

# THE ASSURANCE WITH QUALIFIED PERSONNEL – PRIORITY DIRECTION OF THE ONCOLOGY SERVICE IN THE REPUBLIC OF MOLDOVA

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*The specialized workforce in the health system field is essential for carrying out the qualitative medical act and in an adequate volume for oncology patients, which is a critical component of the health system in the Republic of Moldova. Currently, we witness a vast inequality in the distribution of specialized medical personnel in the country and globally.*

*The observed disparities in overall survival outcomes are multifactorial and generally relate to inefficiencies, weak links, discontinuous care of cancer patients and, most importantly, low numbers of health workers. Underinvestment in the workforce, however, has been insufficient over the years. The supply of a qualitatively trained workforce to the health systems ensures proper functioning.*

*Keywords: medical human resources, medical oncology, oncology specialization, oncology medical workers*

## INTRODUCTION

Prevention, timely diagnosis and the provision of quality and timely medical services to oncology patients are the basic pillars for the oncology field, within the health system. The concepts of anti-cancer therapy are changing at a much higher speed compared to the treatment methods applied in other medical spheres. Therefore, medical specialists must cope with the massive flow of information and be able to apply new methods for the benefit of the patient.

In the Republic of Moldova, specialist doctors involved in the diagnosis, treatment and care of oncology patients are put to a hard test due to the lack of medical practice that includes fundamentally new methods of treatment. Analyzing the data provided by the Moldova Statistical Data Bank, it should be noted that, in terms of incidence and prevalence, oncological diseases rank 4th, after diseases of the cardiovascular system, diseases of the respiratory system and those of the digestive system.

Thus, for the health system, it is necessary to focus attention on the treatment and care of the oncological patient, applying various tools that would increase life expectancy and substantially decrease mortality among the population affected by these diseases.

At the present time, the increase in morbidity and mortality from oncological diseases, as well as the increase in costs per treated case, is due not only to delayed diagnosis or medical errors, but also to the reduced number of health workers. The provision of qualified, quality labor ensures the proper functioning of health systems [1]. To address disparities in cancer therapeutic outcomes, a critical aspect is to strengthen the cancer care workforce. Underinvestment in the workforce, however, has been insufficient over the past decades. According to the WHO, the inequities faced by health workers further increase the shortage of health workers, with an estimated shortage of more than 18 million health workers by 2030 [2-5].

Incorporating physicians from different specialties into a care team is essential for establishing the most

successful diagnostic and treatment plan. It may also give patients access to treatment options that the primary oncologist did not consider, such as clinical trials conducted in another clinic or field [6-8].

Each medical system assumes the obligation to train its medical personnel and assign them skills in accordance with the nomenclature of medical functions existing in the country. In the Republic of Moldova, oncology and hematologist are officially registered medical specialties with an oncological profile. In this vein, it is necessary to establish medical specialties with a specific profile and to eliminate the "one-size-fits-all" specialty approach. The medical subspecialties with an oncological profile are:

- *Radiotherapy (Radiological Oncology)* – the independent clinical medical specialty that uses ionizing radiation, alone or in combination with other therapeutic methods in the treatment of patients with cancer or other diseases.
- *Medical oncology* – the specialty that deals with the study of the appearance and development of malignant neoplasms, tracking the detection, diagnosis, treatment and post-therapeutic evolution of patients.
- *Oncological surgery* – is the specialty that deals with the diagnosis and treatment of oncological diseases or surgery for cancer, it is also used to plan other treatments, to improve some symptoms (palliative purpose) or it can have a preventive role.
- *Gynecological oncology* – the specialty that deals with the medical or surgical treatment of oncological diseases of the female reproductive system.
- *Oncological urology* – the specialty that deals with the medical or surgical treatment of oncological diseases of the organs of the urinary tract.

- *Pediatric oncology and hematology* – is the subspecialty that deals with oncological and hematological diseases in children.
- *Hemato-oncology* – medical specialty dealing with the study, diagnosis and treatment of hemoblastoses

⇒According to the data provided by MOSES-2006, the teaching of oncology is generally provided in the curriculum of undergraduate studies in most countries, at different levels (years of study). The teaching of oncology is consistently reported by medical faculties in different countries, with significant differences in the structure and content of courses in this area. It provides future specialists with general knowledge necessary for further work. Postgraduate specialization and/or subspecialization in oncology differs from country to country depending on the specifics of the medical system. Postgraduate specialization and/or specific specialization in Medical Oncology exists in 24 of the 33 countries for which data were reported (72%) [9,10].

