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STANDARDIZATION IN MEDICAL INFORMATICS

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ABSTRACT:

The article deals with issues related to the standardization of the field of medical informatics. Basic definitions, an overview of specific standards are given, and promising directions of development in this area are outlined. Almost all existing standards of medical informatics.

KEYWORDS: Medical informatics, standardization, component, technique, structure, practice.

INTRODUCTION

To date, almost all existing standards of medical informatics are not mandatory, but recommendatory. In the USA, the development of medical informatics standards is coordinated by the corresponding subcommittees of the American National Standards Institute ANSI, in Europe - by the TC251 subcommittee of the CEN European Committee for Standardization. The peculiarity of standardization of medical informatics is clearly expressed by the following dilemma: the narrower the circle of experts, the more difficult it is to make the standard generally accepted; the wider it is, the longer it takes to develop standard solutions.

Almost all standards of medical informatics are in one way or another related to the maintenance of an electronic medical history. Some standards describe the terminology that should be used in it, others describe the transfer of medical documents and images to an electronic medical history, still others describe the ways of organizing data in an electronic medical history, and fourth, provide medical workers and patients themselves with access to an electronic medical history, etc.

METHODS:

In essence, the development of standards for medical informatics is aimed at recreating a universal language of communication for medical workers, in other words, resurrection of Latin at the most modern level of information technology. In general, these standards are needed so that each electronic medical history record can be equally understood by representatives of different medical schools, including in different countries. At the same time, computers should become, as it were, translators from a familiar natural medical language into a unified electronic language and vice versa. Therefore, it is not surprising that in recent decades the greatest efforts of medical informatics specialists have been concentrated in two main areas: standardization of medical terminology and standardization of the transfer of records to electronic medical records.

Natural selection of the most successful developments ultimately led to the fact that in each of these areas there were two dominant standards. None of them is currently able to supplant the other, so the further development of these standards is planned along the way of their integration.

At present, two standards can be distinguished that originate from the United States, but have received fairly wide recognition in other countries:

- Standard for electronic exchange of text medical documents Health Level Seven (HL7);
- The standard for electronic imaging of radiation diagnostics Digital Imaging and Communication in Medicine (DICOM).

Unfortunately, in Russia, work on the standardization of electronic exchange of medical documents in a similar volume and with such quality is not carried out.

In addition to the aforementioned de jure standards, the development of open medical information systems is greatly influenced by a set of de facto communication standards, collectively referred to as Internet / Intranet technology. The main principle of this technology is to provide one and the same form of access to information belonging to a variety of information sources using a wide range of hardware and software. At present, the Internet / Intranet technology is beginning to be actively used in medical institutions. For example, many hospitals in different countries have their own Internet sites to provide future patients with information about medical services.

Open medical information systems are created as complexes of specialized components. For example, a typical hospital information system includes:

- Administrative and financial system;
- Clinical information system;
- Pharmacy information system;
- Information systems of laboratories and diagnostic departments;
- Information systems of other auxiliary units.

Among these components, the clinical information system plays a special role. It is mainly a consumer of information born in other systems. Its database accumulates large volumes of the results of diagnostic studies and laboratory tests obtained from the outside, data of monitoring the condition of patients in intensive care units, etc., thereby forming records in electronic patient records. As a consumer of information received from

other systems, the clinical information system inherits the structure and form of the data transmitted to it. Therefore, the standards for the electronic exchange of medical documents, which regulate the form and structure of the transmitted data, have a direct impact on the composition of the database of the clinical information system and thereby on the electronic presentation of patient records.

Compliance with the standards of electronic exchange of medical documents and images allows for mutual understanding between medical professionals located in different countries, speaking different languages and having different approaches to medical practice.

Modern trends in the standardization of medical informatics are of quite real importance for any modern medical institution. First of all, this concerns the purchase of complex diagnostic devices for radiation and ultrasound diagnostics: at present, almost every manufacturer of such equipment supplies software and hardware modules that implement the DICOM standard as an additional component.

CONCLUSION:

For general purpose systems, the currently recommended standard for electronic information interchange is UN / EDIFACT (United Nations International Standard for Electronic Data Interchange in Management). Medical systems can also be based on UN / EDIFACT or use one of the specialized health informatics standards such as HL7.

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