

## ANNOTATION

**of a dissertation for the degree of Doctor of Philosophy (PhD)  
in specialty 6D110200 - "Public Health"  
of Auyezova Elmira Tugelbaevna on theme:  
“Improving the early detection of visually- accessible forms of oncopathology  
in the examination rooms of PHC organizations”**

### **Relevance of the problem**

A high level of oncological morbidity, late diagnosis, high lethality rate and large economic losses indicate the particular importance of primary prevention and the timely detection of malignant neoplasms. According to world statistics, the number of oncological diseases is growing steadily. Annually, about 6 million new cases of malignant neoplasms are registered in the world, according to the WHO forecasts, this number will increase to 20 million by 2020 (J. Ferlay et al., 2013).

Oncological diseases are classified as socially significant diseases, which are in the area of special attention of many states. There are 4 main organizational technologies for the early detection of oncology implemented in the world: preventive examination of the population, screening programs, opportunistic screening and one-time “open door” type events. Cancer registries and cancer screening programs are being introduced in many countries, which vary by the number of stages of the examination and the volume of diagnostic methods (A. Jemal et al., 2011; M. Saraiya et al., 2007; M. Sh. Abdullayev and others, 2017).

Kazakhstan has been implementing screening programs for breast cancer, esophageal and stomach cancer, liver, uterus and prostate cancer since 2008. One of the tasks of the State Health Development Program of the Republic of Kazakhstan "Densaulyk" is to improve the quality and accessibility of cancer care. Further development is expected in the areas of: screening, dispensary observation, access to medical care, quality and timeliness of treatment and rehabilitation.

Domestic research work is aimed at finding new methods and technologies for the diagnosis, treatment and rehabilitation of patients with malignant neoplasia. The problems of organizing an effective cancer service are considered in domestic scientific papers from various perspectives: (K. Sh. Nurgaziev and co-author 2007; E. Targyn, 2008; D. R. Kaydarova, 2014; E. I. Ishkinin, 2018, N. Yu. Nasretdinova, 2018; D. G. Adilbay, 2018).

Many experts note that as a result of socio-economic and political reforms in the CIS countries, the Soviet Union's preventive system has changed not for the better, which is reflected in a decrease of detection of malignant neoplasms during periodic health examinations (10%) and an increase in neglect (20%). A number of scientific studies have shown the low efficiency of screening for malignant neoplasms. Accordingly, the search for ways to increase the effectiveness of periodic health examinations and screening still continues (personnel, resource provision, medical activity of the population), as well as the search for more

informative and reliable diagnostic methods for early detection of malignant neoplasia (M.I. Davydov and others, 2009; A.E. Oceanov and others, 2014).

In the CIS countries, preventive and screening examinations are carried out in the examination rooms of the PHC network. The work of specialists in examination rooms is focused on the early detection of any pathology (non-infectious, etc.), but efforts are currently underway to expand the functionality of examination rooms in order to visually detect location of malignant neoplasms (L.A. Balzamova and others, 2004). However, since specialized examination rooms in the PHC network are a new organizational implementation in the early detection system of oncopathology, their effectiveness has not yet been studied, and other organizational problems have not been resolved.

The above mentioned issues determine the relevance of this research.

**The purpose of the research** is to study the state of early detection of visually accessible forms of tumors and develop recommendations aimed at improving the organization of the activities of examination rooms of PHC organizations..

**Research Objectives:**

1. To study and identify global trends and technologies for early detection of benign and malignant neoplasms at the PHC level.
2. To study the indicators of the detectability of oncological diseases of visually accessible localization based on the results of screening examinations.
3. To analyze and evaluate the activities of PHC examination rooms in Kazakhstan.
4. To evaluate the medical effectiveness of screening examinations for oncopathology implemented in Kazakhstan, including visually accessible forms of malignant neoplasms.
5. To develop recommendations aimed at improving the efficiency of the examination rooms of PHC organizations for the early detection of malignant neoplasms.

**Scientific novelty:**

- Organizational measures implemented in Kazakhstan for the early detection of malignant neoplasms (screening and preventive examinations, opportunistic screening) at the level of examination rooms and their contribution to the early detection of visually accessible forms of malignant neoplasms is given for the first time.

- An internal analysis of the regulatory regulation of the activity of examination rooms, affecting its medical effectiveness, was carried out and a new approach to the scope of the examination was proposed.

- For the first time, a technology was applied that characterizes the effectiveness of female and male examination rooms for early detection of visually accessible forms of oncological diseases and their monitoring.

**Practical significance.**

A comparative analysis of the medical effectiveness of various organizational technologies for the early detection of malignant neoplasms (screening and preventive examination, opportunistic screening) at the primary health care level

was carried out and methodological approaches to improving the organization of work of examination rooms were developed for the first time.