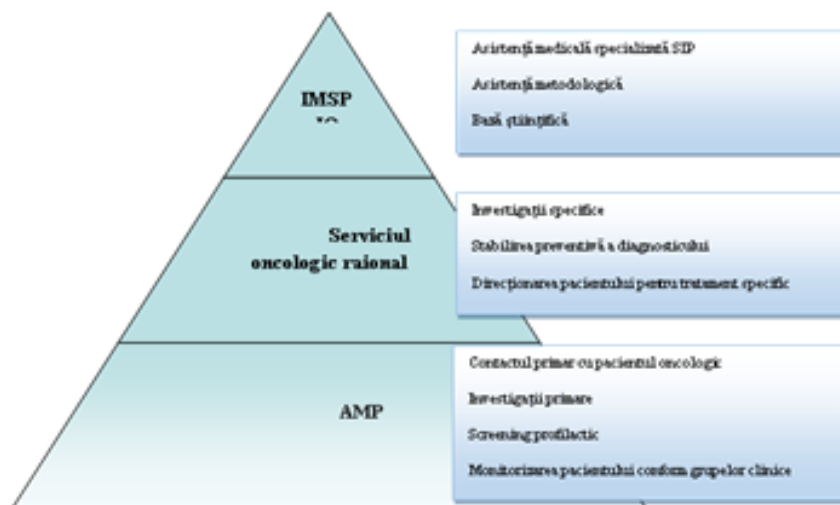
⇒Medical Oncology as a subspecialty of Internal Medicine is included in the training program of internists in several countries (Lithuania, Iceland, Bosnia-Herzegovina, Bulgaria, Croatia). In Turkey, it is the only existing form of teaching Medical Oncology. In Ireland, medical oncology is preceded by training in internal medicine [6,9,11].

⇒*Oncological surgery*, as a separate specialization, exists only in 15% of the countries mentioned in the MOSES-2006 report; it does not exist at all in Mediterranean and Central-Eastern Europe. In the Baltic area and Russia, Central Europe and Northern Europe it is recognized only in Latvia, Poland and Finland respectively. It is also recognized in India and Peru, but not in Israel. As a subspecialty of surgery, surgical oncology (oncological surgery), exists in 28.6% (8/28) of the reporting countries of MOSES – 2008, Phase III. The number of graduating specialists is very low (with the exception of Poland, where the rate is around 20 specialists/year). The training program is provided for 2-4 years of postgraduate training and, again, training abroad is generally permitted [12,13].

⇒Regarding *Radiotherapy* as a separate specialization, the distribution is more even between countries. Radiotherapy is provided in postgraduate teaching or is officially recognized in 78.6% (22/28) of countries with a considerable number of graduate specialists (from 1 to 50, median 6.5, corresponding to 1 in 1,200,000). The average duration of specialist training is 4-5 years, except in Albania (1 year), the Russian Federation (2 years) and Switzerland (6 years). In many countries, full or partial training abroad is allowed [14-16].

⇒Postgraduate specialization and/or specific specialization in Hematology exists in almost all countries included in the report (in total 96.4%, 27/28). Training in Hematology develops over 2-6 years in most of these countries. The

**Figure 1. Staging of specialized oncological medical assistance in the Republic of Moldova**



number of graduate specialists varies from 2 to 116 per year. In most countries, full or partial training abroad is allowed.

⇒Hemato-oncology, as a separate postgraduate specialization and/or sub-specialization does not exist, except in Albania, Belgium, France and Israel (5/28; 17.9%) [9, 16].

In the Republic of Moldova, medical assistance predestined for oncology patients is provided in stages according to the level of the health sector: primary, secondary or tertiary (fig. 1).

The World Health Organization recommends training in this area for all medical professionals. If at levels I and II of medical assistance, medical services are provided by specialist doctors from other fields of activity, then at level III of medical assistance, medical care predestined for oncological patients is provided by specialists with direct oncological medical training: medical oncologists, radiotherapists and surgeon-oncologists. In the state oncology system, 158 oncologists are trained, which is 0.5 doctors per 10 thousand people, including oncology surgeons. Of these, 87.34% work within the Oncological Institute (IMSP).

## AIM OF STUDY

Evaluation of the oncology service provision with specialized medical personnel in order to determine the population's access to oncology assistance services at the territorial and national level.

