

Features of the investigation of criminal offenses committed by medical professionals

Características da investigação de infrações criminais cometidas por profissionais da saúde

Características de la investigación de infracciones penales cometidas por profesionales de la salud

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Abstract

The article presents a comprehensive analysis of the peculiarities of investigating criminal offenses committed by medical professionals, taking into account their complex interdisciplinary nature. It is substantiated that such offenses are characterized by a high level of latency, difficulties in detection and proof, as well as a significant dependence on specialized medical knowledge. Particular attention is paid to the forensic characteristics of these offenses, including their classification, typical investigative situations, and the range of circumstances subject to proof. It is argued that the effective investigation of such crimes requires a clear understanding of the specific features of professional medical activity, which complicates the distinction between lawful medical practice and criminal misconduct. The study examines the organizational and tactical aspects of pre-trial investigation, emphasizing the importance of proper planning, the selection of an appropriate investigative direction, and the effective conduct of investigative (search) actions. It is established that the use of special knowledge, particularly through forensic medical examinations, plays a decisive role in determining causation and assessing compliance with medical standards. At the same time, attention is drawn to the need for improving interaction between investigators and experts, as well as enhancing the methodological support of investigative activities. The article also identifies key challenges in the investigation of medical-related crimes, including difficulties in proving causation, lack of unified medical standards, restricted access to medical information, and the influence of ethical considerations such as medical confidentiality. Based on a comparative legal analysis, it is demonstrated that international approaches increasingly emphasize systemic analysis of medical incidents and the implementation of preventive mechanisms. It is concluded that improving the investigation of such offenses requires a comprehensive approach that combines the improvement of legislation, the development of specialized methods, the improvement of the skills of investigators and the introduction of modern technologies, which will generally contribute to ensuring effective protection of patients' rights and improving the quality of law enforcement. It has been established that forensic examinations constitute a decisive means of proof in the investigation of criminal offences committed by medical professionals, as they enable the determination of the nature and consequences of medical interventions, the establishment of causal relationships between the actions of medical personnel and the harm caused, the detection of medical record falsification, and the formation of a reliable evidentiary basis for the objective resolution of criminal proceedings.

Keywords

Medical Criminal Offences, Investigation, Criminal Proceedings, Medical Professionals, Patients' Rights, Medical Confidentiality, Forensic Characteristics, Forensic Examination, Specialized Knowledge.

Resumo

O artigo apresenta uma análise abrangente das particularidades da investigação de infrações penais cometidas por profissionais da saúde, considerando a sua complexa natureza interdisciplinar. Demonstra-se que tais infrações são caracterizadas por um elevado grau de latência, dificuldades de detecção e prova, bem como por uma dependência significativa de conhecimentos médicos especializados. É dada especial atenção às características forenses dessas infrações, incluindo a sua classificação, as situações investigativas típicas e o conjunto de circunstâncias sujeitas à prova. Sustenta-se que a investigação eficaz desses crimes requer uma compreensão clara das especificidades da atividade profissional médica, o que dificulta a distinção entre prática médica legítima e conduta criminosas. O estudo examina os aspectos organizacionais e táticos da investigação preliminar, enfatizando a importância do planejamento adequado, da escolha da direção investigativa apropriada e da realização eficaz de atos investigativos. Verifica-se que a utilização de conhecimentos especializados, particularmente por meio de perícias médico-legais, desempenha um papel decisivo na determinação do nexo causal e na avaliação da conformidade com os padrões médicos. Ao mesmo

tempo, destaca-se a necessidade de aperfeiçoar a interação entre investigadores e peritos, bem como de fortalecer o suporte metodológico das atividades investigativas. O artigo identifica ainda os principais desafios na investigação de crimes relacionados com a atividade médica, incluindo dificuldades na prova do nexo causal, ausência de padrões médicos uniformes, acesso restrito à informação médica e a influência de considerações éticas, como o sigilo profissional. Com base numa análise jurídico-comparativa, demonstra-se que as abordagens internacionais enfatizam cada vez mais a análise sistémica dos incidentes médicos e a implementação de mecanismos preventivos. Conclui-se que o aperfeiçoamento da investigação dessas infrações exige uma abordagem abrangente que combine o desenvolvimento da legislação, a elaboração de metodologias especializadas, o aprimoramento das competências dos investigadores e a introdução de tecnologias modernas, contribuindo para a proteção efetiva dos direitos dos pacientes e para o aumento da qualidade da aplicação da lei. Verificou-se que as perícias forenses constituem um meio decisivo de prova na investigação de infrações penais cometidas por profissionais da saúde, uma vez que permitem determinar a natureza e as consequências das intervenções médicas, estabelecer o nexo causal entre as ações do pessoal médico e os danos causados, identificar a falsificação de documentação médica e formar uma base probatória sólida para a resolução objetiva do processo penal.

