

ADAPTATION OF YOUNG SPECIALISTS OF THE HEALTH SYSTEM WITH THE USE OF DIGITAL TECHNOLOGIES

Valery I. Yudin¹, Umukusum Sh. Butinova², Valeria V. Sogacheva³

¹Children's Dental Clinic No. 37, Moscow, Russia,
e-mail: uдин00@mail.ru

²Mitino City District Council, Moscow, Russia,
e-mail: umabutinova777@mail.ru

³Central Research Institute of Dentistry and Maxillofacial Surgery,
Moscow, Russia, e-mail: sogacheva89@mail.ru.

Abstract. Digital technologies are the priority of the development of the healthcare sector around the world, annually this market increases by a quarter. To ensure unhindered medical care, it is necessary to continue to work together to break down barriers between offices and professionals, to create cutting-edge innovations, to remove barriers between patients and health workers, and to cross borders between medical facilities and people's homes.

The rapid improvement of the health care system with innovative trends determines the most advanced position of modern medicine in the world science. Many health care projects certainly belong to the category of innovative technologies of medicine in our time. We are already used to information about human organ transplants, stem cell transplants, cloning processes. A significant role in the process of transition to new technologies and optimization of processes falls on the qualification and professional competence of personnel, timely training, improvement of personnel, training of young specialists, their adaptation in the workplace. The term "adaptation" is quite common and is considered in this study as "mutual adaptation of the employee in the organization, which is based on a phased workability in new professional, social, organizational and economic working conditions" (Ilyenkov, E. V. 1997, p.12). The success of the adaptation of a new employee depends on how quickly the values of the organization's team will become its norms and values.

The method of analysis of Internet discussions of three groups of respondents of administrative and managerial personnel, General practitioners and specialists of various profiles, as well as nurses was used during the study period. Respondents were selected from six Federal districts; the sample is representative of public and private medical institutions.

Network communications play an important role in bringing together professional medical communities, with more than 60% of the participants

being between 21 and 35 years of age. There are several medical social networks, and the number of their participants is constantly growing. All respondents have an idea of telemedicine, and administrative and management personnel are the most active in discussions (42%).

Revealed widespread use of digital technologies and specialized technological and software complexes for diagnostics, monitoring, corrective treatment, etc. In discussions discusses the obtained clinical experience, collectively searched for solutions to difficult situations, the participants share data, included in the procedure of consultations.

73% of topics of discussion are dedicated to professional issues, such as: remote consultations in case of difficulty in making a diagnosis, discussion of a clinical case, exchange of data on a specific problem, collegial search for a way out of a specific situation. 18% of online discussions involve problems of professional adaptation and professional ethics. Young professionals who have recently graduated from higher educational institutions are better oriented in digital technology and are more willing to use them in practical work. At the same time, the problem of mistrust towards new technologies of older doctors has been revealed. The conservatism of the medical community reduces the possibility of including mentoring in the process of adaptation of young professionals to the use of telemedicine.

Keywords: digital healthcare, digital technologies, adaptation, young specialists

Introduction

Key areas of development of digital medicine, allowing the full exchange of information between medical institutions and medical workers, require the introduction of new skills of medical personnel, timely retraining and adaptation of young professionals in the workplace. These areas include:

- electronic medical records;
- the concept of "connected patient" – monitoring of the status and provision of medical services using built-in intelligent devices;
- telemedicine;
- 3D printing technology to create skin and organs;
- automated expert systems, big data, blockchain, artificial intelligence for diagnosis and treatment, unified digital classifier of medical data, etc.

Doctors of the older generation are mostly skeptical about innovations, preferring the traditional order of the hospital and interaction with patients, and young professionals lose confidence in their own abilities and level of knowledge.

Objectives / Purpose of the study

Objective: To study the impact of online medical community on the adaptation of young professionals and the use of digital technology in the workplace.

Methodology, methods

The problem of adaptation of the person at the new place of work was considered Kotlova A. S. and Popova O. A. (Kotlova A. S., Popova O. A., 2014). Adaptation of a specialist means mutual adaptation of an employee and an organization, based on the gradual inclusion of an employee in the production process in new professional, psycho-physiological, socio-psychological, organizational-administrative, economic, sanitary-hygienic and domestic conditions of work and rest.

