



Historical experience of the rise of a regional quality system of medical care

Experiencia histórica del surgimiento de un sistema regional de atención médica de calidad

32

- ID** Sharapova Olga Viktorovna MD, DSc, prof. - the head physician of the State Budgetary Institution of Healthcare of the City of Moscow "City Clinical Hospital named after V.V. Vinogradov" of the Moscow Healthcare Department, address: 117292, Vavilova street, 61, Moscow, Russia, e-mail: sharapovaOV@zdrav.mos.ru, eLibrary SPIN code: 5786-6566, Author ID: 937365, MD, DSc., prof. of the Department of Obstetrics and Gynecology, Institute of Clinical Medicine of Federal State Autonomous Educational Institution of Higher Education I.M. Sechenov First Moscow State Medical University of the Ministry of Healthcare of the Russian Federation (Sechenovskiy University), address: 119435, Bolshaya Pirogovskaya st., 2, building 4, Moscow, Russia. The research area is the study and implementation of methods for improving the prevention of morbidity among the population.
- ID** Brynza Natalia Semyonovna MD, DSc, Associate Professor, Head Department of Public Health and Healthcare of the FSBEI HE Tyumen State Medical University (TyumGMU) of the Health-care Ministry of Russia, address: 625023, Odessa St., 54, Tyumen city, Russian Federation. e-mail: brynzans@tyumsmu.ru. The key research area is the development and implementation of high-tech methods for improving the health care system.
- ID** Kicha Dmitry Ivanovich MD, DSc, prof., Head of the department, health care organization, pharmacy provision, medical technologies and hygiene of medical institute FGAOU VO Peoples' Friendship University of Russia, RUDN University, Ministry of Science and Higher Education of the Russian Federation, Moscow, Russian Federation, address: 117198, Miklukho Maklaya street, 6, Moscow, Russia, e-mail: d_kicha@mail.ru. The research area is the study of problems of public health and health care.
- ID** Yusef Naim Yusef DSc, director of the Federal State Budgetary Institution of Science "Research Institute of Eye Diseases", address: 11 A/B, Rossolimo street, Moscow, 119021, Russia, e-mail: krasii_anna@mail.ru, ORCID: 0000-0003-4043-456, eLibrary SPIN-код: 6891-6138, Author ID: 212,000. The key research area is the development and implementation of high-tech methods for improving the health care system.
- ID** Gerasimova Liudmila Ivanovna MD, DSc, Prof., - Head of the educational and methodical office of the State Budgetary Institution of Healthcare of the City of Moscow "City Clinical Hospital named after V.V. Vinogradov" of the Moscow Healthcare Department, address: 117292, Vavilova street, 61, Moscow, Russia, Medical Institute of Continuing Education of Federal State Budgetary Educational Institution of Higher Education "Moscow State University of Food Production", 125080, Moscow, Volocola-msky st., 11, Russia, e-mail: profgera@mail.ru. The research area is the study and implementation of methods for improving the prevention of morbidity among the population.
- ID** Irina Dmitrievna Sitdikova DSc, Professor of KFU, Republican Center for Medical Prevention, Sar1002@mail.ru, 89503138892. The research area is the study of health problems in able-bodied population, ID Scopus 6506943645
- ID** Rukodaynyy Oleg Vladimirovich Ph.D., Associate-Professor, Federal State Autonomous Educational Institution of the Higher Education of the «Peoples' Friendship University of Russia» Ministry of Science and Higher Education of the Russian Federation, (RUDN University), address: 117198, Moscow, Miklukho-Maklaya str. 6, Russia. rukodayny_ov@pfur.ru
- ID** Mazurova Julia Vladimirovna Ph.D., Head of the third Surgical Department of the Federal State Budgetary Institution of Science "Research Institute of Eye Diseases", address: 11 A/B, Rossolimo street, Moscow, 119021, Russia. e-mail: julia.mazurova@bk.ru,
- ID** Fomina Roza Vladimirovna Assistant of the Department of Instrumental Diagnostics with the Course of Phthiology, I.N. Ulyanov Chuvash State University, Faculty of Medicine, address: 428017, Russia, Chuvash Republic, Cheboksary city, Moskovsky prospect, 45. email: roza.fomina2012@yandex.ru
- Ilnur Nilovich Khalfiev Candidate of Science, Chief Physician, 8432789651, rcmp.rt@tatar.ru. Scientific direction is the study of the cytogenetic effects of the technosphere factors; the study of carcinogenic factors affecting the working-age population, development of models and systems that provide an assessment of the intermittent impact of risk factors. Orcid 0000-0002-4856-6177
- Received/Recibido: 11/24/2021 Accepted/Aceptado: 02/19/2022 Published/Publicado: 02/25/2022 DOI: <http://doi.org/10.5281/zenodo.6481280>