Palavras-chave

Infrações Penais Médicas, Investigação, Processo Penal, Profissionais da Saúde, Direitos dos Pacientes, Sigilo Médico, Características Forenses, Perícia, Conhecimentos Especializados.

Resumen

El artículo presenta un análisis integral de las particularidades de la investigación de las infracciones penales cometidas por profesionales de la salud, teniendo en cuenta su compleja naturaleza interdisciplinaria. Se demuestra que estas infracciones se caracterizan por un alto nivel de latencia, dificultades de detección y prueba, así como por una significativa dependencia de conocimientos médicos especializados. Se presta especial atención a las características criminalísticas de estas conductas, incluyendo su clasificación, las situaciones investigativas típicas y el conjunto de circunstancias sujetas a prueba. Se sostiene que la investigación eficaz de estos delitos requiere una comprensión clara de las particularidades de la actividad profesional médica, lo que dificulta la distinción entre la práctica médica legítima y la conducta delictiva. El estudio examina los aspectos organizativos y tácticos de la investigación preliminar, destacando la importancia de una adecuada planificación, la selección de una dirección investigativa apropiada y la realización eficaz de las actuaciones de investigación. Se establece que la utilización de conocimientos especializados, en particular mediante peritajes médico-legales, desempeña un papel decisivo en la determinación de la relación causal y en la evaluación del cumplimiento de los estándares médicos. Al mismo tiempo, se subraya la necesidad de mejorar la interacción entre investigadores y peritos, así como de fortalecer el apoyo metodológico de las actividades investigativas. El artículo identifica además los principales desafíos en la investigación de delitos relacionados con la actividad médica, entre ellos las dificultades para demostrar la causalidad, la ausencia de estándares médicos uniformes, el acceso restringido a la información médica y la influencia de consideraciones éticas, como el secreto profesional. Sobre la base de un análisis jurídico-comparado, se demuestra que los enfoques internacionales otorgan una importancia creciente al análisis sistémico de los incidentes médicos y a la implementación de mecanismos preventivos. Se concluye que el perfeccionamiento de la investigación de estas infracciones requiere un enfoque integral que combine la mejora de la legislación, el desarrollo de metodologías especializadas, el fortalecimiento de las competencias de los investigadores y la incorporación de tecnologías modernas, contribuyendo así a garantizar una protección efectiva de los derechos de los pacientes y a mejorar la calidad de la aplicación de la ley. Se ha determinado que los peritajes forenses constituyen un medio decisivo de prueba en la investigación de infracciones penales cometidas por profesionales de la salud, ya que permiten

determinar la naturaleza y las consecuencias de las intervenciones médicas, establecer la relación causal entre las acciones del personal sanitario y el daño ocasionado, detectar la falsificación de documentación médica y conformar una base probatoria sólida para la resolución objetiva del proceso penal.

Palabras Clave

Infracciones Penales Médicas, Investigación, Proceso Penal, Profesionales de la Salud, Derechos de los Pacientes, Secreto Médico, Características Criminalísticas, Peritaje, Conocimientos Especializados.

1. Introduction

The current state of development of the healthcare system, as well as the increase in the number of offenses related to the professional activities of medical professionals, necessitate increased attention to the problems of their criminal and legal assessment and effective investigation. The peculiarity of such criminal offenses lies in their complex nature, which combines legal, medical and ethical aspects, as well as in the high level of latency, which complicates their detection and proof. In this regard, the issue of developing scientifically based approaches to the investigation of such acts is of particular relevance both in the theoretical and practical dimensions.

The relevance of the study is also due to the need to ensure a balance between the protection of patients' rights and guarantees of the professional activities of medical professionals. The insufficient level of development of forensic methods for investigating this category of crimes, as well as the difficulty of establishing cause-and-effect relationships between the actions of a medical professional and the consequences for the patient, require a comprehensive scientific understanding. This necessitates the study of the forensic characteristics of such offenses, the organizational and tactical features of their investigation, and the identification of ways to improve the relevant practice.

The purpose of the article is a comprehensive analysis of the features of the investigation of criminal offenses committed by medical professionals, as well as the formulation of scientifically substantiated proposals for improving the methodology of their investigation, taking into account modern trends in the development of forensics and international experience.

