

PRINCIPLES OF PROVISION OF EMERGENCY, INCLUDING SPECIALIZED EMERGENCY, MEDICAL CARE WITH THE USE OF AIR AMBULANCE IN THE CONSTITUENT ENTITIES OF THE RUSSIAN FEDERATION

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Abstract. *Actuality.* A tenth of the Russian population lives in the remote territory of the country. The priority task of healthcare is to ensure accessibility and the need for medical care to the population, and taking into account territorial features, data on the possibilities for collecting air ambulance should be increased.

The aim of the study was to explore the activity of regional medical organizations providing emergency medical assistance and medical evacuation with the use of sanitary aviation in field forms of work.

Materials and research methods. Materials of the research were the registration forms filled in by experts of territorial centers for disaster medicine in information system "Monitoring of the centers for disaster medicine" (smk.minzdrav.gov.ru).

The research methods were analytical and statistical.

Results of the study and their analysis. The work of the structural subdivisions of territorial centers for disaster medicine applying sanitary aviation in rendering emergency medical aid and carrying out medical evacuation in the subjects of the Russian Federation was considered. The participation of the specialists of different medical organizations in rendering emergency and consultative medical aid and carrying out medical evacuation was explored. The daily indicators of the work of the outreach teams of territorial disaster medicine centers working in the mode of day-to-day activity are analyzed. The data on the participation of territorial disaster medicine centers specialists in the air ambulance evacuation of patients on life support are presented.

Key words: *air ambulance, air ambulance evacuation, emergency medical assistance, emergency specialized medical assistance, medical evacuation, medical organizations, subjects of the Russian Federation, territorial disaster medicine centers*

Conflict of interest. The authors declare no conflict of interest

For citation: Isaeva I.V., Isaev M.Yu. Principles of Provision of Emergency, Including Specialized Emergency, Medical Care with the Use Of Air Ambulance in the Constituent Entities of the Russian Federation. *Meditsina Katastrof = Disaster Medicine*. 2022;2:72-78 (In Russ.). <https://doi.org/10.33266/2070-1004-2022-2-72-78>

АНАЛИЗ СИСТЕМЫ ОКАЗАНИЯ СКОРОЙ, В ТОМ ЧИСЛЕ СКОРОЙ СПЕЦИАЛИЗИРОВАННОЙ МЕДИЦИНСКОЙ ПОМОЩИ С ПРИМЕНЕНИЕМ САНИТАРНОЙ АВИАЦИИ В СУБЪЕКТАХ РОССИЙСКОЙ ФЕДЕРАЦИИ

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Резюме. *Актуальность.* Десятая часть населения России проживает на труднодоступной территории. В настоящее время, когда приоритетной задачей здравоохранения является обеспечение доступности и своевременности оказания медицинской помощи населению, достигнуть указанных целей можно только с учетом территориальных особенностей регионов и с применением санитарной авиации.

Цель исследования – проанализировать деятельность региональных медицинских организаций (МО), осуществляющих оказание экстренной медицинской помощи (ЭМП) и проведение медицинской эвакуации с применением санитарной авиации при выездных формах работы.

Материалы и методы исследования. Основным материалом исследования – учетные формы, заполняемые специалистами территориальных центров медицины катастроф (ТЦМК) в информационной системе «Мониторинг центров медицины катастроф» (smk.minzdrav.gov.ru). Методы исследования – аналитический и статистический.

Результаты исследования и их анализ. В исследовании представлены структурные подразделения ТЦМК, которые, в зависимости от климато-географических особенностей территорий, развития дорожной сети и наличия инфраструктуры для использования воздушного транспорта, оказывают экстренную медицинскую помощь с применением санитарной авиации в субъектах Российской Федерации.

Рассмотрено участие специалистов различных медицинских организаций в оказании экстренной и консультативной медицинской помощи и проведении медицинской эвакуации. Проанализированы среднесуточные показатели работы выездных бригад ТЦМК в режиме повседневной деятельности. Представлены данные об участии специалистов ТЦМК в проведении медицинских эвакуаций с применением санитарной авиации.

