dispensary observation in the age group of 0-7 year-olds the leading diseases are bronchial asthma, epilepsy, generalized development disorders, infantile autism (Kanner syndrome) and other behavioral and emotional disorders.

In the 7-18 age group, the leading positions in terms of dispensarisation are occupied by bronchial asthma with predominant allergic component, epilepsy and impaired vision in both eyes.

In 2019 in Berkovitsa Municipality 19 children in the 0-7 age group were dispensarized. Leading disease was enterobiosis with 5 children. The remaining patients are dispensarized with the following diagnoses: epilepsy and non-allergic asthma with 4 children each; deafness – 2 children; uncomplicated insulin-dependant diabetes; infantile autism (Kanner syndrome), impaired vision in both eyes - 1 child each, bronchial asthma with predominant allergic component.

In the 7-18 age group 38 pupils were dispensarized in the territory of the municipality. Dispensarized pupils are mainly with the following diseases - impaired vision in both eyes - 9 cases; followed by epilepsy - 6 cases; infantile cerebral paralysis - 5 cases; bronchial asthma with a predominant allergic component - 3 pupils; congenital thyroid deficiency - 2 pupils, the same number are cases with infantile autism; deafness; and other congenital anomalies of the middle ear. There is one case with each of the following: hydrocephaly; blindness in one eye and impaired vision in the other; blindness in one eye; auditory nerve diseases; gastric ulcer; juvenile rheumatoid arthritis (Still disease); nephrolithiasis.

Data from preventive examinations and dispensary observation of children and pupils for 2019 confirm the need for their systematic performance as an opportunity for early detection and elimination of health problems in adolescents. It is important to focus early in childhood on activities to prevent chronic non-communicable diseases, which account for a significant share of the pathology of adult population. To improve the health situation of the paediatric population in Montana District, preventive programs need to be continued to address specific health problems with the involvement of health professionals, pedagogs, parents and the general public.

3.3. STATE OF THE MEDICAL CARE SYSTEM IN MONTANA DISTRICT AND BERKOVITSA MUNICIPALITY.

Primary non-hospital medical care (PIMP)

The primary non-hospital medical care of the population in Montana District is provided by 51 AIPPMPs, 7 AGPPMP, 88 AIPPDPs and 5 AGPPDPs evenly spread across the district, with an average distance between the practice centers and the most remote locations not exceeding 20 km, which ensures equal access for the population to primary non-hospital care, including the most remote and difficult to reach areas (*Table 3.29*).

Table 3.29. Primary medical and dental care establishments in Montana District.

Types of medical establishments	2019	2018	2017
Outpatient clinic of individual practice for primary medical care /AIPPMP/	51	52	56
Outpatient clinic of individual practice for primary dental care /AIPPDP/	88	86	88
Outpatient clinic of group practice for primary medical care /AGPPMP/	7	7	7
Outpatient clinic of group practice for primary dental care /AGPPDP/	5	5	3

Human resources in Primary non-hospital medical care in Montana District

- The total number of GP's (practice owners) in individual and group practices in Montana District is 87 doctors, of which:
- 48 doctors (~55%) have specialised in “General Medicine”;
- 39 doctors (~45 %) do not have the “General Medicine” specialty;
- Out of the General Practitioners in Montana District there are no doctors under 35 years of age, 8 doctors are over 65 years of age (~9%) (*Table 3.30*).

Table 3.30. Number of doctors in primary medical and dental care establishments (individual and group practices) by municipalities in Montana District.

	Primary medical care			Primary dental care		
	2019	2018	2017	2019	2018	2017
Montana District	87	88	92	98	96	98
Berkovitsa	**12**	**12**	**12**	**10**	**9**	**9**
Boychinovtsi	4	4	4	1	1	1
Brusartsi	2	2	2	-	-	-
Valchedram	4	4	4	1	1	1
Varshets	4	4	5	5	3	5
Georgi Damyanovo	1	1	1	-	-	-
Lom	19	20	20	28	28	27
Medkovets	3	3	3	3	3	3
Montana	33	33	33	46	47	47
Chiprovtsi	2	2	4	3	3	4
Yakimovo	3	3	4	1	1	1

- Number of GP's working under the NHIF - 90. Registered in the RHI 58 medical practices for primary non-hospital medical care, 51 Individual Practices (IPs) and 7 Group Practices (GPs). The number of doctors working in registered practices is 51 in Individual Practices and 36 in Group Practices.
- Number of dentists working under NHIF - 135. Primary non-hospital dental care practices, registered in the Regional Health Inspectorate (RHI), are 88 IPs and 5 GPs. The number of dentists working in Individual Practices is 88, and 10 are working in Group Practices.

Table 3.31. Availability of doctors for primary medical and dental care of the population by municipalities in Montana District in 2019.

Montana District	Doctors for primary medical care /GPs/		Dental practitioners for primary dental care	
	Number	Per 10 000 people	Number	Per 10 000 people
	87	6.9	98	7.7
Berkovitsa	**12**	**7.5**	**10**	**6.2**
Boychinovtsi	4	4.9	1	1.2
Brusartsi	2	4.8	-	-
Valchedram	4	4.8	1	1.2
Varshets	4	5.8	5	7.2
Georgi Damyanovo	1	4.6	-	-
Lom	19	7.9	28	11.7
Medkovets	3	8.8	3	8.8
Montana	33	7.0	46	9.8
Chiprovtsi	2	6.5	3	9.8
Yakimovo	3	7.8	1	2.6

- The coverage with General Practitioners for Montana District is 7.7 per 5 000 inhabitants (10.6 per 10 000 inhabitants for Bulgaria). The indicator is highest for the municipality of Medkovets (8.8) and Lom (7.9), Yakimovo (7.8). The lowest coverage with General Practitioners is reported for the population in the municipalities of Georgi Damyanovo (4.6), Brusartsi and Valchedram (4.8 each) and Boychinovtsi (4.9).

- The coverage with dentists for Montana District is 7.7 per 10 000 inhabitants (10.6 per 10 000 inhabitants for the country). The indicator is highest for the municipalities of Lom (11.7 per 10 000 people), Chiprovtsi (9.8), Montana (9.6). The population's coverage with dentists is lowest in the municipalities of Boichinovtsi and Valchedram (1.2 per 10 000 inhabitants). As at December 31, 2019 in the Municipalities of Brusartsi and G. Damyanovo there is no registered dentist.

- **Berkovitsa municipality** - 12 IPs have been registered, employing 12 doctors. Coverage with GP's – 7.5 per 10 000 inhabitants (*Table 3.31*).

Analysis of the breakdown of practices in towns and villages shows that out of all outpatient clinics for non-hospital care 65.5 % have a primary address in the towns and 34.5% in the villages. In this sense, even with higher total coverage with GP's, in some of the villages there are no permanently residing GP's. Some of the practices have a second address for the General Practice Doctors. Although patients in this way have chosen a family doctor in a different town or village, the patients encounter difficulties to access primary medical care.

Conclusions:

- ✓ In Montana District, all municipalities and their population are covered by a General Practitioner. Sufficiency of dental specialists but concentrated only in the towns;
- ✓ 24-hour telephone consultation, carrying out the necessary activities in the outpatient clinic or the patient's home by the General Practitioner;
- ✓ Availability of duty rooms within group practices in Montana;
- ✓ In spite of the current good coverage with doctors of the population in Montana District, there is a worrying trend of increasing average age of practicing doctors, including due to the fact that most of them continue to work after retirement age, and also due to the lack of optimal inclusion of young doctors in the system.
- ✓ Larger number of General Practitioners in the age group over 50 years of age in the district;
- ✓ In Montana District there is not a single General Practitioner under the age of 35;
- ✓ Lack of General Practitioners in some towns and villages in small municipalities;

- ✓ Lack of registered dental practitioners in two of the municipalities in the district;

Specialised non-hospital (outpatient) medical care (SIMP)

Specialized non-hospital medical care in the territory of Montana District as at December 31, 2019 is provided by 72 AIPSMPs and 13 AGPSMPs, 11 MC and 1 DCC, 5 SMDL, 10 SMTL, 1 IPSDP, broken down by municipalities as follows (Table 31):

Table 3.31. Medical treatment facilities for specialised non-hospital care by municipalities for 2019

Municipality	Individual Practice for Specialised Medical Care (IPSMP)	Individual Practice for Specialised Dental Care (IPSDP)	Group Practice for Specialised Medical Care (GPSMP)	Group Practice for Specialised Dental Care (GPSDP)	MC	Diagnostic and Consultative Centre (DCC)	Independent Medical and Diagnostic Laboratory (SMDL)	Independent Medical Technical Laboratory (SMTL)	Dialysis center
Berkovitsa	**4**	**-**	**-**	**-**	**1**	**-**	**-**	**1**	**-**
Boychinovtsi	-	-	-	-	-	-	-	-	-
Brusartsi	-	-	-	-	-	-	-	-	-
Valchedram	-	-	-	-	-	-	-	-	-
Varshets	6	-	-	-	1	-	-	-	-
G. Damyanovo	-	-	-	-	-	-	-	-	-
Lom	16	1	1	-	2	1	2	3	-
Medkovets	-	-	-	-	-	-	-		-
Montana	48	-	12	-	7	-	3	6	1
Chiprovtsi	-	-	-	-	-	-	-		-
Yakimovo	-	-	-	-	-	-	-		-
Total	**72**	**1**	**13**	**0**	**11**	**1**	**5**	**10**	**1**

Montana District has a good availability of specialists for the population. Disproportions can be observed with regard for the types of specialties. The highest is the number of specialists in Diseases of the nervous system - 27; Cardiology - 26; Surgery - 24; Anaestheology and intensive care - 20; Obstetrics and Gynecology - 19

and Pediatrics - 18. The number of emergency medicine and neonatal specialists is insufficient. Based on the reported activity of medical treatment facilities for specialised non-hospital care, the average number of examinations per specialist is 1092. The highest number of examinations was carried out by the specialists in: Endocrinology and metabolic diseases – 3030/1; skin and veneric diseases – 3027/1; eye diseases – 2808/1; pediatrics – 2011/1; internal diseases – 1533/1; cardiology – 1490 per specialist (*Table 2.32*).

Table 3.32. Visits to specialists for Montana District in 2019

	Visits to outpatient clinics					Home visits
			Including			
	Total	Per 1 inhabitant	Children under 17 years of age	Preventive	Out of which children under 17 years of age	
Medical doctors	**280757**	**2.19**	**51018**	**4512**	**770**	**621**
Incl. Internal diseases	18390	0.14	685	46	-	26
Gastroenterology	8436	0.07	393	-	-	-
Endocrinology and metabolic diseases	15151	0.12	148	-	-	1
Cardiology	38740	0.30	124	-	-	15
Rheumatology	479	0.00	3	-	-	-
Pneumology and physiatrics	6564	0.05	209	-	-	10
Nephrology	4397	0.03	125	-	-	2
Clinical haematology	840	0.01	23	-	-	-
Pediatrics	36203	0.28	36203	-	-	263
Surgery	14175	0.11	753	-	-	18
Orthopedics and traumatology	11945	0.09	953	-	-	1

Urology	6458	0.05	406	-	-	73
Obstetrics and gynecology	20549	0.16	1556	3966	390	3
Infectious diseases	1303	0.01	343	-	-	-
Ear nose throat (ORL) diseases	10918	0.09	2015	7	-	7
Eye diseases	25275	0.20	3066	486	380	21
Psychiatry	4964	0.04	150	-	-	28
Diseases of the nervous system	34119	0.27	549	7	-	151
Skin and veneric diseases	12109	0.09	2130	-	-	-
Physical medicine and rehabilitation	7262	0.06	160	-	-	2
Other	2480	0.02	1024	-	-	-

Conclusions:

The total number of specialists registered and serving the population exceeds the number approved by NHIF.

Main problems: Uneven distribution of specialized medical care among individual municipalities in the region. Large municipalities provide full range of activities with established clinical laboratories and diagnostic imaging rooms. In seven of the 11 municipalities there are no registered medical treatment facilities for specialised non-hospital care, laboratories for clinical and image diagnostics.

Lack of doctors with the following specialisation:

- Clinical allergology;
- Virology;
- Pediatric endocrinology and metabolic diseases, pediatric neurology, pediatric clinical haematology and oncology, pediatric nephrology,

pediatric pneumology and physiatrics, pediatric psychiatry, pediatric rheumatology;
- Clinical toxicology;
- Medical parasitology;
- Clinical immunology.

Hospital medical care

5 medical treatment facilities are operating on the territory of Montana District: 4 Multi-profile Hospitals for Active Treatment of which: 1 district - MBAL Dr. Stamen Iliev AD, Montana; 2 municipal - MBAL St. Nikolai Chudotvorets EOOD, Lom and MBAL Berkovitsa EOOD, Berkovitsa; 1 private MBAL City Clinic-Saint George EOOD Montana; and one specialized hospital for rehabilitation - SBR-NK – Sveti Mina EAD, Varshets.

The total number of beds is 994, which is 78.3 per ten thousand inhabitants in the district. The best coverage with beds per 10 000 inhabitants can be observed with the beds for active treatment - 65.1 (827 beds); of which: therapeutic beds – 32.2 (414); surgical beds – 1.2 (209); beds for physical medicine and rehabilitation – 13.01 (167); psychiatric beds - 4.13 (53).

As at December 31, 2019 **MBAL Berkovitsa EOOD** has 60 beds in 5 departments at its disposal, as follows: internal (14 beds), neurological (15 beds), surgical (8 beds), pediatric (11 beds), obstetric, gynecologic and maternity (12 beds). In 2019 the number of treated patients was 2 317,57 children were born and the number of clinical pathways was 35 (*Tables 3.33, 3.34, 3.35*).

Table 3.33. Beds in the medical treatment facilities for hospital care in Montana District by type as at December 31, 2019

Types of beds	MBAL Dr. St. Iliev AD, Montana	MBAL City Clinic St. Georgi EOOD, Montana	MBAL St. N. Chudotvorets EOOD, Lom	MBAL Berkovitsa EOOD, Berkovitsa	SBR-NK EAD St. Mina branch, Varshets	Total number of beds	Coverage per 10,000
Total Thereof:	**400**	**147**	**267**	**60**	**120**	**994**	**78.3**
1. For active treatment	**383**	**127**	**257**	**60**	**-**	**827**	**65.1**
incl. Intensive	**9**	**7**	**6**	**-**	**-**	**22**	**1.7**
Obstetric and gynecologic	***23***	**-**	***16***	***12***	**-**	***51***	***4.0***
gynecology	7	-	10	8	-	25	2.0
puerperal	8	-	6	4	-	18	1.4
pathological pregnancy	8	-	-	-	-	8	0.6
Pediatric	***42***	**-**	***15***	***11***	**-**	***68***	***5.4***
neonatology	14	-	-	1	-	15	1.2
pediatrics	28	-	15	10	-	53	4.2
Therapeutic	***195***	***70***	***120***	***29***	**-**	***414***	***32.6***
internal diseases	33	-	**77**	14	-	124	9.8
gastroenterology	1	-	**-**	-	-	1	0.1
endocrinology and metabolic diseases	1	-	**-**	-	-	1	0.1
cardiology	35	30	-	-	-	65	5.1
nephrology	1	-	-	-	-	1	0.1
pneumology and physiatrics	65	-	-	-	-	65	5.1
clinical haematology	1	-	-	-	-	1	0.1
infectious diseases	20	-	13	-	-	33	2.6
Diseases of the nervous system	38	40	30	15	-	123	9.7

Surgical	***101***	***50***	***50***	***8***	***-***	***209***	***16.5***
surgery	52	20	32	8	-	112	8.8
orthopedics and traumatology	19	-	12	-	-	31	2.4
vascular surgery	-	15	-	-	-	15	1.2
urology	10	15	-	-	-	25	2.0
eye diseases	10	-	-	-	-	10	0.8
Ear nose throat (ORL) diseases	10	-	6	-	-	16	1.3
Other	***-***	***-***	***10***	***-***	***-***	***10***	***-***
2.For rehabilitation	**17**	**20**	**10**	**-**	**120**	**167**	**13.1**
Psychiatric	***13***	***-***	***40***	***-***	***-***	***53***	***4.2***

Table 3.34. Activities of the in-patient units of the medical treatment facilities in Montana District in 2019.

Medical treatment facilities	Average number of beds	Admitted patients	Discharged	Deceased	Bed days
Total	**1029**	**46814**	**46113**	**699**	**252528**
Multi-profile Hospitals for Active Treatment /MBAL/	**727**	**30195**	**29597**	**602**	**163735**
MBAL Dr. Stamen Iliev AD, Montana	400	18308	17920	411	93497
MBAL St. N. Chudotvorets“ EOOD, Lom	267	9588	9393	180	58869
MBAL Berkovitsa EOOD, Berkovitsa	60	2299	2284	11	11369
Private medical treatment facilities	**147**	**8522**	**8420**	**96**	**33901**
MBAL City-Cinic Saint	147	8522	8420	96	33901

George EOOD, Montana					
Specialised hospitals for rehabilitation /SHR/	**155**	**8097**	**8096**	**1**	**54892**
SBR-NK EAD St. Mina branch, Varshets	155	8097	8096	1	54892

Table 3.35. Activities of the in-patient units of the medical treatment facilities in Montana District in 2019. (continued).

Medical treatment facilities	Discharged patients	Occupancy of beds		Turnover of beds	Average stay per 1 treated patient (days)	Lethality (%)
		days	%			
Total	**47098**	**245**	**67**	**46**	**5.0**	**1.4**
Multi-profile Hospitals for Active Treatment /MBAL/	**30449**	**225**	**62**	**42**	**5.0**	**1.9**
MBAL Dr. Stamen Iliev AD, Montana	18458	234	64	46	5.1	2.2
MBAL St. N. Chudotvorets“ EOOD, Lom	9674	220	60	36	6.1	1.9
MBAL Berkovitsa EOOD, Berkovitsa	2317	189	52	39	4.9	0.5
Private medical treatment facilities	**8552**	**231**	**63**	**58**	**3.9**	**1.1**
MBAL City-Cinic Saint George EOOD, Montana	8552	231	63	58	3.9	1.1
Specialised hospitals for rehabilitation /SHR/	**8097**	**354**	**97**	**52**	**6.8**	**0**
SBR-NK EAD St. Mina branch, Varshets	8097	354	97	52	6.8	0

Conclusions: The main performance indicators for in-patient units – occupancy, turnover, average stay and lethality have remained at relatively good levels in recent years.

Emergency medical care

As a structure and organization emergency medical care in Montana District is provided by the Emergency Medical Care Center (EMCC) in the town of Montana with its 6 branches (EMCB) - Montana, Lom, Berkovitsa, Varshets, Valchedram and Chiprovtsi, having a number of resuscitation, medical, outpatient and transportation teams at their disposal. EMCC-Montana has 19 vehicles, 16 of which are reanimobiles and 3 sanitary vehicles.

The average distance from all settlements in the district to a branch for emergency medical care is 40 km, and the most remote location is 50 km away from such a branch.

A worrying aspect in the long term is the high average age of those working in EMCC - Montana, as well as the large number of working pensioners. This requires the immediate training of paramedics with the professional competence of a physician assistant and their realization in the provision of emergency medical care.

As a structure and organization emergency medical care in Montana District is provided by EMCC, Montana with its 6 branches /EMCB - Montana, Lom, Berkovitsa, Varshets, Valchedram and Chiprovtsi, having a number of resuscitation, medical, paramedic and transportation teams at their disposal. EMCC-Montana has 19 vehicles, 16 of which are reanimobiles and 3 sanitary vehicles.

The average distance from all localities in the district to a branch for emergency medical care is 40 km, and the most remote location is 50 km away from such a branch, which guarantees timely and equal access to the emergency medical care system for the population.

EMCC - Montana is a medical treatment facility with 185 members of the payroll staff /36 medical doctors and 66 health care professionals/ which secures emergency medical care for the population of Montana District. 24 medical doctors and 57 medical specialists in health care work under basic contract.

A worrying aspect in the long term is the high average age of those working in EMCC - Montana, as well as the large number of working pensioners. This requires the immediate training of paramedics with the professional competence of a physician assistant and their realization in the provision of emergency medical care.

Unattractive working conditions, relatively low wages and significantly limited opportunities for specialization and professional realization are the reasons for an increasingly visible shortage of doctors in the healthcare system.

In 2019 the number of calls responded was 14 676, of which 10 873 or 74% for emergency medical care, 2 306 or 15.7% for urgent medical care, and 1 497 or 10.2% for sanitary transportation.

In 2019 EMCC-Montana has served 31 307 people, of which 18 303 outpatient examinations and 13 004 in responded calls. Out of these, 10.1 % are hospitalized *(Table 3.36)*.

