

Thesis abstract
by
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on the topic of
Scientific substantiation of approaches to improving the standards of
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Relevance of the topic. Among the key areas of the state policy of the Republic of Kazakhstan is improving the quality of life of the population. One of the ways to achieve this direction is to improve the quality and accessibility of medical services and modernize the health care system at the primary health care (PHC) level.

Improving the provision of medical services and modernization of primary health care requires qualitative and quantitative changes in the provision of healthcare organizations with medical workers and the distribution of their functionality and load. In this regard, the key focus of the State Health Development Program of the Republic of Kazakhstan “Densaulyk” for 2016-2019 was the shift of emphasis “from the application of outdated staffing standards and standards to the possibility of flexible planning of human resources and labor costs, in accordance with applicable technologies, standardized operating procedures and patient needs”.

Today's reforms in the healthcare of Kazakhstan are aimed at ensuring the availability of primary health care and support for general practitioners (GPs), to increase their role and responsibility for public health.

The global conferences of the World Health Organization (WHO) in Almaty (September 12, 1978, Almaty Declaration) and Astana (October 25-26, 2018, Astana Declaration) were devoted to the development of PHC and the role of general practitioners. A key focus of the last conference was the formation of a sustainable PHC system.

Ensuring the accessibility and sustainability of the PHC system requires studying the current load standards and increasing the efficiency of general practitioners.

The aim of the study. Scientific substantiation of load standards and proposals for improving the activities of general practitioners.

The following objectives have been set to achieve this aim:

1) to conduct an analysis of the regulatory framework on the provision of primary health care to the population.

2) to analyze the supply of medical personnel with primary health care in the Republic of Kazakhstan for the period from 2010 to 2018.

3) to determine the actual costs of working time (timing) of a general practitioner;

4) to study the opinion of general practitioners regarding changes in their workload and functionality in recent years.

5) to offer recommendations on labor standards and improving the activities of a general practitioner.

Scientific novelty of the research:

- A comparative analysis of staffing and the dynamics of changes in staffing by PHC doctors (district physicians, district pediatricians, general practitioners) in 16 regions of the Republic of Kazakhstan for the period from 2010 to 2018 was carried out.

- For the first time, time-based studies of the costs of working time of a general practitioner/family doctor at an appointment in the pilot regions of the Republic of Kazakhstan were conducted.

- A sociological study was conducted to study the attitude of general practitioners towards changing their workload and functionality in recent years.

The main findings to be defended:

- The indicator of staffing of PHC medical organizations with the full-time posts of district physicians and district pediatricians for the period from 2010 to 2018 tends to decrease against the background of an increase in the number of full-time posts of general practitioners.

- With an increase in the number of full-time posts of general practitioners (2.5 times), there is still a shortage of GP coverage (170 in 2018) amid an increase in the population of the Republic of Kazakhstan and an increase in life expectancy.

- The average time a general practitioner takes one patient is 15.1 ± 0.2 minutes. The number of patients on one day of admission is on average 21 people, which is 1.3 times higher than the norm (16 people).

- The workflow of a general practitioner contains elements that are not characteristic of medical activity, which leads to a reduction in the time devoted to GP for patients during the appointment.

- Reducing the burden of GPs has a statistically significant relationship with the transfer of part of the functionality to nurses.

- The developed model “Multidisciplinary PHC Team”, recommendations in the legal acts regulating GP activities, including the professional standard, will make it possible to differentiate the fields of activity and functions of PHC specialists and ensure the provision of medical care focused on the needs of the population.

Practical significance of the research:

Based on the results of the research, proposals were made to amend and supplement the current regulatory documents of the Ministry of Health of the Republic of Kazakhstan on the provision of outpatient care and GP activities:

1) the order of the Ministry of Health of the Republic of Kazakhstan dated January 5, 2011 No. 7 “On approval of the Regulation on the activities of healthcare organizations providing outpatient care” (to be approved by the Ministry of Justice);

2) draft Professional standard “General medical practice (family medicine)” (approved by the industry tripartite commission).

3) A model of a multidisciplinary team in PHC is proposed.

Materials and methods:

1. Information and analytical method.

Based on the application of the information-analytical method, an analysis was made of the results of domestic and foreign studies, as well as the regulatory framework with a further determination of the direction of the study.

