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# **Criminalistic support of combating iatrogenic criminal offenses: Information system prospects**

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Abstract. The research relevance is stipulated by the negative dynamics of the increase in the number of iatrogenic offences in Ukraine and the need to update the criminalistic support tools to effectively counteract these types of acts. Given this, the study aims to explore the prospects for developing an information system for recording cases of defects in the provision of medical care in Ukraine to promptly detect and investigate criminal offences in the field of medical practice. Various research methods were used, including analysis, synthesis, comparison, structural and functional, statistical, formal, and legal, and deduction. The study identifies the factors that necessitate the development of an information system for registering and studying cases of inadequate medical care to patients. In addition, the author examines the experience of Denmark, Germany, Great Britain, France, and other European countries in ensuring the operation of mechanisms for recording and reporting on adverse effects caused by defects in the provision of medical care. The advantages of information systems in the context of combating iatrogenic criminal offences are also revealed and proposals for the implementation of such mechanisms in Ukraine are developed. The study pays special attention to establishing the essence of iatrogenic criminal offences and identifying their specific features which create difficulties

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for the investigation of criminal offences in the field of medical activity since they are latent. The results obtained in the course of the study should be used to improve the competence of criminal justice officials whose activities are aimed at conducting pre-trial investigations of iatrogenic criminal offences through the use of innovative criminalistic tools

**Keywords**: harm to patient's health; criminalistic means of combating; defect in medical care; forensic examination; criminalistic strategy; specialized knowledge; criminalistic innovations; digital technologies

#### Introduction

Information tools are an important part of the structure of criminalistic support. The research relevance is determined by their efficiency in detecting and investigating iatrogenic criminal offences which are observed in all spheres of society along with the spread of informatisation. Accordingly, the introduction of modern technologies into the structure of criminalistic support is a prerequisite for successful counteraction and investigation of criminal offences in the field of medical activities. These complex processes necessitate the use of modernised computer hardware, software, and communication networks (Levine et al., 2020). Information systems are one of the most common among the entire set of information tools. They contain an organisationally ordered structure of data sets relating to certain objects and information technologies, aimed at implementing registration and accounting processes, as well as providing the necessary information to the user. The research is concerned with the need to prove the benefits of using information systems as a means of criminalistic support in the process of counteracting and investigating iatrogenic criminal offences.

Researchers in the scientific doctrine actively consider ways to implement electronic information systems for recording cases of harm to a patient's health as a result of treatment or death in the context of combating iatrogenic criminal offences. Accordingly, there are different positions which allow highlighting the advantages of using these tools not only in the context of detection but also in the context of investigation of these criminal offences. In particular, A. Movchan (2023) concluded that information systems can be the basis for supporting the decision-making of the investigator who conducts criminal proceedings, as well as for intensifying his intellectual activity, which includes the processes of planning, putting forward versions and selecting effective means of investigative (detective) and covert investigative (detective) actions. At the same time, the researcher did not disclose the specifics of the investigation of iatrogenic criminal offences and did not define the role of information systems in it. V. Kaluhin (2022) noted that there is a wide range of types of the above instrument. According to the author, it is advisable to classify information systems vertically, namely, interstate, central, regional, and territorial. In this case, the researcher also did not consider the signs of criminal offences in the field of medical activities when classifying information systems and vectors of their use. In turn, L. Kovalenko (2022) conducted such a classification by functional purpose and, accordingly, identified other types of information systems. The author mentioned operational and search, operational and reference, and reference and auxiliary sectoral ones. At the same time, the question of the expediency of their use for combating iatrogenic criminal offences remained unresolved. V. Topchiy (2020) concluded that automated law enforcement information systems, both publicly available and those with access restrictions, should be used to investigate criminal offences in the field of medical activities. At the same time, the author did not investigate the issue of difficulties in the process of registering information on cases of defects in the provision of medical care in such systems. O. Kovalova (2022) believes that the significant development of information systems provides their users with the opportunity to use data from them to improve the efficiency of criminal investigations. However, the researcher did not disclose the specific role of these systems in the process of developing a methodology for investigating iatrogenic criminal offences.

Based on the aforementioned, the study aims to substantiate the feasibility of developing and using an information system as an effective tool for criminalistic support in the process of combating criminal offences in the field of medical care. Accordingly, several tasks have been formulated, namely to investigate the reasons for the need to introduce a mechanism for recording cases of defects in the provision of medical care; to analyse foreign experience in ensuring the operation of information reporting systems for recording data on adverse effects of medical services; to develop proposals for the introduction of an information system for recording and analysing cases of defects in the provision of medical care in Ukraine, in the context of combating iatrogenic criminal offences; to reveal the advantages of using the above-mentioned information system in the course of combating criminal offences in the field of medical activity.