Table 3.36. Activity of the Emergency Medical Care Centre (EMCC) and Emergency Department of MBAL Dr. Stamen Iliev AD, Montana for 2019

I. **EMCC – Montana**	
• **Calls received**	**14676**
• **Calls responded** Thereof:	**14676**
✓ For emergency medical care	10873
✓ For urgent medical care	2306
✓ For sanitary transportation	1497
• **Delayed calls**	**1**

Thereof:	
✓ By operators	1
✓ By the teams	0
• **Responded calls with no result**	**175**
• **Deceased** Thereof:	**308**
✓ Before the arrival of the team	290
✓ During medical care	11
✓ During transportation	6
✓ During outpatient examinations	1
• **Total number of patients served** Thereof:	**31307**
✓ In responded calls	13004
▪ children from 0 to 17 years	857
▪ for hospitalization	4232
✓ Outpatient examinations	18303
▪ children from 0 to 17 years	2882
▪ for hospitalization	3159
• **Total number of vehicles** Thereof:	**19**
✓ Cars	3
✓ Reanimobiles	16
• **Total staff under basic contract**	**155**
✓ **Medical doctors**	**24**
From 35 to 44 years	1
From 45 to 54 years	8
From 55 to 64 years	12
From 65 to 74 years	3
✓ **Medical specialists in health care**	**57**
Physician assistants	42

Nurses	11
Midwives	4
II. Emergency Department with MBAL Dr. Stamen Iliev AD, Montana	
• **Total number of patients served** Thereof:	**16403**
✓ children from 0 to 17 years	3719
✓ for hospitalisation	7109
✓ Deceased	23

In the emergency room with MBAL AD, Montana **16 403 patients** were served in 2019, 719 less compared to 2018, of which **7 109** were hospitalized, accounting for **43.3 %** of the persons served.

Availability of human resources in the regional health-care system

At the end of 2019 the number of medical doctors practicing under basic employment contract in medical treatment facilities in Montana District was 387. The dentists are 98. Medical specialists in health care are 711, of which 465 nurses

- 216 doctors practice in hospital care facilities. Medical specialists in health care are 523, of which 385 nurses;

- 143 doctors and 98 dentists work under basic employment contract in non-hospital care facilities. Medical specialists in health care are 114, of which 52 nurses.

- 24 medical doctors and 57 medical specialists in health care work under basic contract in other treatment facilities - EMCC as at December 31, 2019.

- 4 doctors and 17 nurses work basic employment contract in the dialysis center as at the end of the year.

As at December 31, 2019 the breakdown of practitioners by age in Montana District was as follows:

- The largest is the share of doctors in the 55 - 64 age group - 172, or 44.4%;

- Young practicing doctors - up to 35 years of age, are 12 or 3.10%,
- The eldest doctors (65 years of age and older) - 77, or 19.9%.

According to the breakdown of doctors by specialties the highest is the share of General Practitioners - 87, or 22.5% of all doctors in the district, followed by: Diseases of the nervous system - 27 or 6.9%; Cardiology - 26 or 6.7%, Surgery - 24 or 6.2%; Anaestheology and intensive care - 20 or 5.2%, Obstetrics and Gynecology - 4.9%.

The coverage with medical doctors at the end of 2019 for the district as a whole was 30.5 per 10 000 inhabitants and the coverage with dentists was 7.8. Compared to 2018 both indicators have increased marginally, which is due to the reduced number of people as at December 31, 2019 (29.9 and 7.5 per 10 000 inhabitants, respectively).

The population's coverage in Montana District with General Practitioners has increased slightly at the end of 2019 compared to the previous 2 years and remains higher than the national average of 5.9 per 10 000 people. The coverage with medical specialists in health care was on average 56.0 per 10 000 people at the end of 2019, compared to 55.8 for 2018 and 65.8 for 2017.

The above indicators are presented in tabular form (*Tables 3.37, 3.38, 3.39, 3.40*):

Table 3.37. Medical staff in the medical treatment facilities of Montana District in 2019.

Medical staff	Number	Per 10 000 people
Medical doctors	**387**	**30.5**
Dental practitioners	**98**	**7.7**
Health care professionals including:	**711**	**56.0**
midwives	59	4.6
physician assistants	63	5.0
nurses	465	36.6

medical technologists (medical lab experts)	52	4.1
radiologic technologists (x-ray lab experts)	22	1.7
rehabilitators	29	2.3
masseurs	2	0.1
dental mechanics (dental lab technicians)	17	1.3
assistant pharmacist	2	0.1
Other staff incl.:	**641**	**50.5**
kinesitherapists	2	0.2

Table 3.38. Medical staff in the medical treatment facilities of Montana District by municipalities in 2019.

Municipalities	Medical doctors	Dental practitioners	Medical specialists in health care	Including		
				Physician assistants	Midwives	Nurses
Number						
Montana District	**387**	**98**	**711**	**63**	**59**	465
Berkovitsa	37	9	51	10	7	27
Boychinovtsi	4	1	2	2	-	-
Brusartsi	2	-	1	-	1	-
Valchedram	6	1	12	6	2	4
Varshets	13	5	39	3	1	25
Georgi Damyanovo	1	-	1	-	-	1
Lom	96	28	179	16	15	116
Medkovets	4	3	3	3	-	-
Montana	217	46	411	17	33	286
Chiprovtsi	4	3	8	6	-	2
Yakimovo	3	2	4	-	-	4
Per 10 000 inhabitants						

Montana District	**30.5**	**7.7**	**56.0**	**5.0**	**4.6**	**36.6**
Berkovitsa	23.1	5.6	31.8	6.2	4.4	16.8
Boychinovtsi	4.9	1.2	2.5	2.5	-	-
Brusartsi	4.8	-	2.4	-	2.4	-
Valchedram	7.2	1.2	14.5	7.2	2.4	4.8
Varshets	18.8	7.2	56.5	4.3	1.4	36.2
Georgi Damyanovo	4.6	-	4.6	-	-	4.6
Lom	40.1	11.7	74.7	6.7	6.3	48.4
Medkovets	11.7	8.8	8.8	8.8	-	-
Montana	46.2	9.8	87.4	3.6	7.0	60.8
Chiprovtsi	13.0	9.8	26.1	19.6	-	6.5
Yakimovo	7.8	5.2	10.3	-	-	10.3

Table 3.39. Medical doctors and Medical specialists in health care (individuals) under basic employment contract by age group as at December 31, 2019

Staff	Total	up to 35 years	35-44 years	45-54 years	55-64 years	65+ years
MBAL Berkovitsa EOOD, Berkovitsa						
Medical doctors	**15**	**-**	**-**	**1**	**8**	**6**
Medical specialists in health care:	**32**	**2**	**1**	**6**	**14**	**9**
Thereof: Midwives	5	2	-	-	-	3
Nurses	22	-	1	4	12	5
Medical technologists (medical lab experts)	3	-	-	2	-	1

Radiologic technologists (x-ray lab experts)	2	-	-	-	2	-

Table 3.40. Availability of medical staff in Montana District for the period 2017-2019

	2017	2018	2019	2017	2018	2019
	Number			Per 10 000 inhabitants		
Medical doctors	385	387	387	29,1	29,9	30,5
Dental practitioners	96	98	98	7,3	7,6	7,7
Medical specialists in health care:	729	723	711	55,1	55,8	56,0
Thereof: Nurses	*471*	*437*	*465*	*35,6*	*36,5*	*36,6*

The analysis of the health system in Montana District, as well as the data of RHI-Montana on the structure and organization of healthcare in the region, highlights the following most significant problems:

- Lack of General Practitioners in some towns and villages in small municipalities;
- Lack of duty rooms in smaller municipalities and localities;
- Lack of facilities for treatment and post-treatment of chronic patients;
- Lack of specialists in some leading medical specialties;
- Imbalance in the allocation of specialized medical care by municipalities;
- The absence of specialized healthcare facilities for treating mental disorders, mental health centres, daytime inpatient clinics, hospices;
- A large portion of the staff is in retirement and preretirement age.

3.4. PRESENTATION OF THE RESULTS OF THE PUBLIC OPINION SURVEY CONDUCTED AMONG HEALTHCARE CONSUMERS IN THE TERRITORY OF THE TWO REGIONS.

3.4.1. Methodological basis

Modern health systems are very large and complex, and their operation requires huge and ever-increasing material and human resources. In every country, including the most developed ones, there are different in number and scope serious problems related to and/or resulting from healthcare. In this respect Bulgaria and Romania are not different from the other countries, including EU Member States. Many future challenges resulting from the demographic situation, rapid social changes, insufficient efficiency of the health system, etc., put the sustainable functioning of the healthcare system at risk. The main problems of the healthcare system can be summarized as follows: incompatibility of the interests of insured persons, insurers and providers of health services; dissatisfaction of medical services consumers; lack of public financial resources; insufficient management capacity and inefficient health infrastructure. The list could be complemented by the existence of a significant informal sector that is difficult and expensive to cover; limited competition and poor regulation leading to increased costs without the necessary improvement of health services; inability of patients to participate actively in the decision-making on resource allocation, nor in the defining of health service quality requirements; a drop in the quality of healthcare despite the high qualifications of medical staff; high levels of non-regulated payments; lack of adequate medicines policy leading to serious problems in the treatment of socially significant diseases. It must be concluded that the overall negative aspects of the health system economy and social security models are particularly evident in terms of information asymmetry, risk management in the system, process bureaucratization and quality of services provided. The necessary corrective mechanisms are still missing or they are insufficient.

A number of studies and analyzes show that health service users are not satisfied with the quality and accessibility of these services. At the same time many future

challenges resulting from the demographic situation, rapid social changes, insufficient efficiency, etc., jeopardize the sustainable functioning of the healthcare system as a whole. Hence the objective needs to study the quality of the services provided by the health system.

This analysis aims to make a comparative analysis of the quality assessments of health services in two cross-border geographical regions, in Romania and Bulgaria (Berkovitsa-Bailesti), which are relatively small in territorial scope and have specific social, economic and demographic characteristics, both at the territorial level and relatively speaking. Major results are being achieved and summarized conclusions are being made on the basis of a field study conducted means of a standardized sociological poll involving 300 people between December 2020 and January 2021. The sociological survey is conducted within the framework of a joint morbidity study under project: „Increasing the efficiency of municipal health care in the border region Berkovitsa – Bailesti (HEALTHEFF), implemented with the financial support of 2014 - 2020 INTERREG V-A Romania - Bulgaria Programme“.

The sociological survey is part of a general complex study of the towns and villages in the two administrative units - Berkovitsa Municipality and Bailesti Municipality, with the aim of obtaining relevant and modern information on the most common diseases in the region, which shall serve as a basis for the development of common policies and joint action plan to provide better quality and more efficient medical services in both regions. The survey shows the profile of residents in the two cross-border regions of Bulgaria and Romania as consumers of health services.

The methodology of the study follows the logic of the European Health Consumer Index (EHCI). The EHCI identifies the most important sub-areas for evaluation by selecting and combining a limited number of relevant indicators for each sub-area. It is based on the view that making good-quality comparisons in healthcare is a real win-win situation: the consumer, who will have a better basis for informed choice and action; governments, other institutional actors and suppliers, which can support change by focusing on consumer satisfaction and the quality of results. This approach provides an adequate picture of how health consumers are served by healthcare

systems in their respective countries and it also makes an assessment of the quality of health services provided. In addition, the benchmarking analysis reveals the potential for improving the quality and scope of health services in specific locations.

The areas of sociological survey follow the main sub-areas in the structure of EHCI for 2017, namely:

- Rights and awareness of the patients
- Accessibility
- Results
- Scope and coverage of the rendered services
- Prevention
- Pharmaceutical products

Respondents in the survey were selected to reflect all age groups covered by medical services agreed at national level. The survey is conducted in the maximum number of settlements in the two regions of Berkovitsa and Bailesti (villages and towns) and it covers respondents, broken down by sex and age, marital status, income and employment. Anonymity of the participants is guaranteed, and the results are used only in an aggregated form to draw up a report identifying problems and formulating policy proposals to the competent local authorities in order to improve the quality of health services in both administrative units.

The questions are designed to cover key areas of the functioning of health services: frequency of visits to a doctor, frequency of visits to hospitals, nature of diseases, additional activities related to the process of health diagnosis and treatment, influence of behavioral factors and vicious habits such as smoking, harmful alcohol consumption, malnutrition, insufficient physical activity, unhealthy conditions of work and rest, excessive use of antibiotics, etc.

In the course of the survey, interviewers made sure of the clear and accurate understanding of the questions in the survey and full awareness of the respondents of

the possible answers, as formulated in the questionnaire, as well as for the responsible reporting of information collected.

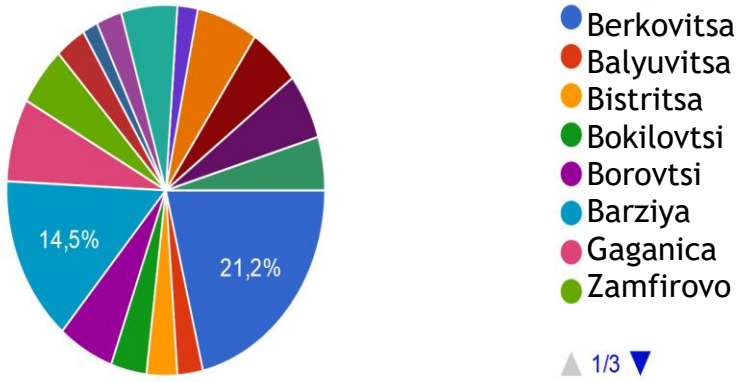
3.4.2. Results of the survey conducted in the Municipalities of Berkovitsa and Bailesti

- Respondent profile

300 people were interviewed, evenly distributed between Bulgaria and Romania. The localities in Bulgaria, where respondents held their meetings with interviewers, are: for Bulgaria, Berkovitsa Municipality - the town of Berkovitsa, the villages of Balyuvitsa, Bistritsa, Bokilovtsi, Borovtsi, Barziya, Gaganica, Zamfirovo. As at December 31, 2019 the population of Berkovitsa Municipality is 16 044 inhabitants of which 7 822 men and 8 222 women. 11 841 people live in towns, and 4 203 in villages. There are 8 790 people of working age, or 54.8% of the population in the municipality, 4 956 people are over that age, or 30.9% of the population. In the municipality there are 12 registered outpatient clinics of individual practice for primary medical care and 10 outpatient clinics of individual practice for primary dental care. There are 4 outpatient clinics (offices) for specialized individual medical practice, 1 medical center and 1 laboratory. MBAL Berkovitsa EOOD, Berkovitsa has admitted 2 317 patients in 2019, the occupancy of beds for the same period being 52%.

37 doctors, 10 physician assistants, 7 midwives and 27 nurses, 9 dentists, and 51 healthcare professionals are working in Berkovitsa Municipality.

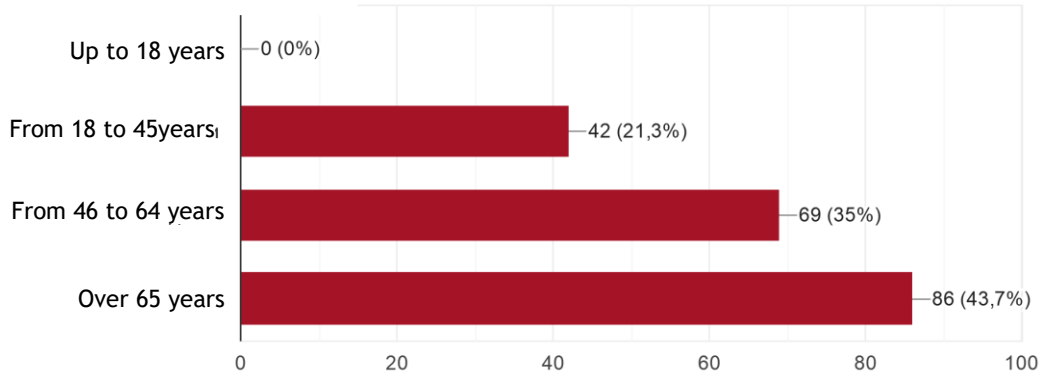
In Romania the survey was conducted in the town of Bailesti and adjacent villages. According to the latest census, the population of the municipality is similar to that of Berkovitsa – 17 573 people with an average age of 41.7, for men 49.4 and for women 50.5 years. The percentage distribution of respondents by localities in Berkovitsa region is shown in the following graph:



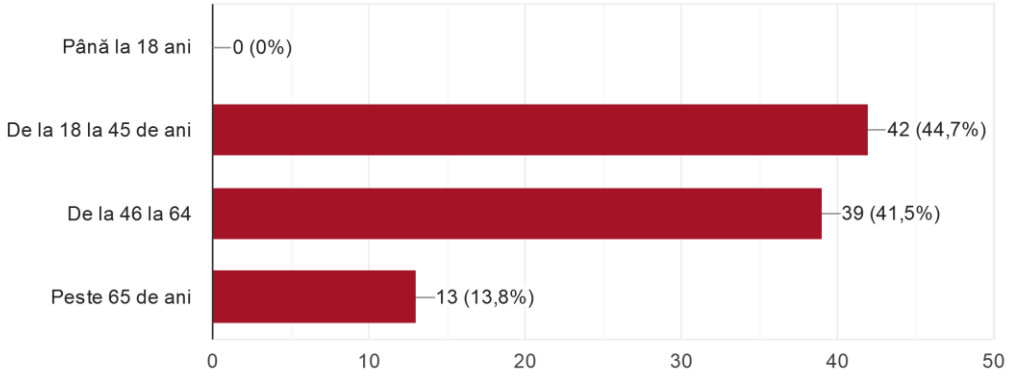
Broken down by age, the interviewed people are as follows: In Bulgaria the dominant group of participants is that of people over retirement age, followed by those aged between 45 and 65 and the third place is occupied by the people aged under 45. It should be noted that the age structure reflects the overall demographic profile of the localities in Berkovitsa Municipality. Obviously, the population of working age is concentrated in the municipal center where they can find better opportunities for employment. In small localities the population is predominantly over working age, hence the majority of people receive their income primarily from pensions. In Romania the trend is reversed – most respondents are people of working age – from 45 to 65 years, followed by those under 45 years and the least number of surveyed are those of retirement age. This breakdown should be taken into account when analyzing the answers to the other questions in the survey.

*The graphs in Bulgarian/English present the results of the Study in Bulgaria. The graphs in Romanian present the results of the Study in Romania. The content of the text of the questions is equivalent in both languages.

01. AGE

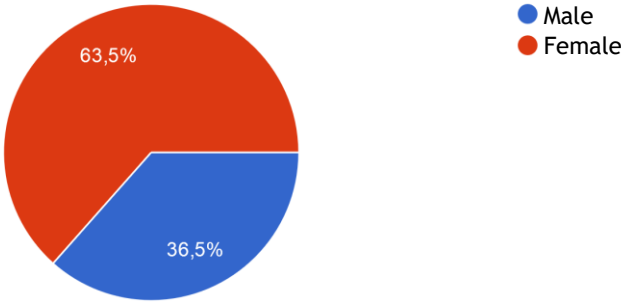


01. VÂRSTĂ

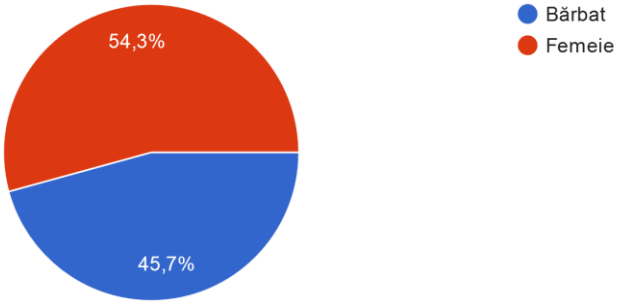


Broken down by gender, participants are almost the same in both countries – women are largely dominating in both countries, which has a direct link to gender distribution in the overall population structure.

02. GENDER

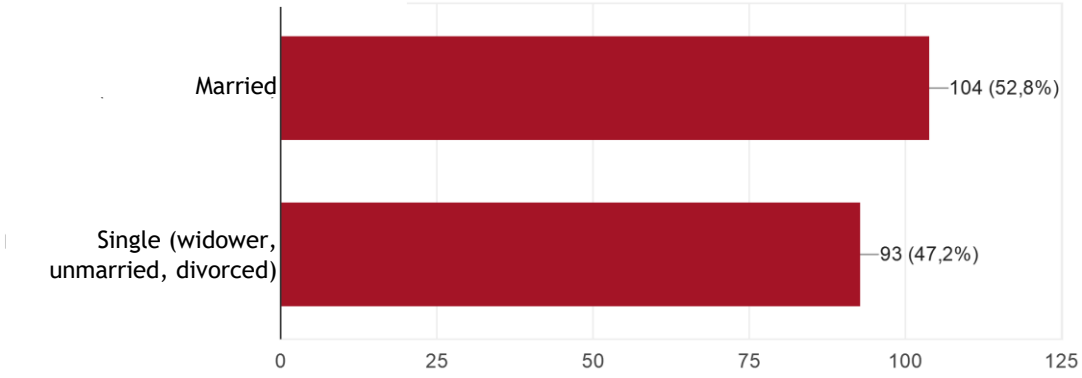


02. SEX

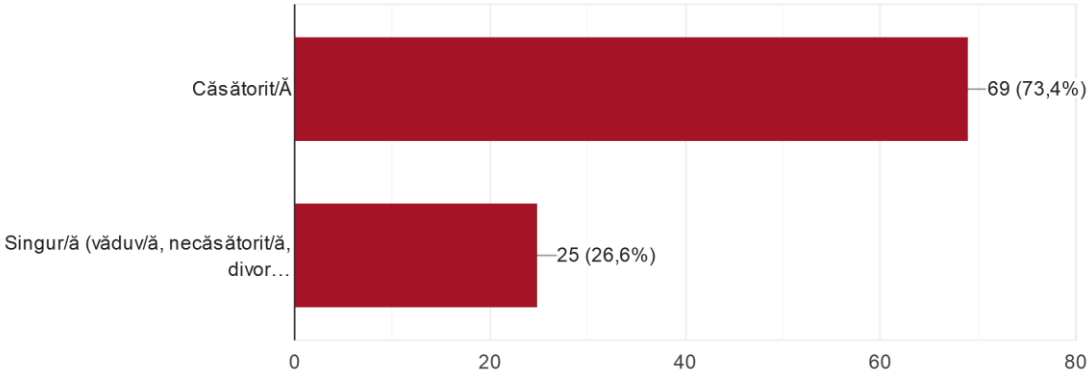


In both countries, the majority of respondents were married people. This fact affects their behavioral attitudes. Family people are involved in their health status to a greater extent and they are more active consumers of all kinds of health services - medical, dental, balneology, preventive care, etc. It is important to note that the number of non-family people /widower, divorced, unmarried/ in Bulgaria is greater than the same figure in the Romanian sample. Here we must reiterate that this result is linked to the demographic characteristics of the small villages near Berkovitsa. Accordingly, the weight of the opinion of the people living alone on health services and the conditions for their provision will be greater in Bulgaria than in Romania.