Abstract

The variety of professional and ethical features of clinicians' activities requires improving the capabilities of monitoring technologies. This paper reviews the regional experience of the formation of the quality and safety management system of medical care (based on the 10-year-period materials of the Tyumen region). The key area of this study is to analyze the development of trends and features of regional experience in the formation of a quality and safety management system for medical care, the formation of technologies, and to develop insurance mechanisms for professional liability of medical workers and insurance risks (historical perspective based on the materials of the Tyumen region, Russian Federation). A regional, departmental medical care quality control technology has been created to reduce morbidity, mortality and prevent patient health risks. A technological base for the management of medical care has been formed as a factor in reducing morbidity and as the basis for the formation of a system for reducing health risks, which includes issues of continuous, systematic training of medical personnel, indicators of medical care quality, the level of quality of forensic examinations. To improve the efficiency of departmental control of medical care quality, during the study a medical care and clinical and expert work control department was established in the Department of Health of the Tyumen Region (DH TR). The key link in the departmental control of the medical care quality is the "expert commissions" of medical institutions (MI), the key link in the interdepartmental control of the medical care quality is the "health, social and medical insurance services". The studies were initiated during the transition to single-channel funding and assessments of medical institutions on a completed case basis.

Keywords: quality of medical care, medical insurance institutions, continuing medical education, professional liability insurance of healthcare workers.

Resumen

La variedad de características profesionales y éticas de las actividades de los médicos requiere mejorar las capacidades de las tecnologías de monitoreo. Este documento revisa la experiencia regional de la formación del sistema de gestión de calidad y seguridad de la atención médica (basado en los materiales del período de 10 años de la región de Tyumen, Federación Rusa). Se creó una tecnología regional departamental de control de calidad de la atención médica como medio para reducir la morbilidad, mortalidad y prevenir riesgos para la salud de los pacientes. Se conformó una base tecnológica para la gestión de la atención médica, como factor de reducción de la morbilidad y como base para la conformación de un sistema de reducción de riesgos a la salud, que incluye temas de capacitación sistemática continua del personal médico, indicadores de calidad de la atención médica, el nivel de calidad de los exámenes forenses. Para mejorar la eficiencia del control departamental de la calidad de la atención médica, durante el estudio se estableció un departamento de control de atención médica y trabajo clínico y experto en el Departamento de Salud de la Región de Tyumen (DH TR). El eslabón clave en el control departamental de la calidad de la atención médica son las "comisiones de expertos" de las instituciones médicas (MI), el eslabón clave en el control interdepartamental de la calidad de la atención médica son los "servicios de seguro médico, social y de salud". Los estudios se iniciaron durante la transición a la financiación de un solo canal y las evaluaciones de las instituciones médicas sobre la base de un caso completo.

Palabras clave: calidad de la atención médica, instituciones de seguros médicos, educación médica continua, seguro de responsabilidad profesional de los trabajadores de la salud.

Introduction

The variety of professional and ethical features of clinicians' activities requires improving the capabilities of monitoring technologies to improve the medical care quality and the quality of public health¹⁻⁵.

In light of the comprehensive growth of requirements for the quality and safety of medical care (medical care quality), the priority at all times is to improve clinicians continuing medical education (CME) and reduce risks during their and other healthcare providers' professional activities.

These issues have been effectively developed in the context of improving the provision of medical care, the management of medical care quality, and CME in general (Order of Roszdravnadzor dated December 27, 2018 No. 9056. On approval of the departmental target program "Control, examination, monitoring, and provision of public services in health protection", 12.02.2020 20:19 Resolution of the Government of the Russian Federation of June 30, 2004 No. 323. On approval of the Regulation

on the Federal Service for Supervision in Healthcare (as amended on 26.11.2019).