#### **Materials and methods**

Based on the analysis method, the composition of iatrogenic criminal offences was revealed, and their specific features were identified. This method was also used to express the essence of various socio-legal phenomena related to the process of combating criminal offences in the field of medical practice. The analysis was used to identify the reasons that necessitate updating the current means of criminalistic support. This method was used in the process of establishing the level of latency of iatrogenic criminal offences and approaches to its reduction were considered.

The synthesis method was used to determine the relationship between the advantages of information systems as an accounting mechanism and the process of combating iatrogenic criminal offences. The synthesis was also used to highlight the role of these systems in the activities of investigators, in particular, during the investigation of the above-mentioned type of criminal offences. This method was used as the basis for the process of studying the structure of information systems designed to record cases of defects in the provision of medical care. Synthesis was used to reveal the motivation of healthcare professionals to conceal information about cases of harm to patient health.

A comparative approach was used to determine the current level of effectiveness of combating iatrogenic criminal offences in Ukraine. Based on this, the approaches and technologies used in different countries of the European Union

to ensure the functioning of reporting systems for adverse healthcare outcomes were compared.

The formal legal method was used to study the provisions of various legal acts and other documents. Accordingly, the study examined the structure and content of the Criminal Code of Ukraine (2001); the Concept of the Strategy for Prevention of Healthcare Delivery Defects in the Ukrainian Healthcare System of 2021 (Serdyuk et al., 2021), Order of the Cabinet of Ministers of Ukraine No. 530-r "On the Approval of the National Action Plan for Non-Communicable Diseases to Achieve the Global Goals of Sustainable Development" (2018); Patient safety incident reporting and learning systems: Technical report and guidance (2020); Directive (EU) 2016/1148 of the European Parliament and of the Council of 6 July 2016 concerning measures for a high common level of security of network and information systems across the Union (2016); International Classification of Functioning, Disability and Health (ICF) (2001).

The structural-functional method was used to identify the capabilities of the information system for analysing cases of defects in the provision of medical care as an effective tool for combating iatrogenic criminal offences in Ukraine. This method was also used to identify the causes of the spread of iatrogenic criminal offences in Ukrainian society. The statistical method was used to study the statistical data on the number of cases of harm to a patient's health during medical care in Ukraine and worldwide. It was used to determine the level of public danger of these acts and to consider the means of forensic support for their investigation.

The deduction method was used to identify the specific properties and nature of iatrogenic criminal offences based on a general understanding of the scope of medical practice and the negative consequences that may be caused by the actions of medical professionals. This method was necessary to establish specific conditions and circumstances that play an important role in the process of detecting and investigating this type of criminal offence.

#### Results

Iatrogenic criminal offences are directly related to the provision of medical care. To establish their specificity, it is advisable to consider the main features inherent in this category of criminal offences. Accordingly, they include the implementation of medical activities by a healthcare professional, violations of standards and rules for the provision of medical services, defects as a result of criminal acts, as well as harm to the health or death of a patient. These signs determine the number and nature of circumstances that are subject to proof in the course of investigating this type of criminal offence. These include the fact of a violation of the technology of medical care, complications as a result of a violation of the standard of medical care, type, stage of treatment, physiological state of the patient (behavioural characteristics), professional and personal qualities of medical personnel (Robson et al., 2020). Based on the above, it is possible to establish that the specific features inherent in criminal offences in the field of medical activities determine the originality of the subject of their proof, and therefore affect such processes as pre-trial investigation and the opening of criminal proceedings.

Besides the disclosed peculiar forensically significant properties of iatrogenic criminal offences, a special role in their investigation is played by the difficulties associated with establishing a causal link between the subject's actions and adverse consequences for the patient (harm to his/her health or death). There are several reasons for these difficulties, as medical care consists of primary and specialised types. Each of them has different stages at which there may be a violation of the rules for the provision of medical services, which will result in adverse consequences for the patient. It is worth noting that this violation of the standard may not immediately lead to complications in the health of the person undergoing treatment. That is why it is possible to note the latency of the nature of adverse effects of medical care, as they may occur only after some time (Mandilara *et al.*, 2023).

Adverse effects are characterised by dynamism, which means that a violation of the standard of care may occur in one medical institution and appear in another place sometime later. At the same time, they may be detected in a third medical institution. This demonstrates the high complexity of counteracting iatrogenic criminal offences and the need to introduce effective forensic support tools based on modern approaches of the general theory of criminalistics, generalisation, and analysis of advanced forensic practice, in particular foreign, and achievements of scientific and technological progress. One of these approaches is the introduction of information systems, which are currently playing a crucial role in various fields of activity. Accordingly, the process of combating crime also depends on this factor, and therefore the effectiveness of combating criminal offences is determined by the possibility of access to the information contained in the above systems by authorised entities. In the context of the pre-trial investigation, the use of information support involves the timely involvement of modern technologies in law enforcement activities, in particular, the optimisation of criminal proceedings. The purpose of such support is to collect and process data related to a criminal offence. As a result, the investigator can conveniently examine it and use it to investigate a criminal offence.