03. MARITAL STATUS



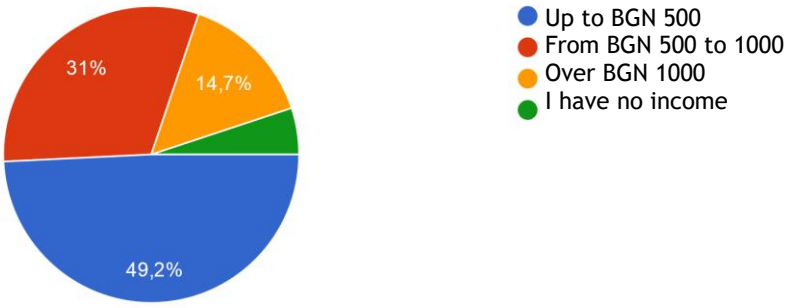
03. STAREA CIVILĂ



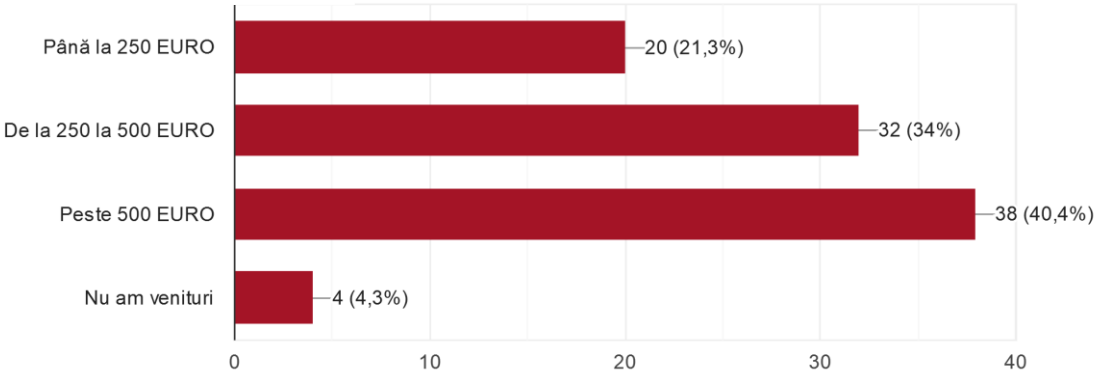
Social and economic status

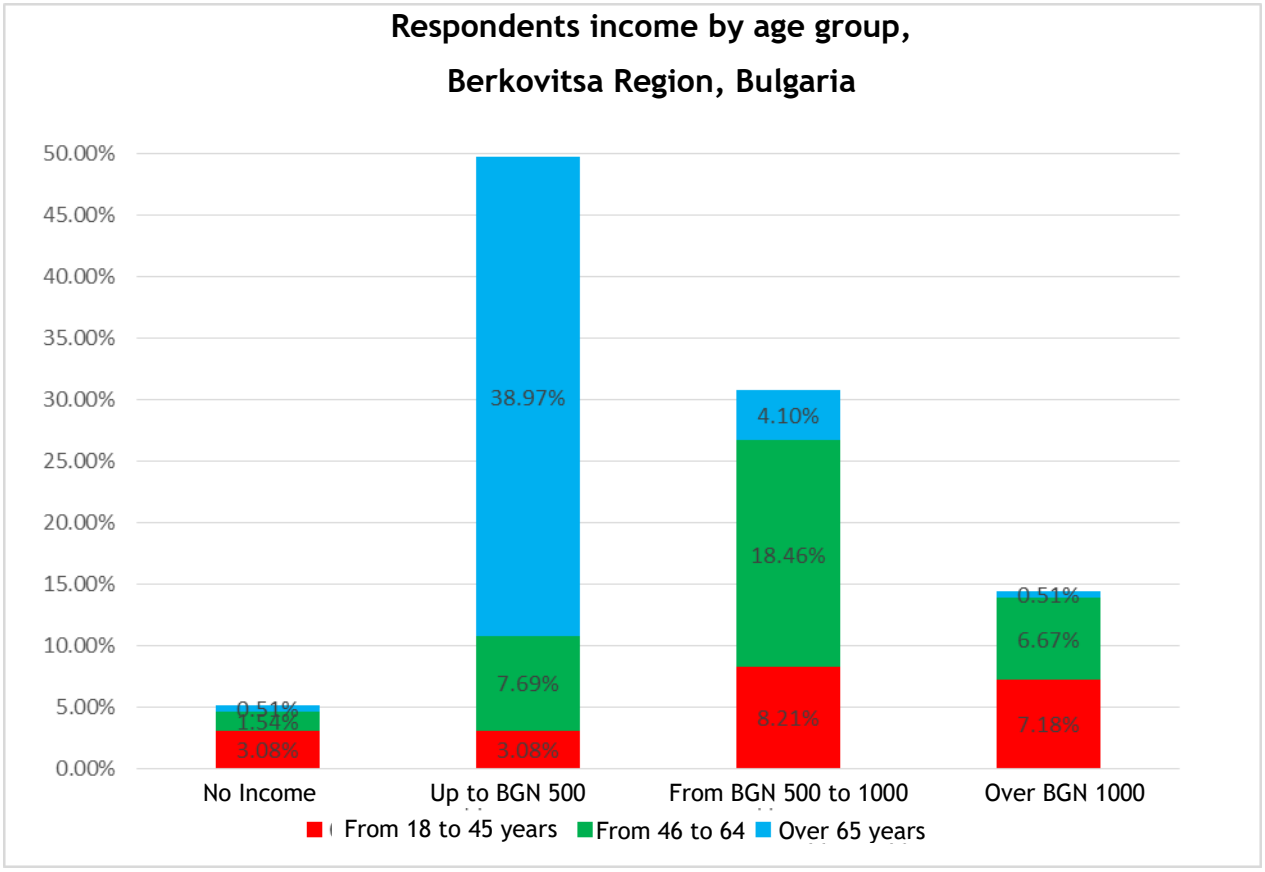
It is interesting to compare the breakdown of respondent by income. In the Bulgarian sample the highest percentage of 40,2% are the people with income up to BGN 500, which is linked to the predominant share of people who are over retirement age, who are expected to declare their mainly their income from pensions. On the other hand, 40,4% of the respondents in Romania have income of more than BGN 1000 (EUR 500). For the purposes of the survey it is interesting to compare the age breakdown of people with the lowest and highest income in both countries and to trace their behavior as consumers of health services.

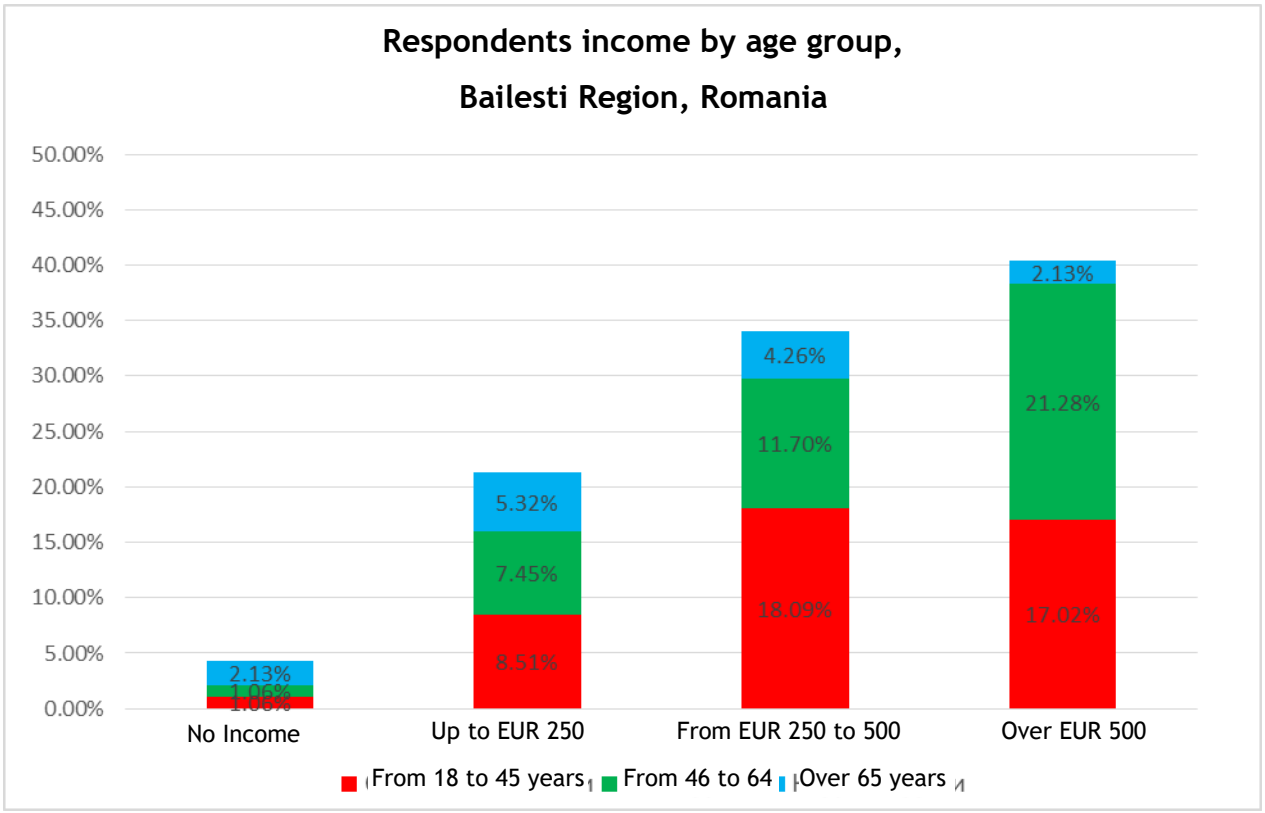
04. YOUR INCOME IS



04. VENITUL DVS. ESTE

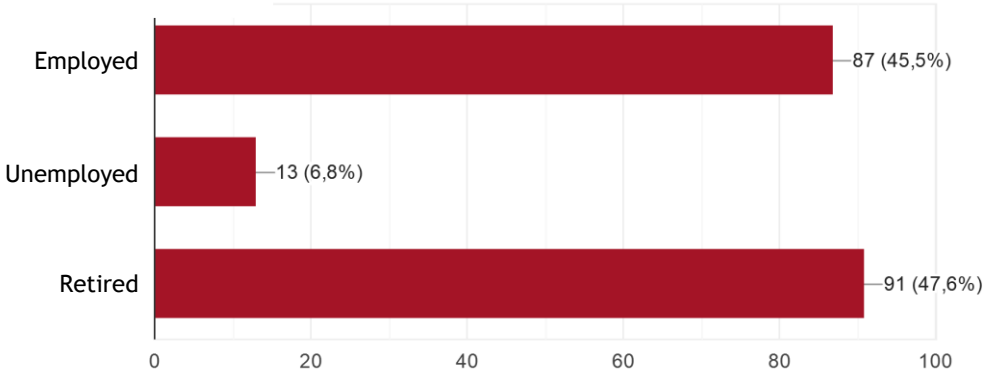



Respondents income by age group,
Berkovitsa Region, Bulgaria
50.00%
45.00%
40.00%
35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
38.97%
4.10%
18.46%
0.51%
6.67%
7.69%
8.21%
7.18%
3.08%
3.08%
No Income
Up to BGN 500
From BGN 500 to 1000
Over BGN 1000
From 18 to 45 years
From 46 to 64
Over 65 years


Respondents income by age group,
Bailesti Region, Romania
50.00%
45.00%
40.00%
35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
5.32%
4.26%
11.70%
21.28%
2.13%
7.45%
18.09%
17.02%
8.51%
2.13%
No Income
Up to EUR 250
From EUR 250 to 500
Over EUR 500
From 18 to 45 years
From 46 to 64
Over 65 years

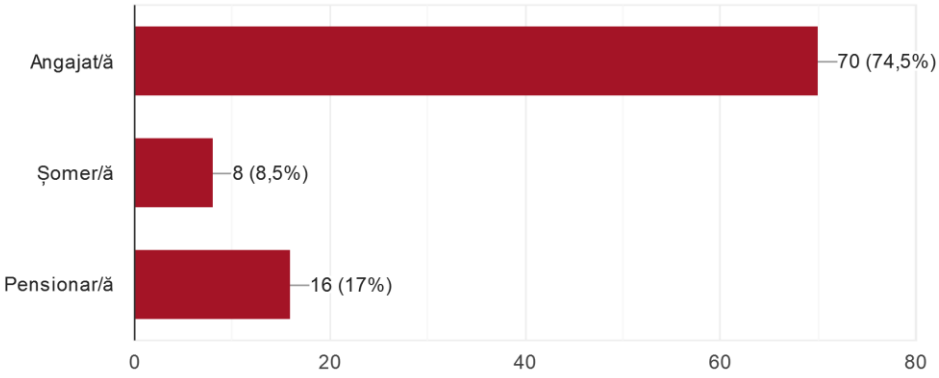
The answers to the questions on employment of respondents confirm the trends observed in previous questions. In Bulgaria, the structure of the population studied is dominated by pensioners – 45.5 percent, while in Romania it is dominated by working people – 74.5 percent respectively. In Romania, the share of unemployed respondents was slightly higher than in Bulgaria.

05. EMPLOYMENT



05. ANGAJARE

94 отговора



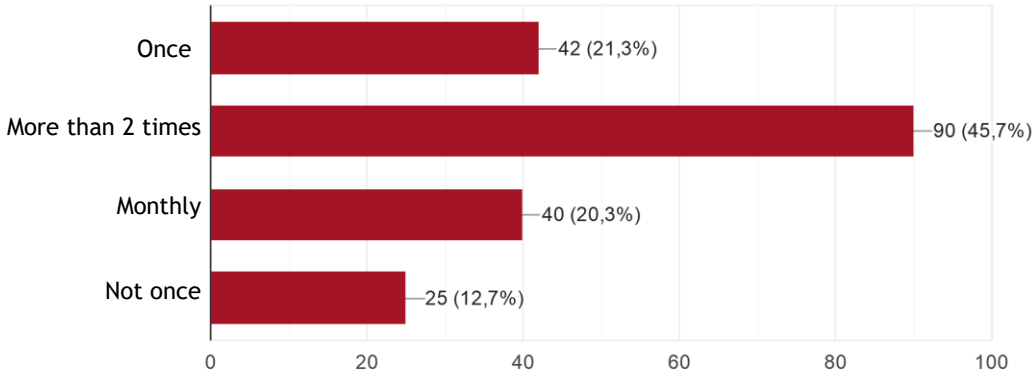
Frequency of use of health services

The frequency of use of medical services and care is an essential factor in analyzing the behavior of healthcare users. On the one hand, it is an indicator of morbidity of the population in a given geographical region, but it is also an indicator of the attitudes of consumers toward their health and the consequences on their quality of life. Having in mind the organization of healthcare systems in both countries and the regulatory framework, this factor is indicative of the functionality of health regulations and an indication of possible improvements and optimizations of its organization and efficiency.

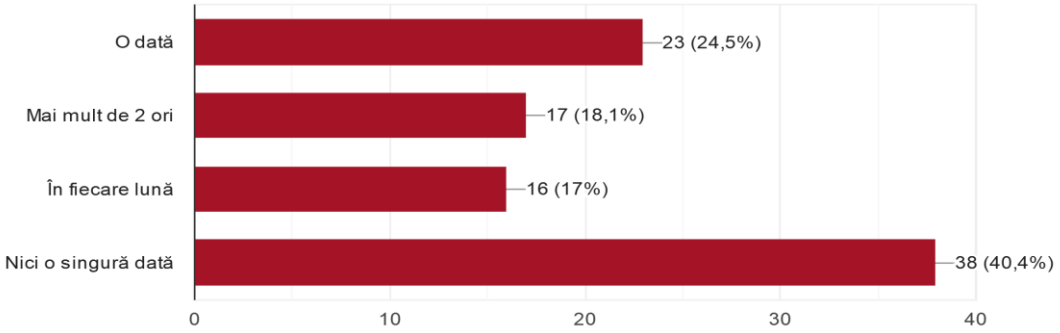
Asked how often they seek medical care, excluding visits to the orthodontist or accompanying relatives, the answers to the first question from the survey indicate that the inhabitants of Berkovitsa Municipality seek medical care quite often. 20.3% of the respondents visit the doctor's office every month, and combined with the number of people who visit a doctor at least quarterly these account for the impressive 86%. Compared to Romania, respondents who have not visited the doctor for the past 12 were 40.4%, and those who visited the doctor once in the past 12 months were 24.5% of respondents. Only 17 per cent of the citizens of Bailesti visit a doctor every month. The conclusion is that Bulgarian patients visit the doctors' offices much more often. This behavior is often determined by a medical need, but one should also bear in mind that people follow the requirements of the health system itself (e.g. in Bulgaria procedures under Regulation 10 on the payment of medicinal products by NHIF virtually require monthly visits to a doctor). This type of organization of health services implies an intense flow of patients and excessive workload for doctors, and it leads to poor efficiency of doctors' work. On the other hand, the use of dental services is noticeably low. In Berkovitsa, almost 20% of respondents had never been to a dentist. When we add up those who have not visited an orthodontist or a dentist for more than one year (49.7%), the overall picture of the consumption of this type of health services is more than worrying. Evidently, the factors influencing this type of behavior, in addition to remoteness of the dentists' offices, also include the high prices of this type of medical services.

A very interesting issue is that of the patient's choice of how and where to be treated. The opportunity for discretion and the availability of choices demonstrate the degree of patient trust in the various forms of medical care. In Berkovitsa Municipality, trust in the family doctor (or the physician assistant - for localities without everyday presence of a doctor) is extremely high. Almost 93% responded that in the event of emergency medical problems they first seek their family doctor or paramedic /physician assistant/. Very few - around 3.6% seek the emergency unit of the municipal hospital, followed by those who receive care in the private offices (2.5%) and last in the behavioral model is the self treatment /or the so-called Google doctor option). The latter element is included in the poll to check the popularity of self treatment among the respondents, as it is qualified as one of the harmful behavioral mechanisms. The behavior of the residents of the Romanian Municipality of Bailesti is similar. Respondents again give preference to family doctors, but the share of those who first consult with a private practice doctor when a medical problem occurs is higher than in Bulgaria.

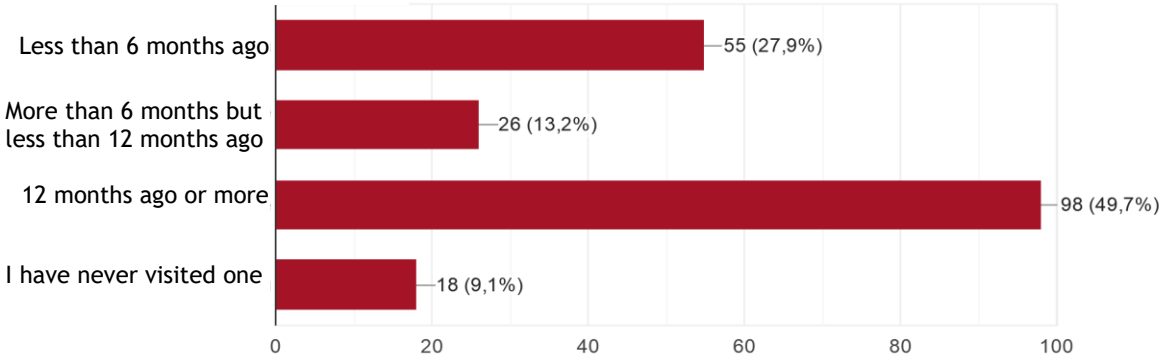
1. For the past 12 months how many times have you sought medical care (excluding dental care) for yourself?



