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**USE OF SPECIAL KNOWLEDGE IN INVESTIGATION
OF CRIMES RELATED TO PUBLIC FUNDING
IN THE FIELD OF HEALTHCARE**

Study aid

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The book gives the examination of the conceptual provisions of the use of specialised knowledge in the investigation of crimes related to public funding in the healthcare sector. The authors reveal the concept of ways of committing such crimes and provide their classification. The definition of specialised knowledge, forms and range of subjects of its use, and the trace pattern of crimes related to public financing in the healthcare sector are researched.

For researchers, lecturers, adjuncts and postgraduate students, cadets, students of higher law schools, employees of the National Police, the Prosecutor's Office, the Security Service of Ukraine, the Bar, as well as all those who are interested in legal science.

В 43 Використання спеціальних знань під час розслідування злочинів, пов'язаних із державним фінансуванням в галузі охорони здоров'я : навч. посібник / К. О. Чаплинський, О. А. Сидоров, В. А. Бідняк, Г. С. Бідняк, Т. В. Пакулова. Дніпро : Дніпроп. держ. ун-т внутр. справ, 2023. 148 с.

Викладено концептуальні положення використання спеціальних знань при розслідуванні злочинів, пов'язаних із державним фінансуванням в галузі охорони здоров'я. Розкрито поняття способів вчинення зазначених злочинів та надано їх класифікацію. Досліджено дефініцію спеціальних знань, форми та коло суб'єктів їх використання, слідову картину вчинення злочинів, пов'язаних із державним фінансуванням в галузі охорони здоров'я.

Для науковців, викладачів, ад'юнктів та аспірантів, курсантів, студентів та слухачів вищих юридичних навчальних закладів юридичного профілю, працівників Національної поліції, прокуратури, Служби безпеки України, адвокатури, а також усіх тих, хто виявляє інтерес до юридичної науки.

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LIST OF SYMBOLS

MDNP – Main Department of the National Police
SSRFC – State Scientific Research and Forensic Centre
URPTI – Unified Register of Pre-trial Investigations
CC – Criminal Code
CPC – Criminal Procedure Code
MIA– Ministry of Internal Affairs
MoH – Ministry of Health
Scientific Research Forensic Centre – Scientific and Research Forensic Centre
NHSU – National Health Service of Ukraine
ISE – Inspection of the scene of an event
IOG – Investigative Operational Group
I(D)A– Investigative (detective) actions
CIDA – Covert investigative (detective) actions
DE – Department of Economic

PREFACE

State transformations taking place in the socio-economic sphere primarily affected the healthcare sector. High level of diseases and disabilities of the population, along with the low level of medical care and an inadequate amount of modern equipment, require drastic changes. The distribution of state funds according to the model of M. O. Semashko turned out to be ineffective and required a medical reform in order to approach European standards. The new public healthcare system implemented in 2018, on the one hand, changed the budget financing mechanism, and on the other hand, it contributed to the creation of new criminal schemes. Every year, the state provides budget financing of the health care industry according to the adopted budget programs. Thus, the Law of Ukraine “On the State Budget of Ukraine for 2020” plans expenditures for the Ministry of Health of Ukraine – 115 889 937 200 UAH, in particular for the provision of medical measures of individual state programs and complex programmatic measures – 8 071 917 500 UAH, treatment of Ukrainian citizens abroad – 1 089 948 900 UAH, public health and measures to combat epidemics – 3 721 399 200 UAH, etc. (Appendices A, B). At the same time, additional co-financing from local budgets, various funds, loans from international banks, and charitable contributions totally increases the amount of funds allocated to the specified industry, which increases the scale of the issues raised, attracts the attention of offenders and increases the number of criminal manifestations. Statistics of the General Prosecutor’s Office of Ukraine on the state of crime in Ukraine indicates that 2129 criminal offences, committed with the use of budget funds, were registered in 2016, 3049 in 2017, 2779 in 2018, 2316 in 2019, and 2749 in 2020.