## MATERIALS AND METHODS.

A cross-sectional selective descriptive study with a qualitative and quantitative component was carried out. The research methods applied in the study are: historical, mathematical, analytical and graphic. The materials used in the research were represented by information

obtained from the specialized literature review, data from studies that reveal the experience of economically advanced countries, as well as official statistical data.

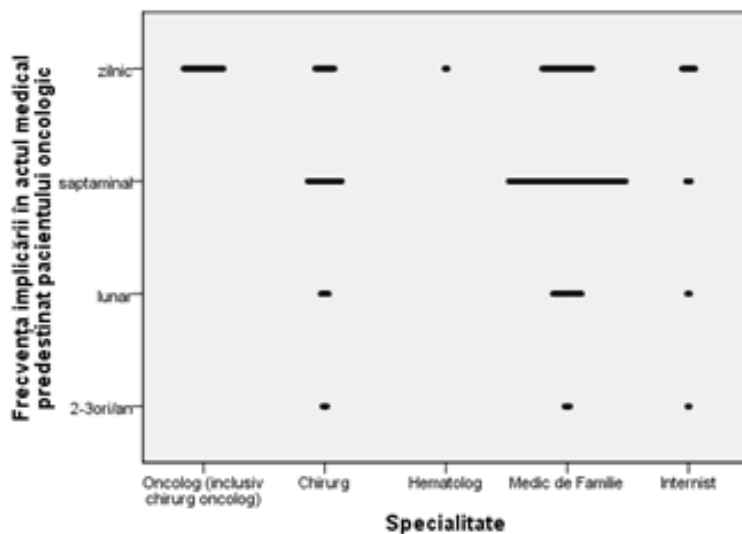
The qualitative component of the study followed the empirical theory methodology and was based on the interview technique. The subjects of the research (n=11), medical administrative and teaching staff in the field of oncology, were interviewed regarding the training and provision of the oncology service with specialized medical personnel. A questionnaire with key persons was used to carry out the quantitative component of the study. To evaluate the opinion of doctors trained in the medical act provided to oncological patients regarding the organization and capabilities of the oncology service at the republican and territorial level, as well as to obtain the opinion of doctors trained in the medical act provided to oncological patients with reference to the process of professional training and improvement of knowledge, 416 specialists (family doctors, oncologists, hematologists, surgeons and internists) were questioned; 7 questionnaires were not included in the analysis process, registering multiple filling gaps.

The sample was calculated in the EpiInfo 7.2.2.6 Program, section "StatCalc – Sample Size and Power", applying the sample volume calculation formula for cross-sectional studies.

Statistical analysis of the data was performed using the IBM SPSS statistical analysis program, version 26. The assessment involved statistical analysis for each question, with the calculation and analysis of the correlation between responses. The results of the questionnaires and the evaluation of the opinions of the interviewed experts were analyzed. The comparative analysis based on the experiences of the EU states and those recorded in the Republic of Moldova was also included.

The obtained results were processed using the SPSS program, and tables, graphs and diagrams were generated. The results obtained in this way were the basis for the development of recommendations regarding the provision of the state oncology service with specialized medical personnel.

Figure 2. The frequency of involvement in the medical act predestined for the oncological patient depending on the specialty



## RESULTS AND DISCUSSIONS.

The specialized workforce in the health field is essential for the achievement of quality medical care, provided in an optimal time and in an adequate volume for oncology patients, in turn, the oncology sector being a critical component of the health system in the Republic of Moldova. Currently, we witness a vast inequality in the distribution of specialized medical personnel, both in the country and globally.

Among the specialists surveyed: 14 (3.42%) of the oncologists work in secondary level medical institutions, and 34 (8.31%) in tertiary level medical institutions. Among surgeons - 51 (12.46%) work in secondary level medical institutions, 30 (7.33%) in tertiary medical institutions and 2 (0.48%) work in private medical institutions. The hematologists surveyed, 5 (1.22%) work in a tertiary level medical institution. About 237 of the family doctors (57.94%) work in the primary healthcare system, and 3 (0.73%) in a