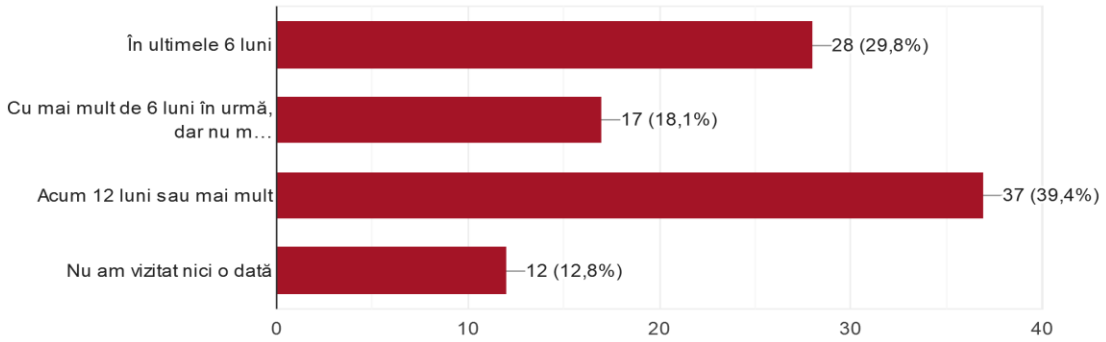
1. De câte ori ați solicitat ajutor medical în ultimele 12 luni? (nu include îngrijirea dentară) pentru dvs.? ,



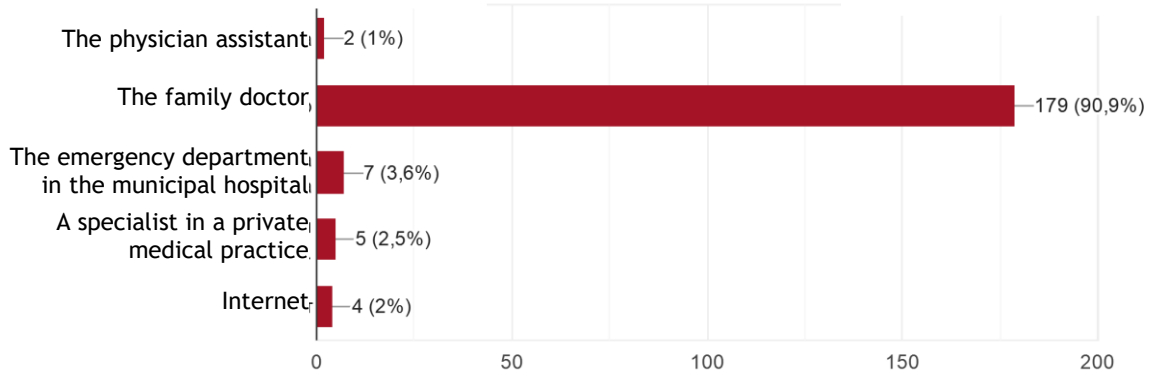
2. When did you last visit a dentist or orthodontist for yourself? Excluding child, husband..., etc.



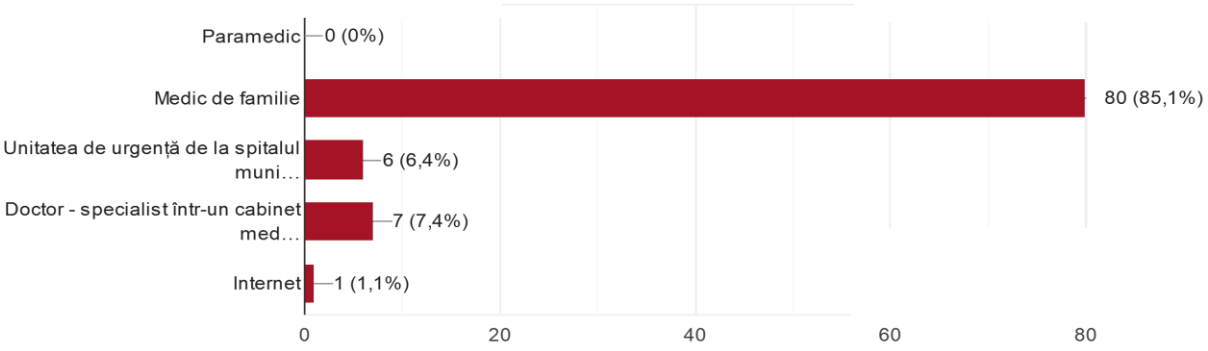
2. Când ați vizitat ultima dată un medic dentist sau ortodont (specialist în stomatologie ortopedică) pentru dvs.? Nu luați în considerare cazurile de însoț... unui copil, soț etc. / Este posibil doar 1 răspuns /
94 отговора



3. When you have a health problem, who do you address first?



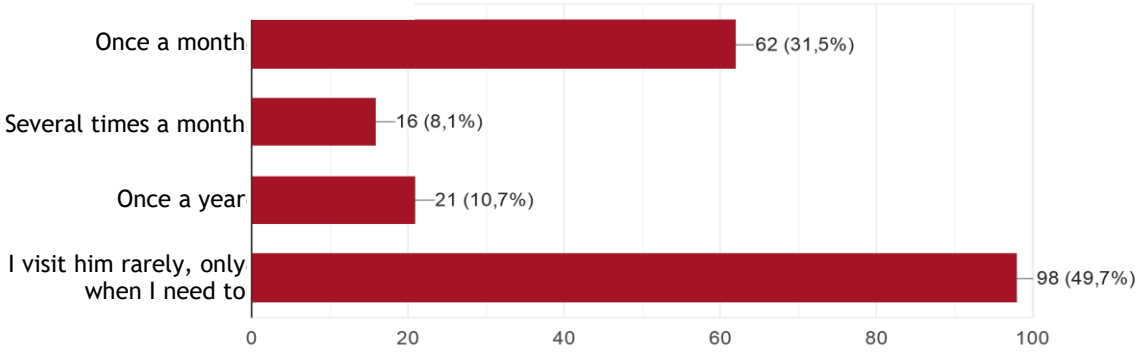
3. Când aveți o problemă de sănătate, cui vă adresați mai întâi?



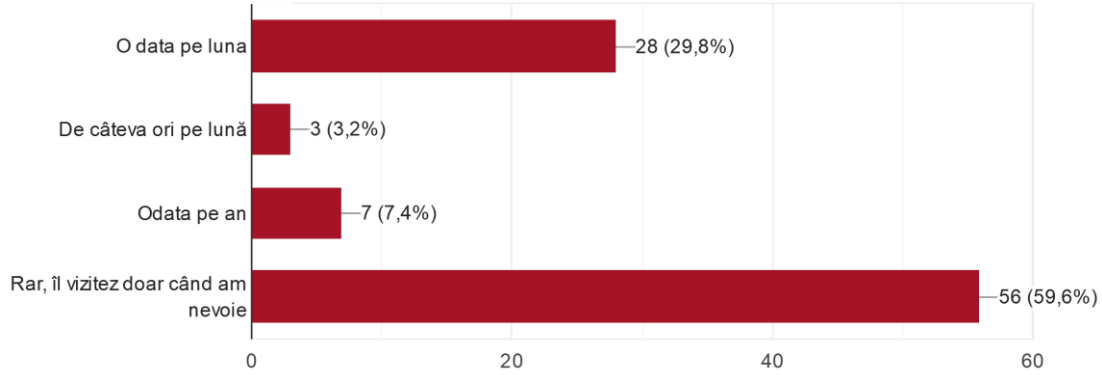
As regards the frequency of visits to doctors' offices, the behavior of residents in the two regions studied is similar. Half of the respondents in both countries visit their doctor once a month or more frequently, and the other half of the respondents go to a doctor rarely, if necessary. A logical question arises - why so many of the respondents in Berkovitsa Municipality go to visit a doctor so often /mostly to a family doctor/? The answer to this question could be the subject of a future study, but in this study, and on the basis of the information obtained, we can formulate the hypothesis that people go to the doctor's office far too often to solve formal issues (e.g. prescribing medicines at a discount or free of charge - paid by the health fund) or it involves an excessively long diagnostic process and further consultation. In both

cases such behavior of health service consumers imposes an unnecessary burden on the healthcare system, which affects its effectiveness. This hypothesis can be verified by establishing a relation between the frequency of visits, the age of patients and the presence or absence of chronic diseases.

9. How often do you visit your family doctor?



9. Cât de des vă vizitați medicul de familie?



Awareness and rights of the patients

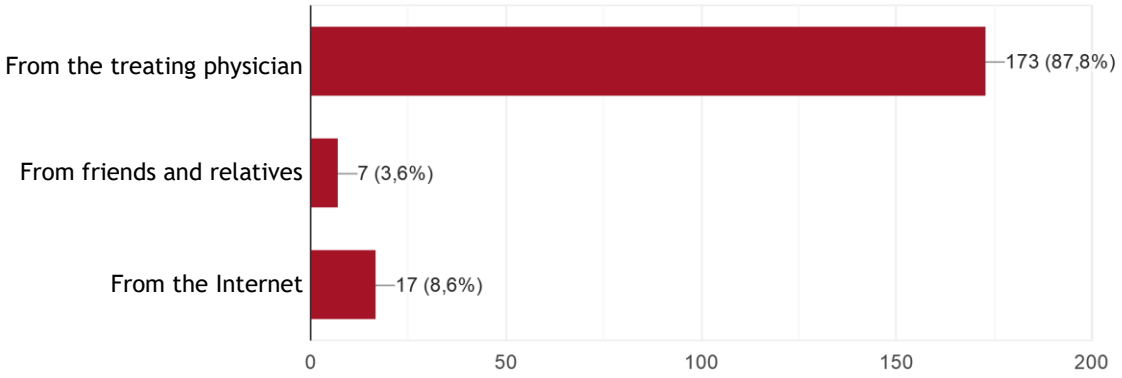
Patient awareness is a very important element of the modern health systems' functioning. It is one of the indicators in the European Health Consumer Index (EHCI) and is part of EU countries' ranking regarding the progress of health systems. In itself, awareness in the context of health care has many dimensions. From patient's

informed consent on his/her disease and methods of treatment to the correct and accurate medicinal information. This includes a good knowledge of the rules on the functioning of the health system, the statutory rights of patients and the duties of patient organizations, and the work of patients' organizations, etc. The sociological survey only covers a few elements of this complex and multi-faceted issue.

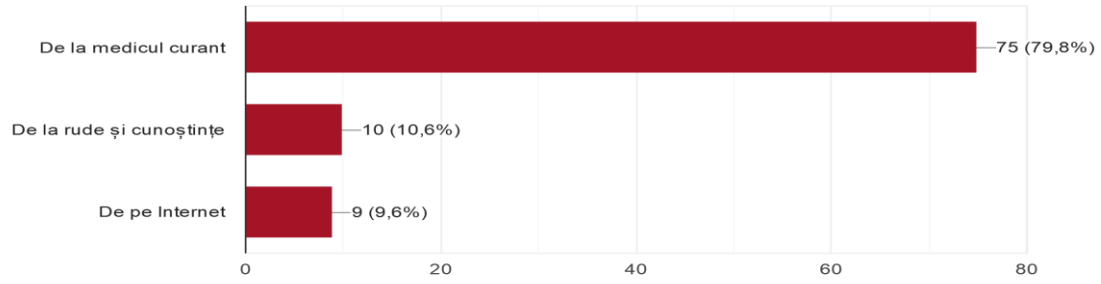
In both border regions the main source of information is the treating physician, with none too few of the respondents seeking additional information on the Internet. The activity of patient organizations, which by the way also represent a means of control over health authorities and conflict resolution, is very little known – 64.5% in Bulgaria and 78.7% in Romania have not heard of such organizations. The result is worrying, on the one hand because the organizations call themselves national and, as such, obviously do not perform their functions well enough and, on the other hand, because it is one of the few and successful mechanisms for protecting patients' rights, which they must be familiar with and use its potential.

The result of the survey concerns small territorial units in the two countries, but it could serve as a signal for the competent authorities and a guideline for further improvement of their activities aimed at improving cooperation between state institutions, municipal units and patient organizations to better inform and protect the rights of health services consumers.

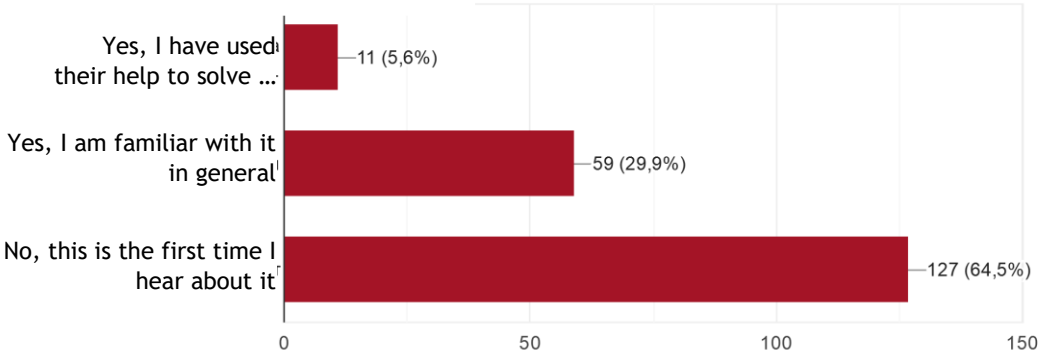
4. Where do you get medical information related to your condition?



4. De unde obțineți informații medicale despre boala dumneavoastră?

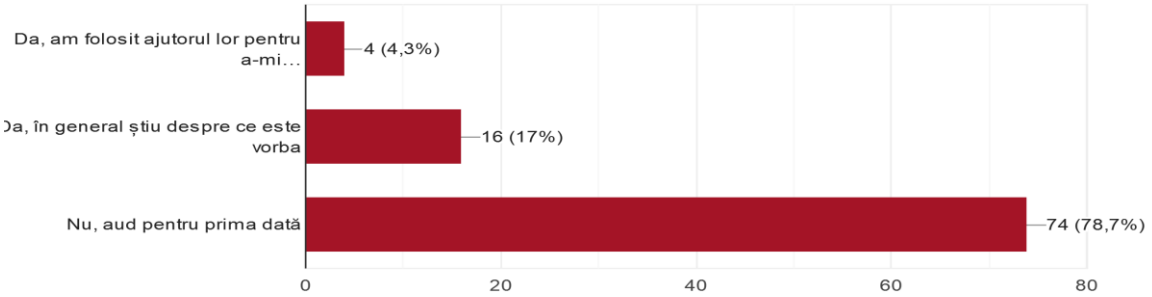


17. Are you familiar with the activity of patient organizations?



17. Cunoașteți activitățile organizațiilor de pacienți?

94 отговора



Accessibility

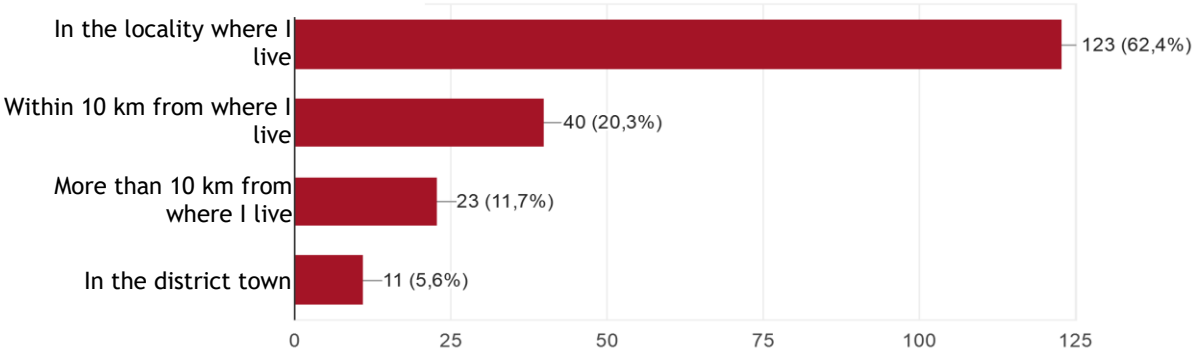
Is it easy to visit a doctor? Distance to health care facilities

The accessibility factor has several parameters: availability of locality-specific infrastructure, ensuring unobstructed consumption of the widest possible range of health services, affordability of the prices of these services and reducing the time needed for them to be obtained. In this respect, the results of the survey showed similar parameters for access to hospital and outpatient care at municipal and district level in both countries.

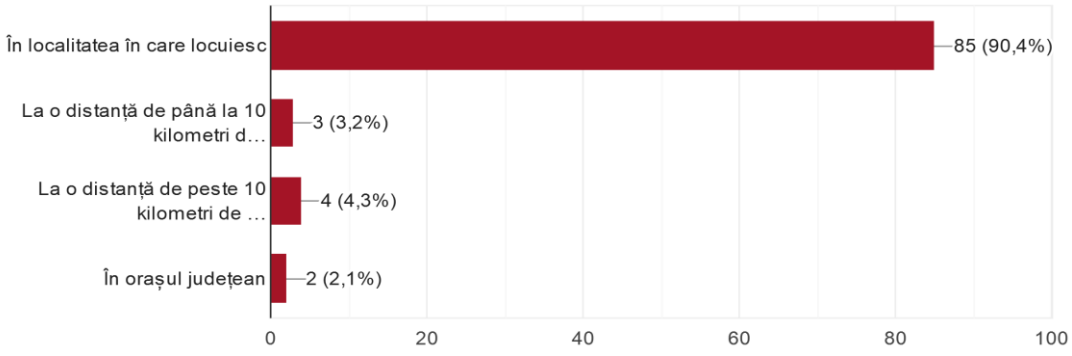
The possibility for residents in both countries to use the entire existing health infrastructure in the two regions is similar. Depending on the type and complexity of the health problem, it is obvious that patients can use equally outpatient and hospital care. 15.7% of the respondents in Berkovitsa Municipality and 23.4% in the Municipality of Bailesti have been treated in municipal hospitals, while 6.6% (Berkovitsa) and 9.6% (Bailesti) have been treated in regional hospitals.

There is a difference with regard to the accessibility to General Practitioner's offices /individual medical practices/. Respondents in Berkovitsa Municipality reported a great distance between their family doctor and their location. For 20.3% the doctor's office is located within 10 km from where they live, for 11.7% it is located more than 10 km away and for 5.6% of the respondents the family doctor is based in the district town. It is well known that the geographical characteristics of Berkovitsa Municipality and the mountainous relief suggest that the localities are far from each other and communications between them are difficult. This factor must be taken into account by the regional units of the Ministry of Health and municipal authorities and an organization must be set up to facilitate access to healthcare for people in small localities. Many forms of mobile health services are known, such as mobile doctors' and dentists' offices, telemedicine, mobile clinical laboratories, etc., the use of which can solve this problem.

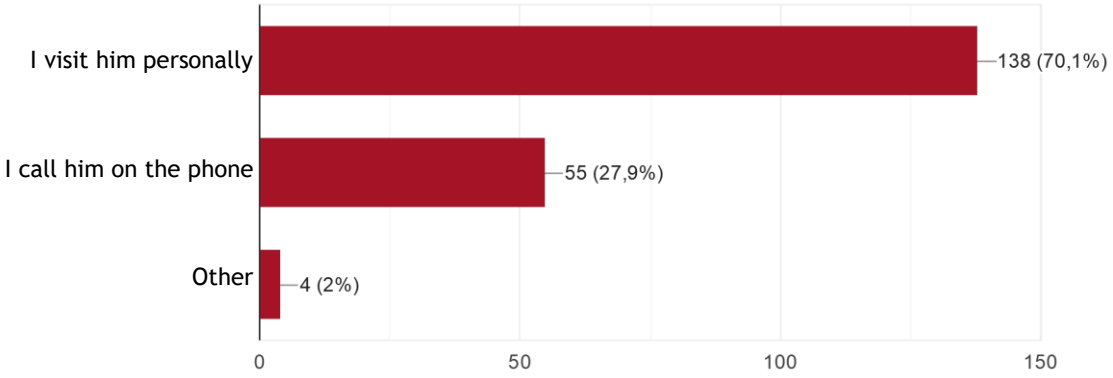
6. Where is the office of your family doctor?



