

ПРИМЕНЕНИЕ ТЕЛЕМЕДИЦИНСКИХ ТЕХНОЛОГИЙ В ЛЕЧЕБНЫХ МЕДИЦИНСКИХ ОРГАНИЗАЦИЯХ ФЕДЕРАЛЬНОГО МЕДИКО-БИОЛОГИЧЕСКОГО АГЕНТСТВА

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Резюме. Рассмотрены основные проблемы применения телемедицинских технологий (ТМТ) в лечебных медицинских организациях (ЛМО) Федерального медико-биологического агентства (ФМБА России). Отмечено, что опыт проведения телемедицинских консультаций (ТМК), наработанный ВЦМК «Защита» (передан в ведение ФМБА России в 2020 г.), позволил увеличить количество ЛМО ФМБА России, участвующих в проведении телемедицинских консультаций по схеме «врач-врач». Подчеркнуто, что 2020–2021 гг. стали ключевыми для развития системы телемедицинских консультаций в ФМБА России в связи с необходимостью:

- организации проведения неотложных и экстренных ТМК пациентов с диагнозами COVID-19 и пневмония;
- разработки и введения в эксплуатацию централизованной подсистемы «Телемедицинские консультации» Единой ведомственной медицинской информационно-аналитической системы ФМБА России.

Кроме того, в указанные годы ФГБУ «Научный медицинский исследовательский центр оториноларингологии» (НМИЦО) ФМБА России был включен в федеральный проект «Развитие сети национальных медицинских исследовательских центров» по профилю «Оториноларингология», что подразумевает проведение телемедицинских консультаций и научно-практических мероприятий (семинаров, лекций) для «якорных» ЛМО субъектов Российской Федерации по профилю курации.

Сделан вывод: использование федеральной телемедицинской системы (ФТС) позволило медицинским специалистам ЛМО ФМБА и Минздрава России, ЛМО других федеральных органов исполнительной власти осуществлять дистанционное взаимодействие между собой при оказании медицинской помощи с применением телемедицинских технологий, в том числе в условиях чрезвычайных ситуаций (ЧС), а также внедрять их в клиническую практику.

Ключевые слова: лечебные медицинские организации, телемедицинские консультации, телемедицинские технологии, федеральная телемедицинская система, Федеральное медико-биологическое агентство, чрезвычайные ситуации

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TELE-MEDICAL TECHNOLOGIES USAGE IN MEDICAL TREATMENT ORGANIZATIONS OF FEDERAL MEDICAL AND BIOLOGICAL AGENCY

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Summary. The main issues of provision of medical help and treatment with usage of tele-medical technologies (TMT) were considered, including victims in emergency situations (ES), in medical treatment organizations (MTO) of Federal Medical and Biological Agency (FMBA of Russia). Noticed that an experience of conducting of tele-medical consultations (TMC) which was made in All-Russian Center of Disaster Medicine “Zashchita” (was handed over to FMBA of Russia in 2020) allowed to increase number of MTO of FMBA of Russia which are participated in conducting of medical consultation by the scheme “doctor-doctor”. Underlined that 2020-2021 became the key years for development of tele-medical consultations system of FMBA of Russia because of a necessity of:

- organization and conducting of urgent and emergency TMC for patient with diagnosed COVID-19 and pneumonia;
- development and putting into service of centralized subsystem “Telemedical consultations” of Unified departmental medical informational-analytic system of FMBA of Russia.

In addition, those years Federal State Budget Organization “Science medical researching center of otorhinolaryngology” (SMRCO) of FMBA of Russia was involved in federal project “Development of network of national medical researching centers” on the profile “Otorhinolaryngology” which implies a conducting of tele-medical consultations science-practical events (lectures, seminars) for “anchor” MTO of subjects of the Russian Federation on the profile of curiation.

A conclusion was drawn: usage of Federal tele-medical system allowed medical specialists of FMBA of Russia and Ministry of Health of Russia, MTO of other federal departments of executive power to make distance interaction between each other during a provision of medical treatment with usage of tele-medical technologies and to add these technologies to clinical practice.

Keywords: emergency situations, Federal Medical and Biological Agency, federal tele-medical system, medical treatment organizations, tele-medical consultations, tele-medical technologies

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Telemedicine technologies (TMT) are actively used throughout the world in the delivery of medical care.

In the Russian Federation, the Concept of Telemedicine Technologies was approved by the Russian Ministry of Health and the Russian Academy of Medical Sciences back in 2001. Only in 2017 the procedure for organizing and providing medical care using telemedicine technologies was approved, providing for interaction using telemedicine technologies in the "doctor-doctor" and "doctor-patient" schemes, as well as the procedure for remote patient monitoring.

The All-Russian Disaster Medicine Service has the authority to organize a system of remote medical consultations using telemedicine consultations (TMC), including when providing medical care in emergency situations.

The first experience of telemedicine consultations within the All-Russian Disaster Medicine Service framework was gained during the operation of the Field Multidisciplinary Hospital of the All-Russian Center for Disaster Medicine "Zaschita" ("Zaschita") in Gudermes (Chechen Republic) 20 years ago.

Over the past years, specialists at the All-Russian Center for Disaster Medicine "Zaschita" have done a lot of work to improve algorithms of interaction with medical treatment organizations (LMOs) and medical formations when organizing medical treatment of victims in emergencies and to refine the components of the information system.