Figure 3. Knowledge update sources used by medical specialists

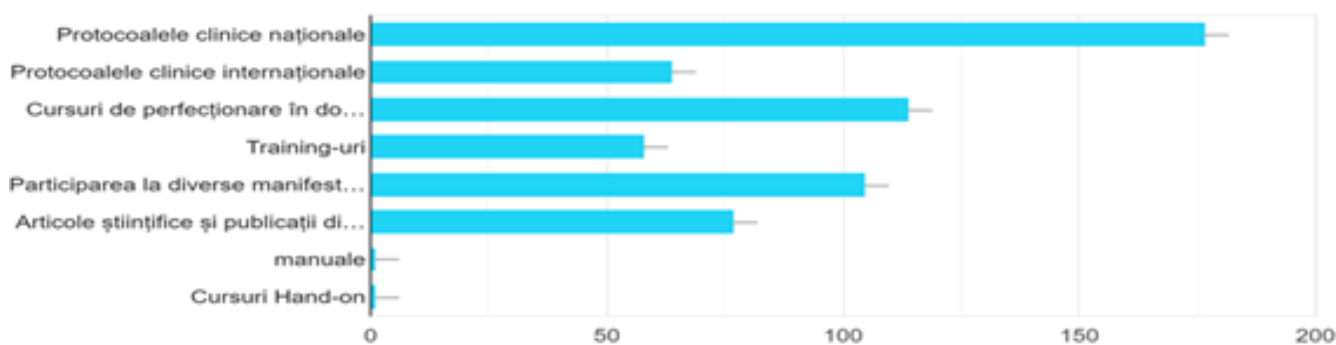


Figure 4. The topic and frequency of courses attended by medical specialists

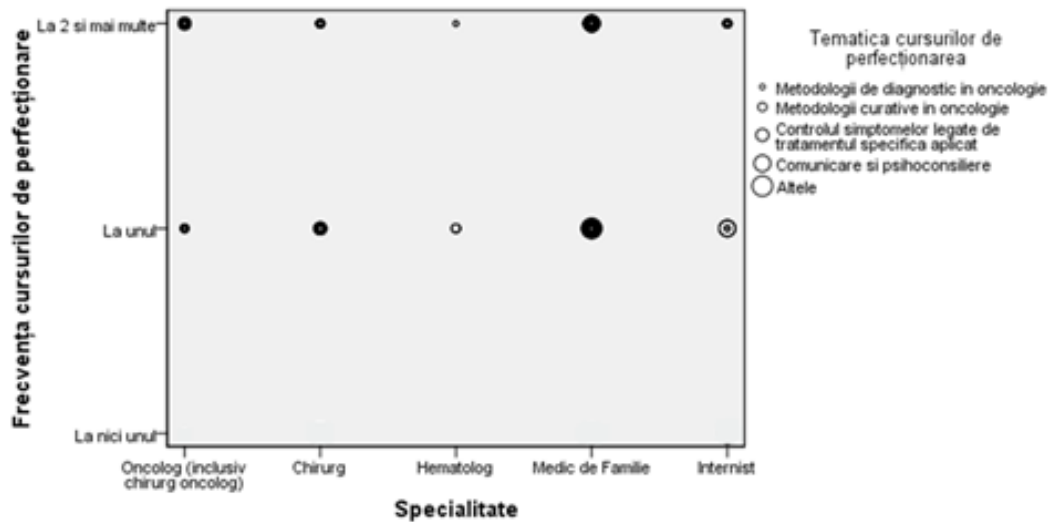


Figure 5. Institutions organizing training courses

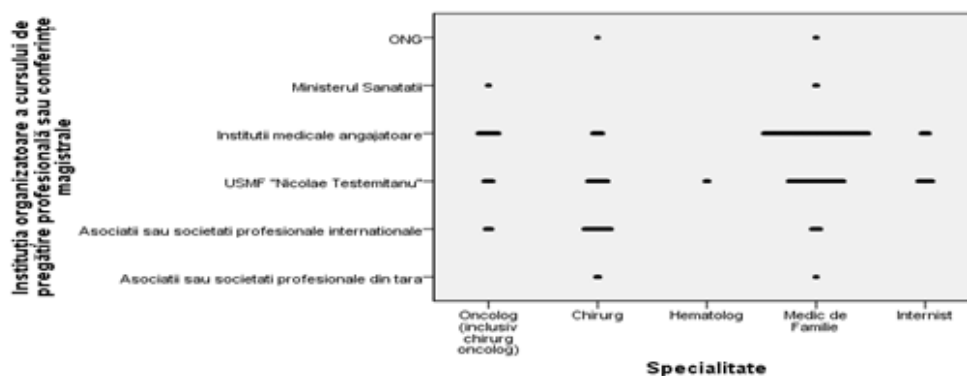
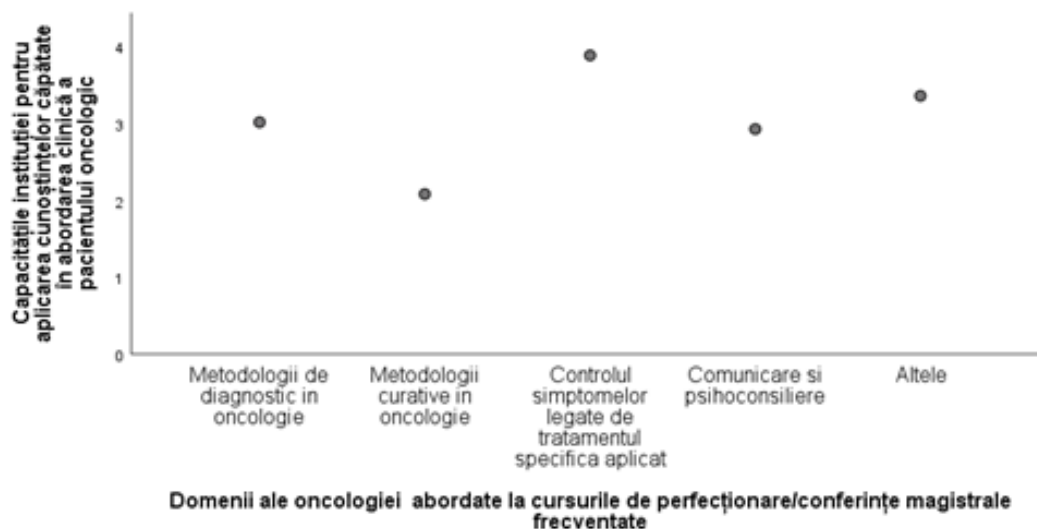


Figure 6. Evaluation of the institution's capacity for the application of knowledge by medical specialists (1 – minimal capacities, 5 – maximum capacities)



private medical institution. Most of the internists surveyed - 20 (4.88%) work in secondary level medical institutions, 7 (1.71%) – at the level of primary medical care (PHC), 4 (0.97%) – tertiary medical institutions, and 2 (0.48%) in private medical institutions.

Following the analysis of the data received from the respondents, we can see that family doctors and internists are mainly trained to provide medical services for symptom control related to specific treatments and clinical monitoring, while oncologists, surgeons and hematologists mainly provide diagnostic-curative medical services (fig. 2).

The most used sources of information and updating of knowledge in the oncology field by medical specialists are PCN, *always* used by 24.9% and *often* by 52.6% of respondents, and regularly attended refresher courses (fig. 3).

Medical specialists are interested in the topics of the training courses focused on the type and specifics of the medical services they provide to the oncology patient in the medical institutions where they work. Thus, family doctors are practically co-interested in training courses focused on various topics (counseling, palpation, diagnosis or curative, considering that they are also involved in specific post-treatment monitoring), while oncologists, surgeons and hematologists they are mostly interested in the courses focused on diagnostic topics and treatment methods (fig. 4).

Most frequently, medical specialists attend courses and scientific conferences organized by the employing medical institutions, IP SUMPh "Nicolae