2. Theoretical Framework

The issue of criminal liability of medical professionals and the investigation of relevant offenses is actively studied in both domestic and foreign scientific literature. In Ukrainian legal doctrine, considerable attention is paid to the issues of the forensic characteristics of crimes in the medical field, the features of planning a pre-trial investigation, and the use of special knowledge in

the process of proving. At the same time, researchers emphasize the insufficient development of specialized methods of investigating such offenses, which negatively affects the effectiveness of law enforcement.

Foreign studies emphasize a systematic approach to the analysis of medical incidents, in particular through the use of patient safety concepts and root cause analysis. Considerable attention is also paid to the problems of proof in cases of medical negligence, the role of expert opinions and the need to ensure the independence of experts. Thus, the current state of scientific research indicates the need to integrate national and international experience to form an effective methodology for investigating criminal offenses in the medical field.

3. Methodology

The methodological basis of the study is a complex of general scientific and special legal methods that provide a comprehensive and objective study of the issue. In particular, the method of systems analysis was used to study the forensic characteristics of offenses in the medical field, as well as the comparative legal method to analyze international experience in investigating such crimes. The formal-logical method was used to determine the main concepts and categories used in the study.

In addition, empirical methods were used in the research process, in particular, the analysis of judicial practice and materials of criminal proceedings, which allowed to identify typical problems of investigation of this category of cases. An interdisciplinary approach, combining legal and medical aspects, provided the opportunity for a deeper understanding of the specifics of the investigated offenses and the formation of substantiated conclusions.

4. Results and Discussion

4.1 Forensic Characteristics of Criminal Offenses Committed by Medical Workers

The forensic characteristics of criminal offenses committed by medical workers in modern forensic doctrine are considered as a fundamental element of building an effective methodology for their investigation. Its significance lies not only in systematizing information about typical signs of crimes, but also in forming guidelines for the investigator in choosing optimal tactical solutions. In scientific literature, it is defined as a set of typical forensically significant signs that reflect the regularities of preparation, commission and concealment of crimes of a certain type (Kiyan, 2018). At the same time, in the context of medical activity, this concept acquires an expanded meaning, as it encompasses specific elements related to medical technologies, professional ethics and a high level of specialization.

It should be emphasized that the forensic characterization of criminal offenses in the field of medicine is interdisciplinary in nature, which necessitates the integration of legal and medical knowledge. This is explained by the fact that the subject of the study is socially dangerous acts that arise in the process of providing medical care - a complex socio-legal phenomenon. Therefore, the analysis of such offenses requires taking into account not only the norms of criminal law, but also clinical standards, treatment protocols, and ethical norms of medical practice (Topchiy, 2020). The scientific discussion draws attention to the fact that ignoring this comprehensive approach leads to errors in the qualification of acts and assessment of evidence.

A particular difficulty in forming a forensic characterization is the specificity of the subject of the crime - a medical worker who performs professional duties in conditions of increased risk and uncertainty. This necessitates a clear distinction between lawful medical actions and criminally punishable acts. As noted in scientific sources, actions that are identical in appearance may have different legal natures depending on the presence of circumstances that exclude the criminality of the act (Sadula, 2021). In this context, the discussion on the criteria for assessing the professional behavior of a doctor is relevant, in particular the ratio of the standard of "proper medical care" and the actual conditions for its provision. The classification of criminal offenses in the medical field is an important element of their forensic characteristics, as it allows structuring various manifestations of illegal behavior. The scientific literature proposes dividing such crimes into several main groups: crimes against the life and health of patients, crimes against the rights of patients, corruption offenses, as well as crimes in the field of circulation of medicines (Topchiy, 2020). Such a classification has not only theoretical, but also practical significance, as it determines the specifics of proof and the choice of investigative actions. At the same time, the scientific discussion expresses the opinion that this classification needs to be detailed, taking into account the latest forms of medical activity.

A separate category is made up of offenses related to the improper performance of professional duties, which often have a complex legal nature. Medical errors - diagnostic, tactical and technical - can be both a consequence of objective factors and the result of negligence or unprofessionalism (Topchiy, 2020). In this context, a debatable issue arises regarding the limits of criminalization of medical errors, because excessive criminalization can negatively affect medical practice, while its insufficiency can contribute to impunity.

An important structural element of the forensic characterization is the method of committing a crime, which has specific features in the medical field. It can manifest itself in the form of violation of treatment standards, falsification of medical documentation, illegal receipt of benefits, or improper

performance of professional duties (Figursky, 2021). The peculiarity is that such methods are often disguised as legitimate activities, which makes their detection and proof much more difficult.