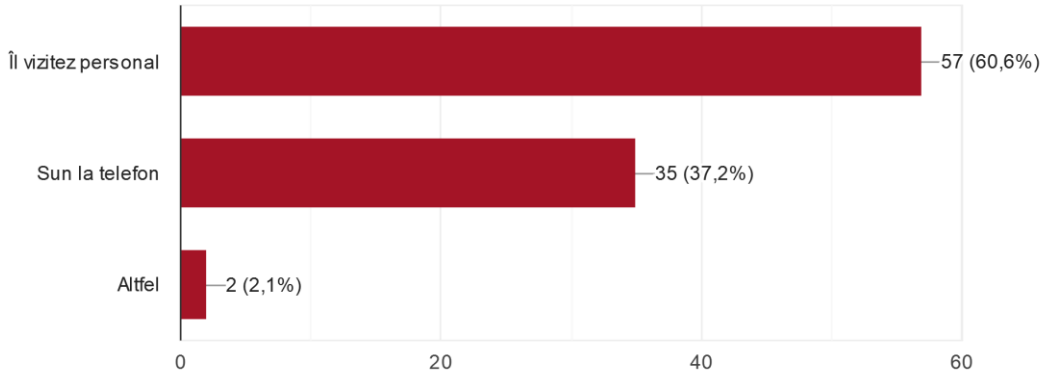
6. Unde se află cabinetul medicului dumneavoastră? / Este posibil doar 1 răspuns /



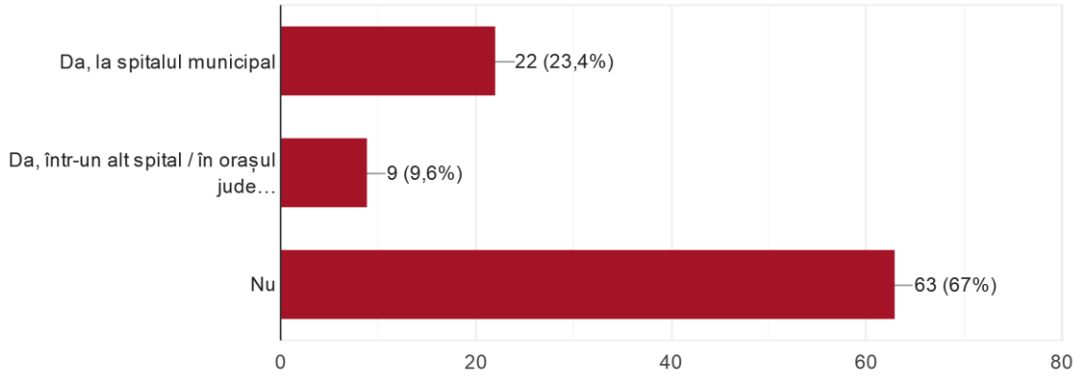
7. When you need medical consultation how do you contact your family doctor?



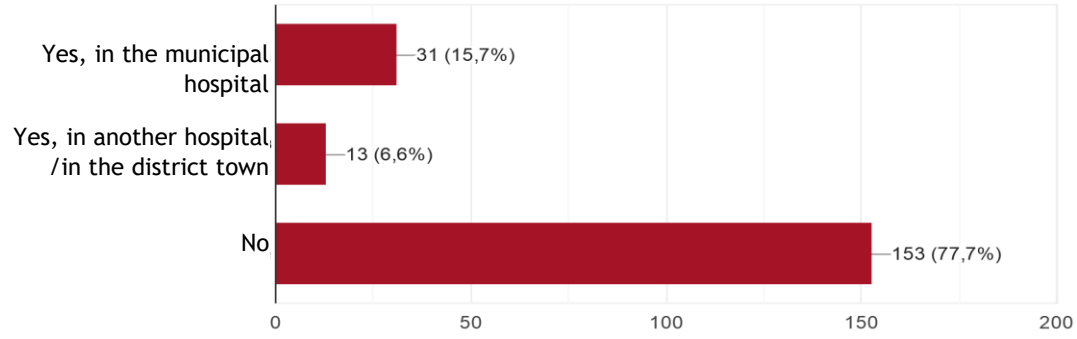
7. Când aveți nevoie de o consultație medicală, cum luați legătura cu medicul dumneavoastră?



5. Ați fost tratat în spital în ultimele 12 luni? / Este posibil doar 1 răspuns /



5. In the past 12 months have you been treated in a hospital? /Only 1 answer is possible/ ›/
197 responses



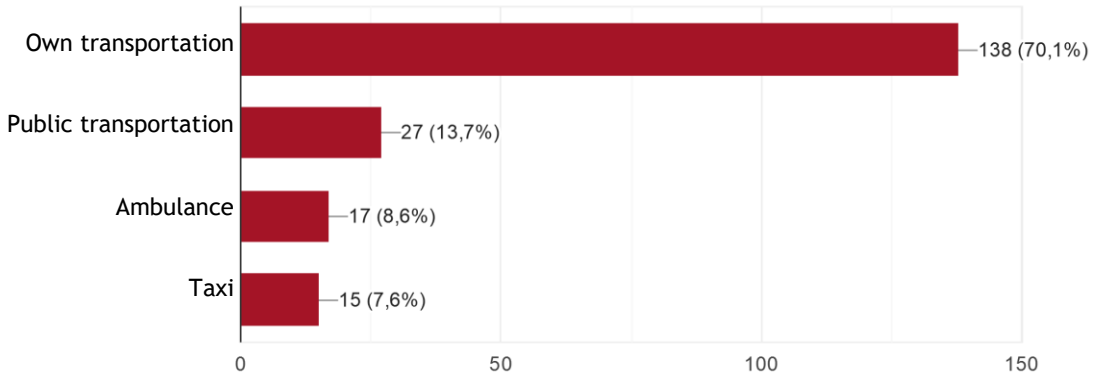
Transportation to the healthcare facility

In case of emergencies approximately 70% of respondents in Romania and Bulgaria use their own transport to go to emergency offices. If you add up those who use taxi for this purpose, we can claim that more than 80 percent of respondents travel to the emergency offices using personal vehicles or with the help of friends and family. For the elderly people who live alone in small localities, this is virtually impossible or puts them and their relatives under huge pressure, making access to medical care very difficult and problematic for both emergency and routine medical examinations.

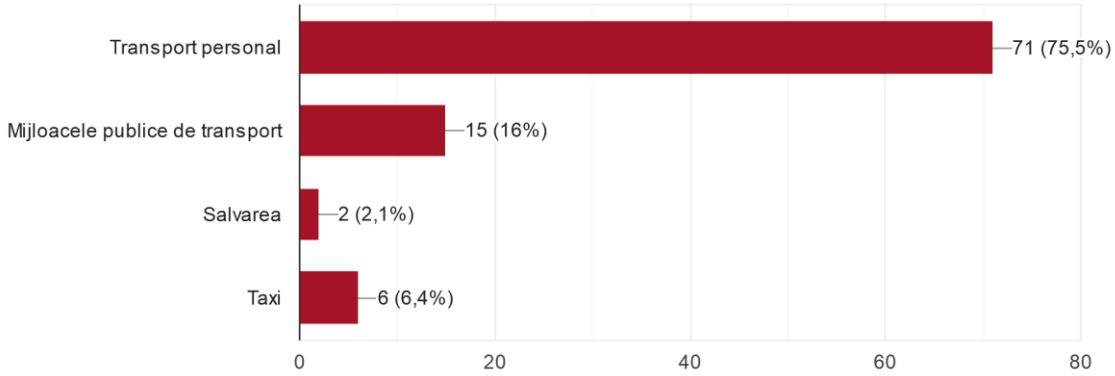
In the Municipality of Bailesti 90.4% of the respondents said their doctor's office is located in the town or village where they live. This must be specifically noted as it has a significant impact /see below/ on the assessment of the quality of health services.

The survey clearly shows that it is more than urgent to create opportunities for sick people who live alone to be able to obtain services in the form of transportation to the doctor's offices, especially in emergency situations. An important part of local authorities' policy must be focused on solving the problems in this regard. For example, relevant measures could be proposed and adopted for the Berkovitsa region as part of a long-term healthcare program.

15. When you need to travel due to an emergency medical problem, what means of transportation do you use most often?
197 responses



15. Când trebuie să călătoriți în legătură cu o problemă medicală urgentă ce folosiți cel mai des ca mijloc de transport?



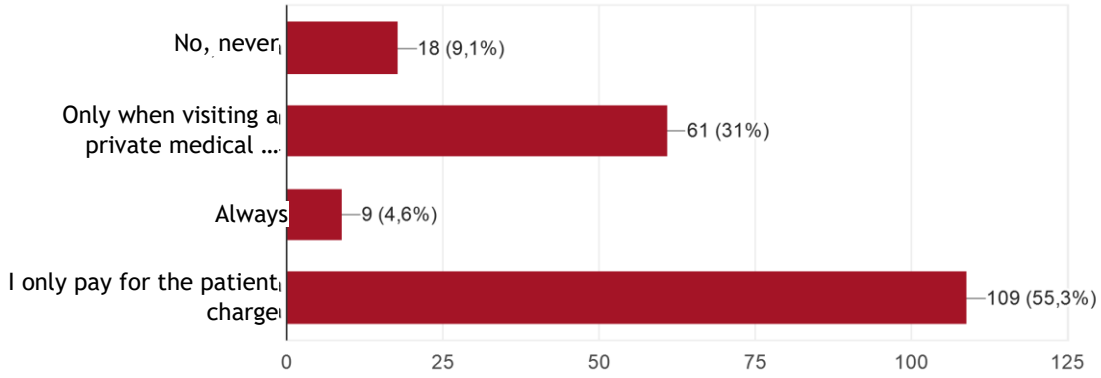
Price as an element of the accessibility of the health service

In this study we have examined the behavior of health consumers when they need to pay themselves for a health service outside the coverage of the Health Insurance Fund. As seen from the data, a significant share of respondents in Berkovitsa Municipality pay only when they visit the offices of doctors with private medical practice and/or when paying the patient charge. It is interesting to note that 31% of the respondents pay for consultations in private doctor's offices, which indirectly shows that this is the share of people consuming this kind of services. Such behavior can be studied more thoroughly on future occasions, but it gives rise to a reasonable question: since the vast majority of respondents /48,3%/ visit often and very often their family doctor's office, why are 31% of the respondents also consulting doctors in private practice and having to pay for this service? The answer could be related to the factor of satisfaction with the results, but this is a hypothesis that is subject to future verification.

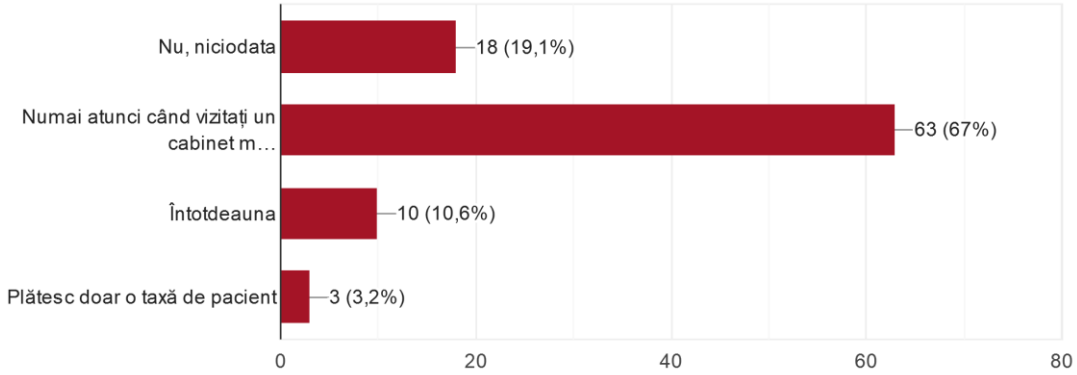
There are similar results for the Municipality of Bailesti, even those who pay for medical consultation are 61% of the respondents. It is interesting to notice the extremely low result of 3% of those paying a consumer charge. The comment here

could be related to the differences in healthcare organization at national level in Romania or to the understanding of the concept of “consumer charge”.

8. Do you pay for medical examinations?



8. Plătiți pentru un examen medical? /



The answers to the question: "Have you experienced in the past 12 months the need of health care without being able to afford it, as the cost of it was not borne by the health fund?” can be considered as a follow-up to the issue of the price of health services as a factor affecting the accessibility to, and hence consumer satisfaction with, the health system

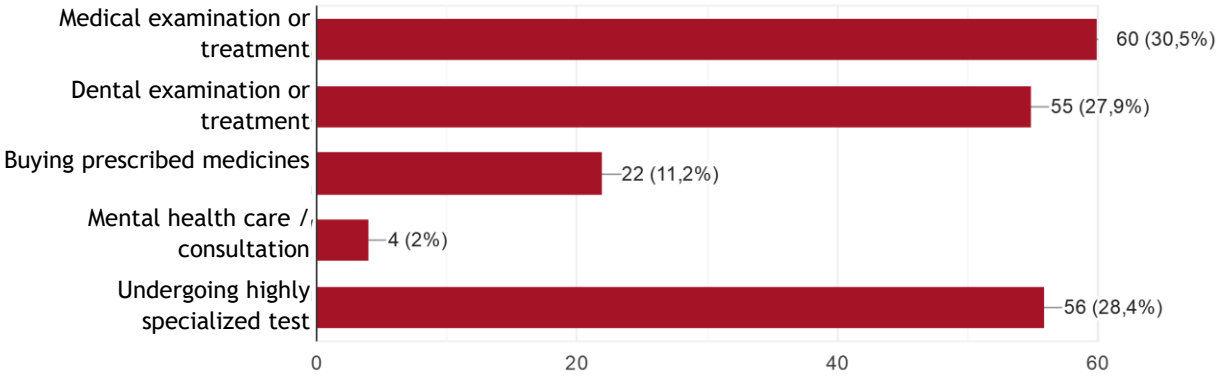
30% of respondents in Berkovitsa Municipality have not been able to pay for a "Medical examination or treatment", 27% for a dental examination or treatment, 28% for a

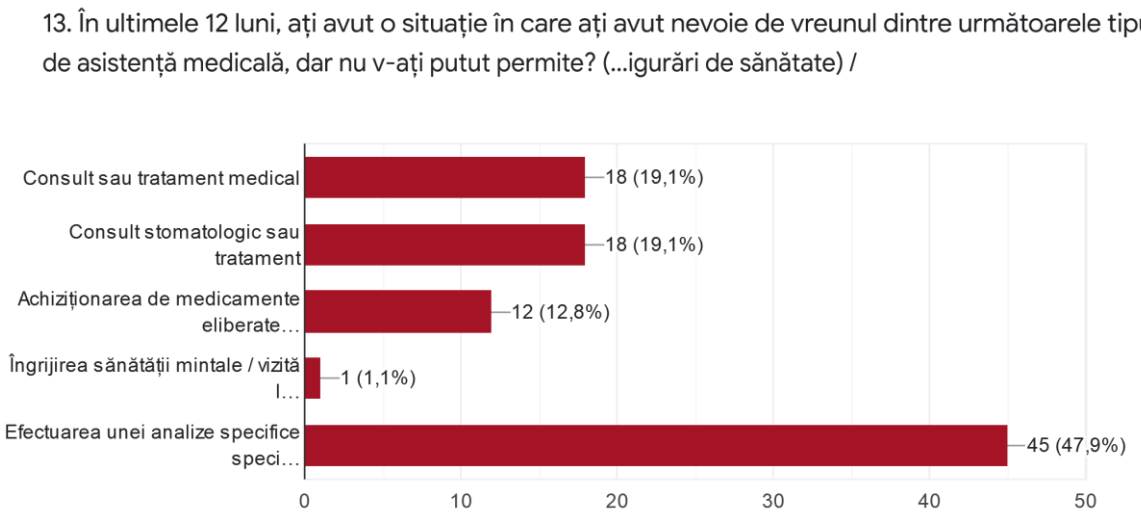
highly specialized test and 11% reported that they have not been able to buy medicine. 2% of respondents gave up mental health care.

Data on the Municipality of Bailesti shows that a major problem for the population there is the impossibility to bear the financial burden of undergoing highly specialized medical tests. It should be borne in mind that this type of medical examination allows more accurate and precise diagnosis, detection of rare diseases and a deeper understanding of the patients' health problems. They are not carried out in individual practice offices, they require special diagnostic equipment and highly specialized, certified clinical laboratories.

The link between good diagnostics and successful treatment of diseases is indisputable. Access to this type of services will therefore improve the morbidity indicators of residents in both municipalities, it will minimize chronic diseases and improve the health status of residents in general. To the largest extent this concerns diseases such as Diseases of the circulatory system, Cancer, Diseases of the musculoskeletal system and connective tissue, Mental and behavioural disorders, Endocrine, nutritional and metabolic diseases.

13. In the past 12 months have you been in a situation where you needed one of the following health services but you could not afford it ……under the health fund?



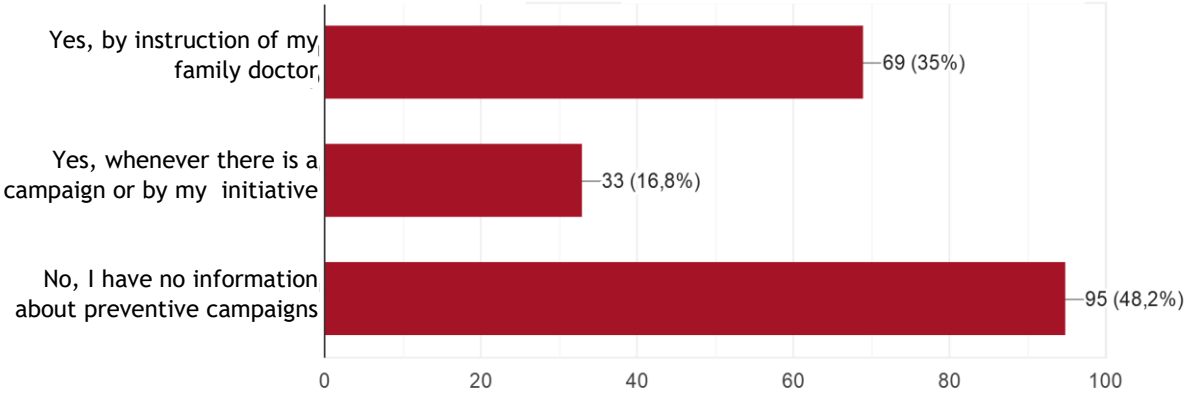


Prevention

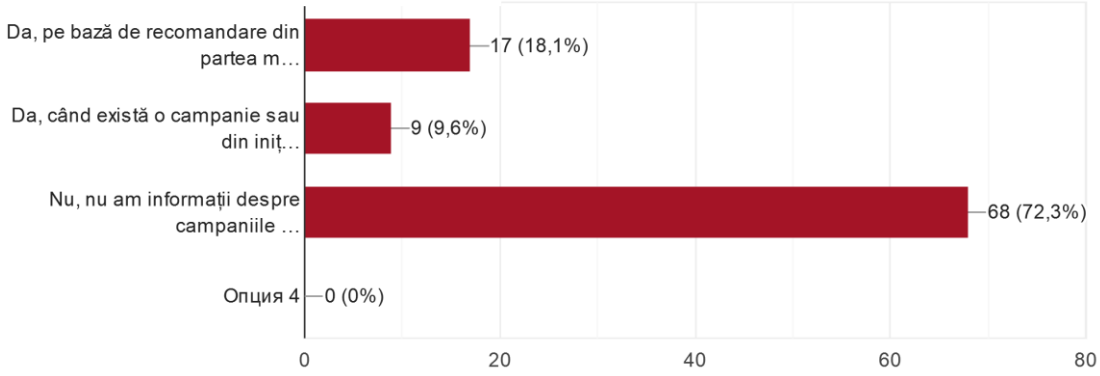
Prevention and related action by health authorities is essential to reduce morbidity and the number of people placed in a job according to their condition. 48.2% of respondents in Berkovitsa Municipality have never heard of preventive campaigns. It is encouraging that 35% responded that they had participated in such campaigns at their family doctor's recommendation and 16,8% have done it on their own initiative. A worrying fact for the Municipality of Bailesti is that 73.2% of the respondents indicated that they were never involved in disease prevention activities.

The results are generally encouraging /in Berkovitsa Municipality in particular/, although greater efforts are needed from regional health services and municipal authorities for wider publicity of preventive healthcare campaigns, better focus of activities in specific localities and target groups, and last but not least, to develop new, specialized annual programs, coordinated with national campaigns for prevention of socially significant diseases. It is good practice at municipal level to invite prominent professionals in various areas of healthcare to participate in educational programs and, last but not least, to work with voluntary organizations.