There are no official statistics on budget crimes in the field of health care, but the analysis of judicial and investigative practice and the results of interviews with law enforcement officers indicate an active growth of crime in this area. In the current conditions, the situation is increasingly aggravated within the limits of the global pandemic due to the spread of the coronavirus and the diseases caused by it, “Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2)” and “Coronavirus disease” (Covid-2019). In particular, the simplification of the bidding procedure has increased the

number of cases of unjustified price increases by manufacturers and suppliers for medical products, medical equipment, personal protective equipment, etc. Cases of illegal trade of medicines, disinfectants for hands and premises, medical masks, gloves and so on have become widespread. Despite the legal restriction on the export of anti-epidemic goods for the period of the global pandemic, the facts of illegal export of the specified group of goods abroad have increased, which causes its significant shortage in Ukraine. The breadth of the research subject is confirmed, on the one hand, by the qualification for numerous types of crimes (misappropriation, waste of budget funds or their appropriation, inappropriate use of funds, forgery of documents, abuse of official position, official negligence, etc.), on the other hand, it covers not only medicine, but also construction, public procurement, financial accounting, energy supply, etc. The above shows that law enforcement agencies need a comprehensive approach and the use of special knowledge in various fields to expose crimes of this category.

The problem of the economic crimes investigation was the object of scientific researches conducted by V. I. Vasylynychuk, O. O. Dudorov, V. I. Litvinenko, G. A. Matusovsky, D. B. Sergeeva, R. L. Stepaniuk, L. P. Skalozub, M. A. Pogoretsky, S. S. Chernyavskiy and other scientists.

The crimes related to the illegal use of budget funds in the criminal and legal and criminological aspect were researched in the dissertation work of R. M. Soskov "Criminological characteristics and prevention of crimes related to the illegal use of budget funds by the prosecutor's office" (Dnipro, 2019), in the monographic manuscript of V. O. Rufanova and O. O. Tytarenko "Prevention of crimes related to the illegal use of budget funds by internal affairs bodies" (Dnipropetrovsk, 2012).

Among the most recent forensic developments regarding the investigation of crimes in budget sphere, the following works can be singled out: I. V. Pisarchuk "Organizational and legal bases of operational units activity in countering inappropriate use of budget funds by officials" (Lviv, 2018); A. Y. Spuskanyuk «Evidence in criminal proceedings about crimes related to public procurement» (Kyiv, 2019); V. A. Lylyk «Methodology of investigating inappropriate use of budget funds allocated for work with waste" (Lviv, 2019). Individual issues of crimes investigation in the field of medicine were revealed in the dissertation studies of: Yu. S. Dolinovsky "Features of detection and investigation of crimes committed during public procurement in the field of health care" (Lviv, 2018); O. G. Huk "Investigation of medicinal products forgery and

circulation of falsified medicinal products" (Kyiv, 2019); E. V. Kovalevska "Use of special medical knowledge while investigating crimes" (Kyiv, 2018); A. M. Taranova "Use of special knowledge in investigation of improper performance of professional duties by a medical or pharmaceutical employee" (Kyiv, 2020).

The above-mentioned works differ in relevance and scientific novelty, scientists have made a significant contribution in the indicated spheres, but despite all the achievements, the researchers have considered only certain aspects of crimes in budget sphere or individual offenses in the field of medicine. Instead, the issue of complex use of special knowledge in the investigation of crimes related to the illegal use of budget funds in the field of health care has remained out of the scientists' due attention. Together with the above mentioned, current transformations of health care system, legislative conflicts and the long-term pandemic situation in the country also specify the need for scientific development of this direction. The set of the factors indicates the relevance of this issue and emphasizes the theoretical and practical importance of the chosen research topic.

Chapter 1

FORENSIC ANALYSIS OF CRIMES RELATED TO STATE FINANCING OF HEALTHCARE SECTOR

1.1. The essence of crimes related to illegal use of budget funds in the field of healthcare and the state of the problem development

The Constitution of Ukraine guarantees the right of every citizen to receive necessary medical care. In order to implement the basic law at an effective level, the state constantly finances health care institutions at the expense of budget funds and improves their distribution. So, recently, state transformations are rapidly changing the socio-economic sphere of public life, in particular, the field of health care. The National Strategy for Reforming Health Care System in Ukraine, the new law on health care financing, etc. are the legislative basis for the transformation. Of course, such innovations lead to the formation of new criminal schemes that have a certain specificity at the initial stage.