No less important is the analysis of traces of the crime, which in cases of this category have a specific, mainly documentary nature. Medical documentation, examination results, electronic records, as well as expert opinions are the main sources of evidentiary information (Soltysiuk, 2024). Effective analysis of such traces is possible only if special knowledge is involved, which actualizes the problem of training investigators in the field of medicine.

Typical investigative situations in cases of criminal offenses committed by medical professionals are determined by the sources of obtaining primary information. These can be patient statements, reports from law enforcement agencies, or detection of offenses during other investigations (Figursky, 2021). Each of these situations determines the specifics of the initial investigative actions and the choice of investigation tactics, which is the subject of active scientific discussion.

The initial stage of the investigation is crucial for the further course of criminal proceedings. It is at this stage that the evidentiary base is laid, the main versions and the direction of the investigation are determined. Delays or errors at this stage can lead to the loss of important evidence, in particular medical documentation or eyewitness testimony.

The circle of circumstances subject to proof includes not only the fact of unlawful behavior, but also the causal relationship between the actions of a medical professional and the consequences that occurred. It is also necessary to establish the form of guilt, motives, conditions for committing a crime and circumstances affecting the degree of responsibility.

Establishing a causal relationship is particularly difficult, which requires forensic medical examinations and the involvement of specialists. This element is key in proving the guilt of a medical professional, as it allows substantiating the connection between actions and consequences.

Summarizing the above, it should be noted that the forensic characterization of crimes in the medical field is a complex multi-component system that requires further scientific understanding. Its development should be based on a combination of theoretical research and practical experience, as well as take into account modern trends in the development of medicine and criminal law.

4.2 Organizational and Tactical Features of Pre-Trial Investigation

Organizational and tactical features of pre-trial investigation of criminal offenses committed by medical professionals constitute a complex multi-level system of interconnected procedural and non-procedural actions that should be aimed at achieving the goals of criminal proceedings. The

forensic doctrine substantiates that it is the organizational component that plays a system-forming role, ensuring logical consistency, coherence and effectiveness of the implementation of tactical techniques. As rightly noted, the effectiveness of the investigation largely depends on the investigator's ability to integrate information, personnel and procedural resources (Yurkiv, 2021). In medical cases, this problem is significantly complicated by the need to involve specialized knowledge, as well as coordinate the activities of various subjects - experts, doctors, and the administration of medical institutions, which is also confirmed by foreign studies (Vincent, 2010).

The central element of the organizational component is the planning of the pre-trial investigation, which in modern science is considered as a continuous analytical process aimed at achieving the strategic and tactical goals of criminal proceedings. It includes not only the formal preparation of a plan, but also the constant adjustment of actions in accordance with changes in the investigative situation. Deficiencies in planning, as practice shows, lead to the loss of evidentiary information, duplication of procedural actions, and the formation of false investigative versions (Yurkiv, 2021). In this context, the issue of digitalization of planning, use of forensic information systems and algorithmization of the decision-making process becomes particularly relevant, which is also noted in foreign literature (Innes, 2003).

An important component of planning is determining the direction of the investigation, which is based on an assessment of the initial investigative situation, the nature of the available information and the degree of its reliability. In cases related to medical activities, this process is complicated by the need to take into account the multifactorial nature of cause-and-effect relationships, as well as the high level of latency of offenses. The correct choice of direction allows you to optimize the use of resources and ensure the focus of the investigation. International practice, in particular the recommendations of the World Health Organization, emphasizes the importance of early identification of key factors of medical incidents. The choice of the direction of the investigation is closely related to the formation and verification of investigative versions, which in this category of cases are particularly complex and variable. Versions can relate to both the fact of violation of medical care standards and the presence of objective factors that exclude criminal liability. The scientific literature emphasizes that the version approach ensures the systematicity and logical completeness of the investigation, but requires a high level of analytical thinking of the investigator. Similar approaches are characteristic of modern criminology, where the construction of versions is considered a key tool for managing the investigation (Newburn, 2007).

The organizational and tactical aspect of the investigation also involves the definition of a set of tactical tasks that are formed depending on the specific investigative situation. Such tasks include

establishing the circle of persons involved, collecting, fixing and checking evidence, ensuring its preservation, as well as neutralizing possible forms of resistance to the investigation. We believe that the effectiveness of these tasks depends on the flexibility and adaptability of tactical decisions, especially in conditions of uncertainty characteristic of medical offenses.