2. A retrospective analysis of the availability of medical personnel.

The provision of the population of the Republic of Kazakhstan with the full-time posts of district physicians, district pediatricians, general practitioners was studied by analyzing statistical data (form No. 30) overtime for the period 2010-2018. with the determination of the coefficient of combination.

3. Timing studies.

The methodological recommendation “Methodology for developing the time and workload standards of medical personnel” was taken as the basis of the Central Research Institute for Organization and Informatization of Health Care of the Ministry of Health of the Russian Federation (TsNIIOIZ). To conduct a time study of the time spent by a general practitioner on admission, we developed own time card, (certificate of state registration of rights No. 834 of April 26, 2017).

Before the timing, a list of labor operations and types of work included in the functional responsibilities of GPs was determined. Five types of GP activities were identified: main, auxiliary, work with documentation, official conversations, personal time.

1) The main activities included: general examination, percussion, palpation, auscultation, measurement of blood pressure, temperature, respiratory rate, anthropometry and other therapeutic and diagnostic measures.

2) Work with documentation: familiarization and maintenance of medical documentation.

3) Supporting activities included preparing a doctor for work, a technical break for sanitizing the premises if necessary (infectious patients - measles, rubella, tuberculosis, pediculosis, etc.), waiting time.

4) Service activities: official conversations, participation in workshops, consultations.

5) Personal time.

4. Sociological research (questionnaire).

To study the opinion of general practitioners about reforms in GP work, a closed-ended questionnaire was developed in Kazakh / Russian, out of 11 questions (certificate of state registration of rights No. 64022 of November 13, 2019). The questionnaire was conducted with the organizational support of the RCHD, a letter was prepared to contain a link to the questionnaire sent to the primary health care organization of the Republic of Kazakhstan. The questionnaire is available on the SurveyMonkey online platform (at <https://ru.surveymonkey.com/r/TQG7FQB>).

Statistical methods: Comparison of several independent samples was performed using the non-parametric Kruskal-Wallis test. Qualitative signs were presented as fractions (%). Cramer’s V criterion V was used to assess the strength

of the relationship between the nominal variables, which is a measure of the strength of the relationship based on the χ^2 criterion. The level of statistical significance was fixed at the error probability level $p < 0.05$.

For calculations and processing of statistical material, the SPSS Statistica 10 application package was used, and the Excel processor from the Microsoft Office 2010 software package was used.

Thesis approbation. The main provisions of the thesis were reported and discussed at international scientific and practical conferences (Semey, 2016, Karaganda, 2017, 2018); Long-distance international scientific and practical conferences (Busan, South Korea, 2017; EHMA Annual Conference 2017, Health Futures, 13th-15th June 2017; EHMA Annual Conference 2018, Making it happen, 20th -22nd June 2018; 11th European Public Health Conference “Winds of change: towards new ways of improving public health in Europe”, Ljubljana, Slovenia, November 28 - December 1, 2018) and the neighbor (Osh, Kyrgyzstan, 2017; Dushanbe, Tajikistan, 2019).

Publications. On the topic of the thesis, 19 scientific papers were published, 3 of them in publications recommended by the Committee for Quality Assurance in Education and Science of the Ministry of Education and Science of the Republic of Kazakhstan, 1 publication in a journal included in the database of the Russian Science Citation Index, 1 international publication in the journal (International Journal of Innovative Science, Engineering & Technology), 1 article was published in the Scopus database in the journal “*Research Journal of Pharmacy and Technology*” (SJR 0.19 in 2018, included in the Scopus database, Sitecore - 0.38, percentile 56, 3 quartile Q3) , 1 report and 3 publications in collections of international scientific and practical conferences in the Republic of Kazakhstan, 6 abstracts in collections of international international conferences (including one abstract in the *European Journal of Public Health*, IF 2.23, quartile Q2, which is part of the Web of Sciences Core Collection). Received 3 certificates of state registration of rights to the copyright object (No. 834, April 26, 2017; No. 4179, June 24, 2019; No. 6402, November 13, 2019).

The structure and scope of the thesis. The thesis is presented on 138 pages, consists of a list of notations and abbreviations, introduction, literature review, materials and research methods, 3 chapters of our research, conclusions, conclusions, practical recommendations. The thesis has 10 applications, is illustrated by 26 figures and 22 tables. The list of references includes 169 sources in the state, Russian and English languages.