Back in the Soviet times, Ukraine had a fixed system of financing health care institutions, "Semashko", which provided the activity of medical institutions entirely at the expense of the state budget, including the payment of salaries, their conveniences (heat, water, energy supply), the purchase of equipment, goods, etc. It was recognized as ineffective and not meeting international standards (Appendices C, D).

Specialists in the field of medicine note the positive and negative factors of a sustainable health care model. Thus, doctor of medical sciences, professor O. Bobrov, summarizing them, identified the main reasons for the financial and ideological bankruptcy of the Soviet health care system. Among them, the priority was to increase the number of doctors, nurses, and hospital beds instead of investing in diagnostic and treatment methods. Hospitals overestimated the bed fund as much as possible and kept beds occupied as long as possible, since state payments to hospitals depended on the "bed-day" indicator. The extensive construction of hospitals and overproduction of doctors led to irrational costs, affecting the quality of medical care. There was a dependence of the salary of doctors on specialization, qualification and academic degree, and not on the results of activity [21].

As we can see, the specified shortcomings contributed to the appearance of "dead souls", the preparation of fictitious documents regarding the filling of beds, the calculation of illegal bonuses, that is, the committing of criminal offenses in the form of overspending, embezzlement, misappropriation, inappropriate use of budget funds.

According to the Database "Health for All" (HFA-DB) regarding the number of hospitals in Ukraine in 2015, there were more than 2200 (5,22 hospitals per 100 000 population) and more than 400 000 hospital beds (890,7 beds per 100 000 population), which is much more per capita than in the Czech Republic, Romania, Poland, Bulgaria and other EU countries. However, 75 % of these hospital beds have extremely low capacity to provide services.

Under such conditions of budget expenditures distribution, funds are spent on ensuring the functioning of health care institutions, but not on providing effective medical care to patients, which leads to the loss of these funds at various stages of their use. This is confirmed by the following data from the World Bank for 2012 on total health care costs depending on GDP: in Romania – 5.1 %, Poland – 6.7 %, Bulgaria – 7.4 %, Ukraine – 7.6 %, Czech Republic – 7.7 %, EU – 10.2 %. At the same time, health care expenditures per capita in US dollars were: in Ukraine – \$293, Romania – \$420, Bulgaria – \$516, Poland – \$854, the Czech Republic – \$1,432, the EU – \$3,340 [118, p. 10].

That is, during the distribution of funds according to the stable Soviet model, the state allocates funds on a par with developed countries, but in fact the patient received less for treatment compared to foreign citizens, which indicates possible spending of funds at certain stages through which they reach health care institutions and the increase in both cases of corruption and other criminal encroachments on the state budget.

In recent years, drastic changes have been taking place in the provision of medical care. Today, the Law of Ukraine "Fundamentals of the Legislation of Ukraine on Health Care" defines that a health care institution is a legal entity, regardless of the form of ownership and organizational legal form, or its separate subdivision, the main tasks of which are to provide medical services to the population and/or provide rehabilitation assistance based on the appropriate license and ensuring the professional activity of medical (pharmaceutical) employees and rehabilitation specialists. State and communal health care institutions include:

- emergency medical care;
- primary medical care is medical care that provides consultation, diagnosis and treatment of the most common diseases, injuries, poisonings,

pathological, physiological (during pregnancy) conditions, implementation of preventive measures; referral according to medical indications of a patient, who does not require emergency medical care, to provide him with secondary (specialized) or tertiary (highly specialized) medical care; provision of emergency medical care in case of a physical or mental health disorder of a patient who does not require emergency, secondary (specialized) or tertiary (highly specialized) medical care;

– secondary (specialized) medical care is medical care provided in outpatient or inpatient settings by doctors of the appropriate specialization (except general practitioners – family doctors) as it has been planned or in emergency cases and includes consultation, diagnosis, treatment and prevention of diseases, injuries, poisonings, pathological and physiological (during pregnancy and childbirth) conditions; referral of a patient according to medical indications for provision of secondary (specialized) medical care from another specialization or tertiary (highly specialized) medical care;

– tertiary (highly specialized) medical care is medical care provided in outpatient or inpatient settings on a planned basis or in emergency cases and includes consultation, diagnosis, treatment of diseases, injuries, poisoning, pathological conditions, management of physiological conditions (during pregnancy and childbirth) with the use of high-tech equipment and/or highly specialized medical procedures of high complexity; referral of the patient according to medical indications for provision of secondary (specialized) medical care or tertiary (highly specialized) medical care from another specialization;

– palliative care – this is the help provided to patients at the last stages of the course of incurable diseases, which includes a set of measures aimed at alleviating physical and emotional suffering of patients, as well as providing psychosocial and moral support to their family members [122].