Ключевые слова: медицинская эвакуация, медицинские организации, санитарная авиация, санитарно-авиационная эвакуация, скорая медицинская помощь, скорая специализированная медицинская помощь, субъекты Российской Федерации, экстренная медицинская помощь

Конфликт интересов. Авторы статьи подтверждают отсутствие конфликта интересов

Для цитирования: Исаева И.В., Исаев М.Ю. Анализ системы оказания скорой, в том числе скорой специализированной медицинской помощи с применением санитарной авиации в субъектах Российской Федерации // Медицина катастроф. 2022. №2. С. 72-78. <https://doi.org/10.33266/2070-1004-2022-2-72-78>

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Introduction

More than 80.0% of the population of the Russian Federation compactly resides in the European part of the country with a developed infrastructure and system of organization of medical care. At the same time, a significant part of Russia is located in permafrost areas. There are practically no automobile roads there, which requires the state to make great efforts to develop the infrastructure of air transport in order to organize the provision of timely medical care to the population.

In addition, in 14 subjects of the Russian Federation the area of mountain cover makes up more than 75.0% of the territory. A typical distinction of these regions is the presence of hard-to-reach settlements. In some remote settlements there is no regular transport communication due to seasonal rains, mudflows, natural fires, etc. Our country has more than 1 thousand islands, 700 of which are populated. Such islands are mostly hard to reach, and in storms and bad weather they are completely inaccessible. Megacities also have their own peculiarities, the use of air ambulance there when providing emergency medical aid to the victims of road accidents leads to a significant reduction in the time of medical evacuation of victims to medical treatment organizations [1-6].

In accordance with the Decree of the President of the Russian Federation as of June 6, 2019 № 254¹ one of the main objectives of health care is to ensure the availability and timeliness of medical care to every resident, regardless of their location on the territory of Russia.

In order to develop the system of emergency medical care using air transport, the Russian Ministry of Health has adopted a model strategy for the development of ambulance aviation in the subjects of the Russian Federation until 2024². It defines the goals and principles of implementation of national priorities in providing emergency medical care. Within the framework of the implementation of the strategy of development of air ambulance in the subjects, the main current task is to organize the work of air ambulance in the "24/7" format by the end of 2024.

Currently, the provision of emergency medical care is organized at the federal and regional levels.

¹ On the Strategy for the Development of Healthcare in the Russian Federation for the Period up to 2025: Decree of the President of the Russian Federation dated June 6, 2019 No. 254 (In Russ.)

² Standard Strategy for the Development of Air Ambulance in a Constituent Entity of the Russian Federation until 2024, approved by the Ministry of Health of Russia: letter of the Department for the Organization of Emergency Medical Care and Expert Activities of the Ministry of Health of Russia dated March 29, 2019 No. 14-3 / 543 (In Russ.)

The system of emergency medical care at the regional level includes emergency consultative medical care departments of territorial disaster medicine centers and regional clinical hospitals – level 3 medical organizations – with visiting consultative teams of specialized medical care, emergency response teams, ambulance teams and aviation medical teams [7].

The coronavirus pandemic in 2020-2021 has placed new demands on the organization of emergency medical care for the population of the Russian Federation and the world community as a whole. The need to minimize the contacts of medical workers caused the need to develop video conferencing systems and telemedicine technologies. At the same time, the need for medical evacuation of patients who require specialized medical care in an emergency has not decreased.

The aim of the study is to analyze the activities of medical organizations of the regional level providing emergency medical care and medical evacuation using air ambulance in off-site forms of work.

