

SIMULATION TASKS IN HEALTH CARE AND PUBLIC HEALTH TRAINING

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ABSTRACT

Continuous medical education and accreditation of health care personnel and managers have become an urgent topic of discussion in Russia, Armenia and other countries. Discussion of these issues is based on the health care needs of highly skilled managers. It is necessary to assess the experience of other countries in using simulations to consolidate the practical skills of making managerial decisions.

In this article use problems the simulations tasks in educational process of training of managers of health care and medical insurance are discussed. The analysis of ways of introduction the simulations of technologies is carried out to formation of competences of managers of health care and medical insurance. On the basis of own experience authors developed an algorithm of a multilevel technique the simulations tasks for training of administrator of public health, health care and medical insurance.

Several levels of an algorithm of the simulations tasks on the basis of which skills of management are gained are offered: cases solutions, a training in a workplace, a mentoring. This problem remains important and relevant for health managers and teachers of all countries. The experience of Russia's higher school in the issue of simulation training of medical organizations may be of interest to managers and trainers. Increase the effectiveness of health care is possible only with the help of successful management.

The article substantiates important educational and methodological educational provisions and principles on which a continuous medical education in health care is identified: professional retraining in educational programs, internship at the workplace, a system of training in distance educational technologies and teaching materials to support the learning process.

Simulation training will not solve all the problems of domestic healthcare, but it is an effective tool for increasing the effectiveness of medical education.

In the article discusses the issues and proposes mechanisms for continuous medical education and accreditation of specialists of the health care organization and public health on the base of simulation, tasks.

KEYWORDS: *healt, simulation, tasks, training, medical cases, health care, public health, insurance, competences of managers, competences of organizers, continuous medical education, management.*

INTRODUCTION

Continuous medical education and accreditation of health personnel are an urgent topic of discussion in the field of education and medical activities of different countries. In these discussions, attention is drawn to the role of simulation meth-

ods in training health managers in countries around the world. The significance of the problem of simulations in the educational process of schools of public health is increased, since there are no real actions in the work of specialists of public health, organization of public health and medical insurance. These are the functional characteristics of the manager, which can not be transformed and modeled into real technical imitative actions. Obstacles to the development of simulation tasks for

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the development of professional managerial competencies of health managers go to the area of difficulties in obtaining imitations of the managerial process. Assessment and evidence of the results of the adoption of a management decision is related to the subject and the multifactority of health and public health regardless of the country [Ivanitskaya N et al., 2012; Beard C, 2010; Cameron Sh, 2007; Frolov VA et al., 2009; Report of the WHO Expert Committee, 1959].

Public health and public health, as an independent medical science and an important area of practical activity, studies the patterns of health formation of the population (public health) in connection with environmental factors and the level of development of medical care. But these decisions depend on the quality of managerial personnel, their competence, adequate to the given situation of managerial decisions, the situation in a particular country [Ivanitskaya N et al., 2012; Beard C, 2010; Denisov I et al., 1916; Almeyda M et al., 2018; Report of the WHO Expert Committee, 1966; Report of the WHO Expert Committee, 1959].

Discussion of these issues is focused on the paradigm of continuous medical education (CME) and is based on the fundamental industry laws in the form of Orders of the Ministry of Health of Russia and documents of the World Health Organization (WHO). These documents define key provisions for undergraduate and postgraduate education, in particular for Russia, which may be of interest to other countries, including Armenia. The subject of discussions within the framework of

national interests is reflected in the orders of the Ministry of Health of Russia, in which the terms and stages of accreditation of specialists with medical and pharmaceutical education have been approved, as well as the provision for the accreditation of specialists in Russia. These issues and problems of CME

were the subject of discussions and discussions at the international forum Rosmedobra-2016, in which many specialists from European universities took part [Report of the WHO Expert Committee, 1966; Report of the WHO Expert Committee, 1959; Order of the Ministry of Health of the Russian Federation of February 25, 2016 N 127n; Order of the Ministry of Health of the Russian Federation of June 2, 2016 N 334n]

In the countries of Europe and the United States, the term “continuous medical education” (CME) means “the process of continuous systematic uninterrupted acquisition of new knowledge and skills throughout the professional life.” This process in all countries of the world is called “lifelong learning”: “life long learning” and requires constant updating of knowledge from the staff. Thus, “CME is a uninterrupted process of professional development of doctors and healthcare professionals, which is aimed at improving the results of patient treatment and improving the safety and quality of care.” Currently, many countries use not only the term NMI, but also the term “continuous professional development,” which includes, in addition to improving professional knowledge and skills, also gaining additional competencies in health management, quality of care, management of medical organization and separation.

