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# Using the Capabilities of Telemedicine in Modern Information and Computer Technologies and Support Systems in Practical Pharmacy

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**Abstract:** The use of telecommunications in medical education is gaining momentum as a wonderful tool that is not hindered by geographical boundaries or time barriers. Therefore, bringing specialized care closer to remote areas is a key task for teleconferences and teleconsultations, which can be implemented through modern computer networks. This article provides information on the use of telemedicine capabilities in modern information and computer technologies and support systems in practical pharmacy.

**Key words:** Modern information and computer technologies, telemedicine, pharmacy, education system, Internet, distance learning, medical care.

**Introduction.** Telemedicine is an applied branch of medical science related to the development and practical application of remote medical care methods and specialized information exchange based on the use of modern telecommunication technologies . In the head of an experienced narrow specialist - the main carrier of modern medical information - only a part of his special professional knowledge in the form of his personal knowledge and skills can be considered ready for use. However, not only texts with knowledge, but also experts with knowledge are often not available at the time and place necessary for decision-making, and most decisions are made by "non-specialists". .

Telemedicine has been most developed in the United States, Canada, and Scandinavian countries, where there are geographically remote areas and high demand for medical care. Telemedicine can provide effective consultation and medical care in rural areas for patients for whom timely intervention is a crucial factor. This problem is also relevant for our country, given the distances and poor infrastructure of remote areas.

Currently, the Internet is still of limited importance in disaster relief. However, the high speed of information transfer and the extensive resources available on the Internet mean that during natural disasters, essential information can be provided through networks that are only intended for medical purposes.

**Discussion:** Consultations from doctors from geographically distant locations are accessed through three types of access:

1. Obtaining general medical information (literature citations, reviews, clinical trial reports).
2. Discussion list. A message sent to the discussion list reaches every participant, and a lot of useful information can be obtained by answering a question posed to the global community of professionals.

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3. Videoconferencing with the ability to transmit graphic data and images of the patient. Practitioners are often faced with the task of interpreting data. Typically, a practicing physician does not have special training in cardiology. Therefore, programs that provide up to 12 interpretations have proven themselves well. The ability to provide remote complex ECG analysis in conjunction with cardiology consultations is a promising area of application in medicine.

Norway has had a pathology consultation system since 1990, in which several hospital laboratories participate by means of telecommunications. Image archiving and transmission systems based on network technology have been widely used in intensive care and intensive care units for many years. Telecommunications, which connect the community with medical information, are also used to support chronic patients and their relatives by teaching them self-treatment and care skills. This prevents the uncontrolled development of the disease. Patients are given knowledge that allows them to take an active part in their treatment, avoid unnecessary hospitalization and plan a sensible lifestyle.

**Distance learning.** Students of medical universities must acquire extensive technological knowledge necessary for future practice during their studies. Much of the knowledge cannot be found in a textbook. Examples of this type of information include microscopic image data or cross-sectional materials, surgical techniques, surgical techniques, etc. To fully understand the subject of study, the student relies on various sources that are often not physically connected, such as X-rays, sectioned organ materials, operation diagrams. This situation complicates learning and involves the use of many information sources, including resources and information centers and services. Today's technology allows us to design and create information tools that alleviate these difficulties in training qualified personnel.

Personal computers are used to present a wide range of information in a variety of formats: text, sound, images, photographs, drawings, animations, and video at individual pace. This interactive approach to teaching using multimedia is called "Yedutaiment" (education and entertainment). It demonstrates the use of new tools in teaching and learning various subjects. A similar system, but already using telecommunications capabilities, is used in medical education in the States of Colorado and Texas, and provides teachers in rural areas with access to the latest information. This is mainly due to the following:

1. Computer technology has become powerful enough to store enormous amounts of educational information, and multimedia tools allow you to achieve excellent image and sound quality.
2. Currently, the Internet is available on high-speed channels and is widely used in the world. Based on the use of the Internet, international educational projects are being created that allow students to start international cooperation from school.

Distance learning allows large groups of specialists to be trained in the workplace. For example, the Irish College of General Practitioners has developed a distance learning model for a course in emergency medicine for cardiovascular diseases. In the first year of using a computer telecommunications network, 8% of all general practitioners were able to simultaneously improve their skills.

China has tested a remote system for qualifying exams. Out of 125,645 candidates who took the exam, 64,078 passed.

In the 60-day distance learning postgraduate program in obstetrics and gynecology, email was highly appreciated by instructors and students as the simplest and most affordable method of tele-communication.

Today, distance learning is only developing. According to data, many students receive certificates in subjects that can be passed online. In our opinion, especially in Russia, distance learning is especially important for the training of doctors, including full-time postgraduate studies. Given the vast territories of the country and the difficult economic situation, this type of training allows you to train a huge number of specialists.

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A new, more interesting method of distance learning - Tele-mentoring - allows you to direct the student's activities directly to his workplace, where he will apply the newly acquired knowledge and skills in practice. The role of the mentor does not require the constant physical presence of the teacher, but is determined by his determination to achieve the full development of his ward - from the initial level to the real peaks of mastery through deepening professionalism and qualifications.

With all the wealth of Internet resources, there are more and more reports of the development of regional computer networks for healthcare needs. This is determined by the following circumstances:

1. Unmet information needs of rural health care in the region.
2. High prices for remote access to information resources (the cost of the data itself and data transfer services).
3. Lack of use of electronic medical records in hospital systems.
4. The need to address regional medical programs.
5. More cost-effectively integrate information at the regional level and achieve results faster.
6. Regional computer networks are now much more important in responding to natural disasters than the Internet, whose resources are used to a limited extent. The Ufa segment of the Telemedicine Space Bridge program allowed us to draw two main conclusions:

1. full medical consultations are possible even in the absence of a full-format color television image, which is currently not available on most local regional networks;
2. Rapid response to the need for telemedicine support is possible if there is a well-functioning existing system - by creating new segments in addition to existing ones.

Telecommunications play an indispensable role in solving clearly defined tasks. The purpose of the system is to directly support medical activities by providing specialists with professional information based on modern telecommunication technologies. The system, consisting of interactive online databases, is available to almost any medical institution in the country.

The creators of the network expect to improve the quality of emergency medical care by reducing duplicate studies, expanding the availability of information resources, creating a city data bank about patients, and using regional standards for diagnosis and treatment.

Telecommunications technologies are increasingly used not only in developed countries, but also in medicine in the so-called "third world".

The pace of development of telecommunications has turned out to be so amazing that it is realistic to say that "the computerization of the country will be at a level that even by the end of the year will allow the attending physician to

Internet access is widespread not only in leading medical universities, but also in Uzbekistan.

**Conclusion:** Thus, the possibilities of using telemedicine and telecommunication technologies in modern information and computer technologies allow us to draw the following conclusions:

1. Improving the information supply of a doctor will significantly increase his work efficiency.
2. Electronic data is becoming increasingly important in providing information to the physician.
3. Telecommunication access to electronic information is currently the most attractive option. This is especially relevant for rural, geographically remote, and hard-to-reach areas.
4. Thanks to distance learning, continuing postgraduate education of medical personnel has reached a new level of quality and has broad opportunities and prospects.

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5. In contrast to the global tasks of the international computer network of the Internet, practical healthcare and especially problem solving are being effectively implemented on the basis of regional computer networks and information resources.
6. Despite economic instability, local healthcare has increasingly begun to take advantage of the Internet and regional data networks,
7. An urgent need has been identified for mandatory coordination and integration of work on providing global health information by the Ministry of Health and the country's leading scientific and medical institutions.

The pharmacy, online doctor consultation, and online healthcare service are successfully operating.

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