The conduct of investigative (search) actions in cases of this category has a distinct specificity, due to the peculiarities of medical activity and its technological complexity. Thus, a site inspection may include examination of medical equipment, analysis of the functioning of technical systems, and assessment of the conditions for providing medical care. The effectiveness of such actions largely depends on the correct determination of their sequence, as well as on the involvement of relevant specialists (Kiyan, 2018).

A special place is occupied by interrogation tactics, which in cases of medical offenses is characterized by increased complexity. This is due to the need to take into account the specifics of the professional activities of medical professionals, the use of special terminology, as well as possible forms of psychological counteraction. Effective interrogation of specialists is possible only if the investigator is properly trained and understands the subject area, which confirms the need for an interdisciplinary approach to personnel training.

A significant role in proving is played by the extraction and study of medical documentation, which is the main source of information about the course of the event. At the same time, practice indicates the possibility of its falsification or correction, which creates additional difficulties for the investigation (Soltysyuk, 2024). In this context, the implementation of electronic systems for accounting and auditing medical data, which ensure their reliability and immutability, is relevant.

The use of specialized knowledge is a key condition for effective investigation of criminal offenses in the medical field. It includes the involvement of experts, consultations, and the use of scientific and technical means of analyzing evidence. International practice, in particular in the decisions of the European Court of Human Rights, emphasizes the need to ensure the independence and objectivity of experts as an important guarantee of a fair trial.

Forensic medical expertise is a central tool for establishing the truth in cases of this category, as it allows for an objective assessment of the actions of a medical professional and the establishment of a causal relationship between them and the consequences. At the same time, the problem of ambiguity of expert conclusions requires the development of clear standards of expert activity.

The interaction of the investigator with expert institutions is an important organizational element on which the timeliness and quality of expert examinations depend. Insufficient coordination can lead to a delay in the investigation and a decrease in its effectiveness.

A separate problem is resistance to the investigation, which in the medical field has specific forms, in particular, concealment of information, corporate solidarity or influence on witnesses. This requires the use of special tactical techniques and ensuring an appropriate level of procedural guarantees.

In modern practice, systemic approaches to the investigation of medical incidents are becoming increasingly important, in particular the concept of “root cause analysis”, which involves a deep analysis of the causes of the event. This approach allows us to identify not only individual errors, but also systemic shortcomings in the organization of medical care (Reason, 2000).

Thus, the organizational and tactical features of the investigation of criminal offenses committed by medical workers are determined by their complex nature and require the integration of knowledge from different fields. The effectiveness of such an investigation is possible only if a high level of professional training of the investigator is combined, proper planning, the use of specialized knowledge and the consideration of international experience are combined, which in general will contribute to improving the quality of criminal justice in the field of medical activity.

4.3 Problems and Ways to Improve the Investigation of Criminal Offenses in the Medical Field

The problems of investigating criminal offenses in the medical field are due to their complex multidimensional nature, which combines legal, medical, organizational and ethical components. In scientific literature, it is substantiated that such crimes are characterized by a high level of latency, difficulty in detection, and significant dependence on specialized knowledge in the field of medicine (Topchiy, 2020). At the same time, international studies, in particular the World Health Organization, emphasize that medical errors are systemic in nature and are often caused by organizational shortcomings, and not only by the individual behavior of the doctor. Similar conclusions are contained in the work of Lucian L. Leape (1994), which emphasizes the systemic causes of medical errors. This creates a basis for reviewing traditional approaches to criminal prosecution in this area and necessitates a more comprehensive, interdisciplinary approach to investigation.

One of the key problems is the evidence in criminal proceedings regarding medical offenses, which is characterized by increased complexity and multicomponentity. In particular, it is necessary to establish not only the fact of violation of professional standards, but also the causal relationship between the actions of a medical professional and negative consequences for the patient. Foreign doctrine emphasizes that proving in such cases requires a combination of legal and clinical criteria for assessing the doctor's behavior. (Studdert, 2000). At the same time, as the analysis shows, this element often remains insufficiently substantiated, which leads to acquittals or closure of

proceedings.

Of particular difficulty is the definition and assessment of the standard of proper medical care, which in many cases does not have a clear regulatory framework or is fragmentary. The scientific literature emphasizes that the absence of unified clinical protocols or their variability leads to the subjectivity of expert opinions and ambiguity of court decisions. This gives rise to a discussion about the need to codify medical care standards and their implementation in the criminal law sphere as a criterion for assessing the legality of a doctor's actions.