Materials and research methods. The research was performed in the Federal Center for Disaster Medicine at the National Medical and Surgical Center named after N.I. Pirogov of the Ministry of Health of Russia, in 2021. In the course of the study the existing regulatory legal acts, publications in various scientific editions were studied, the experience of the territorial center for disaster medicine, regardless of the presence of the emergency consultation and emergency medical care departments in their structure was analyzed. The studied information was entered by the specialists of the territorial center for disaster medicine into the following sections of the information system "Monitoring of Disaster Medicine Centers" (smk.minzdrav.gov.ru): "Information about the activities of medical organizations providing emergency medical aid and medical evacuations in field forms of work", "Daily indicators of the work of field teams of the territorial center for disaster medicine in the mode of daily activity", "Information about the forces and means of the Disaster Medicine Service in the subject of the Russian Federation". This information system was developed by the Central Research Institute of Health Organization and Informatization in 2021 for specific tasks of the Disaster Medicine Service of the Ministry of Health of Russia.

The study also used data from statistical reporting forms of the territorial center for disaster medicine No. 55 "Information about the activities of the Disaster Medicine

Service of the subject of the Russian Federation" and No. 56 "Information about the activities of medical organizations providing emergency medical care and medical evacuation in field forms of work".

Since the functionality of the information system smk.minzdrav.gov.ru did not allow us to obtain data in the format required for the study, to extract the available data we wrote a program in Python programming language using open frameworks Numpy, Pandas, BeautifulSoup, Selenium, OS. Data collection and preprocessing were carried out in the analytical program Tableau³.

The object of the study is the system of emergency medical assistance and medical evacuation using air ambulance in the subjects of the Russian Federation.

Results of the study and their analysis. As a result of the analysis of the activities of regional medical organizations that provide emergency medical care and medical evacuation with the use of aeromedical aviation in the regions of the Russian Federation, the following was revealed.

Within the framework of the strategic planning of the organization of medical care and the formation of a three-tier system of medical support, carried out by the Ministry of Health of Russia since 2018 the process of combining the stations of emergency medical care and the territorial centers for disaster medicine into one legal entity – the regional center of emergency medical care and disaster medicine – takes place. This will allow a more rational use of common forces and means – medical formations of the Disaster Medicine Service of the Russian Ministry of Health to provide emergency medical care both in day-to-day activities and in an emergency situation. It should be noted that the Ministry of Health of Russia has not included these institutions in the nomenclature of medical organizations.

The analysis of the structure of the Disaster Medicine Service at the regional level shows different organizational models of functioning: territorial center for disaster medicine as an independent medical organization; territorial center for disaster medicine within the leading regional clinical hospitals – medical organizations of the 3rd level; united regional center for emergency and disaster medicine. In large regions the model of the territorial center for disaster medicine prevails as an independent legal entity – at the beginning of 2022 there were 35 such territorial centers. The tendency to the organizational unification of the territorial centers for disaster medicine and the stations of emergency medical care is preserved – the number of united regional centers of emergency medical care and disaster medicine is 34. Within the leading regional clinical hospitals – medical organizations of the 3rd level – there are 16 territorial centers for disaster medicine.

At present in Siberian, Ural and Far Eastern Federal Districts the territorial centers for disaster medicine are large medical organizations, performing both the functions of the daily management body of the regional disaster medicine service and solving problems under various modes of operation. This includes optimal routing during medical evacuation with the use of sanitary aviation (Sverdlovsk region, Khabarovsk territory, Khanty-Mansi Autonomous Okrug-Yugra, Kemerovo region, etc.). Such territorial centers for disaster medicine fully monitor the vic-

tims of emergencies who are being treated in the medical organizations of the subject.

In the central regions of the Russian Federation territorial centers for disaster medicine, with rare exceptions, do not have the authority and capacity to promptly resolve the day-to-day tasks of the Disaster Medicine Service. As a rule, they do not have on-site emergency response teams. Therefore, the functions of operative response to emergencies in the daily mode of operation have to be performed by the operative dispatcher department and field ambulance brigades.

Analyzing the activities of joint centers, which include ambulance service and disaster medicine service, it is necessary to note both positive and negative sides of their unification.