As the criminalistic component, it is the ability to provide forensic properties to information on objects and facts obtained in the course of investigative (search) actions and procedural measures, as well as regardless of its origin and primary purpose. In this case, an important role is played by establishing its mercenary value for the study of certain circumstances of a criminal offence and, in general, establishing the truth in the case. Given this, it can be established that information systems occupy a special place in the system of sources of forensic information, and therefore it is advisable to include an information system for recording and analysing cases of inadequate medical care as a means of forensic support for counteracting iatrogenic criminal offences (Syafruddin *et al.*, 2020).

First of all, it is worth considering the dynamics of the emergence of cases of inadequate medical care, which occur not only in Ukraine but also abroad. The study of patient safety allows us to reveal international and national factors that influence its spread. In particular, in all countries of the world, the cause of adverse effects resulting from unsafe medical care is among the most common causes of death and disability among people. In addition, about 134 million adverse healthcare events occur in inpatient facilities in low- and middle-income countries each year, resulting in 2.6 million deaths (Cheluvappa & Selvendran, 2020). As for high-income countries, the statistics are no less negative, as

adverse health outcomes in the form of health damage occur in one in ten patients (Parker & Davies, 2020). The most common are cases of inadequate medical care in the process of diagnosing a patient and prescribing medications.

As for Ukraine's experience, the following statistics are worth mentioning. Every year, about 10 million people receive inpatient medical care services, of which 100,000 have a fatal outcome as a result of receiving such care (Fig. 1). At the same time, more than a third of this number of citizens are young or middle-aged.

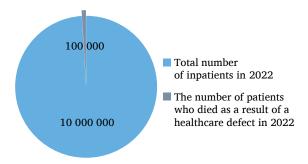


Figure 1. The ratio of the total number of patients to people with lethal outcome as a result of receiving inadequate medical care in 2022

Source: compiled based on the National Council for the Recovery of Ukraine from the War (2022)

Ukraine has not yet developed an integral indicator of treatment quality (56%) and structural efficiency of health-care (36-44%, the figure varies by region). Inpatient and postoperative mortality rates are developing dynamically, which indicates a violation of norms and medical standards in Ukrainian society. Based on the above, it should be noted that the wide scope and progression of manifestations of inadequate medical care are reflected in the rapid development and spread of iatrogenic criminal offences.

Another acute problem is the high level of latency of manifestations of inadequate medical care (defects in the provision of medical care). In this case, it is worth noting its subjective and objective components. The former is manifested in the concealment of cases of improper provision of medical care (defects in the provision of medical care) by medical professionals. It is worth noting that such cases are concealed both by the subjects whose actions caused harm to the patient and by other medical personnel who became aware of them (Skrynnikova, 2023). At the same time, the motivation, and reasons for concealing the consequences of inadequate patient care by persons belonging to the first group are understandable, as they are driven by the desire to avoid legal liability. As for the healthcare professionals who became aware of the above cases, they are indirectly related to the event, and therefore their motivation may be expressed in concern for the reduction of business and professional reputation of other healthcare professionals (ethical principles of having strong corporate ties in the team), as well as the medical institution (its rating) where the patient was harmed. It should be understood that such concealment may consist not only of passive but also of active actions, such as opposition to legal (criminal) prosecution of the guilty doctors. In this case, these acts are closely related to various types of criminal offences, namely abuse of power or official position (Article 364 of the Criminal Code of Ukraine, 2001); forgery (Article 366); acceptance of an offer, promise or receipt of undue advantage by an official (Article 368); offer, promise or provision of an undue advantage to an official (Article 369).

The above describes the subjective nature of the latency of cases of inadequate medical care. However, they also have an objective component, which is the need to introduce a system of recording and investigating cases of inadequate medical care to prevent medical errors at various stages of medical and diagnostic activities. This provision is enshrined in the system of national and international documents, in particular, in the Concept of the Strategy for Prevention of Medical Care Defects in the Ukrainian Healthcare System of 2021, clause 4 "Registration of Patient Safety Incidents and Learning from Them" (National Council for the Recovery of Ukraine from the War, 2022); sub-clause 8 of clause 11 Order of the Cabinet of Ministers of Ukraine No. 530-p "On the Approval of the National Action Plan for Non-communicable Diseases to Achieve the Global Goals of Sustainable Development" (2018); Patient safety incident reporting and learning systems: Technical report and guidance (2020); Directive (EU) 2016/1148 of the European Parliament and of the Council of 6 July 2016 Concerning Measures for a High Common Level of Security of Network and Information Systems Across the Union (2016); International Classification of Functioning, Disability and Health (2001).