An additional problem is the specificity of medical evidence, which is characterized by a high level of complexity, ambiguity and dependence on interpretation. As modern research in the field of medical informatics shows, medical data are often incomplete, fragmentary or allow for several interpretations. The complexity of assessing medical errors creates significant difficulties for investigators and courts, who are forced to rely on expert opinions that are not always unambiguous (Shojania, 2004). This requires the development of clearer criteria for evaluating evidence in cases of this category.

Medical ethics, which establish the obligation to maintain medical secrecy and confidentiality of patient information, have a significant impact on the investigation process. These ethical principles may conflict with the needs of criminal proceedings, which require full access to information. The scientific discussion emphasizes that such a collision requires regulatory regulation that would ensure a balance between the right to privacy and the interests of justice.

In this context, the problem of access to medical information is particularly relevant, which often complicates or even makes an effective investigation impossible. As noted in domestic studies, the lack of clear procedures for access to medical documents leads to delays in the process and loss of evidence (Soltysiuk, 2024). In my opinion, this problem can be solved by creating specialized procedural mechanisms for access to medical data with compliance with guarantees of their protection.

A separate problem is the corporate solidarity of medical professionals, which can hinder the objective establishment of the truth in the case. As practice shows, medical professionals may refrain from providing complete information or provide it in a distorted form, which significantly complicates proof. This necessitates the strengthening of procedural guarantees of the independence of the investigation and the introduction of witness protection mechanisms.

In international practice, a systematic approach to the analysis of medical incidents is becoming increasingly widespread, which involves the study of not only the individual behavior of the doctor, but also organizational factors. The World Health Organization emphasizes that most

medical errors are the result of systemic deficiencies, such as staff overload or procedural imperfections. This calls into question the feasibility of an exclusively punitive approach to liability.

In this context, the concept of “root cause analysis”, which is widely used in the USA and EU countries, deserves special attention. It involves a deep analysis of the causes of the event in order to identify systemic deficiencies and develop measures to eliminate them. As studies show, such an approach allows not only to increase the efficiency of the investigation, but also contributes to the prevention of offenses. In our opinion, the implementation of this concept in Ukraine could significantly improve the quality of law enforcement.

An important area of improvement is the creation of medical incident reporting systems that allow accumulating information about errors and analyzing them at the systemic level. In many countries, such systems function as an element of patient safety policy and contribute to the formation of a culture of openness and responsibility. This allows for a transition from a purely punitive model to a preventive one, focused on preventing offenses.

A promising direction is the use of digital technologies in the investigation of medical offenses. Electronic medical records, monitoring systems and analytical tools allow to increase the accuracy and speed of information processing. At the same time, their implementation is associated with risks of confidentiality violations, which requires proper regulatory regulation and technical data protection.

Summarizing the above, it should be noted that improving the investigation of criminal offenses in the medical field requires a comprehensive approach that combines legal, organizational, ethical and technological measures. In my opinion, the key areas are: development of specialized investigation methods, advanced training of investigators, improvement of the regulatory framework and active implementation of international experience. Such an approach will ensure a balance between protecting patients' rights and fair prosecution of medical professionals.

4.4 Conducting Forensic Examinations in the Investigation of Criminal Offences Committed by Medical Personnel

A key evidentiary role in the investigation of criminal offences committed by medical professionals is played by forensic medical examination of the victim (patient). Such examinations are aimed at determining the nature and severity of bodily harm, identifying the causes of the patient's deterioration, and assessing the consequences of diagnostic, therapeutic, or preventive interventions. In practice, this type of expert analysis becomes particularly significant in cases where it is necessary to distinguish between adverse outcomes caused by the natural progression of a disease and those

resulting from improper performance of professional duties by medical personnel.

In this context, forensic medicine provides a scientifically grounded methodological basis for such differentiation, since forensic medical evaluation is often the only reliable scientific method for distinguishing natural disease progression from externally induced harm, requiring systematic correlation of clinical and pathological findings (Fisher et al., 2010). Accordingly, the results of such examinations form a crucial evidentiary basis for establishing the objective elements of the offence and characterising the nature of harm inflicted.

In criminal proceedings involving the death of a patient, post-mortem forensic medical examination plays a central role. Its primary task is to establish the direct cause of death, the mechanism of its occurrence, and the role of medical interventions in the fatal outcome. As emphasized in forensic literature, determination of the cause of death in clinical forensic practice requires a structured integration of autopsy findings, medical history, and circumstantial evidence in order to establish a defensible causal mechanism (Payne-James et al., 2016).

During such examinations, experts assess the correctness of the clinical diagnosis, the timeliness of medical care, and the presence of possible defects in the diagnostic and treatment process. Expert conclusions often become decisive in establishing a causal link between the actions or omissions of medical personnel and the patient's death.