It should be emphasized that unlike economically and socially developed countries, where medical workers are required to annually confirm their knowledge and daily use of modern manuals in the workplace, Russian doctors in the period of the former USSR passed the refresher courses every 5 years. This was transferred to the system of medical education in Russia and the new independent states of the post-Soviet space (NIS).

The urgency of the problem is related to the fact that the upgrading of the skills of managers and doctors should take into account the content of educational programs that meet modern demands of practical healthcare of any country and new technologies of education. According to the results of the analysis, the principles of CME in medicine and health care should meet such requirements as “continuity of training throughout



To overcome it is possible, due to the uniting the knowledge and will of all doctors in the world

the whole professional life; application in the educational process of modern distance educational technologies and e-learning taking into account the world practice; the formation of curricula taking into account the problems of practical healthcare in a particular country; the criterion for the quality of training of doctors and managers, along with educational assessments, should be the opinion of patients “[Kicha D et al., 2010; Pakhomova YuV et al., 2013; Report of the WHO Expert Committee, 1966; Report of the WHO Expert Committee, 1959; 21]

It is necessary to distinguish such a notion as business - simulations, along with educational simulations that use the solution of practically oriented cases for educational purposes. Business - simulation is one of the most effective educational technologies, because it allows students to acquire skills, competencies and practical experience in the training process, as learning through reflection work. Business simulation is already used in the educational process of many universities and business schools in the world, and can be used, in particular, for the training of health managers. Simulations in training are closely related to the emergence in Europe of the concept of “experimental learning” or how learning by doing or teaching practice [Beard C, 2010; Cameron Sh, 2007; Fernández-Aros K, 2013; Jackson JR, 1959].

Changes in the situation under the influence of economic changes require justifications for making adequate management decisions in health care. It should be noted that the answer to this is the approach that is contained in the concept of business simulation, situational training, service training. Its application in the learning process of the game element, which increases the effectiveness of educational results. In general, the results show that this training reduces the number of mistakes in the work of managers, correctly set goals and competently deliver them to subordinates, develop skills for drawing up and formalizing managerial decisions for different situations in the medical business, take into account the specific health of countries [Felicia P, 2011; Kicha DI et al., 2010; Kicha DI et al., 2013; Masur II et al., 2003; Tarasov VK, 2011].

Simulation training is an indispensable component of vocational training in medicine, using an educational model to enable every student to perform fully or an element of professional activity in accordance with professional standards and / or procedures for the provision of medical care. Healthcare professionals and medical workers are provided with simulated training to quickly enter the profession, meet the requirements of employers. Simulative training of healthcare organizers must be built on the basis of existing experience of situational tasks and business - simulations.

MATERIAL AND METHODS.

The subject of the analysis was the materials of publications of Russian and foreign authors, the data of the Ministry of Health of Russia, the results of their own research and experience in educational and methodical simulation development, expert assessments of the implementation of university undergraduate and postgraduate certification programs, primary retraining, magistracy. The analysis was carried out with the help of socio-hygienic, statistical methods, expert assessments and comparisons, questionnaires of teachers, students, students, the results of work of certification examination commissions. A systematic logical analysis and synthesis of the experience of the authors of these publications was carried out.

RESULT.

Universities' around the world are internationalize the experience of the training of health care personals. Data show that needs of an effective organizational communication. Internationalization of retraining of the health care personals will help improve effective educational programs [Almeyda M et al, 2018]. At RUDN University in the department of health care for 10 years passed postgradual training of more than 400 doctors, organizers of health care, directors of medical centers and heads of nursing services of private and public hospitals and polyclinics. All certifications are only of a high or satisfactory level, feedback and evaluation by the students of the programs and the learning process are positive. In the preparation of pro-

grams and teachers, the experience of the TEM-PUS Consortium project “MBA-Healthcare management” was used. (www.rudn.ru). [Denisov I et al., 1916; Filippov V.M, 2009; Frolov VA et al., 2009; Kicha DI et al., 2010].

Obviously, the effectiveness of health care, based on the budget-insurance principle, depends on state, political, social, economic conditions and decisions. It is necessary to take into account the changing conditions for the formation of public health, the organizational and legal conditions for the development of health and medical insurance in conjunction with socio-economic conditions, new motivations for citizens' behavior, social differentiation and the diversity of social groups, families, hygienic studies [Ivanitskaya N et al., 2012; Denisov I et al., 1916; Frolov VA et al., 2009; Kicha DI et al., 2013].