The need for experience in management decisions, both in organizing quality management of medical care and increasing civic responsibility and qualifications of medical personnel, is natural. Improving the quality of medical care in the country and the social status of a healthcare worker, introducing self-regulation of professional activity, improving medical education are priorities for Russian society⁶⁻⁸.

This study aimed to analyze the development of trends and features of regional experience in the formation of a quality and safety management system for medical care, the formation of technologies and to develop insurance mechanisms for professional liability of medical workers and insurance risks (historical perspective based on the materials of the Tyumen region, Russian Federation).

The studies were initiated during the transition of the Tyumen regional healthcare to single-channel funding and assessments of medical institutions on a completed case basis. The health potential of the region, consisting of 113 outpatient health organizations, including 56 states (regional), 18 municipals, 9 federals, and 30 other organizational and legal forms, had been transferred to these principles. Inpatient medical organizations are represented by 40 hospital institutions, including 2 federal and 38 regional ones, with a bed capacity of 9020 beds.

Based on the content analysis of foreign literature and regional experience, the development and implementation of a regional medical care quality control system provided for several successive stages. Wide in concept and deep in execution research work was launched in accordance with the set goals and objectives. The medical care quality control system was to become the basis for the formation of a strategy and principles for reducing morbidity and preventing errors of medical personnel, continuous training of medical personnel.

The main causes of defects in the provision of medical care are inadequate expertise of healthcare workers, lack of the necessary material and technical base, and non-compliance in some cases with sanitary and hygienic standards. One of the reasons is inadequate control by health authorities and other services. Quality management is not just an assessment of the result but the creation of a special technological process that ensures compliance with certain requirements and standards. Unfortunately, the main indicators of medical care quality are deviations from technological conditions, the so-called defects in the provision of medical care, which depend on the providers and the quality assurance system⁹⁻¹¹.

Each country, as a rule, follows its quality management guidelines in health care, legalized in national and international regulations. In general, the legislation of the countries of Western Europe, in comparison with the legislation of the Commonwealth of Independent States (CIS) countries, is large of a financial, managerial, and technological nature of a social focus. In foreign countries, professional associations of clinicians and the public play an important role in making regulations^{12,13}.

The studies and analytical assessments made it possible to determine the priority components of the processes of reforming the regional health care system, including medical care quality, for 10 years. As the introductory analysis of the results showed, the region achieved positive results in the implementation of health care reform programs, the most important component of which are organizational and structural technologies aimed at solving managerial problems of the quality of medical care and organizing the effective work of medical organizations to reduce morbidity.

A technological base for the management of medical care has been formed, as a factor in reducing morbidity and as the basis for the formation of a system for reducing health risks, which includes issues of continuous systematic training of medical personnel, indicators of medical care quality, the level of quality of forensic examinations.

A patient-centered approach has been one of the priorities of the regional medical care quality control system. To study the opinion of patients about the quality of medical care, a specially developed "Medical Services Rendered Sheet" has been introduced into the program, in which the doctor must mark all diagnostic and therapeutic measures, consultations, and the patient must sign the sheet, giving consent to the provision and payment of medical services. If there is a negative assessment or the absence of a patient's signature, a medical insurance institution should assess it by refusing to pay for this case.

The control processes of the quality of medical care are based on a public, self-regulatory professional organization (ROSPO) established in the region during the research period in close integration with the continuous training of doctors. Quality management is not just an assessment of the result but the creation of a special technological process that ensures compliance with certain requirements and standards.

Unfortunately, the main problems in ensuring the medical care quality are deviations from technological conditions, the so-called defects in the provision of medical care (MC), which depend on the providers - medical personnel and the quality assurance system itself.

In accordance with the research stages and the Order of the Ministry of Health of Russia and Federal Compulsory Medical Insurance Fund of 24.10.1996 No. 363/77 "On improving the quality control of medical care to the population of the Russian Federation", the region has developed a three-type control system for medical care quality: departmental, non-departmental, and interdepartmental.

Departmental control

To improve the efficiency of departmental control of medical care quality, during the study a medical care and clinical and expert work control department was established in the Department of Health of the Tyumen Region (DH TR). The key link in the departmental control of the medical care quality is the "expert commissions" of medical institutions (MI), the key link in the interdepartmental control of the medical care quality is the "health, social and medical insurance services".