One of the most common types of expert analysis in this category of cases is a commission-based forensic medical examination of the quality of medical care. Its distinctive feature lies in the collective assessment of the circumstances by specialists from different medical fields, ensuring a comprehensive evaluation of professional conduct. Within such examinations, experts assess the correctness of treatment strategies, the timeliness of diagnostic procedures and interventions, and compliance with clinical protocols and standards of medical practice. They also determine whether identified violations are causally related to adverse outcomes, which is of fundamental importance for the criminal-legal qualification of the conduct in question.

In this regard, comparative legal doctrine emphasizes that in cases involving professional negligence, courts place particular weight on multidisciplinary expert evaluations, as such assessments reduce individual bias and increase the reliability of conclusions regarding deviation from professional standards (Giannelli, 2019). This approach significantly strengthens the evidentiary value of expert findings in complex medical criminal cases.

In particularly complex clinical situations characterized by multifactorial pathological processes or the involvement of multiple specialists, a comprehensive forensic medical examination is appointed. Such examinations involve experts from various medical disciplines, enabling a holistic

analysis of the treatment process and the identification of the role of each participant in the emergence of adverse outcomes. They are especially relevant in cases involving complex surgical interventions, anaesthetic management, obstetric and gynaecological care, or the treatment of severe comorbid conditions. The interdisciplinary nature of such examinations ensures a higher level of scientific validity of expert conclusions and contributes to a full, objective, and impartial establishment of the circumstances of the criminal offence.

In the investigation of criminal offences committed by medical professionals, forensic toxicological examination plays a significant evidentiary role. The necessity of such examination arises in cases involving suspected drug overdose, incorrect prescription of medications, violations of rules governing the administration of pharmaceuticals, or the use of substances capable of causing severe harm to a patient's health.

During forensic analysis, the presence of medicinal drugs, narcotic substances, psychotropic agents, alcohol, toxins, and other chemical compounds capable of affecting human physiological functions is established in biological specimens. This type of examination is of particular importance in cases of patient death resulting from anaesthetic complications, medication intoxication, or improper administration of potent drugs. The results of toxicological analysis enable the determination of substance concentrations and the assessment of their potential causal relationship with adverse outcomes, which is essential for the criminal-legal evaluation of a medical professional's conduct.

Equally important is forensic chemical examination, which focuses on the analysis of various substances and materials that may have influenced the patient's health condition. Objects of such examination include pharmaceutical products, medical solutions, injectable mixtures, blood, urine, tissues, and other biological or chemical samples. This type of expert analysis allows for the identification of chemical composition, the presence of contaminating or toxic impurities, and discrepancies between declared and actual properties of medicinal substances.

In investigative practice involving medical professionals, forensic chemical examinations are frequently used to assess the quality of pharmaceuticals, detect the use of uncertified medical products, and establish the causes of complications following medical procedures. Accordingly, forensic chemical analysis serves as an essential tool for determining factual circumstances and verifying competing versions of events within criminal proceedings.

To clarify the mechanisms of pathological processes and determine causes of death, immunological and histological forensic examinations are of considerable importance. These methods allow for the study of structural and functional changes in tissues, organs, blood, and other

biological materials, which are often decisive for the accurate assessment of medical intervention outcomes.

Histological analysis enables the detection of microscopic alterations that cannot be identified through standard autopsy procedures, including signs of inflammation, ischemic damage, necrosis, thrombosis, and other pathological conditions. Immunological examination, in turn, is used to study the biological properties of blood and tissues, determine their origin, and identify specific mechanisms underlying pathological reactions in the human body.

The combined application of these methods contributes to a more precise establishment of causal relationships between medical personnel actions and patient outcomes, which is crucial for ensuring completeness and objectivity in pre-trial investigations.

In the investigation of offences committed by medical professionals, forensic document examination holds substantial evidentiary value. Its purpose is to verify the authenticity of medical documentation, which often serves as a primary source of information regarding treatment processes, medical interventions, and clinical decisions.

Such examinations enable the detection of alterations in medical records, patient charts, prescription sheets, logbooks, and other documents that may indicate attempts to conceal violations or distort factual circumstances of medical care. Particular significance is attributed to the identification of erasures, insertions, page substitutions, document fabrication, or post-event corrections made after adverse outcomes have occurred.

In practice, it is observed that following serious harm or patient death, certain healthcare personnel may attempt to modify medical records to avoid legal liability. Consequently, forensic document examination often acquires independent evidentiary value, as it allows experts to establish the time of document creation, the sequence of entries, and the use of different writing instruments or technical means during document preparation. These findings also facilitate the verification of testimonies provided by medical staff and other participants in criminal proceedings.