Based on experience, situational tasks have been developed, methods for simulating tasks (cases) for the sphere of organization of public health, medical insurance and public health have been developed [Ivanitskaya N et al., 2012; Beard C, 2010; Denisov I et al., 1916; Gorshkov MD, 2013; Jackson JR, 1959; Kicha DI et al., 2010; Kicha DI et al., 2013; Masur II et al., 2003; Pakhomova YuV et al., 2013].

The algorithm for the formation of situational problems is presented below in the form of a descriptive typologization of simulation methods of education in public health, health and medical insurance at several levels of complexity.

The primary level of simulation tasks is a problematically formulated question, to which a well-reasoned response should be given in the resulting form of a self-contained conclusion.

The second level of simulation tasks is a proposal to the student or listener to solve the problem, enclosed in the figure or combination table. To do this, charts or combinational tables are specially selected, which reflect data on the relationship of factors and indicators of health or the activities of medical organizations, health insurance bodies or other health facilities.

For these results, a conclusion must be submitted in writing with an independently developed plan and a program for solving the problem.

The third level of the simulation task for the practical mastery of the discipline of the organization of public health and public health is the business (the role) game of listeners with a certain length of practical management work. This is a fairly common technique, which, however, has drawbacks, since there is no standard repetitive situation. The untypical nature of each new game does not contribute to the acquisition of targeted skills and abilities by listeners. To a lesser extent, this defect is present in a business game such as “educational management duels” V.K. Tarasova [Tarasov VK, 2011].

To the same level, we refer to the method of solving cases (situational tasks), that is, an in-depth developed condition for the state of a separate area of medical care, public health, medical insurance and health of citizens. The development and compilation of a case (a real situation) is an extremely time-consuming process that requires taking into account the level of the student's knowledge, his professional competencies and the purpose of the case. But the effect for the acquisition of skills by listeners is not always unambiguous [Denisov I et al., 1916; Kicha DI et al., 2013].

As simulation tasks of the third level, we also use materials from Russia's national projects Health, Health Modernization, Demographic Development Concept, Maternal Capital, WHO projects, for example Stop- TB, PHC, Health Personals etc. Their decisions and assessments are interrelated with official documents regulating the final indices, assessments of national or foreign experts.

The highest level of simulation assignments can be a trainee's internship in a particular position or method of mentoring (coaching). Mentoring along with internships is more common in health-care practice in medical organizations. Here the moment of selecting a mentor, his preparation for work with an intern (intern) or a certain employee occupying a certain position is important here. In any case, the authority of the leader, the maturity of the collective of workers, the existence of cohesion [Felicia P, 2011; Fernández-Aros K, 2013; Jackson JR, 1959; Kicha DI et al., 2010; Pakhomova YuV et al., 2013].

As an example for the disclosure of the simula-

tion technique, we present a draft version of the simulation task solution for analyzing the contents of diagrams and tables showing health indicators (for example, infant mortality in dynamics over 15 years.) For this purpose, the following advanced algorithm for solving the simulation task based on the proposed analysis model Infant mortality rate (IM) [Denisov I et al., 1916]:

1. To develop and submit a plan and program, a method of integrated medical and social research of the IM.
2. To provide evidence that the IM is recognized by specialists as one of the most important indicators of assessing public health and the state of the organization of health care. In the course of the analysis, it should be established that conditions and factors of social, economic, health, educational and behavioral nature are integrated in this indicator.
 - 2.1. Give a detailed comparative analysis of MS on the proposed diagram for any region, country of the world. For comparison, bring the statistical data of infant mortality rates by country and region in dynamics, compare them with an example of the situation diagram of other countries.
 - 2.2. To give evidence, what other indicators of public health are the interconnected MS, what is the nature of these links, to show how the level of development of health care and medical care is reflected in the indicator of IM.
 - 2.3. Present an analysis of the organization of treatment and preventive care for pregnant women and children in a particular country, in any region or country in the world in the aspect of the IM.
 - 2.4. Give examples of programs for MS prevention in a particular region of any other country, evaluate these programs and their results. In conclusion, develop and submit your own author's model of a program for preventing MS, protecting motherhood and childhood in writing and in electronic form.

The group of competencies formed into separate standard educational modules of Russian universities as a "standard simulation module" (SSM) is the evaluation unit of the simulation training process.