Testemițanu" and professional associations or societies (fig. 5). The cost of advanced training courses and scientific conferences attended by medical specialists is mainly paid by the employer.

Regarding the degree of satisfaction with the courses attended, the vast majority of the surveyed doctors (81.28%) indicated the highest qualifications, respectively 4 and 5, while 17.24% of the respondents indicated the average level of satisfaction for the courses attended.

Although, for the most part, medical specialists were satisfied with the quality of attended courses and scientific conferences, the institutions where they work cannot fully ensure the implementation of all the knowledge and skills acquired by medical specialists (fig. 6).

## CONCLUSIONS.

Analyzing the national normative framework and international practices with reference to the training of oncology specialists and ensuring the population's access to speciali-

zed oncology services, it was found the existence of a different conceptual trend in the preparation and provision of the oncology system with specialist doctors, both in the countries of the European Union and in the Republic Moldova. There is also considerable inequality in the distribution of specialized medical personnel trained in the provision of medical care to oncological patients. The necessity of the conceptual and curricular connection of the training system of medical specialists from the Republic of Moldova with those existing in most of the European Union countries was highlighted. It is necessary to ensure the medical institutions in the territory with oncologists and expand their skills in providing medical services predestined for oncology patients. It is necessary to further motivate and train specialist doctors in effective and useful improvements that allow the further implementation of the acquired knowledge and skills in the country's medical institutions; it is necessary to equip medical institutions with the necessary medical supplies and equipment to ensure their activity in accordance with PCN and clinical activity guidelines.

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