Closely related is forensic handwriting examination, which is conducted to identify the author of handwritten notes and signatures in medical documentation. The need for such analysis arises when doubts exist regarding the authenticity of signatures of physicians, nursing staff, or patients on informed consent forms, prescriptions, consultation reports, referrals, and other documents.

Using specialized forensic techniques, experts determine the identity of the writer and may also identify signs of imitation, disguised handwriting, or writing under unusual conditions or external influence. The results of such examinations contribute to verifying the legality of documentation and establishing instances of falsification.

In the context of digitalization of healthcare systems, computer-technical forensic examination is becoming increasingly important. This type of analysis focuses on electronic medical records, patient databases, user access logs, hospital servers, and other digital information carriers.

Using specialized software tools, experts can detect unauthorized modifications to electronic records, recover deleted data, determine file creation and modification timestamps, and identify users responsible for specific actions within information systems. Such examinations are particularly significant when medical information exists exclusively in electronic form.

The combined use of these forensic methods ensures verification of both paper-based and electronic sources of evidentiary information. Their results allow for the identification of falsified medical documentation, concealment of treatment-related information, and individuals responsible for entering inaccurate data into documents or digital systems.

This, in turn, contributes to the formation of a robust evidentiary basis and ensures a comprehensive, objective, and impartial investigation of criminal offences related to the professional activities of medical personnel.

5. Conclusion

The study found that criminal offenses committed by medical professionals are characterized by a complex, interdisciplinary forensic nature, which necessitates the use of specialized approaches to their detection and investigation. The combination of legal and medical aspects within the framework of one proceeding imposes increased requirements for the professional training of the subjects of pre-trial investigation and the quality of evidentiary activities. The effectiveness of the investigation directly depends on the correct determination of the forensic characteristics of the relevant offenses, which includes an analysis of typical methods of their commission, the evidence and investigative situations. At the same time, the proper organization of the pre-trial investigation is of key importance, in particular its planning, timely conduct of investigative (search) actions and active use of specialized knowledge, primarily in the form of forensic medical examinations.

At the same time, the study identified a number of systemic problems that significantly complicate the process of investigating this category of criminal offenses. These include, in particular, the difficulty of proving, associated with the need to establish a causal relationship between the actions of a medical professional and the consequences for the patient, the lack of unified standards of proper medical care, which leads to ambiguity of expert opinions, as well as limited access to medical information due to confidentiality requirements. Special attention should be paid to the influence of ethical factors, in particular medical confidentiality and corporate solidarity, which may

hinder the objective establishment of the truth. Taken together, these circumstances necessitate the improvement of regulatory and legal regulation, increasing the level of specialized training of investigators and experts, as well as the introduction of modern information and analytical technologies into the process of proving.

Prospects for further scientific research in this area are associated with the development of comprehensive forensic methods for investigating crimes in the medical field, which will take into account both national features of law enforcement and best international practices. Of particular importance is the adaptation of modern concepts, in particular the systematic analysis of medical incidents and preventive approaches to ensuring patient safety, to the conditions of the national legal system. A scientifically substantiated combination of punitive and preventive mechanisms for responding to medical offenses, as well as the development of interdisciplinary cooperation between lawyers and doctors, will contribute to increasing the effectiveness of law enforcement. As a result, this will ensure an adequate level of protection of patients' rights, increase trust in the healthcare system and contribute to the formation of a modern model of criminal justice in the field of medical activity.

Forensic examinations constitute one of the key means of proof in the investigation of criminal offences committed by medical professionals, as their findings make it possible to determine the nature and consequences of medical interventions, establish the existence of a causal relationship between the actions of medical personnel and the harm caused to a patient, and assess compliance with applicable medical standards. Depending on the circumstances of the criminal proceedings, decisive evidentiary value may be attributed to forensic medical, commission-based, and comprehensive examinations, as well as toxicological, chemical, histological, and immunological analyses, which facilitate a comprehensive determination of the mechanisms underlying pathological processes and the causes of adverse outcomes. At the same time, forensic document examination, handwriting examination, and computer forensic examination play an important evidentiary role in detecting the falsification of medical records and unauthorized interference with electronic information systems. The integrated use of specialized knowledge and modern forensic methodologies contributes to the formation of a reliable evidentiary basis, ensures a thorough, objective, and impartial examination of the circumstances of the criminal offence, and enhances the effectiveness of protecting patients' rights within criminal proceedings.

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