Currently, the modern telemedicine system is a hardware-software complex, which includes:

- software for generating both TMC requests and protocols of consultations;
- system for transmitting and archiving medical images – PACS-system;
- video conferencing system;
- mobile communication complexes;
- medical equipment that allows the real-time or delayed transmission of data on the patient's condition and major vital signs.

In 2020, in accordance with the Decree of the Government of the Russian Federation, "Zaschita" as a body of day-to-day management of the All-Russian Disaster Medicine Service was transferred to the Federal Medical and Biological Agency (FMBA of Russia).

Using the accumulated experience, in a short time "Protection" organized the work to connect to the federal telemedicine sys-

tem (FTS) to more than 200 medical organizations of FMBA of Russia, including their branches.

The district medical centers and leading medical institutions of the Federal Medical and Biological Agency of Russia have received the status of advisory centers, whose specialists are able to conduct TMC throughout the Russian Federation (Table 1).

In 2020 and 2021, all consulting LMOs of the Russian Federation conducted 10,047 and 17,0066 TMC using the doctor-doctor scheme, respectively, i.e. the share of TMC conducted by LMOs of FMBA of Russia in the total number of TMC conducted by LMOs of the Russian Federation was less than 1.0% and over 1.8%, respectively.

These data indicate a positive trend in the number of TMC performed by Russian Federal Medical and Biological Agency specialists.

It should be emphasized that one of the main reasons for the increase in the number of TMC performed in 2020-2021 was the need to organize urgent and emergency telemedicine consultations for patients with COVID-19 and pneumonia.

While in 2020 medical specialists of LMOs of the Russian Federation, including medical specialists of LMOs of FMBA of Russia, conducted 22647 TMCs of patients with COVID-19 and pneumonia using FTS, in 2021 the number of TMCs of such patients was 42510.

Таблица 1 / Table No. 1

Количество ТМК, выполненных специалистами телемедицинских консультативных центров ФМБА России в 2020–2022 гг., абс.

Quantity of telemedical consultations held by specialists from Federal medical and biological agency of Russia in 2020-2021 years

Год Year	Телемедицинские консультации Telemedical consultations			Итого Total
	экстренные emergency	неотложные urgent	плановые planned	
2020	81	89	754	924
2021	197	200	2736	3133
2022 –по состоянию на 23.08.2022 2022 –as of 23.08.2022	202	183	1842	2227

It should be noted that as part of the connection to the FTS, the status of a consultative telemedical center was granted to the National Medical Research Center of Otorhinolaryngology of FMBA of Russia, whose specialists perform TMC within the framework of the federal project "Development of a network of National Medical Research Centers" in the profile "Otorhinolaryngology" (Table 2).

In 2022, the Federal Medical and Biophysical Center named after A.I. Burnazyan was assigned the functions of a coordination and technical center for telemedicine by the Federal Medical and Biological Agency of Russia. In addition, work is underway to connect the FMBA's LMO to the centralized "Telemedicine consultations" subsystem of the Unified Departmental Medical Information and Analysis System (TMS EVMIAS) of Mandatory Medical Insurance (MMI).

The telemedicine coordination and technical center will provide organizational, methodological and technical support to FMBA's LMO specialists, operator's activities in organizing medical consultations, including the use of videoconferencing, as well as keeping records of medical consultations and providing statistical data on the work done.

Currently, it is possible to identify the following directions for the development of telemedicine within the Federal Medical and Biological Agency:

1. As part of the approved action plan to develop telemedicine and itinerant forms of medical assistance, including on the routes of nomadic indigenous peoples in the Arctic zone of the Russian Federation, FMBA specialists are working to train LMOs involved in medical support for ships sailing in the waters of the Northern Sea Route to participate in providing medical assistance on board ships using digital, including telemedicine, technologies.

2. Close cooperation in the field of telemedicine requires a separate agreement between FMBA and the Russian Ministry of Health and other agencies to organize cooperation in the implementation and application of TMT, the components of which are:

- participation in the formation of a joint strategy for the introduction and application of telemedicine technologies in health care;
- generalization of scientific, technical, and methodological approaches to the implementation and use of telemedicine technologies;
- participation in the development and implementation of target programs, regulatory documents in the field of telemedicine technologies in healthcare;
- testing of modern technical means and methods in the field of implementation and application of telemedical technologies in health care;
- training medical personnel to work in the field of telemedicine technologies, etc.

The implementation of modern technologies and standards requires improvement of the material and technical basis. Consequently, the approval of methodological recommendations on equipping medical treatment organizations of FMBA of Russia with equipment used in the process of providing medical care with the use of TMT, and additional equipping of telemedical consultation centers and points with the necessary equipment will ensure a high level of readiness to conduct TMT.

In order to organize the effective functioning of the system of telemedicine consultations, including at the interagency level, it is necessary to include TMT in the tariffs for payment for medical care under the system of compulsory health insurance.

Таблица 2 / Table No. 2

**Количество ТМК, проведенных специалистами
НМИЦО ФМБА России в 2020–2022 гг., абс.**

Quantity of telemedical consultations held
by specialists from National medical center
of otorhinolaryngology of Federal medical
and biological agency of Russia in 2020-2021 years

Год Year	Телемедицинские консультации Telemedical consultations			Итого Total
	экстренные emergency	неотложные urgent	плановые planned	
2020	66	59	570	695
2021	114	138	2108	2360
2022 –по состоянию на 23.08.2022 2022 –as of 23.08.2022	52	67	1141	1260