10. Have you participated as a patient in preventive activities?



10. Ați participat la activități de prevenire ca pacient?

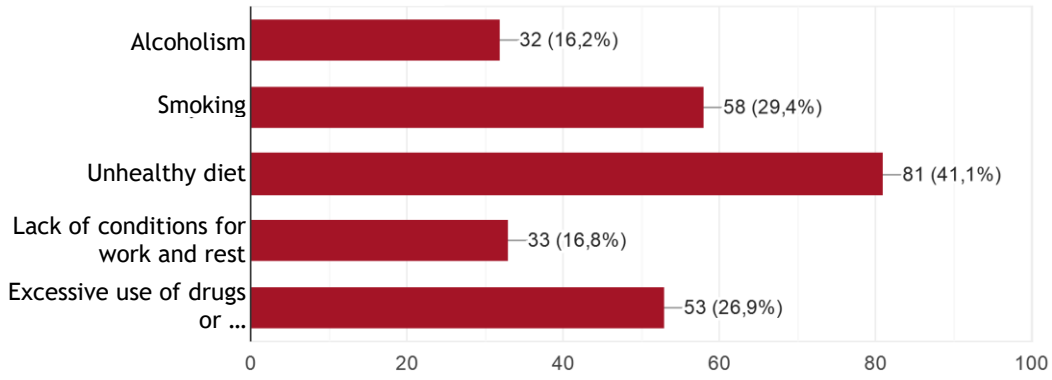


Bad habits

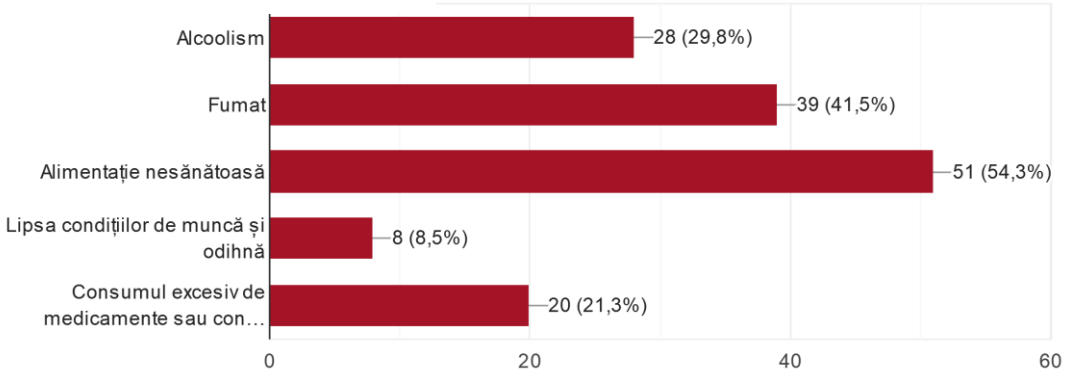
A special section in the survey is focused on clarifying the impact of vicious habits on the health of the people in the two cross-border regions. The respondents were offered a scale of the main factors identified at national level as negatively affecting health and an opportunity to make their own ranking. Each respondent was entitled to indicate more than 1 answer to the question “What bad habits have the greatest impact on your and your family's health?”. Both groups of respondents have put the "Unhealthy diet" factor in first place, the second place is occupied by "smoking",

followed by "excessive use of medicines". "The absence of favorable conditions for work and rest" is at the bottom of the scale. Alcoholism among Romanian respondents is causing greater concern than alcoholism among Bulgarian respondents.

16. Which bad habits do you think have the most significant impact on your health and the health of your relatives?



16. După părerea dvs., care obiceiuri dăunătoare au cel mai mare impact asupra sănătății dvs. și a celor dragi?



Health status

For the evaluation of the health status of the population in both regions by means of sociological survey we have chosen a method for indirect obtaining of information in order not to compromise the respondents' right of privacy regarding their health.

For the people with permanently reduced capacity for work /type and degree of disability from 71 to 90%/ it has been established that the leading diseases are Diseases of the circulatory system, followed by Neoplasms, Diseases of the musculoskeletal system and connective tissue, Mental and behavioural disorders, Endocrine, nutritional and metabolic diseases. All these diseases are classified as chronic diseases, they are subject to periodic control and specific treatment, and as a general rule these are diseases, whose treatment is supported by the Health Insurance Fund in the form of monthly discounts from the price of purchased medicines or free allocation thereof.

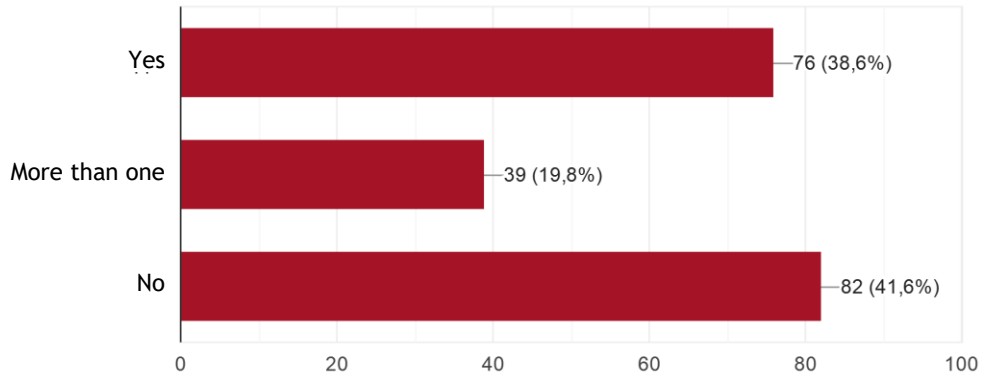
Two questions are addressing these issues in the survey. The first one seeks to find the share of chronic patients /with a disease lasting for more than 3 months/ in the total population surveyed, and the other one - the share of patients receiving aid for the purchase of medicines under the NHIF /also indirect indicator of chronic diseases).

The responses reveal that 58.4 percent of respondents in the municipality of Boychinovtsi suffer from chronic diseases, and 19.8 of them have declared more than one condition diagnosed by a doctor as a chronic condition. 36% of patients purchase medicines via NHIF for several diseases.

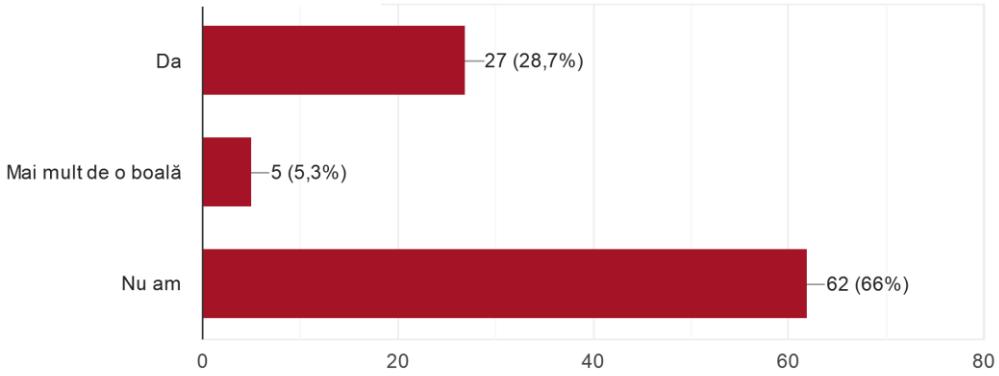
The share of respondents in the Municipality of Bailesti who reported chronic diseases, is relatively lower - only 28.7%. The majority of respondents are buying medicines as prescribed by the doctor, but the percentage of those who decide on their own what medicines they need is not small either. 16.8 percent of respondents decide on their own what medicines to buy. The latter has a direct link with the

influence of the factor of "excessive drug use and in particular antibiotics", which is widely commented as harmful and widespread practice among patients.

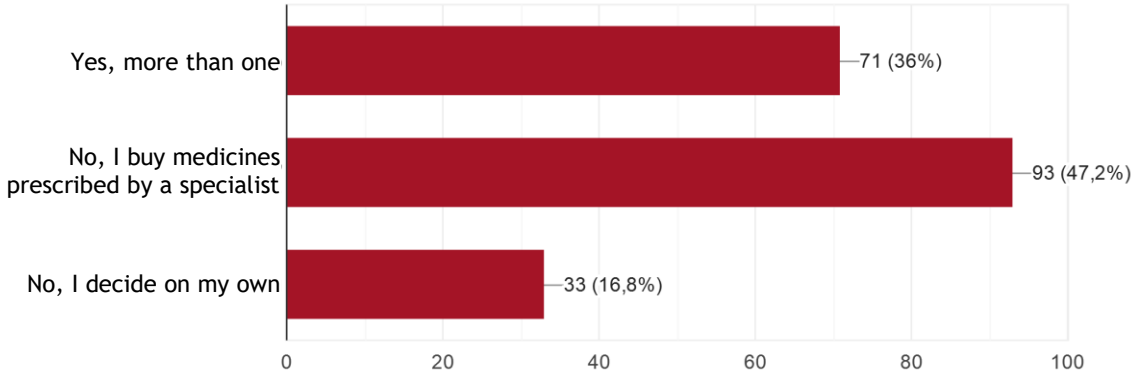
11. Currently do you have a chronic disease diagnosed by a doctor (condition lasting for more than 3 months)?



11. Aveți în prezent o boală cronică diagnosticată de un medic? (boala care durează mai mult de 3 luni) ?

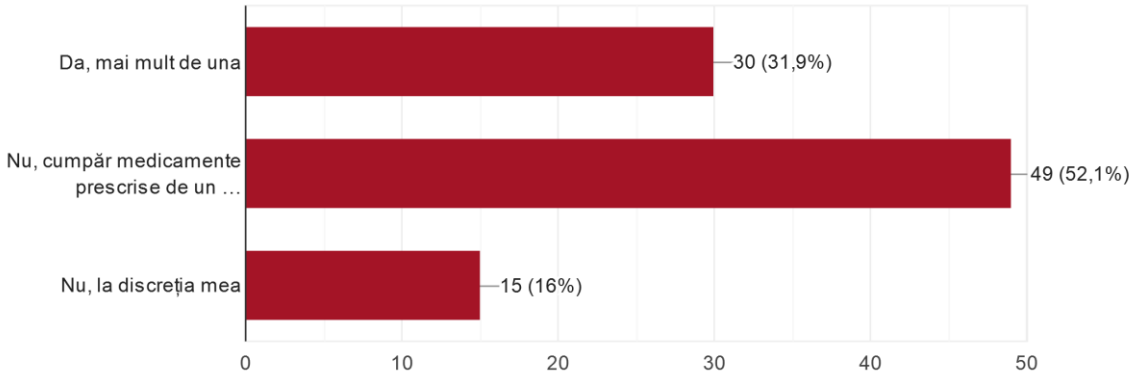


12. Do you have diseases, for which you buy medication under the Health Fund?



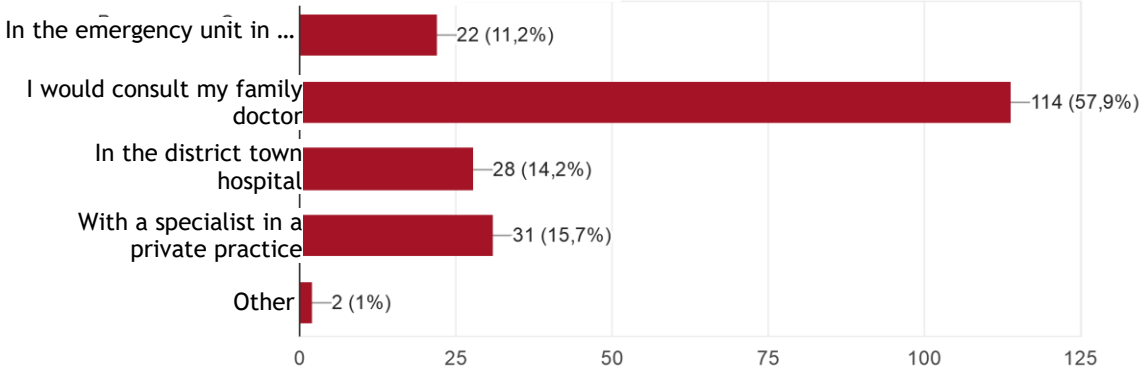
Romanian respondents reporting chronic diseases account for only 34% of all respondents. The majority of people do not have chronic diseases and consequently smaller share of them use aid when paying for medicines in their treatment. 47,2% buy medicines themselves, and 16,8% report that they do not even consult a doctor when doing that.

12. Aveți boli pentru care cumpărați medicamente cu rețetă compensată?

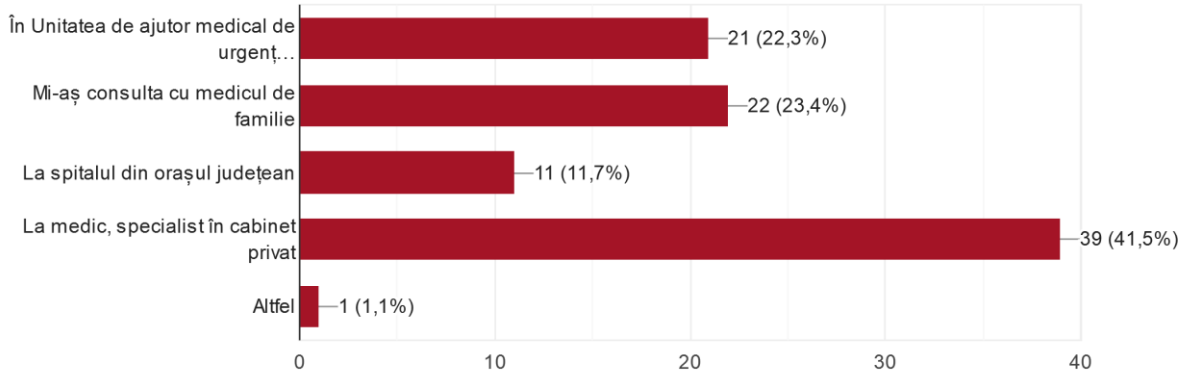


Health services assessment

14. If you had the chance to choose, where would you seek medical care or health care?



14. Dacă aveți posibilitatea de a alege, unde ați solicita ajutor medical sau asistență medicală? /

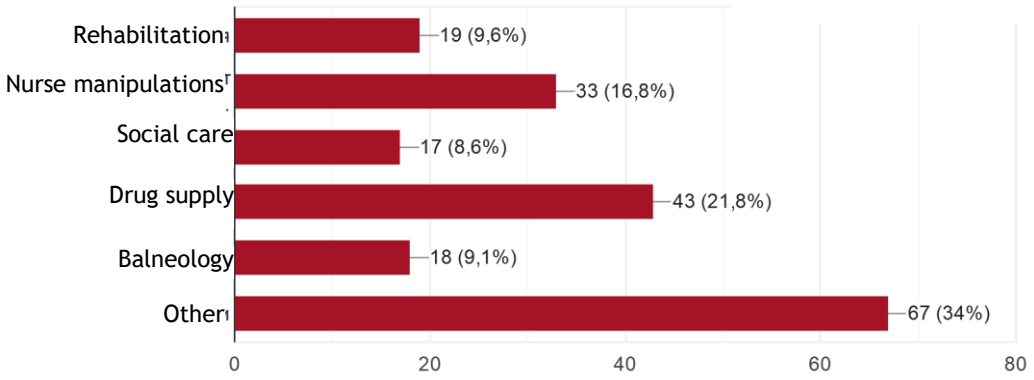


Scope of health services

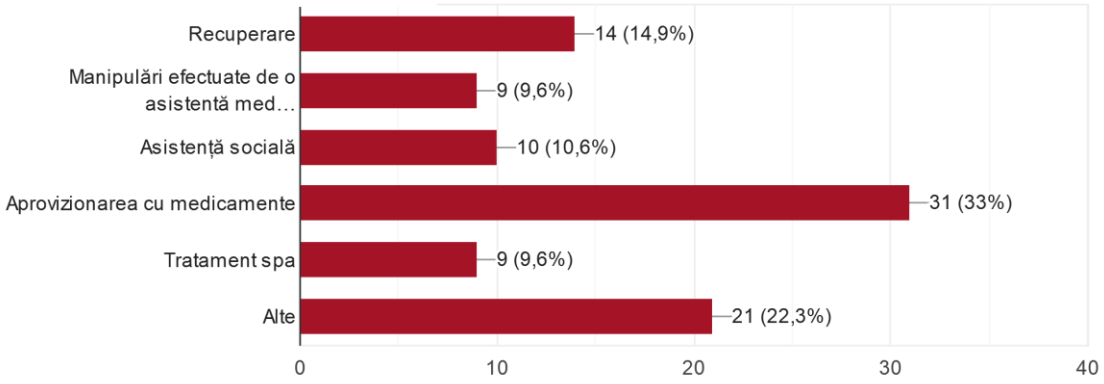
The diversity of health care and activities is important for building a comprehensive assessment of the satisfaction of the health services consumer. The answers to the next question give us an idea as to what kind of health care the inhabitants of Berkovitsa region have received. 66% have benefited from additional health care

outside medical examinations. Aid in buying medicines is ranked first, followed by nurse manipulations, social care, balneology and rehabilitation

18. Other than medical examinations, what additional health services have you used in the past 12 months?

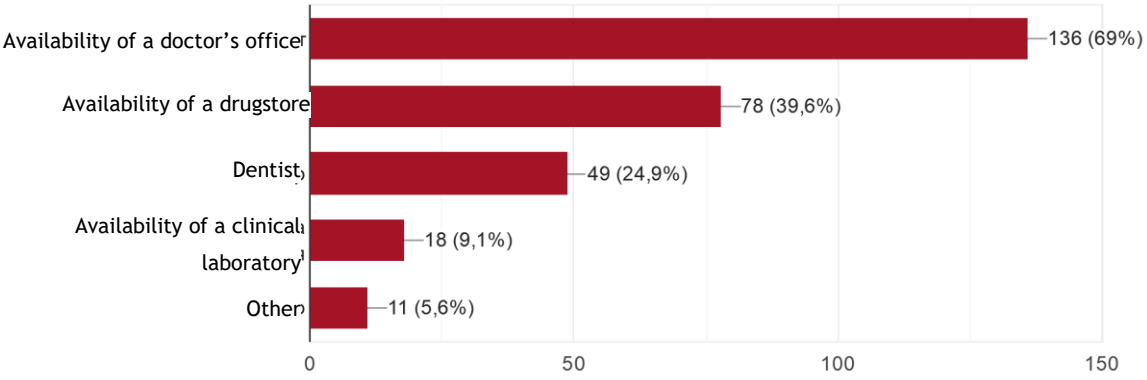


18. În afară de consultațiile medicale, ce asistență medicală suplimentară ați utilizat în ultimele 12 luni?



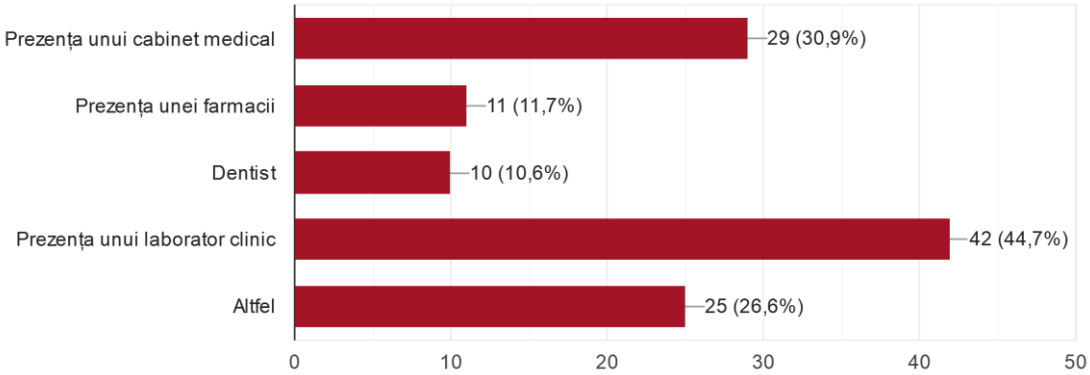
For the Municipality of Bailesti the results confirm that drug supply comes first, followed by medical manipulations, rehabilitation and social care.

19. What do you think is most important for your locality?



For the Municipality of Bailesti the availability of an outpatient clinic was rated as most important by 44% of the respondents. The result raises a question as to whether the medical laboratories operating in the municipality are sufficient to meet the needs of the population?

19. Ce credeți că este cel mai important pentru localitatea dvs.? / Este posibil mai mult de 1 răspuns



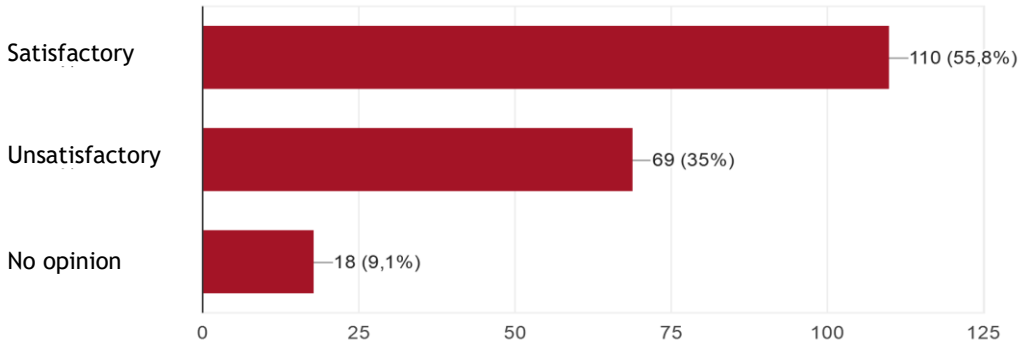
Quality of the health services

Berkovitsa Municipality residents assess the organization of health services as generally positive, almost 56 per cent say its quality is satisfactory, 9 per cent have no opinion and 35 per cent are dissatisfied. People of working age /18 to 64/ are the predominant group who value health services in a positive way, while more than half

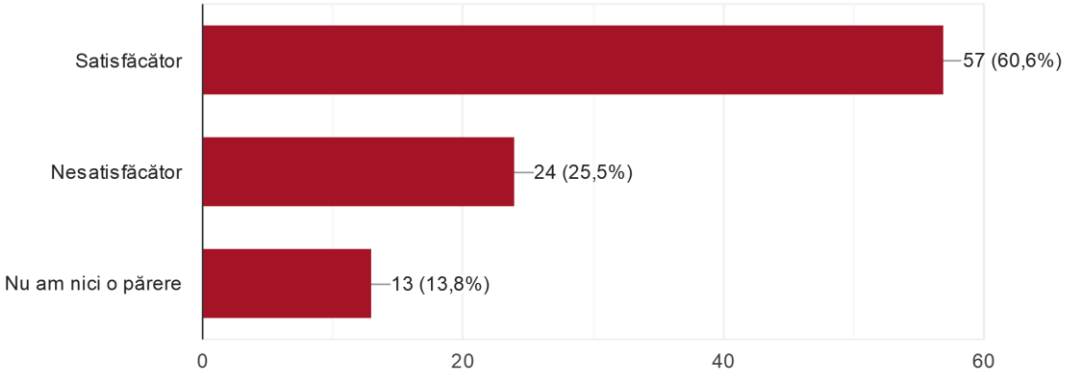
of those who are dissatisfied with the quality of health services are over 64 years of age.