With a focus on strategic mechanisms for medical risk insurance, a non-departmental unit of quality supervision (control) was justified and established, including the Federal Service for Surveillance in Healthcare (Roszdravnadzor) and the prosecutor's office. Roszdravnadzor was established by the President of the Russian Federation in Decree on March 9, 2004, № 314 "On the System and Structure of the Federal Executive Bodies" and is a federal executive body responsible for control and supervision of the Healthcare system. Roszdravnadzor is subordinate to the Ministry of Health of the Russian Federation and guided by the Russian Federation Constitution, federal constitutional laws, federal laws, acts of the President of the Russian Federation and State Government, international agreements, acts of the Ministry of Health of the Russian Federation and the Regulation stated in Decree dated June 30, 2004, № 323 "On the Federal Service for Surveillance in Healthcare.

Among the tasks of the departmental control of medical care quality during the examination, the tasks of establishing the cause-and-effect relationships of defects and errors, and their impact on the next stage or result of the process, were set and solved. Thus, conditions have been created to ensure the operation of a unified, qualified, expert system for assessing the effectiveness of control measures.

The direct examination of the process of providing medical care was based on individual completed cases. As a rule, it was carried out based on basic medical records and, if necessary, a face-to-face examination. To register the results of expert assessments in the course of the study, the "Medical care quality examination report" was developed and approved by the DH TR. As a result of the analysis and processing of reports, indicators that characterize the quality and efficiency of medical care have served as the basis for developing and making further managerial decisions.

The results of departmental control served not only as a method of operational control of medical care quality but also as a way of obtaining current objective information about the state of medical care in the institutions of the region to determine tactical tasks for its improvement.

The development of the regional medical care quality control system and its implementation in the Tyumen region constituent entity provided for research work, during which the mechanisms for protecting medical personnel from risks should be substantiated.

To improve the efficiency of departmental control of medical care quality, during the study a medical care and clinical and expert work control department was established in the Department of Health of the Tyumen Region.

The tasks of the departmental control of medical care quality during the examination included, but were not limited to, the establishment of the cause-and-effect relationships of defects and their impact on the next stage or result of the process, as well as assessing the degree of risk of medical technologies. As a result, conditions have been created to ensure the operation of a unified, qualified, expert system for assessing the effectiveness of control measures.

Schedules of inspections of the medical commission's activities and hearing of the administration of medical institutions on the activities of medical commissions that control expert issues of the quality of organization and provision of medical care in the institution were developed and approved. During the inspections, special attention was drawn to the well-grounded appeal of citizens on the organization and medical care quality, drug provision. At the very beginning of the development and operation of the system in 2007, 8 scheduled inspections of the activities of medical commissions were carried out, including 2 field meetings (Ishim and Yalutorovsk cities) to attract a wider range of participants; the inspection revealed no significant violations in the activities. Morbidity, mortality, and hospital mortality were promptly monitored online.

The work of doctors, heads of departments, and deputy chief physicians for temporary disability examination and medical affairs was assessed in accordance with the intra-departmental quality criteria based on the monitoring data. The protocols of the medical commission certificates were transferred to the economic department, which, ac-

ording to the revealed defects, recalculated the above-tariff bonus and imposed penalties (from 0.5 to 25%).

The results of the control measures carried out by the medical insurance institutions were presented to the DH TR where the activities of health care institutions were reviewed and assessed, with the study of the causes and consequences of defects. At the initial stage, a high percentage of detected violations of medical care quality was noted. According to the analysis, in 2007, medical care providers conducted 3773 planned medical care quality examinations in 81 medical organizations. The inspections of 1,377 cases revealed 28.8% defects in the provision of medical care, following the generally accepted design. It was necessary to introduce a system for registering medical care defects, for which monitoring of the results of the examination of the medical care quality was organized according to the data of the medical insurance institutions on the following facts: registered substantiated complaints; identified defects (in more than 50% of verified medical records); identified defects that led to harmful consequences for the patient; identified defects that led to the risk of disease progression.

One of the priority elements of the first research and development stage was the standardization of medical care in the region. Since 2005, regional medical care standards have been developed and implemented for healthcare institutions¹¹⁻¹³.