To study the advantages of systems for recording defects in the provision of healthcare, it is appropriate to analyse the experience of the European Union countries in ensuring the quality and safety of healthcare. First of all, it is worth mentioning Denmark, which has had a full-fledged system of reporting adverse healthcare outcomes since 2004 (Vapsva, 2023). It is based on various principles, in particular, all doctors are obliged to immediately report mistakes, and serious events, as well as adverse effects of medical interventions that occurred during their work. In addition, medical reports are confidential, and no penalties are imposed. The analysis of the reports submitted by medical professionals is carried out in two stages, in particular at the local and then national levels by specially authorised experts. The latter has several functions, namely: to summarise the results of all reports; to identify cases of single and repeated medical errors; and to establish their sources. Based on the results of their work, they draw up conclusions describing the best approaches and methods for the proper prevention and elimination of the consequences of defects in the provision of medical care. Based on the analysis of the Danish experience, the following benefits of the development of the reporting system under study can be identified: positive changes in the structure and methods of work of healthcare professionals; development of vigilance skills among healthcare professionals regarding the safety of patients receiving medical services.

Next, it is advisable to consider the experience of Germany, where the National Association of Accredited Health Insurance Physicians has been operating since April 2005 (Carver *et al.*, 2023). In this way, a system of reporting on adverse health outcomes was introduced, which had a positive impact on the development of the healthcare sector in this country. Accordingly, approaches to understanding the adverse effects of medical care were changed, and their high social danger was proved. The introduction of this system had a positive impact on communication between stakeholders, as

patients were able to directly appeal to the arbitration body within the medical chamber. In the course of this process, the person receiving medical services had the opportunity to meet not only with lawyers but also with doctors for advice.

The National Patient Safety Agency operates in the United Kingdom (Serdyuk et al., 2020; Shevchuk et al., 2022). The essence of this institution is to ensure the operation of a system for reporting adverse healthcare outcomes to patients. It involves not only collecting information about these cases but also their quantification and comparative analysis. The UK's experience differs from that of previous countries in that it has a commission on preventive care. The latter is responsible for overseeing compliance with the standards of medical care in the country's hospitals. Accordingly, representatives of this commission have special powers and therefore can conduct inspections in any medical institution. Based on the UK experience described above, there are additional benefits of a national system of reporting adverse healthcare outcomes. These include justifying public trust in the country's healthcare system; reducing the latency of the problem of medical errors by doctors; engaging various actors in open discussion and finding ways to address issues related to the provision of inadequate or poor-quality medical care. In this context, it is important to emphasise the need to bring medical professionals to legal liability, which is possible through prompt reporting of medical errors to higher authorities.

The experience of France deserves special attention, as it has several reporting systems for adverse effects of medical interventions, which are classified according to their mandatory nature (Topchiy, 2020). Accordingly, those that are compulsory cover cases of defective medical devices, and severe complications, such as hospital-acquired infections. The healthcare worker is obliged to indicate them in a report that is sent to the national level authority, and subsequently, conclusions are developed on the selection of effective methods of prevention and control of these complications. In this way, general recommendations are also made, which subsequently become binding. At the same time, the generation and submission of reports on other cases is optional, but some of them play an important role in the certification of healthcare professionals. Developed systems for reporting cases of inadequate medical care also exist in Belgium, Finland, Austria, Switzerland, and Norway (Hirsch, 2009; Woo & Avery, 2021).

An analysis of the experience of the above countries shows that the development and implementation of such a system in Ukraine should have a positive impact on the effectiveness of combating iatrogenic criminal offences. Accordingly, ensuring the operation of the information system in this area will ensure prompt notification of law enforcement agencies of the existence of a case of improper medical care to a patient, which led to adverse consequences, namely death, disability, or other serious complications. In this way, it will be possible to establish the fact of a criminal iatrogenic offence. In addition, the implementation of the above system will facilitate the simplification of the procedure for initiating criminal proceedings on the relevant facts of iatrogenic criminal offences. This is because the registered data on improper low-quality medical care that caused negative consequences will be able to be used as a source of information based on which information will be entered into the Unified Register of Pre-trial Investigations. It is also important to note the fight against the latency of these types of criminal offences, namely, limiting the range of opportunities for medical professionals to conceal cases of improper, poor-quality medical care. This is reflected in the obligation of doctors to report information about the manifestations of serious and especially serious consequences in patients after receiving medical services. Based on this, it will also be possible to bring to legal liability those who concealed or falsified data in such cases. It is also necessary to mention the possibility of continuous research into the specifics of registered cases of inadequate, poor-quality medical care at both local and national levels. As a result, it will be possible to develop effective tools and methods for preventive measures, in particular, to prevent iatrogenic criminal offences in Ukraine.