In our opinion, the positive aspects of the work of the united centers are:

1. Creation and functioning of a single center, responsible for organization and provision of emergency medical aid and medical evacuation, including air ambulance. At the discretion of the executive authority of the subject in the sphere of health protection of citizens, this center may operate as part of a single legal entity, or as part of a functional association.

2. Creation of a unified regional information system – formation of a single information space for the management of emergency medical care, Disaster Medicine Service and sanitary aviation, integrated with the medical information system of the subject, including the Unified State Health Information System. Information becomes transparent at any stage of control over patients and victims.

3. Provision of the Disaster Medicine Service with forces and means with the ability to respond promptly to various emergencies throughout the region.

The negative sides of the work of the joint centers include:

1. Loss of functions of the territorial center for disaster medicine as a body for day-to-day management of the region's Disaster Medicine Service.

2. Consolidation of territorial centers for disaster medicine and city emergency stations, which do not have the status (powers) of a regional medical organization, which significantly limits the possibilities of management in case of an emergency on the whole territory of the region.

3. Use of outreach emergency response teams (specialized teams) of territorial disaster medicine centers to service urgent emergency medical calls and medical evacuations of patients not included in the category of "emergency" leads to a decrease in the qualifications of specialists. As a result, the tasks facing the ambulance service are solved at the expense of the teams of territorial disaster medicine centers.

4. Outflow of specialist doctors from territorial centers for disaster medicine to other medical organizations, where they will work in accordance with their profile and level of qualification.

According to item 21 of "Provisions on development, approval and realization of departmental target programs" approved by the Decree of the Government of the Russian Federation from April 19, 2005 239 and for realization of the State program "Development of Public Health" the Departmental target program "Improvement of emergency, including specialized emergency medical aid and activity of the All-Russian Disaster Medicine Service" was developed

³ Tableau Analytics App Link: 2021 Emergency Medical Advisory and Medical Evacuation Activity Details. https://public.tableau.com/shared/F72HBS5DC?:display_count=n&origin=viz_share_link

by the Ministry of Health of Russia. It was approved by Order No. 827 of the Ministry of Health of Russia "On Approval of the Departmental Target Program "Improvement of Emergency, including Specialized Emergency, Medical Care and Activities of the All-Russian Disaster Medicine Service" of October 2, 2019 (hereinafter – the Program).

The goal of this Program is to reduce the time of arrival of outreach ambulance crews to emergency calls (less than 20 minutes) and to reduce the hospital mortality rate of victims of emergencies admitted to medical organizations.

To achieve the target indicators of the Program by 2024, it is possible, in our opinion, to select among them the most promising for the long-term assessment of their implementation: equipping emergency medical care stations with medical information systems; developing inpatient emergency departments; improving the routing of patients in need of specialized emergency medical care; improving interaction between medical organizations that provide emergency, including specialized emergency, medical care

According to statistical reporting forms, in 2020. 63.0% of the departments of emergency consultative medical care, providing medical care to the adult population, functioned within the regional clinical hospitals – medical organizations of the 3rd level. During the last four years the number of emergency consultative medical care departments providing medical care to children has increased by 40.9%. In 2020. 65.9% of these departments worked as part of regional children's clinical hospitals – medical organizations of the 3rd level [15].

It is an undeniable fact that the subjects differ from each other in the level of economic development, the availability of infrastructure for the use of air ambulance, and the capabilities of the health care system.

Thus, taking into account the peculiarities of some regions with low population density and aviation infrastructure, they use continuous staged air ambulance evacuation from hard-to-reach settlements; hard-to-reach settlements are overcome using helicopters; long distances – using planes [8].

The system of providing emergency, including specialized emergency, medical care to the pediatric population with the use of air ambulance requires special attention. The use of pediatric aviation medical teams in the pre-hospital period makes it possible to quickly deliver specialists to the scene of the event, to begin medical care in the pre-hospital period, and to perform aviation evacuation immediately to the specialized level 3 hospital [9].