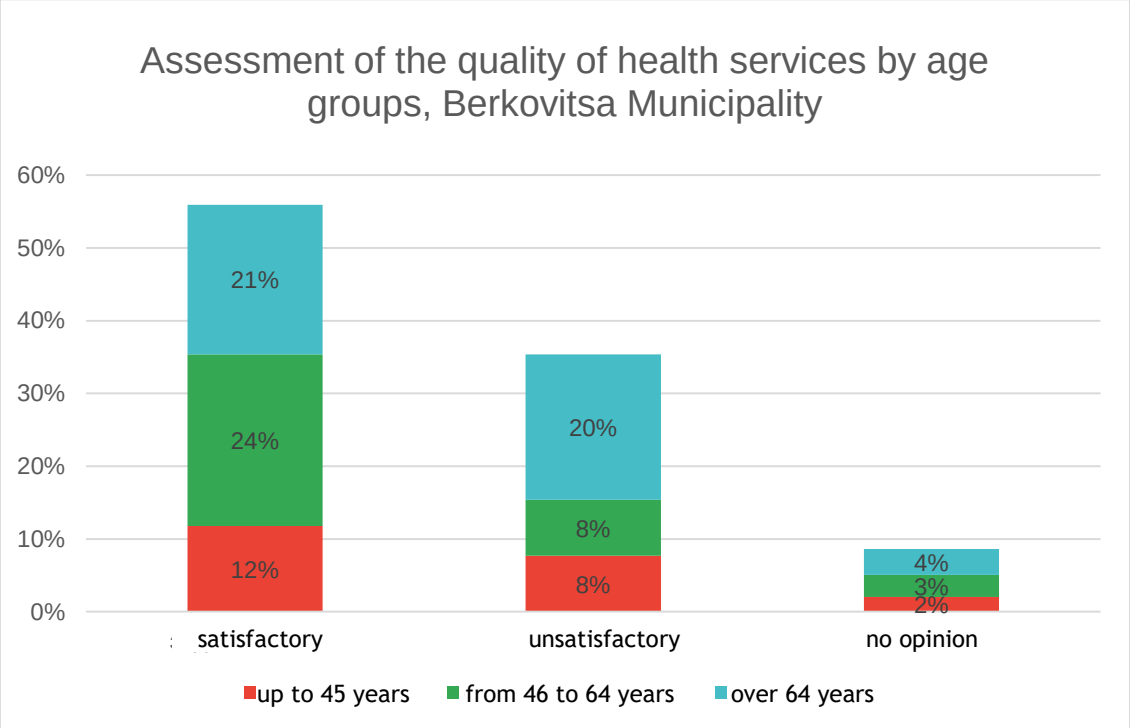
Among Romanian respondents the approval rate is higher than in Bulgaria and respectively the dissatisfaction rate is lower than that of Bulgarian respondents. 66% are satisfied and 25% are not satisfied with health services. Working age people's opinion is prevailing, where the approval rate is higher. 51 per cent of those approving are between 18 and 64 years of age. It should be stressed that the share of respondents in Bailesti of working age is generally higher and it is reasonable to assume that their opinion is decisive in the results.

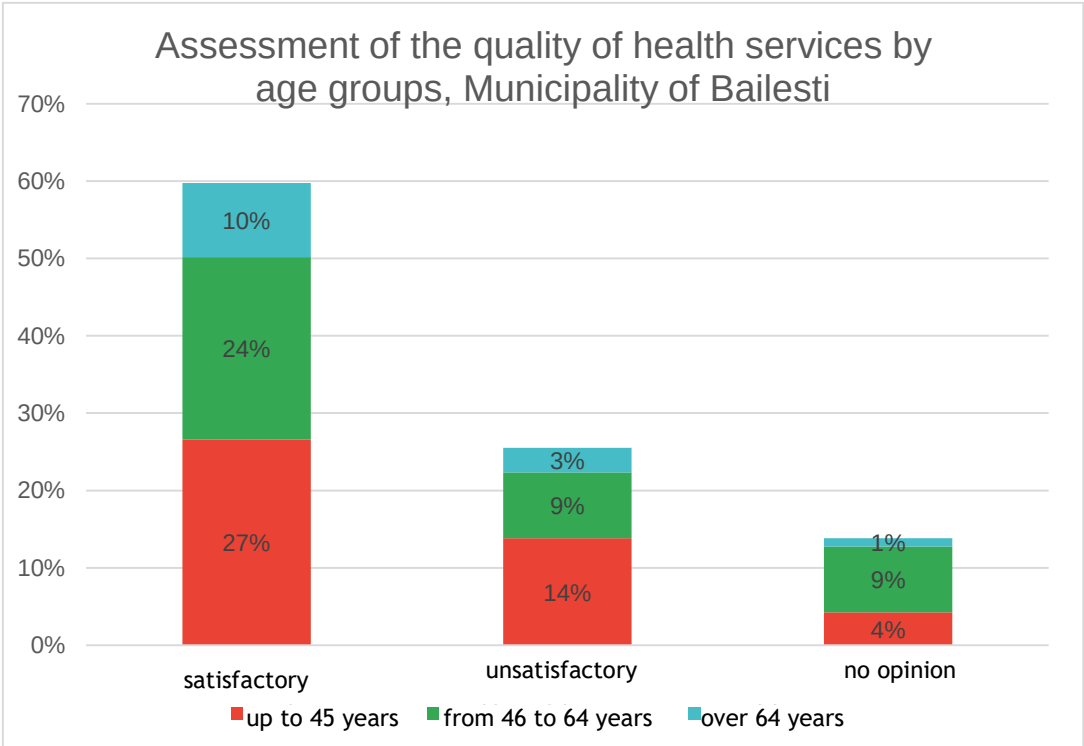
20. How do you assess the quality of health services in your locality?



20. Cum apreciați calitatea serviciilor de sănătate din localitatea dvs.?



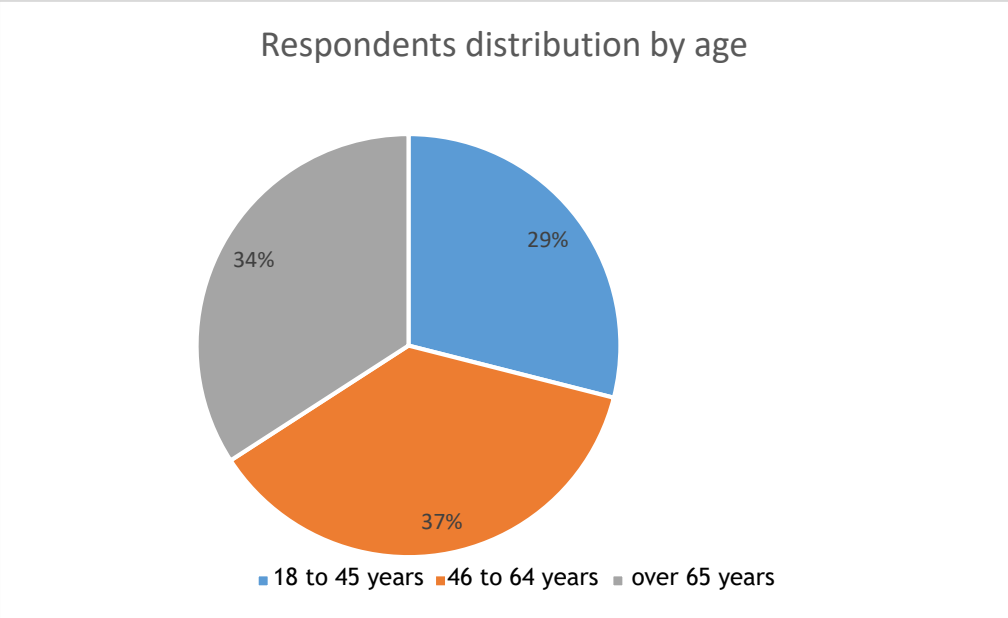

Assessment of the quality of health services by age groups, Berkovitsa Municipality
60%
50%
40%
30%
20%
10%
0%
21%
24%
12%
20%
8%
8%
4%
3%
2%
satisfactory
unsatisfactory
no opinion
up to 45 years
from 46 to 64 years
over 64 years

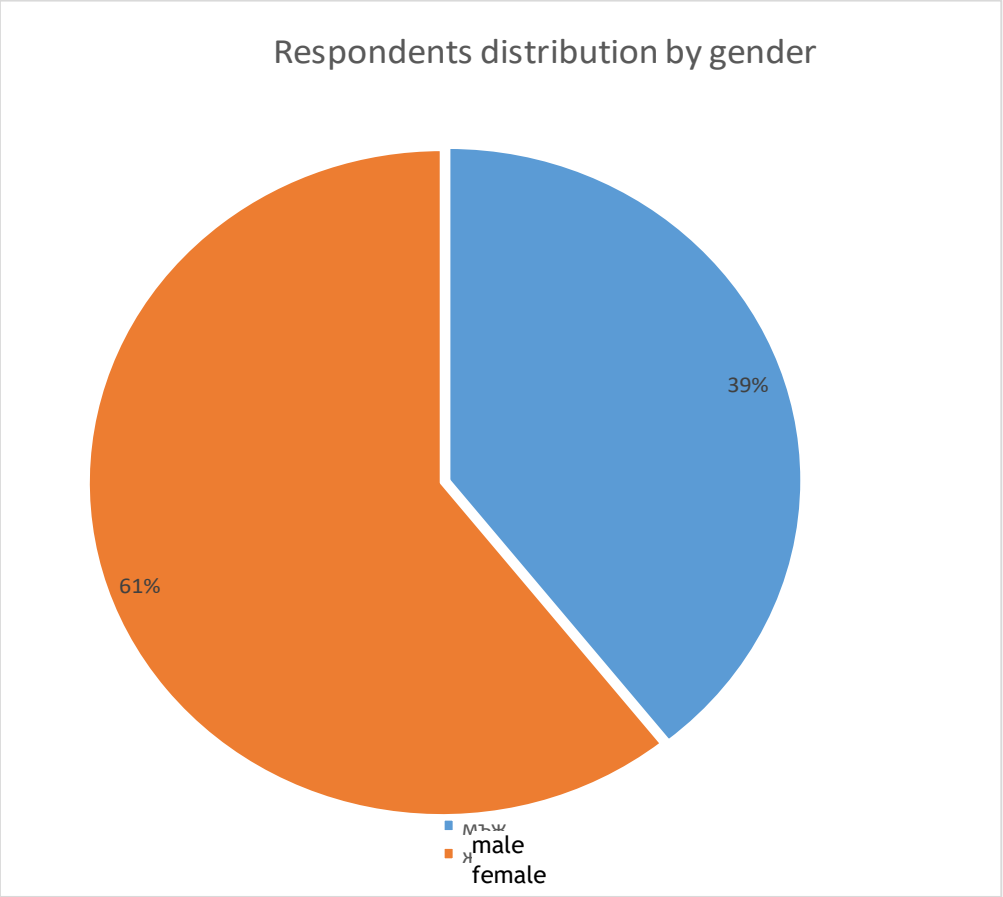

Assessment of the quality of health services by age groups, Municipality of Bailesti
70%
60%
50%
40%
30%
20%
10%
0%
10%
24%
27%
3%
9%
14%
1%
9%
4%
satisfactory
unsatisfactory
no opinion
up to 45 years
from 46 to 64 years
over 64 years

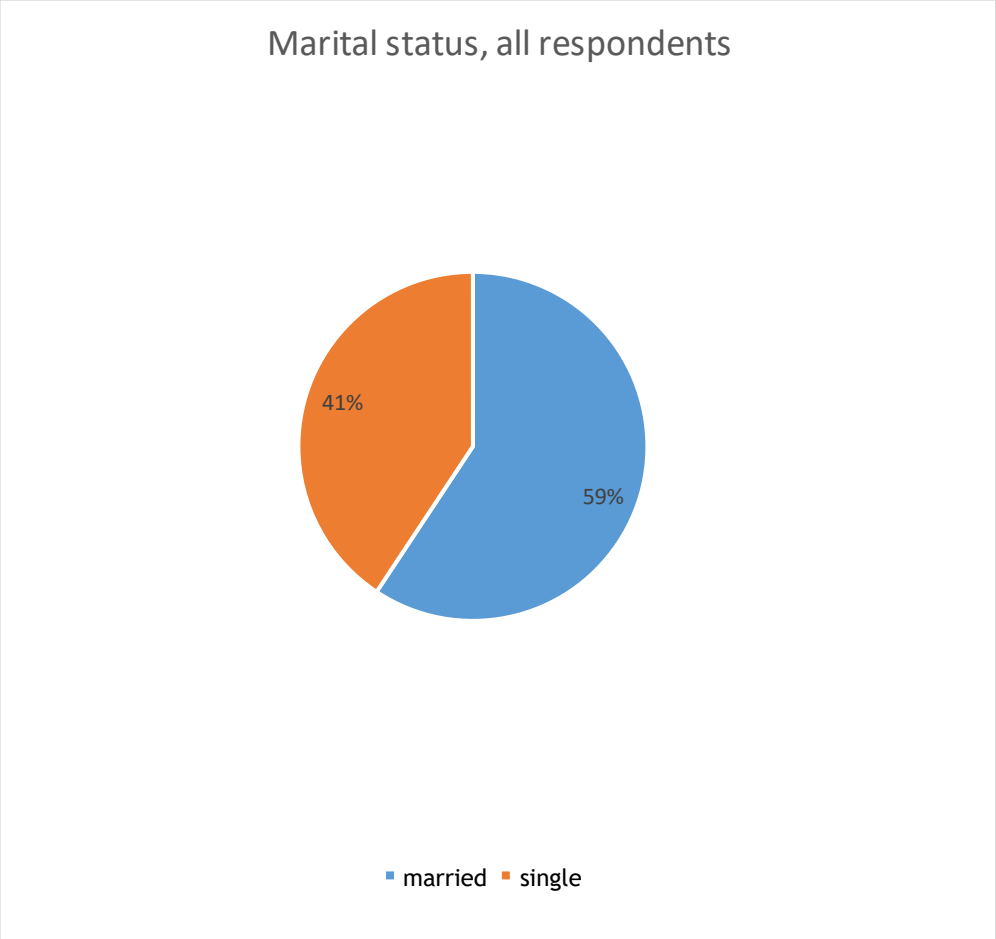
3.4.3. Conclusions and summary

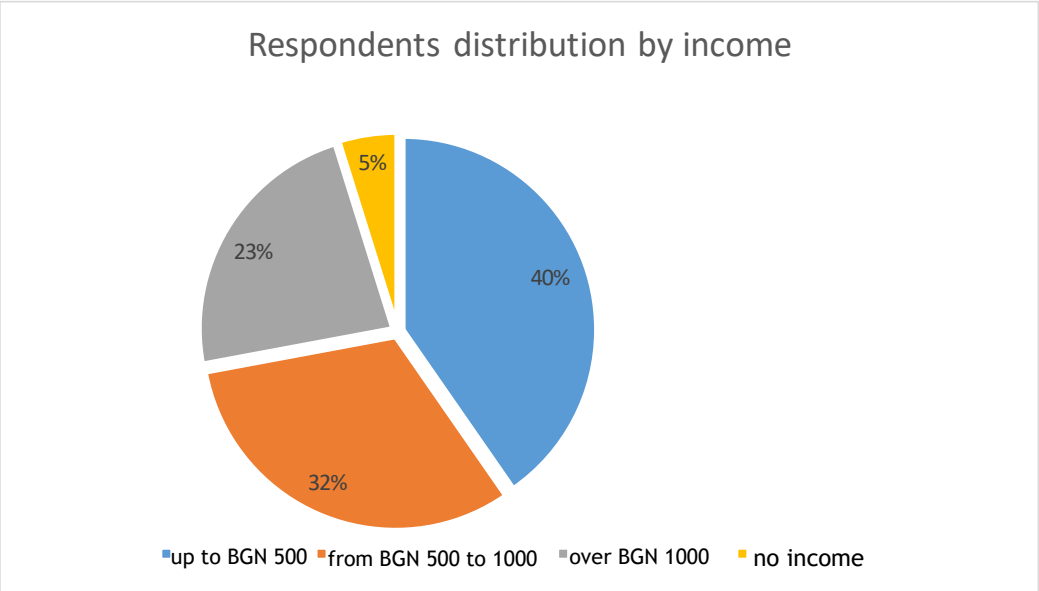
The results obtained within the sociological survey are important for assessing the efficient operation of the health systems in the two municipalities, and also for improving the quality and accessibility of provided health services and the degree of satisfaction of the population and consumers with these services.

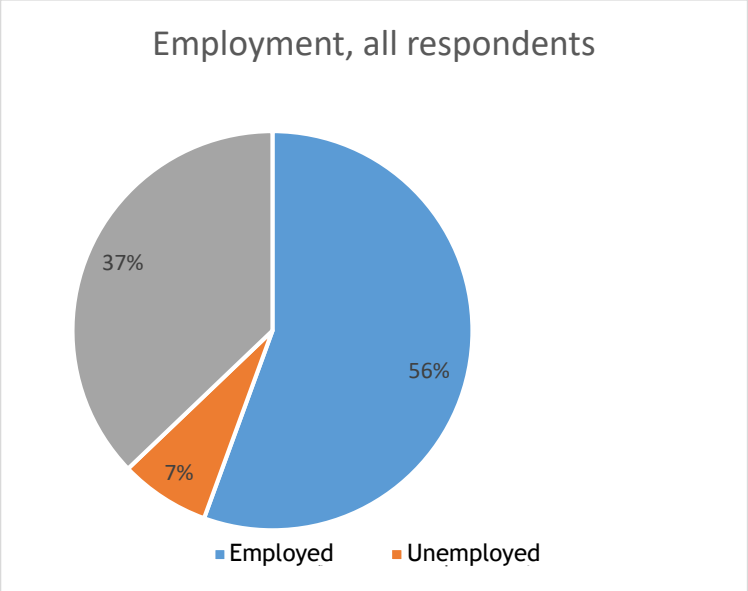
The socio-economic profile of the aggregation of respondents interviewed in the Municipalities of Bailesti and Berkovitsa, by age, gender, income, marital status and employment, is as follows:



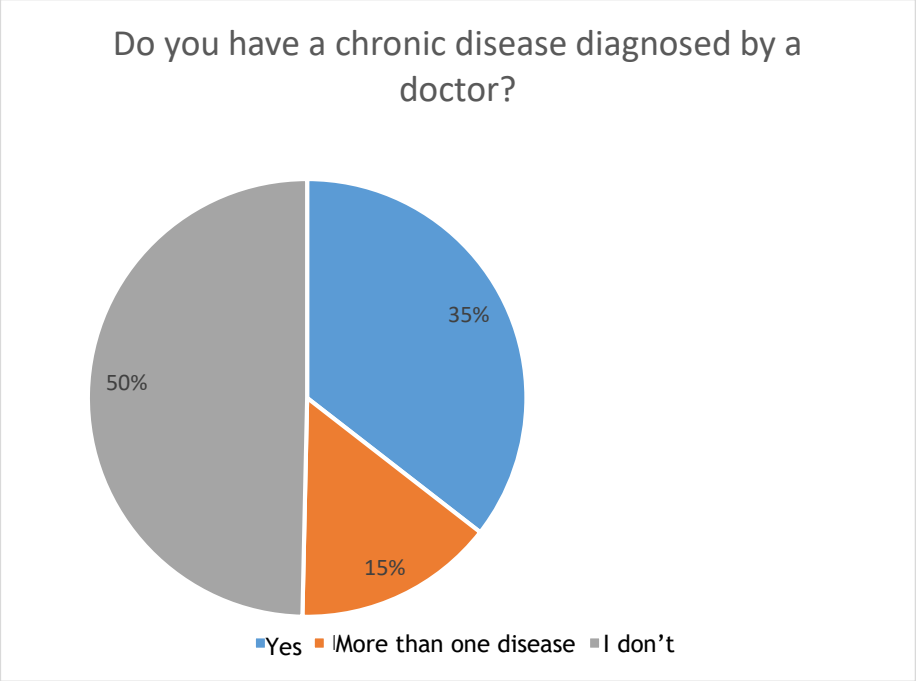

Respondents distribution by gender
39%
61%
male
female


Marital status, all respondents
41%
59%
married
single





The share of respondents reporting chronic diseases in the two municipalities was 50%, of which 15% had more than one disease. The result shows a high rate of morbidity for those living in the Berkovitsa-Bailesti region and therefore an urgent need to address this problem.



Overall, the conclusions that could be drawn from the survey among residents of the cross-border region of Montana in Bulgaria and Dolj in Romania show that:

- The age structure of the population has the greatest impact on the morbidity and behavior of healthcare users. The demographic characteristics of each municipality determine the morbidity level, the frequency of visits to a doctor and the use of supplementary healthcare besides outpatient and hospital care.