Conclusions:

1. Analysis of the regulatory framework on the provision of primary health care to the population indicates the imperfection of the standards for the workload of doctors, as well as the need to introduce new approaches to ensuring working conditions and organizing the activities of doctors providing primary health care.

2. An analysis of the availability of district doctors in 16 regions of the Republic of Kazakhstan showed an increase in the share of GPs by 128.6% and a decrease in the share of district therapists and pediatricians by an average of - 64.7% and -50% in the republic, respectively, from 2010 to 2018. The general

availability of doctors of the district service per 10000 population of the Republic of Kazakhstan tends to decrease, the coefficient of co-operation is maintained at 1.1.

3. The timing of the costs of working time of a general practitioner at the reception showed that on average 15.1 ± 0.2 minutes are spent on the reception of one patient. At the same time, GPs spend 38.2% of their total working time on core business, 50.2% on working with medical documents, and up to 11.6% of their working time on other official activities (conferences, talking on business phones, etc.). During the timing, elements that distract the doctor from his main activity (conversations with colleagues and other persons) were identified, which is on average 6.7% of working time. The number of patients accepted by general practitioners for a 4-hour shift exceeds the standards (16 patients) by 1.3 times. Timing results indicate the absence of the need to increase the time of admission of one patient.

4. The survey of GPs showed that the time spent by GPs on receiving one patient also depends on the age of the doctor (20 minutes in the age group from 23 to 43 years and 15 minutes in the group 44-59 years) and work experience (20 minutes in GP with experience of up to 10 years, 15 minutes - more than 10 years).

A statistically significant relationship was found between the decrease in GP workload and the transfer of part of the function to nurses. At the same time, 47.0% of respondents believe that with the transfer of part of the functional to a nurse, the patients' waiting time for admission to GPs has not changed. Among the reasons, doctors point out the shortage and low competence of nurses, a large amount of paperwork, and as solutions, increase independence and increase the competence of nurses, digitalization of processes (appointment with narrow specialists, instrumental studies), which takes additional time GPs.

5. Based on the data received, recommendations are proposed on amendments and additions to existing and developing regulatory documents governing the activities of GPs and their competencies.

Practical recommendations:

To the Ministry of Health of the Republic of Kazakhstan:

- It is proposed to make amendments and additions to the Order of the Ministry of Health of the Republic of Kazakhstan dated January 5, 2011 No. 7 "On approval of the Regulation on the activities of health care organizations providing outpatient care" in terms of reducing the burden on general practitioners by delegating several functions to nurses, including extended practice nurses (for example, on self-admission of a patient).

- Additions and changes are proposed to the previously developed professional standard (PS) in the specialty of general practitioner/family doctor.

To medical organizations:

- It is proposed to create conditions for the transfer of a number of powers from a general practitioner to advanced nurses - in terms of nursing, receiving medical records, etc .;

- To ensure the effective work of PHC doctors, it is necessary to take timely measures to review the staffing and workload of doctors (taking into account

changes in the incidence rate, population structure, density of residence, doctor's experience, etc.), the creation of appropriate working conditions (the acquisition of new medical equipment and office equipment, ensuring the continuous professional development of doctors and nurses in the provision of primary health care to the population on an outpatient basis).

- To improve work to reduce the burden on the general practitioner in primary care organizations, it is proposed to introduce a multidisciplinary team model with a clear delineation of the functional responsibilities of each team member.

The recommended model is the "Multidisciplinary PHC Team", which, along with GPs, consists of narrow specialists, a social worker, a psychologist, a healthy lifestyle doctor, and extended and general nurses. The activities of the multidisciplinary team together with the social protection authorities will provide the necessary medical assistance, as well as social and psychological support and multi-profile patronage.

To ensure maximum availability of services, the network of PHC organizations should be developed taking into account the demographic, geographical and infrastructural conditions in the regions. In this regard, it is necessary to continue the development of public-private partnerships and transfer part of the served population to private entities that have passed accreditation; Preference should be given to PHC organizations as close as possible to the places of population based on the phased disaggregation of GP sites. In addition, it is necessary to ensure further transfer to nurses of extended practice of functions for monitoring patients, managing chronic diseases, and also providing home care for patients.