For children with life-threatening conditions and in need of inter-hospital medical evacuation, the priority is the use of air ambulance. At the same time, special attention is paid to the preparation for the medical evacuation of children who are in a critical condition. Target indicators for stabilizing the condition of children in the next 6 hours after medical evacuation have been developed [10].

Currently, there is no official unified statistics on the activities of medical organizations providing emergency medical care and conducting medical evacuations during field forms of work in the Russian Federation. In this connection in 2019 on the basis of the All-Russian Center for Disaster Medicine "Zaschita" of the Ministry of Health of Russia a form for collection of relevant information was developed, tested in five pilot subjects and approved for further implementation in the regions at the meetings of profile commissions on disaster medicine (protocol №17 of May 30,

2019) and on emergency medical care (protocol of June 30, 2019) of the Ministry of Health of Russia.

According to the information system for monitoring disaster medicine centers, territorial disaster medicine centers have 973 ambulances, of which 41.0% are "C" class, and 195 mobile medical complexes in daily operation and in emergency mode. They are intended for providing emergency medical aid in emergency situations, for medical support of cultural and sports events, for organization of temporary emergency medical aid stations on highways. In order to provide medical care in emergency the regional Disaster Medicine Service currently uses 140 helicopters, including 109 medical ones, and 27 aircrafts, including 6 medical ones.

According to the data of the average daily work of the outreach teams of the territorial centers for disaster medicine in the mode of daily activity for a month, outreach teams are available in 64 territorial centers for disaster medicine/regional centers for emergency and disaster medicine (75.2%), in which on average 400 teams work, of which 10.0% work with children. In the structure of all the teams of the territorial centers for disaster medicine the share of specialized teams is 65.5%, of which 85.0% are anesthesiology and reanimation teams and emergency consultative teams; 15.0% are aviation medical teams.

Territorial disaster medicine centers have no visiting teams in 25.0% of the subjects, including Arkhangelsk, Belgorod, Vladimir, Vologda, Kirov regions; in the republics of Udmurtia, Bashkortostan, etc.

On average daily outreach teams of territorial disaster medicine centers provide medical aid using all types of sanitary transport to 400 patients, including resuscitation measures performed by 2.0% of patients; 8.0% of patients are on artificial pulmonary ventilation or oxygen support during medical evacuations. More than 70.0% of calls are performed for emergency indications; from 2.0% to 6.0% for emergencies; 4.0% of the calls are for medical support of cultural and sporting events. Up to a quarter of the calls of the territorial disaster medicine center teams are calls for traffic accidents, injuries, vascular pathology, as well as for chronic patients in life-threatening conditions.

Of the total number of calls performed, more than 70.0% are medical evacuations; about 80.0% are performed by ambulance transport; 20.0% are performed by air transport.

Within regions, 95.0% of medical evacuations are performed, every fourth of them using air transport.

In 2021 the specialists of medical organizations providing emergency medical care and medical evacuations in the territory of the Russian Federation performed 904250 calls, including 126817 calls to children. On the average 75354 calls are performed every month, including 14.0% for children (Table 1).

The structure of the calls made by the specialists of medical organizations in 2021 for emergency and consultative medical aid and medical evacuation with the use of air ambulance:

- share of calls and medical evacuations with the use of air ambulance was 5.0% of the total number of performed calls, including in emergency situations – 0.4%;

- share in the total number of calls performed with the use of air ambulance provided by specialists of territorial centers for disaster medicine was 71.6%; specialists of regional clinical hospitals, including children's hospitals – 23.1%;

- least of all, air ambulance teams (0.3%) and perinatal centers (2.8%);

- in the hospital period, as compared to the pre-hospital period, air ambulance is used 3.5 times more often, mainly during inter-hospital medical evacuations;

- in the pre-hospital period, 78.0% of the calls with the use of air ambulance are provided by the specialists of the territorial disaster medicine centers; 20.6% are provided by the specialists of the regional clinical hospitals; 0.3% of the calls are provided by the ambulance crews;

- in the hospital period 70.0% of the calls with the use of sanitary aircraft are provided by specialists of the territorial disaster medicine centers; 20.2% by specialists of the regional clinical hospitals; 4.8% of the calls are provided by ambulance crews.