Labor adaptation is a process that goes on throughout the employee's working life, as the production environment undergoes constant changes. In the process of adaptation there are four main aspects: professional, psycho-physiological, socio-psychological and organizational (Butsenko I. N., Velgos N. Z., 2007). Professional adaptation is an additional mastering of professional knowledge and skills, formation of professionally necessary qualities of the person. Managers often underestimate the need for adaptation, they can not always present specific requirements for young professionals (Yakovleva K. S., 2019).

The term "digital medicine" was introduced into scientific use by company Apple. Automation of medical institutions forms a single information space of medical institutions includes databases, electronic medical records, diagnostic indicators and data of administrative, economic and financial activities. The use of telemedicine, remote provision of medical and consulting services has become a real tool for effective treatment. The first video conferencing session in 1965 broadcast an operation to replace the aortic valve with an artificial heart, assisted by renowned cardiac surgeon Michael DeBakey (Bashshur R. L., 1977). The use of digital technology in medicine devoted to the work of Russian scientists (V. K. Gasnikov, 2009); (Zarubina T. V., 2008); (Levanov V. M., Loginov V. A., Orlov, O. I., 2002). Research method: analysis of the content of the discussions of the Internet communities of medical workers, constituting three groups of respondents): - administrative and management personnel - chief doctors, their deputies, general directors, commercial directors, administrators (the conventional name of the group is AUP); - a group with the provisional name "Doctors", including cardiologists, general practitioners, ophthalmologists, emergency doctors, pediatricians, dentists, dentists, gynecologists, general practitioners; - the group with the provisional name "Nursing staff", which includes nurses resuscitation, X-ray tutors, dental technicians at dental clinics.

The sample is representative of respondents belonging to public institutions and medical organizations of the private sector. Geographical distribution of respondents: Moscow (21%), St. Petersburg (7%), Central Federal district (17%), North-Western Federal district (5%), Siberian Federal district (14%), North Caucasus Federal district (6%), far Eastern Federal district (9%), southern Federal district (11%), other (10%).

Results / Findings

The practical realization of the potential of network interaction is the formation of research and professional network infrastructure. Russia has formed a communicative complex, means of information interaction aimed at the development of the discussion space of the medical community. The Internet as a resource can play an important role in uniting communication communities of geographically remote specialists in the issues of mutual assistance and adaptation of young doctors.

The analysis of the content of discussions of Internet communities of medical specialists showed that representatives of all groups have an understanding of telemedicine (100%), the degree of awareness and the depth of immersion in this issue varies. The age of 64% of the respondents is 21-35 years, that is, young professionals (44 % – "Doctors" group, 32 % – nurses, 24% – administrative and managerial personnel, who were the most active in Internet discussions (42%). Two other groups are active to a lesser extent ("the Doctors" 37%, nursing staff – 21%).

73 % of the discussions are devoted to professional issues (remote consultations in case of difficulty in diagnosis, discussion of a clinical case, exchange of data on a specific problem, collective search for a way out of a specific situation). 18 % are issues of adaptation of specialists in various fields of health care, including: ethics of relations ("doctor-patient", "Manager-subordinate), exchange of experience, advice in solving a specific working situation.

The analysis of the data of Internet resources of communities of health representatives revealed the following trends.

1. The discussions show the activation of the processes of using telecommunications, including:

laboratory information systems LIS MeDaP company "Biohimmak", system ALTEY Laboratory of the company "Altey";

– systems, compatibility of software systems (LIS MeDaP"), the programs "Dexter" and "Laboratory journal" of "Laboratory diagnosis";

systems with biological feedback for diagnosis and corrective treatment (cardiac monitoring, "Dr. a", the Breath Maker program for treatment of stuttering SIC biocybernetics);

– computer monitor ("Dr. A," wearable multi-day Holter monitor "Kardiotekhnika 4000" company "ekomed +", hardware-software complex "Integrator" of the Primorsky regional medical information-analytical center, instruments for environmental monitoring state research Institute for biological instrumentation, and information system Center for health information technology "MEDIAL-MT").

2. Network interaction combines a number of conditions favorable for professional socialization and adaptation: low costs of interaction, openness, accessibility, democracy, freedom, conditions for creative progress, the ability to quickly solve problems, hold various consultations, discussions, bypassing hierarchical inequality.

3. Successfully operates a variety of medical social networking with the ever increasing number of registered doctors in them: iVrach.com, imedicina.ru, vrachirf.ru, doctocnarabote.ru, novmed.net, medtusovka.ru, doctornet.ru and others. The professional online structure of the Russian segment of the Internet is not perfect today, but it can be more actively used for the adaptation of young professionals in the health care system.

