



## Adverse Outcomes in Medicine, Types, Outcome

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**Abstract:** The article is devoted to the study of medical errors. Based on the study of literary sources, it was revealed that there are various approaches to the interpretation of the term. Various classifications of medical errors have been developed, which do not fully take into account their types in the context of the specialty, essence, causes of occurrence, place of admission and their influence on the outcome.

**Key words:** medical error, essence, causes of occurrence, place of admission, outcome.

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**Introduction.** Currently, there is increasing interest in the analysis of the causes of adverse outcomes occurring due to the failure to achieve the expected outcome of patient treatment [2]. At the same time, there are subjects that duplicate each other's functions [16].

Currently, the so-called evidence-based medicine - EBM (Evidence-Based Medicine) is becoming increasingly widespread throughout the world. The principles of EB can be used to assess the quality of medical care (MH). It is proposed to consider EBM data as a standard of medical actions, and deviation from this standard - as a medical error, which is not always justified [11].

On this basis, the problem of medical errors should be discussed, analyzed and preventive measures should be taken [19]. At the same time, the range of interpretations of the term "medical error" is so wide that it includes diametrically opposed concepts [9]. The problem of medical errors has long existed in medicine. In ancient times, a physician could be expelled from the medical community for harming a patient.

The problem of medical errors has long existed in medicine.

Today, the prevalence of medical errors is enormous. For example, according to official data from the Institute of Medicine, 44,000 to 98,000 people die in American hospitals each year due to medical errors (and there is evidence that the actual number is even higher), and the total cost of medical errors has been estimated at \$17-29 billion. According to averaged data from various studies, up to 13% of patient hospitalizations are due to adverse effects of treatment or diagnosis; almost 70% of iatrogenic complications could have been avoided (in the United States, such complications affect about 13 million hospitalized patients annually)[30].

In 1996, a report was published on the United States, according to which the number of deaths in hospitals is increasing due to medical errors, especially those that could be easily prevented, and this affects the doctor-patient relationship. In 2002 in Canada, a new program was adopted by the Society of Obstetricians and Gynecologists to improve patient safety and quality of care [25].

Analysis of mistakes made by physicians in the countries of the Commonwealth and the USA has identified 171 types of errors, the consideration of which during accreditation of medical centers will affect the quality of medical care.

Considering their global character, in January 2002 WHO EC adopted a special resolution "Quality of Health Care and Patient Safety" and approved a strategy for improving patient safety, in which the main measures for improving MF population were outlined [27].

Although back in 1992. The WHO Bureau of Europe determined that MF should be considered qualitative if it corresponds to the standard of medical technologies and satisfies the patient's needs. At the same time, the creation of a system of standardization in health care allows a more active influence on the therapeutic and diagnostic process (TDP), to regulate and control the activities of medical institutions, to protect the rights of citizens in the field of health protection, to develop regulatory documents with a unified methodological approach, to use it as a means of objective assessment and quality management of MF [8]. Domestic authors have a similar opinion [14]. It allows interested countries to receive reliable information on products (services) in a clear and convenient form, promotes improvement of quality of services.

Formation of the system of standardization in health care is observed in medicine concerning the volume of MF rendering with the analysis of allowed medical errors, in the field of drug circulation, and also in the sphere of development and application of medical equipment [5, 13].

In the USA there is a process of ten-step control and evaluation of MF quality, which is recognized as a cornerstone of quality assurance efficiency. In Spain and Portugal there was developed a strategy called - Iberian program of training and implementation of measures for quality assurance of primary health care.

The authors propose to distinguish three links of the control system: - from the producer of medical services (internal quality control); - from their consumer (consumer quality control); - from organizations, which are independent from the above mentioned (external quality control). Medical standards are subdivided according to: - administrative - territorial division; - objects of standardization; - mechanism of use. At the same time, the probability of deviation from the standards increases with the number of patients and the number of medical services provided.

On the other hand, the introduced medical and economic standards for MF, limit the creativity of the medical staff to develop individual therapeutic and diagnostic techniques for a particular patient [28].

Although methods designed to assess the quality of MF, especially the results of treatment, complaints of the population and expert evaluation of the quality of treatment have already been developed and distributed.

Medical (medical) error is an action or inaction of doctors (or other medical personnel) that caused (or obviously could have caused) harm to patient's health and violate norms of medical care. The results of medical error can be complications of the course of the disease, the emergence of new pathological conditions in the patient, causing physical and moral suffering, a longer course of the disease, additional costs for treatment, inefficient use of healthcare resources, etc. The concept of medical error is not clearly defined in the law. The current legislation refers only to the patient's right to compensation for harm caused to his or her health during the provision of medical care (Law of the Republic of Uzbekistan "On Protection of Citizens' Health").

The very notion of error presupposes the existence of some kind of sample or standard, from which there is a deviation. If there is no standard of "good practice", then in the strict sense of the word, it is impossible to speak of medical errors. Thus, in many cases, there remain difficulties in identifying defects in medical care. In order to clearly identify medical errors, we need appropriate rules of good practice or clinical standards.

However, there are also many very obvious cases for which no standards are required. For example, a surgical instrument or tampon forgotten in a body cavity during surgery is a self-evident medical error [17].

A common definition of medical error is that given by Academician I.V. Davydovsky: "Medical error is a consequence of a bona fide mistake by physicians in the performance of their medical duties" [10]. [10]. Deryagin G.B. and his co-authors have a similar opinion: "...taking into account the absence of elements of unconscientiousness, carelessness, frivolity in the actions of a doctor..." [4]. Works devoted to the description and study of this problem began to appear more often in the 90's. Types, frequency, relevance of them in medicine have been studied [24].