- When eliminating medical and sanitary consequences of emergencies with the use of sanitary aviation specialists of territorial centers for disaster medicine and emergency consultative medical care departments of regional clinical hospitals – medical organizations of the 3rd level – are involved; specialists of perinatal centers, children regional hospitals and federal medical organizations located in the regions are not involved at all.

There is a direct correlation between the share of calls made with the use of air ambulance within the region and the climatic and geographical conditions, the area of the territory, the development of transport infrastructure and the density of the population. Thus, in the total number of medical evacuations the share of air ambulance evacuations was: in the Republic of Sakha (Yakutia) – 96.9%; in the Yamalo-Nenets Autonomous District – 90.5; in the Arkhangelsk Region – 76.7; in the Trans-Baikal Territory – 62.8%.

Out-of-region medical evacuations with the use of ambulance aviation are performed: in the Komi Republic – in 100.0% of cases; the Buryat Republic – in 80.0%; the Murmansk Region – in 74.6; the Chechen Republic – in 58.3; the Orenburg region – in 41.1; the Tyumen region – in 31.2; the Pskov region – in 13.4; the Tver region – in 12.3%.

A third of the subjects use air ambulance evacuations outside the subject in no more than 10.0% of medical evacuations. And a quarter of the subjects do not practice medical evacuations to neighboring regions at all. The main reasons for this are: well-developed network of highways; optimal location of medical organizations of the 3rd level for providing medical care to adults and children. Such subjects include the republics of Tatarstan and Bashkortostan, the Sverdlovsk region, the Krasnodar Territory, etc.

27 regions (31.0%) use air ambulance to provide emergency medical care in the pre-hospital period.

The hospital period of emergency medical care accounts for 78.3% of air ambulance calls [11].

In 2021, 29722 patients were evacuated on life support, which was 3.3% of the total number of calls performed.

The number of patients on ventilator or on oxygen support during air ambulance evacuations was 2578 – 5.7% of all the calls performed using air ambulance. Such patients were: in Transbaikalian Territory – 87,2%; Chelyabinsk region – 53,5; Republic of Buryatia - 49,1; Irkutsk region – 35,0; Republic of Komi – 30,3; Tver region – 28,9; Altay Territory – 22,9; in Republic of Karelia – 20,2%.

One of the priority tasks of health care is the compliance with the routing of patients during medical, including air ambulance, evacuation to specialized medical organizations of the 3rd level [3, 8].

Clearly developed routing systems that ensure the highest proportion of medical evacuations to Level 3 medical organizations are presented in Table 2.

Conclusion

1. Currently, it is possible to ensure the availability and timeliness of medical care to the population in the subjects of the Russian Federation only with the active use of information technologies and the inclusion of sanitary aviation in the logistics of routing of patients with life-threatening diseases and conditions.

Таблица 1/ Table No. 1

Количество вызовов для оказания экстренной и консультативной медицинской помощи и проведения медицинской эвакуации, выполненных специалистами медицинских организаций в субъектах Российской Федерации в 2021 г., чел.

Number of Calls for Provision of Emergency and Advisory Medical Care and Medical Evacuation

Made by Specialists of Medical Treatment Organizations (HMOs) in the Constituent Entities of the Russian Federation in 2021, abs.

Медицинская организация/ Medical organization	Всего вызовов/ Total calls		Из них с применением санитарной авиации/ Of which with the use of air ambulance								
			в догоспитальном периоде / in the prehospital period			в госпитальном периоде / in the hospital period					
	всего/all	из них к детям / of them for children	всего/all	в т.ч. в ЧС / including in emergency	из них к детям / of them for children	всего/all	из них к детям / for them for children	в т.ч. в ЧС / including in emergency	всего/all	из них к детям / of them for children	в т.ч. в ЧС/ including in emergency
ТЦМК ¹	166509	20959	32653	90	4981	7678	1328	21	24975	3653	69
РКБ ²	110542	11611	9269	91	779	2033	176	83	7236	603	8
ДРКБ ³	26488	26100	1280	0	1166	79	79	0	1201	1087	0
ПЦ ⁴	10240	4326	282	0	224	25	8	0	257	216	0
ССМП ⁵	593853	63534	1744	22	138	31	2	0	1713	136	22
ДМО ⁶	8280	770	355	0	26	0	0	0	355	26	0
Всего/Total	904250	126817	45583	203	7314	9846	1593	104	35737	5721	99