The network of state and communal health care institutions of a certain level is created by authorities, including local self-government, independently, taking into account plans for the development of hospital districts and the needs of the population in medical care.

Financial provision of state and communal health care institutions – budget institutions is carried out in accordance with budget legislation.

The legislation also stipulates that medical assistance is provided free of charge at the expense of budget funds in health care institutions and by individuals – entrepreneurs who are registered and have received a license to conduct economic activity for medical practice in accordance with the procedure established by law, with whom the main managers of budget funds have entered into contracts on the population medical care [122].

The concept of free medical care is partially ensured by the Law of Ukraine "On State Financial Guarantees of Medical Services of the Population" dated 19.10.2017 No. 2168-VIII), according to which the state guarantees full payment of medical services provided to the population by health care institutions, at the expense of State funds of the budget of Ukraine within the framework of the medical guarantee program.

The authorized body represented by the National Health Service of Ukraine (NHSU) has been designated as the representative of the state for the implementation of state policy in the field of state financial guarantees of medical care for the population under the program of medical guarantees.

The National Health Service of Ukraine has developed more than 30 packages of medical services, which are provided by health care institutions to the population in accordance with concluded contracts. In the future, upon the service having been provided, the funds allocated for by the program are paid to the hospital.

It should be noted that one of the conditions of cooperation with the NHSU was the transfer of communal health care facilities to non-profit enterprises. The peculiarity of the reform of health insurance system, among other things, is the possibility for private medical institutions to enter into contracts with the National Health Service for the provision of services to the population under the medical guarantee program and to receive funds from the State Budget (Appendix C).

To better understand the scale of the reform, let's analyze the State Budget of Ukraine. Thus, in 2020, the Ministry of Health of Ukraine is expected to spend UAH 115,889,937,200, including: medical activities of certain state programs and comprehensive programmatic measures – UAH 8,071,917,500, treatment of Ukrainian citizens abroad – UAH 1,089,948,900, public health and epidemic control measures – UAH 3,721,399,200, improvement of healthcare in the service of people – UAH 92,926,600, diagnostics and treatment of diseases with the introduction of experimental and new medical technologies in healthcare institutions of research institutions and higher medical educational institutions of the Ministry of Health of Ukraine – UAH 1,712,249,400, the State Service of Ukraine on Medicines and Drugs Control – UAH 104,582,800, the National Health Service of Ukraine – UAH 72,289,313,200, the medical subvention from the state budget to local budgets – UAH 14,582,774, the subvention from the state budget to local budgets to support certain institutions and activities in the healthcare system – UAH 1,450,611,500, the subvention from the state budget to local budgets for the reform of regional healthcare systems for the implementation of the joint project with the International Bank for

Reconstruction and Development «Improving healthcare at the service of people» – UAH 659,100,500 (Appendices A, B). In view of the above, the healthcare reform provides for the allocation of funds for treatment to a specific patient, not to a hospital. On the other hand, this situation creates new criminal schemes of misappropriation of budget funds, their misuse, forgery of documents, etc. Of course, this fact can be explained by the fact that a number of issues are not clearly defined in the legislation and need to be finalized. Let us highlight some of them.

Primary health and social care centers, represented by a family doctor, must conclude an agreement (sign a declaration) with the patient who will receive primary health care. At the same time, it is unclear how many times a year a patient can visit a family doctor. This issue is also not clearly defined in the declaration. There may be abuse on the part of the patient and he or she may demand primary health care when it is not necessary. In this case, the center of primary healthcare and social assistance, receiving a clearly defined amount per year per patient, will work at a loss. Instead, family doctors can schedule an appointment for a patient who needs immediate care not immediately, but after a certain period of time. In this case, the patient will have no choice but to receive primary or secondary medical care at their own expense.