DISCUSSION

Simulation or imitation in the educational process of the organization of public health and public health is a direction in the training of specialists that brings the training simulation closer to the professional process using electronic interactive forms of instruction. Success is related to the level of teacher training, an effective form of quality control of mastering knowledge and skills acquisition, and the mutual responsibility of the teacher and student for the acquisition of professional competences.

In the higher medical school of Russia, simulation centers have already been established and are being used, in which development and consolidation of practical skills and certification of mainly students and doctors of some specialties is carried out. The simulation tasks for the organization of public health and public health are important in terms of organizing the independent work of the student (listener) and are considered to be the most important way to consolidate knowledge and acquire skills.

The analysis of the methodology for the development and application of simulation tasks in the discipline of public health and public health has revealed the obstacles that arise from the objects of assessment and management of health, health and medical insurance. Health is conditioned by the multifactorial content of social, medical, ecological, economic, other nature, which is enshrined in the generally accepted definition of the health of the World Health Organization. Health care also has the character of a multifactorial dependent phenomenon, with an inaccurately predictable result of the consequences of management decisions taken.

The first experience of our development of simulation tasks is presented in the textbook "Practical Workshop on the Organization of Public Health and Public Health" [Denisov IN et al., 1916]. Our developments are grounded in many years of experience in teaching the discipline of public health and public health, health management for students, bachelors, masters and students of retraining programs and masters in business administration, as well as health and medical insurance management practices. The experience is based on the success-

ful implementation of the international TEMPUS project “Health Management-MBA” with colleagues from Germany and the United Kingdom.

Experience shows that simulation training will not solve all health problems, but it is an effective tool for increasing the effectiveness of medical education and forming leaders in medical management. The obstacle is the difficulty of translating educational and methodological materials into electronically active and formalized forms, the methodological difficulty and the laboriousness of creating educational materials for simulation assignments, cases. The task is to investigate the relationship between school administrators and mobbing teachers [Sevinç P et al., 2018; Tarasov VK, 2011].

The introduction of the system of simulations of an additional but compulsory stage, in the conditions of postgraduate mastering of the profession, can fundamentally change the situation of training competent health and health insurance managers

CONCLUSION

Ultimately, in Russia, since 2021, the total labor intensity of an individual medical education plan will be at least 250 academic hours / ZET with an annual distribution of the amount of 50 academic hours / ZET mastered by two types of training: 36 a.c. / ZET of continuing education programs and 14 ac. h / ZET through the development of educational activities.

According to the methodology of the PFUR, currently the program of the “organization of public health and public health”, the preparatory stage of accreditation includes:

- √ results of test knowledge control,
- √ evaluation of the thesis work,
- √ evaluation of the practice diary,
- √ writing exam (interview).
- √ solution of simulation tasks-cases.

The theory and practice of evidence shows that the use of the simulative teaching and methodological approach contributes to a more effective forma-

tion of the skills of future specialists. In the educational and practical discipline “public health and public health, health economics”, while preparing qualified specialists for the industry, the method of simulation tasks is not yet sufficiently developed. “Leadership Style Scale” [Sevinç P et al., 2018; Tarasov VK, 2011]. The managers to be able to collect data, analyze data, evaluation of data and make correct decisions in the field of health. The results show that it is necessary to move from training the category of personnel to the engagement of a team of managers, doctors and nurses.

In Russia, organizational and methodological support of the continuous medical education (CME) process and accreditation of students has been created: the manager or doctor must register himself in the personal cabinet on the CME portal, on the special website “Methodological Accreditation Center” <http://fmza.ru/> and pass the testing.

Analyzes the difficulties of training and experience of the authors on the development of teaching materials, the introduction of distance education technologies, simulation tasks, the readiness of personnel to the accreditation function on the portal of Ministry of health of Russia. The accreditation methodology center uses a specially created Internet resource, the materials of which are freely available, and can be opened by links posted on the websites of the Ministry of Health of the Russian Federation (<http://www.rosminzdrav.ru/akkreditiya-spetsialista>) (<http://www.mma.ru/education/akkr/>). Here MD or manager can get an Individual Confirmation Code (ICC) in your personal account on the continuous medical education portal <http://edu.rosminzdrav.ru>. Simulation, Game based learning, Business based and Experiential Learning doing evidence based principle : «From the Virtual to the Real» for acquisition «professional manager skills in health care systems» [Jackson JR, 1959; Beard C, 2010; Felicia P, 2011; Tarasov VK, 2011; Sevinç P et al., 2018].

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