The practical significance of this study is to develop an organizational model of an examination room with advanced functionality (tasks, scope of examinations) for early detection of malignant neoplasms and a monitoring system for this activity.

**The main provisions for the defense:**

1. As a result of purposeful work on early detection of malignant neoplasms and preventive work, a certain improvement in morbidity and mortality from malignant neoplasms has been achieved.

2. Medical examinations of the population (mandatory, preventive and screening) are the basis for early detection of malignant neoplasms at the PHC level and are characterized by an improvement in cancer incidence rates, a stable tendency to increase the effectiveness of preventive examinations and screening programs for malignant neoplasms.

3. The reserves for improving the process of early detection of malignant neoplasms at the PHC level are additions to the standards of examination rooms, integration and improvement of organizational technologies of all types of medical examinations for cancer detection, staff training and implementation of a monitoring system.

**Conclusions:**

1. For all types of preventive examinations and cancer screening in the Republic of Kazakhstan, there is a tendency to increase the coverage of the population, while the absence of stable trends in the regions indicates the low effectiveness of the surveys. Some stabilization of the indicators of detection of breast cancer, breast cancer and breast cancer during screening for 2015-2019 has been established.

2. The key problems of early detection of ZNO are:

1. low availability of PHC system with examination rooms;
2. lack of staff in examination rooms;
3. imperfection of regulatory documents and medical
4. documenting the work of examination rooms.

3. Behavior examination rooms in the organizational experiment (2015-2017) improved detection of ZNO: the total number of individuals covered by the audits in the men's examination room in the country in 2016 increased by 198,2%, and in 2017 - with to 286.2% compared to 2015, and the total number of women surveyed in the Republic increased in 2016 at 107.5% and in 2017 – for 136,7%

4. Experimental application of monitoring tables in this

The research work showed an increase in the detectability of pathologies of visually accessible localizations, including ZNO. There was an increase in the detection of precancerous diseases in HBC in 2016 and 2017, as well as in MSC in 2016 compared to 2015, which indicates the effectiveness of the work of female and male SC.

5. For the specified period as a whole in the republic and at the level of the territory the proportion of detected cases of ZNO in examination rooms in the total number of cases is steadily increasing. Thus, in the republic, the total number of detected cases increased by more than 2.5 times, the share in the total indicator (from 2.62% to 7.27%) - by 2.9 times. 5. Positive dynamics with the structure of ZNO in the direction of increasing the proportion identified in the I-II stage from 44.2% (2005-2009) to 59.5% (2015-2019), reducing the proportion of patients with stage IV from 16.2% (2005-2009) to 5.8% (2015-2019).

6. Reserves for improvement of early detection of ZNO on

At the primary health care level, there are additions to the standards of examination rooms, as well as the integration of all types of medical examinations for cancer detection, staff training and the introduction of a monitoring system.

### **Practical recommendations:**

1. In order to improve the early detection of ZNO in the examination rooms of PHC organizations, it is necessary to develop/improve PHC standards, including staffing, workload standards, medical documentation, examination standards, resource provision, assessment and monitoring, financing and labor incentives.

2. The SC monitoring system should constantly use the developed indicators to ensure timely management decisions aimed at improving the efficiency of the examination rooms.

3. In order to improve the skills of medical workers during the examination, it is also necessary to periodically undergo advanced training on cancer awareness issues within the time limits established by law and organize a seminar-meeting to exchange experience.

4. In order to improve the work and take management measures for further development of the oncological service as a whole requires monitoring and evaluation of the activities of the oncological service in accordance with the proposed checklists and monitoring tables.

### **Approbation of the dissertation**

The main results, provisions, conclusions and conclusions of the dissertation were reported and presented at the following conferences:

XLII International Scientific and Practical Conference "Innovative Approaches in Modern Science", March 2019, Moscow, Russia;

L International Scientific and Practical Conference "European Studies: Innovations In Science, Education And Technology" March 2019, London, UK;

XXIX International Scientific and Practical Conference "World Science: Problems and Innovations", February 2018, Penza, Russia;

VI International Congress "Health for All", June 2019, Almaty, Kazakhstan;

LV International Scientific and Practical Conference "Development of Science in the XXI century", December 2019, Kharkiv, Ukraine.

### **Publications on the topic of the dissertation**

The materials of the thesis were published in 9 research articles, of which 3 articles in journals recommended by the Committee for Control in Education and Science of the Ministry of Education and Science of the Republic of Kazakhstan, 5

publications in collections of international conferences, 1 publication in the journal which is included into the database of the Scopus and Web of Science companies.

The copyright “Organization of the work of male and female examination rooms” was developed and approved, and a certificate of state registration of rights to the object No. 6471 dated November 15, 2019 and “Monitoring and evaluation of the oncology service of the Republic of Kazakhstan” were received, a certificate of state registration of rights to the object No. 6495 dated November 18, 2019.