The reform also provides for a mechanism of reimbursement of the cost of medicines (reimbursement) under the Affordable Medicines program, which covers cardiovascular diseases, type II diabetes and bronchial asthma. According to the Ministry of Health of Ukraine, mortality from cardiovascular diseases accounts for 65% of the total mortality rate in Ukraine. According to statistics, one million people suffer from type II diabetes. This is 6 times more than type I diabetes (insulin-dependent). More than 210 thousand people are registered with bronchial asthma [45].

Despite the fact that the Affordable Medicines program is fairly new, criminal proceedings have already been registered in Ukraine on violations by both patients (e.g., use of fake prescriptions) and doctors (criminal collusion between a doctor and pharmacy representatives).

Studying the content of the program itself, we can provide quite logical explanations for a number of facts. For example, a patient can only receive mono drugs, i.e. those containing only one active ingredient. Modern medicines mostly contain several substances, for which the patient must pay extra on their own, with the difference exceeding the cost of the required substance. Also, the list of medicinal products is not very wide. It should be noted that the register of medicinal products subject to reimbursement is periodically updated. In view of the latest changes, it now includes not only the name of the active substance, but also the name of the country and the

manufacturer. If the criteria for selecting the manufacturer are not clearly defined, the old criminal scheme of holding tenders for the procurement of medical equipment and drugs with the requirements of a particular manufacturer may be used. In this case, the bidding for competing firms is lost in advance, and budget funds are misappropriated.

According to the National Anti-Corruption Bureau of Ukraine, in 2019, more than 90% of the more than UAH 120 million of damage caused to the state and exposed by detectives in the course of investigations of corruption-related criminal offenses in the social sphere concerned crimes in the healthcare sector. According to the investigation, most often these are corruption schemes based on abuse of office by officials to misappropriate or embezzle state property [128]. It should be noted that the actual amount of losses is much higher, as other services (the National Police of Ukraine, the Security Service of Ukraine, etc.) are also involved in the investigation of these crimes.

Of course, the period of transformation of any sphere of public life, including the health care system, requires additional awareness of law enforcement officials and a thorough study of innovative processes to timely expose criminal schemes and prevent the use of budget funds for criminal purposes.

Based on the results of the survey of practitioners, analysis of criminal cases and proceedings, and research by scholars, we found that offenses related to the illegal use of budget funds in the healthcare sector include criminal acts committed during the preparation, review, approval and execution of budgets, as well as during the control of budget execution. We are talking about the corpus delicti provided for in Art: 191 "Misappropriation, embezzlement or seizure of property through abuse of office", 209 "Legalization (laundering) of the proceeds of crime", 210 "Misuse of budget funds, budget expenditures or provision of loans from the budget without establishing budget allocations or exceeding them", 211 "Issuance of regulatory legal acts that reduce budget revenues or increase budget expenditures contrary to the law", 212 "Evasion of taxes, fees (mandatory payments)", 221 (1) "Evasion of payment of a single contribution to the obligatory state social insurance and insurance contributions to the obligatory state pension insurance", 222 "Fraud with financial resources", "Intentional introduction of dangerous products into circulation on the Ukrainian market (release to the Ukrainian market)", 229 "Illegal use of a trademark for goods and services, a trade name qualified by the meaning of the origin of goods", 231 "Illegal collection for the purpose of use or use of information constituting a commercial or banking secret", 232 "Disclosure of

commercial or bank secrets", 233 "Illegal privatization of state and municipal property", 321 (2) "Violation of the established procedure for preclinical studies, clinical trials and state registration of medicinal products", 358 "Forgery of documents, seals, stamps and forms, sale or use of forged documents, seals, stamps", 364 "Abuse of power or official position", 364 (1) "Abuse of authority by an official of a legal entity of private law regardless of the legal form", 365 (2) "Abuse of power by persons providing public services", 366 "Forgery", 367 "Negligence", 368 "Acceptance of offers, promises or receipt of unlawful benefit by an official", 368 (5) "Illegal enrichment", 368 (3) "Bribery of an official of a legal entity of private law regardless of the legal form", 369 "Offer, promise or giving of an undue advantage to an official", 369 "Abuse of influence", 370 "Provocation of bribery" of the Criminal Code of Ukraine and others.