#### **Discussion**

In the legal scientific doctrine, the issue of forensic support for combating iatrogenic criminal offences is given special attention. This is evidenced by several studies that prove the priority of forming an information system in the field of law enforcement and crime prevention. F. Busetti et al. (2021) pointed out that patient safety is an important aspect of healthcare in every developed country. Accordingly, the occurrence of medical errors that cause negative consequences for the health of citizens who have received medical services is an acute problem around the world. The researchers noted that, despite the existence of a large number of practices and tools to overcome this problem, there is an increase in the scale of harm from poor quality healthcare. This was also highlighted in this study, in particular, it was found that iatrogenic criminal offences are widespread not only at the national but also international level. The researchers cited the most common examples of inadequate medical care that caused harm to the patient's health or death. Accordingly, the authors pointed to non-compliance with safety rules during surgical care, which provokes complications in 25% of patients. At the same time, 7 million patients in surgical departments suffer severe complications every year, and 1 million have a lethal outcome (during or after surgery). The study also examined statistics showing a negative trend in the number of people whose health was harmed during treatment. What is common between the results obtained in both studies is the fact that iatrogenic offences are dynamically spreading in the world, causing negative consequences for individuals and society as a whole when receiving medical services.

Cases of non-compliance with the rules of asepsis and antisepsis, and personal hygiene in medical institutions are no less common. This conclusion was reached by A. Vozikis et al. (2021), who focused on disinfection and sterilisation violations, which are among the causes of the emergence and spread of hospital-acquired infections. It should be noted that this study also described this problem, namely, its impact on the quality of healthcare services in hospitals. The researchers cited statistics that show that on average, 7 out of 100 patients in high-income countries are infected with a hospital-acquired infection (in high-income countries). At the same time, in low- or middle-income countries, this trend is more negative, as 10 patients out of 100 suffer health damage. This study also considered the level of income and development of the state as a basis for assessing the statistical data on the number of patients who received poor-quality healthcare. In addition, the researchers emphasised that in the case of poor-quality diagnosis, patients in most cases develop complications. Therefore, what both studies have in common is the identification of cases of iatrogenic criminal offences, as a result of which healthcare professionals endanger not only patients but also employees of medical institutions.

Those who have caused harm to a patient's health as a result of substandard medical care are not always legally liable. According to Y.M. Al-Worafi (2020) and V. Shevchuk et al. (2023), to some extent, this is due to the latency of these types of offences, which consists in concealing the defect in the provision of medical care. It is worth noting that this study also addressed this issue, namely, providing examples of both passive and active actions aimed at concealing the above cases. In turn, the researchers paid special attention to the latter, which, in his opinion, consists of active opposition by healthcare professionals to the legal prosecution of healthcare professionals whose actions caused harm to the patient's health. This is common among the studies, as they describe the level of latency of this type of criminal offence and reveal examples of its expression. Concerning the investigations of iatrogenic criminal offences, this stage is preceded by a departmental audit (internal audit), as well as the circumstances and specific consequences of the breach of healthcare standards.

F.A. Algenae et al. (2020) and O. Kaplina et al. (2023) note that the organisation of these activities is carried out by national healthcare supervisory authorities. The researchers pointed out that departmental inspections are generally carried out by impartial actors with the necessary level of knowledge and authority. The common thread between the results of both studies is the identification of the motivation of healthcare professionals to conceal information about criminal offences due to the developed corporate ties between employees in healthcare facilities. On this basis, the activities of treatment and control commissions are limited to establishing a causal link between the treatment process and adverse consequences for the patient. In this case, the question of the level of quality of treatment, and the relationship between poor quality of medical care and complications remains unexplored. According to the researchers, in the conclusions drawn by law enforcement agencies, the negative consequences of the provision of medical services are defined as pathologies and qualified as accidents. Therefore, the common approach in the studies is an approach that proves the need to modify the reports and conclusions drawn up based on the results of the study of causes related to the defect in the provision of medical care.

R. Peadon et al. (2020) also refer to the latency of cases of inadequate medical care as a system of factors that negatively affect the investigation of iatrogenic crimes. The authors found that this process is characterised by both subjective and objective features. Accordingly, this study revealed the essence of the latter. In turn, the researchers proved that it is the objective nature of latency that determines the formation of its subjective properties. The researchers explain this by the fact that cases that indicate the provision of poor-quality medical care to a patient are very rarely recorded, in particular without specifying all the necessary data. In support of their position, The authors provided quantitative indicators of medical and diagnostic activities in medical institutions of the same profile. On their basis, the authors found that postoperative mortality can vary by more than 3 times, and postoperative mortality by 2.5 times, depending on the region. The conclusion that there is an urgent problem related to the registration of defects in the provision of medical services is common to all studies. Accordingly, this study found that cases of healthcare-associated infections are not reported. According to the researchers, this situation of ineffective registration of defects in the provision of healthcare services is due to the lack of a developed information accounting system for such cases.