According to V. I. Akopov, they manifest themselves differently in different specialists. The "aggressive" - surgeons always have more of them than conservative therapists; intensive care specialists, always working with severe patients, have more of them than dermatologists. According to the pathology service of different cities of the Russian Federation, the discrepancy between clinical and pathological anatomical diagnoses reaches 20% and more [1].

Various authors have proposed many classifications of medical errors. There is a well-known classification by Yu.T. Komarovskiy (1976), which has a very detailed character. This classification groups medical errors under several headings.

**1. По виду:**

- 1) diagnostic (by diseases and complications, by quality and formulation of diagnoses, by discrepancy of initial and final diagnoses);
- 2) therapeutic (general, tactical, technical);
- 3) organizational (administrative, documentary, deontological).

**2. By reasons:**

- 1) subjective (moral and physical deficiencies of the physician, insufficient professional training, insufficient collection and analysis of information);
- 2) objective (unfavorable characteristics of the patient and his/her disease, unfavorable external environment, imperfections in medical science and technology).

**3. By consequences:**

- 1) non-severe (temporary disability, unnecessary hospitalization);
- 2) serious (unnecessary treatment, disability, death).

**4. By category, their criteria and the liability imposed:**

- 1) delusion - does not qualify;
- 2) Accident - takes place when the doctor's duties are fulfilled, not punishable;
- 3) Misdemeanor - in case of a breach of the physician's duties and a non-serious consequence of an error, an administrative investigation and a disciplinary

4) disciplinary sanction;

Felony - when the breach of medical duty and the consequences of the mistake are severe, criminal prosecution and punishment are possible[17].

The reasons for a diagnosis discrepancy, which can justify one or another category of discrepancy, can also be subdivided [3]. A.V. Demina singles out a number of subjective and organizational reasons in the practice of restorative dentistry, the most common mistakes and complications.

Y.Y. Lebedenko connects the increase in the frequency of civil suits in dentistry with the following: 1) paid nature of the service in the absence of federal standards, its volume and quality; 2) a large number of privately practicing dentists; 3) poor pre- and postgraduate training of specialists; 4) legal illiteracy of medical personnel [1].

Researchers note the importance of the human factor in most medical errors in the provision of MF to patients [29].

R.K. Riegelman believes that medical errors are made for two reasons: behavior and miscommunication, and the reasons are essentially only subjective [15].

A study conducted in Iran (2009) involving 237 randomly selected nurses yielded the following results: 64.55% of the surveyed nurses reported that they had made such mistakes; in addition, 31.37% responded that they had been on the verge of making a mistake. The most common types of errors were incorrect dosage and incorrect speed of administration[21].

N.V. Elshtein states that an incompletely collected medical history is the most frequent cause of error in diagnosis.

According to A.A. Dzizinsky, illogical comprehension of the data obtained accounts for 26% of the causes of diagnostic errors in the outpatient clinic and 22% in the inpatient clinic due to overestimation or underestimation of laboratory and instrumental methods and consultations [16].

Urgently hospitalized patients expressed a desire to improve the attitude of medical personnel to the treatment process. Refusal of the patient or relatives to be hospitalized was due to poor conditions in the hospital, inattentive attitude of the medical staff, lack of proper care.

Objective and subjective conditions are among the causes of defects in medical records management [12]. Defects in the maintenance of medical records are compounded by errors due to reduction and coding of information, inadequate reflection of prognostic indicators when making a diagnosis [6, 22].

Adverse outcomes due to medical malpractice among specialists of different profiles [18] and public health problems are devoted to the works of several scientists, with examples of legal proceedings [7].

The increase in the number of diagnostic errors in the methods of prevention, prescription of drugs, treatment, directly affects the morbidity and mortality of patients, including during the neonatal period, taking into account the safety of procedures [23]. They can be significantly reduced, but not completely eliminated[26].

According to the British Medical Association (BMA), the risk of errors and accidents in clinical medicine can be considered in terms of five levels (or perspectives), which should help to clarify the respective responsibilities of medical professionals.

1. Patient perception of risk.

Patients often have unrealistic expectations of medical care; therefore, it is the task of physicians to assist patients in more adequately assessing risk when obtaining informed consent.

2. Risk associated with physicians' lack of competence.

For example, misdiagnosis is a common error. At the same time delayed diagnosis and redundant investigations lead to the risk of waiting too long for treatment.

3. Risk as a result of systemic error.

In this case, it is not an error of a particular physician, but a consequence of a series of different interrelated events related to the functioning of the entire system of medical care.

4. Risks may be related to cost savings in medical care (which may result in the failure to use the resources necessary to provide care).

5. Unmitigated risks associated with the clinical procedure itself.

Even if the risks of the previous levels are eliminated, there remain intrinsic risks of the medical intervention, which vary due to factors such as gender, age, comorbidities, etc., and affect the patient's ability to benefit from the medical intervention.

The WMA believes that such a distinction of levels can contribute to a better definition of the responsibilities and obligations of those involved in health care (whose process cannot be left unexplained and insufficiently structured)[20].

**Conclusion.** Thus, the analysis of the literature has shown that any medical intervention entails a risk of errors and adverse outcomes. At the same time, authors of scientific researches cite various types, which are not subdivided in a comprehensive way. The issues of cause-effect relations of their occurrence have not been studied. The peculiarities of their development at different stages of medical care are noted, but they are not specifically subdivided, and in the context of specialties are not sufficiently covered and investigated.

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