Discussion

The fact of application of modern digital technologies in human treatment becomes obvious according to the data from scientific periodicals, mass media, Internet. In the course of medical conferences, information on obtaining data, including: computed tomography (CT); ultrasound (ultrasound); microcomputer technology x-ray studies; respiratory devices and anesthesia (allow to maintain the life of patients for a long period); radiation therapy with microprocessor control; devices for diagnosis and localization of kidney and gallstones (lithotripsy); dental treatment and prosthetics, carried out using a computer. Banks of medical information allow health workers to be aware of the latest scientific and practical achievements. Computer databases store patient records.

Well-built adaptation helps to improve the competitiveness of staff. The main features of the organizations of the medical sphere are stressful working conditions, high responsibility for the life and health of patients and autonomy in the work of doctors and nurses. Consolidation of highly qualified doctors in the category of mentors is one of the main conditions for the successful adaptation of a young specialist (Zhdanova, M. G., Latukha O. A., 2015)

Production adaptation is the Foundation of the fastest formation of the required level of productivity and quality. The primary adaptation of the popular young professionals has no experience of professional activity. Secondary adaptation refers to professionals who already have experience, but decided to change the company, position, specialization. Russian

researcher A. Y. Kibanov showed that secondary adaptation is not given enough attention (A. Y. Kibanov, 2012). As a rule, modern large foreign clinics organize educational centers in their composition, in which a group of mentors purposefully adapts new employees to work in their own medical organization (Frolova, AA 2016: 1042). Optimization of the adaptation process of professional activity is aimed at reducing the time of adaptation and achieving the appropriate level of adaptability (Romanova, Yu. A. 2015: 79).

Conclusion

Summing up, we note that interactive forms of interaction have become one of the most popular areas of modern medicine. According to a survey of respondents belonging to young professionals in health care, the use of digital technologies in modern medical centers facilitates the process of accounting for services rendered, tests and prescriptions. For digital medicine to be actively in demand in modern practice, a young specialist must undergo an adaptation period. Digital technologies can be not only a favorable factor contributing to the successful professional adaptation of a specialist, but also an indispensable condition for it.

References

- Bashshur, R. L. 1977. Telemedicine and the health care system, in *Telemedicine. Theory and Practice* / Bashshur, R. L., Sanders, J. H., and Shannon, G. W., Eds., Charles C Thomas, Springfield, IL. Pp. 1-23.
- Butsenko I. N., Velgos N. Z. 2007. Management of personnel. The website "encyclopedic national service". URL: [http:// vocabulary.ru /dictionary /917](http://vocabulary.ru/dictionary/917) [Accessed 18.03.2019]
- Gasnikov, V. K. 2009. State and problems of development of information and computer technologies at different hierarchical levels of health management. *Medical almanac* 4 (9): 9-14.
- Frolova, A. A. 2016. Features of adaptation of personnel in the medical organization on the example of The FEFU medical center. *Young scientist* 11: 1040-1043.
- Ilyenkov, E. V. 1997. *Dialectics of abstract and concrete in scientific-theoretical thinking*. Moscow: ROSSPEN, 468 pp.
- Kibanov A. Ya. 2012. *The management staff of the organization*. Moscow: Infra-M. 695 pp.
- Kotlova, A. S., Popova O. A. 2014. Adaptation of personnel at the enterprise in modern conditions. *Economics and management of innovative technologies* 6. URL: <http://ekonomika.snauka.ru/2014/06/5092> [Accessed 18.03.2019]

- Levanov, V. M., Loginov, V. A., Orlov, O. I. 2002. Telemedicine as an academic discipline. *Series "Practical medicine"*. Issue 4. Firm "The Word". Moscow. 64 pp.
- Romanova, Yu. A. 2015. Optimization of selection and professional adaptation of personnel in the organization. *Vestnik of the Moscow University named S. U. Vitte. Series 1: Economics and management* 1 (12): 70-79.
- Yakovleva, K., Problems of adaptation of new employees in large organizations. Moscow, 2019 Euromanagement Website. URL: http://www.emd.ru/press/publish/st11_07.php [Accessed 20.03.2019].
- Zarubina, T. V. 2008. About prospects of development of it education of doctors. *Doctor and information technology* 5: 68-70.
- Zhdanova, M. G., Latukha O. A. 2015. Modern conditions of adaptation of a young doctor in a medical organization. *Journal of Siberian Medical Sciences Novosibirsk* 3: 112.