M.M. Mello et al. (2020) and V.V. Haltsova et al. (2021) studied the most common ways of concealing medical activities that caused harm to the patient's health. The researchers found that the fact of concealment of a criminal offence occurs in cases of severe consequences for a person who received medical services. This was also noted in the results of this study, namely, late notification as one of the ways to conceal cases of medical care defects. The researchers also noted the taking of measures, such as treatment, to eliminate negative complications experienced by the patient. Such actions are aimed at creating conditions under which it is impossible to establish and prove that healthcare professionals have violated the patient's diagnostic or treatment procedure. The researchers also cited other examples, such as changing the place of treatment, falsifying diagnostic data, and tools and methods used to provide medical services. Thus, the common conclusion between the studies is that concealment of medical care defects can be carried out in various ways, which significantly complicates both the process of detection and investigation of the underlying criminal offences.

Based on the aforementioned, it is necessary to establish that the process of investigating iatrogenic criminal offences is complex and multidimensional. Accordingly, information relating to cases of medical care defects plays an important role. That is why researchers agree that effective accounting (based on an information system) and research of data on such cases will help to overcome the problem of latency of iatrogenic criminal offences and bring perpetrators to legal responsibility.

#### **Conclusions**

The study substantiated the need to develop and use an information system for recording and analysing cases of improper provision of medical care to patients. Such an approach is necessary for effective counteraction to iatrogenic criminal offences using prompt identification of their sources. Based on statistical data, the study found that one of the factors that exacerbate this problem is the rapid spread of cases of poor-quality medical care to patients. In addition, the high level of latency of cases of improper provision of medical services to citizens also necessitates the introduction of an accounting information system. It is established that this factor has both subjective and objective features. The first is the motivation of medical personnel to conceal cases of defects in the provision of medical care. In this way, they actively or passively counteract the detection and investigation of iatrogenic criminal offences. As for the objective nature, it consists of poor registration of data on cases of improper medical care that caused harm to the patient's health. As a result, it reduces the effectiveness of the processes of identifying perpetrators and bringing them to justice.

The study devoted special attention to foreign experience (countries of the European Union, the United Kingdom, Switzerland, and Norway) in developing and ensuring the

quality of information reporting systems. It has been established that their approaches to identifying cases of adverse patient outcomes are effective and can be used in Ukraine. Based on this, the study identifies a list of advantages and disadvantages inherent in the information system for recording cases of defects in the provision of medical care as a tool for forensic support in the context of combating iatrogenic criminal offences. It was emphasised that the creation of the above system would allow for prompt notification of law enforcement agencies of cases of harm to patient's health during the provision of medical services. In addition, such a tool will simplify the procedure for initiating criminal proceedings on the facts of iatrogenic criminal offences, as well

as deprive interested parties of the opportunity to counteract the detection of cases of defective medical care. Based on the registered data in the information system, it will be possible to develop high-quality preventive recommendations that will help prevent iatrogenic criminal offences. In future research, it is advisable to pay attention to the structure of the criminalistic characteristics of illegal medical activities.

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#### **Conflict of interest**