The introduction of standards made it possible to unify the accounting and analysis of medical care defects and calculate the cost of medical care at tariffs for medical services within the framework of a completed case of compulsory medical insurance. The volume of medical services and medicines determined by the standard for each nosological form guarantees the patient proper medical care determines the possibility of reducing the risks to the patient's health¹⁴⁻¹⁶. Intra-departmental standards were the basis for the departmental and non-departmental examination of the quality of medical services and payment for the performed volumes of medical care, and with their implementation, the procedure for the examination and assessment of the medical care quality, including the medical and economic examination, was simplified. The creation of standardization technologies laid the foundation for the organization of the regional medical care quality control system and, consequently, the creation of a risk management mechanism.

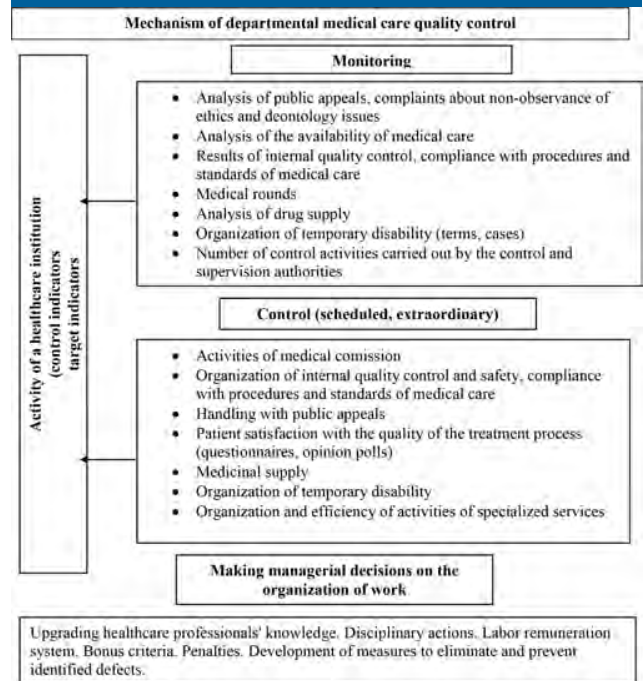
The main goal of the second stage was to create a regional technology for medical care quality control to reduce or prevent risks to the health of patients and healthcare workers. Important regulatory legal acts and methodological documents have been developed and adopted for its implementation. Their area of application affects the target program for the development of health care, the interaction of medical institutions, medical insurance institutions and forensic examination bodies, control of medical care quality and, which is especially important for

the process, the list of and requirements for medical documentation, including the public appeals handling system.

The main goal of the research stage (2008-2012) was to create a regional departmental medical care quality control technology to reduce morbidity, mortality, and prevent risks to patients' health (Figure 1).

The analysis of the presented data shows the positive trend in satisfaction of the population with medical care quality, technical equipment, trust in clinicians, and convenient organization of the work of institutions. Also, the indicator of the level of awareness of the existence of health centers and an increase in the proportion of citizens surveyed (3% in 2011 to 16.6%) has a positive trend. The main reasons for the dissatisfaction of the population with medical care in health care institutions are queues and a shortage of healthcare workers.

Figure 1 shows the mechanism of departmental control of medical care quality, developed and used in practice, which includes mandatory monitoring and control measures.



When considering the applications of patients, the commissions were held with the participation of the patients and the relevant healthcare providers. This ensures an equal dialogue with the patient. The results of the commission meeting were analyzed, and if necessary, managerial decisions were made.

The decision of forensic medical examinations at the pre-trial level is extremely important for health care since this indicates the restoration of health and confidence in doctors. The methods of expert analysis of the study's forensic medical examinations consisted of developing an algorithm for pre-trial and judicial expert analysis. Based on the results, it becomes possible to promptly make managerial decisions to eliminate and prevent identified defects (personnel training, mentoring, strengthening control over

compliance with the procedures and standards of medical care, conducting audits at workplaces, and, if necessary, personnel changes).

As a result of the research, a model was developed for the expert assessment of defects in the provision of medical care, including in cases of lethal outcomes (Figure 1), based on the methods of work during the examination of the medical care quality by experts of the medical insurance institution and DH TR, who are part of the commissions of the forensic medical examination.