¹ территориальные центры медицины катастроф / territorial centers for disaster medicine

² региональные клинические больницы / regional clinical hospitals

³ детские региональные клинические больницы / children's regional clinical hospitals

⁴ перинатальные центры / perinatal centers

⁵ станции скорой медицинской помощи / ambulance stations

⁶ другие медицинские организации, включая федеральные медицинские организации, расположенные в регионах / other medical organizations, including federal medical organizations located in the regions

**Маршрутизация пациентов, находившихся в угрожающих жизни состояниях,
в специализированные медицинские организации 3-го уровня в 2021 г., %**

Routing of Patients in Life-Threatening Conditions to Specialized Medical Organizations (MO) of the 3rd Level in 2021, %

Регион / Region	Доля медицинских эвакуаций в ЛМО 3-го уровня Share of medical evacuations to MO of the 3rd Level	Доля санитарно-авиационных эвакуаций в ЛМО 3-го уровня Share of air ambulance evacuations to MO of the 3rd Level
Томская область / Tomsk region	100,0	100,0
Чувашская Республика / Chuvash Republic	100,0	100,0
Забайкальский край / Zabaykalsky Krai	98,7	100,0
Краснодарский край / Krasnodar region	100,0	100,0
Курганская область / Kurgan region	98,0	100,0
Кировская область / Kirov region	85,4	100,0
Республика Дагестан / The Republic of Dagestan	95,8	99,4
Воронежская область / Voronezh region	97,8	99,0
Ямало-Ненецкий автономный округ / Yamalo-Nenets Autonomous Okrug	97,6	98,2
Алтайский край / Altai region	87,4	97,2
Республика Бурятия / The Republic of Buryatia	98,0	94,8
Архангельская область / Arhangelsk region	93,3	92,7

2. Territorial centers for disaster medicine with the status of a legal entity or being a part of the regional clinical hospital – medical organization of the 3rd level – as a rule, have emergency consultative medical aid departments and specialized visiting brigades, including aviation medical ones, in their structure. In these medical organizations, a high proportion of calls are made by air ambulance calls. Territorial centers for disaster medicine, united with the ambulance stations, do not have departments of emergency consultative medical aid. The few integrated centers have specialized mobile teams. In the work of these centers there is a very small share of calls with the use of air ambulance.

3. Brigades of territorial disaster medicine centers actively work in the daily mode of activity. They perform more than 70.0% of emergency calls, including 20.0% with the use of medical aviation, including consultations and medical evacuations of the most "complicated" patients.

4. The share of calls and medical evacuations performed with the use of air ambulance at the regional level was 5.0% of the total number of emergency calls, including 95.0% of medical evacuations performed within the regions.

5. In the total number of calls performed with the use of sanitary aviation the share of the calls provided by the specialists of the territorial centers for disaster medicine amounted to 71,6%; specialists of the regional clinical hospitals – 23,1%; the use of sanitary aviation by the teams of emergency medical services and perinatal centers is minimal.

6. When eliminating medical and sanitary consequences of emergencies with the use of sanitary aviation, specialists from territorial disaster medicine centers and regional clinical hospitals – medical organizations of the 3rd level – are involved.

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Материал поступил в редакцию 17.03.22; статья принята после рецензирования 21.06.22; статья принята к публикации 23.06.22
The material was received 17.03.22; the article after peer review procedure 21.06.22; the Editorial Board accepted the article for publication 23.06.22