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#### References

- [1] Alqenae, F.A., Steinke, D., & Keers, R.N. (2020). Prevalence and nature of medication errors and medication-related harm following discharge from hospital to community settings: A systematic review. *Drug Safety*, 43, 517-537. doi: 10.1007/s40264-020-00918-3.
- [2] Al-Worafi, Y.M. (2020). Medication errors. In *Drug safety in developing countries* (pp. 59-71). London: Academic Press. doi: 10.1016/B978-0-12-819837-7.00006-6.
- [3] Busetti, F., Baffoni, G., Tocco Tussardi, I., Raniero, D., Turrina, S., & De Leo, D. (2021). Policies and practice in the disclosure of medical error: Insights from leading countries to address the issue in Italy. *Medicine, Science and the Law*, 61(1), 88-91. doi: 10.1177/0025802420979441.
- [4] Carver, N., Gupta, V., & Hipskind, J.E. (2023). Medical errors. Treasure Island: StatPearls Publishing.
- [5] Cheluvappa, R., & Selvendran, S. (2020). Medical negligence key cases and application of legislation. *Annals of Medicine and Surgery*, 57, 205-211. doi: 10.1016/j.amsu.2020.07.017.
- [6] Criminal Code of Ukraine. (2001, January). Retrieved from <a href="https://zakon.rada.gov.ua/laws/show/2341-14#Text">https://zakon.rada.gov.ua/laws/show/2341-14#Text</a>.
- [7] Directive (EU) 2016/1148 of the European Parliament and of the Council of 6 July 2016 Concerning Measures for a High Common Level of Security of Network and Information Systems Across the Union. (2016). Retrieved from <a href="http://data.europa.eu/eli/dir/2016/1148/oj">http://data.europa.eu/eli/dir/2016/1148/oj</a>.
- [8] Haltsova, V.V., Kharytonov, S.O., Khramtsov, O.M., Zhytnyi, O.O., & Vasyliev, A.A. (2021). Criminal law as a means of protecting human rights and freedoms in the modern world. *Journal of the National Academy of Legal Sciences of Ukraine*, 28(3), 248-256. doi: 10.37635/jnalsu.28(3).2021.248-256.
- [9] Hirsch, D. (2009). Does litigation against doctors and hospitals improve quality? In J. Healy, & P. Dugdale (Eds.), *Patient safety first: Responsive regulation in health care* (pp. 254-272). London: Routledge. doi: 10.4324/9781003116677-12.
- [10] International Classification of Functioning, Disability and Health (ICF). (2001). Retrieved from <a href="https://www.who.int/standards/classifications/international-classification-of-functioning-disability-and-health">https://www.who.int/standards/classifications/international-classification-of-functioning-disability-and-health</a>.
- [11] Kaluhin, V.Yu. (2022). The use of information technologies during the investigation of criminal offenses. In L.I. Arkusha, O.O. Torbas, & V.A. Zavtur (Eds.), <u>Doctrinal and law-enforcement problems of the criminal process, detective and investigative activities: Materials of the international scientific and practical conference dedicated to the 10th anniversary of the entry into force of the Criminal Procedure Code of Ukraine (pp. 238-242). Odesa: Odesa Law Academy.</u>
- [12] Kaplina, O., Tumanyants, A., Krytska, I., & Verhoglyad-Gerasymenko, O. (2023). Application of artificial intelligence systems in criminal procedure: Key areas, basic legal principles and problems of correlation with fundamental human rights. *Access to Justice in Eastern Europe*, 6(3), 147-166. doi: 10.33327/AJEE-18-6.3-a000314.
- [13] Kovalenko, L.P. (2022). Informational and legal basis of activity of pre-trial investigation bodies. *NaUKMA Research Papers*. *Law*, 9-10, 57-62. doi: 10.18523/2617-2607.2022.9-10.57-62.
- [14] Kovalova, O.V. (2022). Development of the information support system for pre-judicial investigation in the 20<sup>th</sup> century. *Scientific notes of Taurida National V.I. Vernadsky University. Series: Juridical Sciences*, 33(1), 87-92. doi: 10.32838/TNU-2707-0581/2022.1/16.
- [15] Levine, K.J., Carmody, M., & Silk, K.J. (2020). The influence of organizational culture, climate and commitment on speaking up about medical errors. *Journal of Nursing Management*, 28(1), 130-138. doi: 10.1111/jonm.12906.
- [16] Mandilara, P., Galanakos, S.P., & Bablekos, G. (2023). A history of medical liability: From ancient times to today. *Cureus*, 15(7), article number e41593. doi: 10.7759/cureus.41593.
- [17] Mello, M.M., Frakes, M.D., Blumenkranz, E., & Studdert, D.M. (2020). Malpractice liability and health care quality: A review. *JAMA*, 323(4), 352-366. doi: 10.1001/jama.2019.21411.
- [18] Movchan, A.V. (2023). <u>Use of Interpol information systems in combating crime</u>. In T.V. Maherovska (Ed.), *Information technologies in education and practice: Materials of the scientific and practical conference* (pp. 48-50). Lviv: Lviv State University of Internal Affairs.
- [19] National Council for the Recovery of Ukraine from the War. (2022). *Project of the recovery plan of Ukraine materials of the working group "Health Care"*. Retrieved from <a href="https://www.kmu.gov.ua/storage/app/sites/1/recoveryrada/ua/health-care.pdf">https://www.kmu.gov.ua/storage/app/sites/1/recoveryrada/ua/health-care.pdf</a>.
- [20] Order of the Cabinet of Ministers of Ukraine No. 530-r "On the Approval of the National Action Plan for Non-Communicable Diseases to Achieve the Global Goals of Sustainable Development". (2018, July). Retrieved from <a href="https://zakon.rada.gov.ua/laws/show/530-2018-%D1%80#Text">https://zakon.rada.gov.ua/laws/show/530-2018-%D1%80#Text</a>.