At the same time, the study involved analysis of the identified defects in a particular specialty, types of medical equipment, and establishment of the patterns of their occurrence at the place of care. The presence or absence of defects made it possible to assess the correctness (or incorrectness) of the actions of a doctor of a certain specialty when providing medical care to a patient, and a study for a certain period made it possible not only to establish the dynamics but also to assess the effectiveness of the applied management decisions.

To assess these facts, in 2007-2011, a specially created commission under the leadership of Zakharchenko analyzed (examined) commission cases, selected by the nest method from the forensic medical examination based on the so-called "medical cases" of the regional bureau (OB) of the Tyumen forensic medical examination. In total, 172 examinations were analyzed in terms of the quality of medical services: Obstetrics and gynecology - 25%, surgery - 24%, therapy - 13%, dentistry - 9%, traumatology - 6%, anesthesiology, and resuscitation - 5%. At the same time, there was an increase in the total number of forensic medical examinations in terms of the quality of medical services by 36%, including therapy by 40%, dentistry, and urology almost 3 times, cases with a lethal outcome - 3 times. From 2007 to 2011, the number of expert opinions with identified defects in the provision of medical services increased from 27% to 49%, with an increase in defects in lethal outcomes from 17% to 56%.

The reasons for these defects include the prevailing deviation from the intra-departmental standards of medical care (78.5%), failure of healthcare workers to fulfill their functional duties (18.2%), and insufficient collection of information (2.8%). Among the reasons for the public complaints to medical insurance institutions were accessibility and quality of medical care: 45% - the collection of funds for the provision of medical care, 26.6% - organization of the work of the medical institutions, issues of drug provision (7%), etc. However, the efficiency of the medical care quality control system shows positive trends: a significant decrease in public complaints about medical care quality (6.8% to 1.0%), about the issue of collecting funds for medical care provision (from 52.5% to 8%); there have been no complaints about the choice of a doctor and medical institution and organization of work of medical institutions since 2008.

According to the accepted estimates, the greater the degree of deviation from the medical care standard is, the greater the risk to the patient's health is. It was necessary to introduce a system for registering medical care defects, for which monitoring of the results of the examination of the medical care quality was organized according to the data of the medical insurance institutions on the following facts: registered substantiated complaints; identified defects (in more than 50% of verified medical records); identified defects that led to harmful consequences for the patient; identified defects that led to the risk of disease progression.

According to the results, to improve the organizational, methodological, and practical assistance, several regulations have been developed and implemented:

1. "On the main freelance specialists of the DH TR" (approved by Order of the DH TR of October 15, 2007, No. 388).
2. The basics of inter-sectoral interaction determined by the regional target program and approved by Order of the Government of the Tyumen region of 13.12.2005, No. 1080-rp "On the main directions of the Tyumen region until 2008".
3. The list of performance indicators for assessing the implementation of the main activities of the Regional Government and executive authorities in health care efficiency, approved by the Decree of the Government of the Tyumen region of 04.04.2006, No. 86-p "On approval of the methodology for assessing the implementation of the strategy of the Government of the Tyumen region until 2008".
4. The content of interdepartmental control of medical care quality is regulated by a joint order of the DH TR and TFOMS TR (dated May 24, 2005, No. 344/1/99). The "Regulations on the expert physician" and "Regulations on the expert council of the medical insurance institutions of the Tyumen region" were also developed and approved.

Summary

1. A consolidated framework for professional control and professional associations has been created. The main freelance specialists are to monitor the activities of medical institutions in their profile, participate in the licensing of medical activities, activities of the clinical expert commission, take part in the certification of doctors, make proposals for determining the qualifications of doctors of the corresponding profile to improve the medical care quality in cooperation with full-time specialists.
2. Scientific and methodological substantiation of the regional target program with the development of criteria-based assessment and scaling of processes
3. The list of performance indicators for assessing the effi-

ciency of the implementation of the main activities of the Regional Government and executive authorities in health care has been developed

4. A methodology for assessing the implementation of priority areas of activity has been developed
5. Factors of improper provision of medical care, the likelihood of risks, settlement procedures for substandard medical services, types of defects in diagnostic, treatment services, and organizational decisions, their consequences, and causes of occurrence have been established.
6. The «Regulations on the expert physician» and «Regulations on the expert council of the medical insurance institutions of the Tyumen region» have been developed and approved.