- Access to medical care depends on the organization of health services, the availability of sufficient number of doctors and the remoteness of healthcare offices from the patient's residence. The residents of municipal centers enjoy more benefits. For Berkovitsa Municipality the results clearly show that the existing organization of medical care, especially in small and remote localities, is unsatisfactory, causes problems for people and affects the quality of healthcare.

- The lack of specialised transport to healthcare facilities is a factor hampering the consumption of health services. For chronic patients, people with disabilities and those living alone, this places a heavy burden for themselves

and their relatives /including financially/ and often leads to unnecessary cost rising and delay of health care, especially when emergency care is needed.

- The survey results confirm that bad habits have a strong impact on the health status of the population in the two municipalities surveyed. The assessment of respondents is that unhealthy diet is the most important cause of morbidity, followed by smoking and excessive and unauthorized use of drugs.

- Public awareness of prevention options, early diagnosis of diseases and prevention of socially significant diseases is not a mass practice in the work of health authorities. It is mainly the result of the personal efforts of stakeholders. In the two municipalities surveyed, little is known about the functions of patient organizations as mediators between health service consumers and institutions. Their potential for conflict prevention, awareness and protection of patients' rights is not being exploited.

Recommendations to local authorities and health institutions at regional level can be formulated in the following directions:

- Local authorities need to adopt long-term health care programs, including measures to improve the access of sick people and those living alone to medical services, including their transportation to doctor's offices, especially in emergency situations.

- Specific measures need to be identified to increase the chances of health consumers for diagnosis and access to highly specialized, certified clinical laboratories. Access to this type of services will generally improve the morbidity indicators in both municipalities, it will minimize chronic diseases and improve the health status of residents. To the largest extent this concerns diseases such as Diseases of the circulatory system, Cancer, Diseases of the musculoskeletal system and connective tissue, Mental and behavioural disorders, Endocrine, nutritional and metabolic diseases.

- More decisive efforts are needed from regional health services and municipal

authorities for wide publicity of preventive healthcare campaigns, better focus of activities in specific localities and target groups, and last but not least, to develop new, specialized annual programs, coordinated with national campaigns for prevention of socially significant diseases. Programs must take account of the specific population characteristics, be based on the most common diseases and be in line with annual prevention programs at regional and national level. All outpatient and hospital care units within municipalities should be involved in these activities, as well as healthcare professionals at local and national level, NGOs and volunteers.

- The use of innovations and well-established advanced forms of medical activities such as mobile health services, mobile doctors and dental offices, mobile laboratories, delivery of medicines and aids, telemedicine, etc. should be broadened.

- As soon as possible, the coordination and the launch of joint campaigns by health institutions at regional and local level together with local authorities, professional associations of doctors and patient organizations, should be improved.

In conclusion it can be summarized that each county's health system and its optimum functioning are essential to create the necessary conditions and prerequisites for achieving high health status for everyone and for maintaining the health of the population. At the same time the needs, requirements and expectations of society and every individual regarding the quality and accessibility of health services are changing very quickly, both in terms of their characteristics and over time. This sets as a strategic main objective of each health system ensuring a continuous improvement in the quality of healthcare and the quality and accessibility of health services provided by the system. Therefore, health systems can be seen as both objects and subjects of continuous development and improvement. The natural objective of the changes in these systems is to achieve high-quality and efficient healthcare for the population that is sustainable over time, with due respect for the principles of effectiveness, efficiency, freedom of choice and patient care.

CHAPTER 4: DEVELOPMENT OF JOINT POLICIES IN THE HEALTH SECTOR FOR THE MUNICIPALITIES OF BERKOVITSA AND BAILESTI

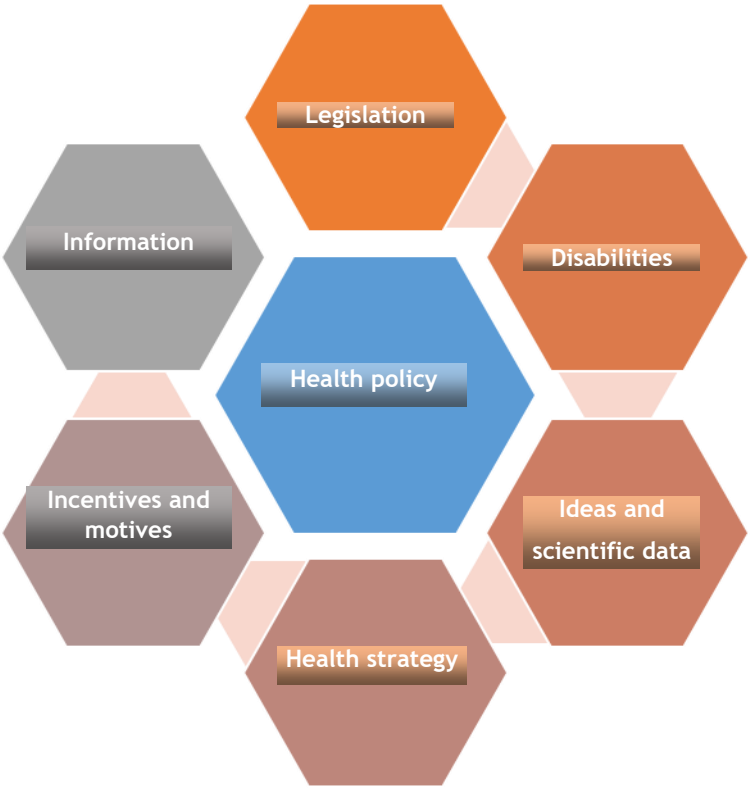
DEVELOPMENT OF JOINT POLICIES IN THE HEALTH SECTOR FOR THE MUNICIPALITIES OF BERKOVITSA AND BAILESTI

The policies in the health sector are part of the common policies of the Municipalities of Berkovitsa and Bailesti. They are driven by clearly defined public objectives, needs and interests – health and well-being for the population, and they can be defined as a system of long-term, stable solutions which are linked to the protection and restoration of the population's health. Policies in the health sector should be acceptable for all social groups, classes or parties and they should be consistent with the objectives, means and timeframes of their implementation. Health policy can also be defined as an official definition of certain objectives and needs, with a focus on citizens' health and public funds needed to protect it.

The main objective of health policy is to achieve public health security. Public health security is a system of norms, institutions, activities and relations that aim to achieve the best possible level playing field for citizens' chances of ensuring their health and access to high quality health services. Health security is a crucial factor for the quality of life in a society, in this sense traditional efforts to improve only individual medical and statistical indicators are clearly insufficient and obsolete. /total mortality, average life expectancy, etc.).

Health policy is a system of long-term formal health protection solutions, which help assess the acceptability of health-related activities and initiatives in view of the objectives pursued and the means to their achieving. It represents a formal opinion on the major health problems and the ways to solve them.

The tools of health policy are presented in Figure 4.7.:



Depending on the level, the terms being used include terms such as national health policy, regional and municipal health policy. This paper outlines a joint health policy at municipal level between the municipalities of Berkovitsa, Bulgaria.

Priorities

The priorities of joint health policy are determined on the basis of major health problems, whose solving needs to be prioritized. Priority of the common health policies of the two municipalities, which is defined on the basis of the morbidity study carried out, is to reduce the prevalence of Diseases of the circulatory system, Diseases of the respiratory system and Neoplasms in the age group of 40 to 60 year old inhabitants of both municipalities.

Objectives of joint policies in the health sector

Over the last decade, European health systems have been facing increasing common challenges: increasing healthcare expenditure, aging of the population, associated with an increase in chronic diseases and multi-morbidity, leading to growing demand for health care, shortages and uneven distribution of healthcare professionals, health inequalities, and inequalities in access to healthcare.

Furthermore, in recent years the economic crisis has limited the financial resources available and has thus aggravated the difficulties of Romania and Bulgaria in ensuring the sustainability of their health systems. This in turn threatens their ability to provide universal access to quality healthcare. Health systems have to be sustainable: they need to be able to adapt effectively to the changing environment by coping with significant challenges using limited resources.

In this context and based on the study carried out, the following joint health policy objectives can be formulated:

- To protect and improve the health of citizens in the targeted municipalities.
- To support the modernization of health infrastructure and the development of e-health and telemedicine.
- Upskilling the staff in the municipal hospitals in Berkovitsa and Bailesti.
- To improve the efficiency of municipal health systems.
- To increase the municipal health systems' readiness to respond jointly in the event of epidemics with the potential to grow at cross-border scale.

Strategic tasks of joint health policy

Health systems in the two municipalities face a number of challenges:

- Achieving greater economic effectiveness;
- Competitiveness and Safety;
- Coping with emerging global threats, such as antimicrobial resistance;
- Evidence-based policy making;
- Assessment of risk factors for non-communicable diseases;

- Support for vaccinations;
- Significant health and demographic problems are also observed;
- Increasing mortality;
- Declining birth rate;
- Aging of the population;
- Internal migration with a trend toward urbanization;
- Emigration;
- An increase in the relative share of cardiovascular diseases;
- Increased frequency of oncological diseases and respiratory diseases;
- Increase in domestic, transport and occupational traumatism;
- Increase in the morbidity of certain socially relevant infectious diseases (AIDS, tuberulosis, COVID-19, etc.).

These problems and challenges are also the key to defining the strategic tasks of joint health policy.

Strategic task No. 1: Coordinating the health systems

Health systems need to be accessible, efficient and resilient to changes and to future challenges. They are under pressure to develop, modernize and adapt to a constantly changing environment, which in turn can have a negative impact on health expenditure. This pressure may result from:

- Demographic changes (aging of the population);
- Epidemiological developments (increasing burden of chronic diseases);
- New technologies (plus their interoperability and standardization);
- Empowering patients;
- Lack of workforce;
- Uneven distribution of healthcare professionals;
- Inequality in healthcare.

The aim of the task is to improve the efficiency, accessibility and sustainability of the healthy systems in Berkovitsa and Bailesti.

This strategic task also covers the implementation of joint information and prevention initiatives to contribute to the reduction of the most common diseases in the region - Diseases of the circulatory system, Neoplasms and Diseases of the respiratory system. The initiatives should identify, disseminate and promote good practices for cost-effective health promotion and disease prevention measures focused in particular on the key risk factors, such as tobacco use, drug use, harmful use of alcohol and unhealthy dietary habits, obesity and physical inactivity, as well as on tuberculosis and hepatitis. Effective prevention would contribute to increasing the financial sustainability of health systems.

The two hospitals will also cooperate through joint responses to different cross-border threats such as epidemics and/or man-made natural disasters. This cooperation may consist in the exchange of information, good response practices, good treatment practices and prevention of epidemics, referral of patients, etc. The exchange of good practices will enable the management bodies of both hospitals to benefit from efficient solutions developed in the partner country, reduce duplication of efforts and increase value for money by promoting innovative solutions in the field of health.

Strategic task No. 2: Promotion of cross-border healthcare

Border regions are areas where the process of European integration should be felt most positively – education, training, work, care and economic activity on both sides of the borders are all day-to-day activities that should be possible regardless of the existence of a national administrative border.

Although cross-border healthcare still has a small share compared to the one provided locally, in some situations the most accessible or adequate care for patients can be found in a Member State other than their home country. The ability of patients to make free and informed choices about access to cross-border healthcare can improve their healthcare.

EU citizens have the right of access to healthcare in any EU country and to reimbursement of their expenses from their national health insurance fund.

In a context of increasing inter-connectivity between health policies and systems, a joint health policy will facilitate access to:

- information on available healthcare in the two municipalities and/or Montana District - Dolg County,
- Alternative options for treatment and/or specialized treatment in both areas of the cross-border region.

Under EU legislation all citizens have the right to consult a healthcare provider, hospital or pharmacist in any EU/EEA country, and their medical expenses can be borne by the respective national health service (health insurance provider in the citizen's country).

Strategic task No. 3: Promoting e-Health

EC strongly promotes cooperation between Member States in e-Health and supports them in developing and implementing effective and interoperable e-Health solutions to improve health systems. As required by Directive 2011/24, the Commission supports the e-Health Network, which is working toward achieving e-Health and interoperable applications. The e-Health Action Plan 2012-2020 also highlights the benefits of e-Health services for citizens, patients and healthcare providers, and proposes concrete actions to reduce the barriers to the deployment of these services. The two municipalities will make further efforts to develop effective and interoperable telemedicine services. European reference networks will represent an ideal opportunity to deploy and test telemedicine in the EU.

The two municipal hospitals will cooperate with each other in the field of e-Health, and when technically prepared, they will participate in the voluntary network of Member State authorities (e-Health Network) in order to support the development of common standards for data transmission in cross-border health care.

Strategic task No. 4: Promoting the use of Telemedicine.

Telemedicine is a remote provision of healthcare services, such as health status assessment or medical advice, using telecommunications infrastructure. It allows healthcare professionals to evaluate, diagnose and treat the patients using widely available technology, such as a video-conference call via laptop or smartphone, without the need for the patient to visit the doctor's office.

Remote patient monitoring, also known as telemonitoring, allows monitoring the health status of patients with chronic diseases in their homes with mobile medical devices that collect data on different vital sign parameters, such as: blood sugar, blood pressure, pulse, oxygen saturation, etc. This data can be monitored in real time by the respective healthcare professionals and, if necessary, specific action can be taken for the benefit of the patient.

Under the current project, the two municipal hospitals will be provided with telemedicine equipment, which will open up a completely new perspective for collaboration and cooperation between the two organizations.

When recording and sending data, also known as asynchronous telemedicine, healthcare professionals can share with each other patient information, such as laboratory results with a doctor in another location.

Interactive telemedicine enables real-time doctor-doctor or patient-doctor communication. Such telemedicine sessions can be held at the patient’s home or in a nearby medical treatment facility and they include telephone consultation or the use of video conference software.

Strategic task No. 5: Improving the qualification of specialists in municipal hospitals

The problem with the lack of staff in Bulgaria and Romania, as well as in most EU countries, is extremely serious. The provision of qualified staff is also one of the

biggest challenges for both municipal hospitals in Berkovitsa and Bailesti.

For this reason, the networking created through the implementation of this project can also be used in the future for both recruitment and improving the qualifications of medical specialists.

The hospitals will hold joint training workshops attended by Bulgarian and Romanian doctors. Highly qualified specialists will be invited as speakers at these seminars to show up-to-date methods for treating the most common diseases identified in this study.

The approach for exchange visits of medical staff will be continued so they can gain experience in using newly purchased state-of-the-art medical equipment in the two hospitals.

Through the opportunities offered by modern communication technologies, colloquia will be organized using video-conferencing to discuss specific medical cases, with which one of the two establishments has gained experience in successful treatment.

CHAPTER 5: DRAWING UP A JOINT MORBIDITY MAP OF THE MOST COMMON DISEASES AT THE LEVEL OF MONTANA DISTRICT IN BULGARIA AND DOLF COUNTY IN ROMANIA

The mapping of morbidity in the cross-border region of Montana District - Dolj County can be illustrated with the following table, presenting the mortality breakdown by cause of death (per 100 000 inhabitants) and the respective indicators at national level for Bulgaria and Romania.

Class No.	DISEASES UNDER ICD-10	Montana District	Bulgaria	Dolj County	Romania
	TOTAL	**2169.9**	**1544.8**	**1373.0**	**1190.1**
I	Certain infectious and parasitic diseases	5.3	8.5	9.8	16.5
II	Neoplasms	236.0	248.6	218.3	232.8
III	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	4.6	2.1	-	0.8
IV	Endocrine, nutritional and metabolic diseases	46.6	24.3	3.0	13.4
V	Mental and behavioural disorders	-	1.3	2.2	1.5
VI	Diseases of the nervous system	28.3	13.4	17.9	19.9
IX	Diseases of the circulatory system	1371.0	1004.2	893.6	673.0
X	Diseases of the respiratory system	203.2	69.3	72.9	77.0
XI	Diseases of the digestive system	74.9	56.2	76.1	69.8
XII	Diseases of the skin and subcutaneous tissue	2.3	0.7	-	0.5
XIII	Diseases of the musculoskeletal	-	0.5	-	0.3

	system				
XIV	Diseases of the genitourinary system	34.4	21.9	12.0	18.6
XVI	Certain conditions originating in the perinatal period	1.5	2.5	1.3	2.1
XVII	Congenital malformations, deformations and chromosomal abnormalities	0.8	1.4	2.2	1.6
XVIII	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	126.8	53.9	18.1	17.3
XX	External causes of morbidity and mortality	34.4	36.2	45.6	44.9

CONCLUSIONS ON THE HEALTH AND DEMOGRAPHIC STATUS OF THE POPULATION IN THE CROSS-BORDER REGION

CONCLUSIONS ON THE HEALTH AND DEMOGRAPHIC STATUS OF THE POPULATION IN THE CROSS-BORDER REGION:

1. The current demographic situation in Berkovitsa Municipality and Montana District is characterised by a continuing decrease of the population number, population aging, persistently low birth rates and constantly high total mortality.
2. With regard to the mechanical movement of the population (settled and displaced) in Berkovitsa Municipality, despite the negative figures and in contrast to the very unfavorable general trend for Montana District, there is no deterioration in the dynamics of the process and mechanical growth has kept the same level for the period 2012-2019.
3. At present the demographic characteristics of Berkovitsa Municipality are significantly worse than the national average and unfavorable. Due to the increased intensity of various demographic processes, natural and mechanical movements of the population, there is currently a significant negative population dynamic for the municipality. The trend of maintaining high negative rates of natural growth adversely affects the demographic situation.

4. The total mortality of the population in Montana District is significantly higher than the national average, including with regards to two of the most prevalent disease classes as cause of death - Diseases of the circulatory system and Diseases of the respiratory system. In 2018 and 2019 the mortality of neoplasms in Montana District was lower than the national average.

5. The most common causes of death in Berkovitsa Municipality, Bailesti Municipality, Montana District, Dolj County, as well as at national level for Bulgaria and Romania, are Diseases of the circulatory system, followed by Neoplasms and Diseases of the respiratory system. The higher total mortality in Bulgarian territorial units compared to the Romanian ones is mainly due to the

higher mortality rates for Diseases of the circulatory system, and also to a lower degree to Diseases of the respiratory system.

6. In the 2017-2019 period, Diseases of the circulatory system are the prevalent disease class in the age group over 18 years in Berkovitsa Municipality and across Montana District. Respiratory diseases are second ranked in the nosological structure. This class of diseases is ranked first in the age group 0-17 years for both prevalence and incidence.

7. In the structure of the newly diagnosed diseases in Berkovitsa Municipality, in both age groups (0-17 and over 18 years) Diseases of the respiratory system have a dominant presence and they were reported as the most common diagnosis. In the 0-17 age group, the first three most common diseases include Class XI - Diseases of the digestive system, Class I - Certain infectious and parasitic diseases, Class XVIII - Symptoms, signs and abnormal clinical and laboratory findings, etc. In the age group above 18 years, the most common diagnoses include Class IX - Diseases of the circulatory system, Class XIII - Diseases of the musculoskeletal system and connective tissue, Class XIX - Injury, poisoning and certain other consequences of external causes, etc. The above data is also confirmed by analysed data on hospitalized morbidity in Berkovitsa Municipality and Montana District.

8. Comparing data for Montana District with the average national values for registered cases of malignant neoplasms in the 2016-2018 period, it is revealed that incidence and prevalence in the district are considerably lower than the national average. The incidence of newly diagnosed malignant neoplasms for Montana District is close to the average for Romania and significantly lower than the incidence for Dolj County. In Montana District, as well as in Dolj County, Neoplasms are the second most significant cause of death, following the Diseases of the circulatory system.

9. During the 2017-2019 period registered cases of active tuberculosis in Montana District and on average in Bulgaria were lower than the average frequency in Romania and significantly lower than the frequency for Dolj County.

10. Out of the outpatient clinics for non-hospital care in Montana District, 65.5% have a primary address in the towns and 34.5% in the villages. In this sense, even with higher general availability of General Practitioners (GP's), in some of the villages there are no permanently residing GP's. Some of the practices have a second address of the GP's. Although patients in this way have chosen a family doctor in a different town or village, the patients encounter difficulties to access primary medical care.

11. In Berkovitsa Municipality and in the Montana District as a whole, there is a worrying trend of increasing average age of General Practitioners, including due to the fact that most of them continue to work after retirement age, and also due to the lack of optimal inclusion of young doctors in the system. In the entire Montana District there is not a single General Practitioner under the age of 35.

12. Specialized medical care is unevenly distributed among the individual municipalities in the region. In seven of the eleven municipalities of Montana District there are no registered establishments for specialised non-hospital medical care. There is a shortage or even lack of doctors in a number of medical specialties.

13. There is a strong centralization of hospital care in Montana District. In 2019, 82.8% of hospital care was provided in Montana.

14. The breakdown of medical practitioners from all the specialties by age in Montana District shows that the largest share of doctors fall under the 55 - 64 age group - 172, or 44.4%. The eldest doctors (65 years of age and older) are 77, or 19.9%. In the entire Montana District young doctors - up to 35 years of age, are only 12 or 3.1%.

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