- [21] Parker, J., & Davies, B. (2020). No blame no gain? From a no blame culture to a responsibility culture in medicine. *Journal of Applied Philosophy*, 37(4), 646-660. doi: 10.1111/japp.12433.
- [22] Patient safety incident reporting and learning systems: Technical report and guidance. (2020). Retrieved from <a href="https://www.who.int/publications/i/item/9789240010338">https://www.who.int/publications/i/item/9789240010338</a>.
- [23] Peadon, R., Hurley, J., & Hutchinson, M. (2020). Hierarchy and medical error: Speaking up when witnessing an error. *Safety Science*, 125, article number 104648. doi: 10.1016/j.ssci.2020.104648.
- [24] Robson, M., Maskill, J., & Brookbanks, W. (2020). Doctors are aggrieved should they be? Gross negligence manslaughter and the culpable doctor. *The Journal of Criminal Law*, 84(4), 312-340. doi: 10.1177/0022018320946498.
- [25] Serdyuk, A.M., Skaletsky, Yu.M., & Rigan, M.M. (2020). Concept of forming a strategy for warning defects of providing medical care in the national health care system. *Environment & Health*, 1, 4-11. doi: 10.32402/dovkil2020.01.004.
- [26] Shevchuk, O., Shevchuk, V., Kompaniiets, I., Lukashevych, S., & Tkachova, O. (2022). Features of ensuring the rights of drug addicts for rehabilitation in Ukraine and the European Union: Comparative legal aspect. *Juridical Tribune*, 12(2), 263-282. doi: 10.24818/TBJ/2022/12/2.07.
- [27] Shevchuk, V., Kostenko, M., Myshkov, Y., Papusha, I., & Hryshko, I. (2023). <u>Functional purpose of tactical operations in the development of criminalistic methodics of crime investigation</u>. *Pakistan Journal of Criminology*, 15(02), 61-78.
- [28] Skrynnikova, K.O. (2023). Medical (doctor's) error: Concept and causes of its occurrence. *Bulletin of the Kharkiv National University of Internal Affairs*, 101(2), 42-54. doi: 10.32631/v.2023.2.36.
- [29] Syafruddin, Rohman, A., & Ilyas, A. (2020). Informed consent: Criminal impact in negligence of medical action. *Enfermería Clínica*, 30(6), 258-263. doi: 10.1016/j.enfcli.2020.06.059.
- [30] Topchiy, V.V. (2020). Areas of improvement of crime investigation in the medical sphere. Scientific Bulletin of Uzhgorod National University, 60, 186-190.
- [31] Vapsva, Yu. (2023). Regarding criminal liability for medical error. In The rule of law: Doctrine and practice in the conditions of modern world challenges: Materials of the international scientific and practical conference (pp. 135-137). Dnipro: Dnipropetrovsk State University of Internal Affairs.
- [32] Vozikis, A., Panagiotou, A., & Karakolias, S. (2021). A tool for litigation risk analysis for medical liability cases. *HAPSc Policy Briefs Series*, 2(2), 268-277. doi: 10.12681/hapscpbs.29514.
- [33] Woo, M.W.J., & Avery, M.J. (2021). Nurses' experiences in voluntary error reporting: An integrative literature review. *International Journal of Nursing Sciences*, 8(4), 453-469. doi: 10.1016/j.ijnss.2021.07.004.

# Криміналістичне забезпечення протидії ятрогенним кримінальним правопорушенням: перспективи використання інформаційної системи

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Анотація. Актуальність цього дослідження зумовлено негативною динамікою збільшення кількості ятрогенних правопорушень в Україні та необхідністю оновити інструменти криміналістичного забезпечення для ефективної протидії цим видам діянь. З огляду на це мета дослідження полягала у вивченні перспектив розробки інформаційної системи для обліку випадків дефектів у наданні медичної допомоги в Україні, щоб оперативно виявляти та розслідувати кримінальні правопорушення у сфері лікарської діяльності. Для цього використано різні методи наукового дослідження, зокрема аналізу, синтезу, порівняння, структурно-функціональний, статистичний, формально-юридичний, дедукції. У результаті виявлено фактори, які зумовлюють необхідність розробити інформаційну систему для реєстрації та вивчення випадків неналежного надання медичної допомоги пацієнтам. Окрім цього, досліджено досвід Данії, Німеччини, Великої Британії, Франції та інших країн Європи щодо забезпечення діяльності механізмів обліку та звітності про несприятливі наслідки, спричинені дефектом у наданні медичної допомоги. Також розкрито переваги інформаційних систем у контексті протидії ятрогенним кримінальним правопорушенням та розроблено пропозиції щодо впровадження таких механізмів в Україні. Окрему увагу в дослідженні приділено встановленню сутності ятрогенних кримінальних правопорушень та виявленню їхніх специфічних ознак, що створюють труднощі для розслідування кримінальних правопорушень у сфері лікарської діяльності, оскільки мають латентний характер. Здобуті в процесі дослідження результати доцільно використати для вдосконалення компетенції працівників органів кримінальної юстиції, діяльність яких спрямована на проведення досудового розслідування ятрогенних кримінальних правопорушень за допомогою застосування інноваційних засобів криміналістичного забезпечення

**Ключові слова**: завдання шкоди здоров'ю пацієнта; криміналістичні засоби протидії; дефект медичної допомоги; судова експертиза; криміналістична стратегія; спеціальні знання; криміналістичні інновації; цифрові технології \_