38

Conclusions

The research results led to the development of a regional health care quality and safety control system, which at that time was one of the first algorithms. In the light of modern challenges facing health care, regional experience shows examples of step-by-step algorithms that are of practical importance.

The assessment period of the situation at the initial stages of research on the development of a medical care quality control system provided highly important information, and an evidence base was created for making decisions on the strategy of creating a medical care quality control system in the region.

The structure of defects and complaints of citizens has undergone obvious changes, and the area of judicial and pre-trial risks and civil liability of medical workers remain relevant.

ACKNOWLEDGMENTS: not applicable.

CONFLICT OF INTEREST: The authors declare that there is no conflict of interest.

FUNDING: This is a self-funded study.

127.

4. Noncommunicable diseases prevention: Central and Eastern Europe. WHO. Regional Office for Europe. Copenhagen. - 1994 80 p.
5. Spertus JA, Winder JAI, Dewhurst TA, Deyo RA, Fihn SD. Monitoring the quality of life in patients with coronary artery disease. *Am J Cardiol.* 1994; 74(15):1240-1244.
6. Healthy people 2000: National health promotion and diseases prevention objectives / US Dep. Of health and human services. Public health services. Washington: Gov. Prin Off. 1991. IX, 154 p.
7. Galanova GI. On the issue of improving the knowledge of healthcare workers in regulatory framework of health care. *Health Manager.* 2009; 1:24–28.
8. GOST R ISO 9000-2008 [Electronic resource]. Quality management systems. Fundamentals and vocabulary. URL: <http://gostexpert.ru/gost/gost-9000-2008./05.08.2014>.
9. National Healthcare Quality Report. U.S. Department of Health and Human Services. AHRQ Publication, No. 10-0003 March, - 2010. - 162 p.
10. Borisov DA, Lazarev SV, Misiulin SS. Self-regulatory organizations in health care. *Bulletin of Roszdravnadzor.* 2010;1: 35–37.
11. Zakharchenko NM, Vorobiev IA, Konovalova NA. Insurance risks and the role of self-regulatory professional institutions in the social protection of healthcare workers. *Medical Science and Education of the Urals.* 2013; 4: 111-115.
12. DeSalvo K, Hughes B, Bassett M, Benjamin G, Fraser M, Galea S, Gracia JN. Public health COVID-19 impact assessment: lessons learned and compelling needs. *NAM perspectives.* 2021;2021.
13. Chau SW, Wong OW, Ramakrishnan R, Chan SS, Wong EK, Li PY, Raymond V, Elliot K, Rathod S, Delanerolle G, Phiri P. History for some or lesson for all? A systematic review and meta-analysis on the immediate and long-term mental health impact of the 2002–2003 Severe Acute Respiratory Syndrome (SARS) outbreak. *BMC public health.* 2021 Dec;21(1):1-23.
14. Salih HM, Al-Nimer M, Mohammed NB. Patient's experience with pain influences the pain, anxiety and cardiovascular responses during extraction of tooth. *Revista Latinoamericana de Hipertensión.* 2021;16(1):77-83.
15. Od EG, Od AM, MgSc AM, MgSc JV, Mgsc RV, Od JO, Od PP, MgSc CE, Zambrano AD, MgSc MD, Inv ZD. Nivel de estrés radicular en premolares superiores y presión ejercida en tejidos adyacentes: un modelo mecánico en 3D. *Archivos Venezolanos de Farmacología y Terapéutica.* 2021;40(9):942-5.
16. Chabla-Inga MF, Mesa-Cano IC, Ramírez-Coronel AA, Jaya-Vásquez LC. Diabetes como factor de riesgo de mortalidad intrahospitalaria en pacientes con COVID-19: revisión sistemática. *Archivos Venezolanos de Farmacología y Terapéutica.* 2021;40(3):240-7.

References

1. Vanoutto D, Pealotto L. Prophylaxis of diseases and strengthening of health. 2000;1: 40-43.
2. Technology Assessment Program, University Hospital Consortium, Clinical Practice Advancement Center, Oak Brook, Illinois, and Department of Health Systems Management, Rush University, Chicago, Illinois. 1995 20 p.
3. Brynza NM, Zakharchenko NM, Efremov IS. Insurance risks in the provision of medical services in healthcare institutions of the Tyumen region. *Medical Science and Education of the Urals.* 2013; 2:124–