Analysing the above-mentioned corpus delicti, it is clear that the object of criminal encroachments is public funds, and the subjects are not only officers and officials of departments, offices, healthcare institutions, but also manufacturers and suppliers of medicines, medical equipment, medical devices and non-medical goods, who, possibly by prior conspiracy, committed by a group of persons. Often, the crimes are international in nature, causing particularly large losses to the state.

Scientists believe that an important step towards combating transnational financial crimes is the formation of national legislation, taking into account the need for harmonisation with global trends, in particular with the EU. Thus, O. O. Vakulik, N. S. Andriyachenko, O. M. Reznik and other scientists rightly suggest establishing cooperation between the special services of Ukraine and the CIS countries, as they became the heirs of a single financial model during their being parts of the USSR [4, p. 6].

Therefore, the qualification under numerous articles of the Criminal Code of Ukraine of the already complex and multifaceted healthcare system requires a thorough study of scientific literature and consideration of the works of predecessors who considered both general and narrower issues in their works. We are faced with a rather multifaceted complex task – to analyse economic crimes, crimes in the budgetary sphere, as well as works on specialised knowledge and medicine.

The issue of investigating economic crimes has been the subject of scientific research by K. V. Antonov, V. I. Vasylinchuk, O. O. Dudorov, G. A. Matusovskyi, M. A. Pogoretskyi, D. B. Serhieieva, R. L. Stepaniuk, L. P. Skalozub, V. V. Topchii, S. S. Cherniavskyi, P. V. Tsybal, and so on.

For a full and comprehensive study of this topic, it is necessary to take into account the experience of scientists, taking into account the views of

experts in criminalistics, criminal procedure, criminal law, forensic medicine, and operational and investigative activities.

Thus, important theoretical issues of the methodology of investigation of crimes in the field of economic activity committed by organised criminal groups are considered in the monograph by V. P. Korzh, including: the essence and concept of economic organised crime; forensic classification of economic crimes committed by organised criminal groups; problems of forming methods of investigation of these crimes; forensic characteristics of economic crimes committed by organised criminal groups and its main elements; basics of the methodology of investigative verification; scientific basis of investigation of these crimes and problems of overcoming counteraction to the detection and investigation of economic crimes committed by organised criminal groups [21].

In the criminal law and criminological aspect, O. O. Dudorov has made significant progress in the study of the problems of liability for crimes in the areas of official and economic activity. His fundamental monographs are devoted to this area, and he also defended his dissertations on relevant topics [52].

The monograph by V. O. Rufanova and O. O. Titarenko was devoted to the study of modern problems of criminalisation of the budgetary sphere and the activities of internal affairs bodies to prevent crimes related to the illegal use of budgetary funds [168].

In his dissertation, R. M. Soskov created a scientifically based system of crime prevention related to the illegal use of budgetary funds by the prosecutor's office, and he developed proposals for improving the current legislation and practice of its application [178].

The coverage of theoretical and applied problems of crime prevention in the economic sphere of Ukraine is reflected in the doctoral dissertation of O. Kalman, in particular, economic relations in society and crime in the economic sphere (historical evolution, the concept of crime in the economic sphere and related concepts), the system of crimes in the economic sphere and their classification, criminological characteristics of the state of crime in the economic sphere, criminological determination of crime in the economic sphere, the main directions of crime prevention in the economic sphere in Ukraine in the context of transformational changes [63].

Recently, a number of scientific works have been devoted to the investigation of crimes in the budgetary sphere in various fields and areas that are partially related to the chosen research topic.

Thus, I. V. Pysarchuk's dissertation is devoted to a comprehensive study of the problems associated with the activities of operational units in

countering the misuse of budgetary funds by officials. The author provides an operational and investigative characteristic of the misuse of budgetary funds, and defines the forms of interaction with the state controlling bodies. The main activities of operational units to detect, prevent and stop the misuse of budget funds by officials are outlined [136].

The study of the methodology for investigating the misuse of budgetary funds allocated for waste management was carried out by V. A. Lilik. The scientist considered not only certain elements of forensic characteristics (subject of the offence, method of committing the crime, identity of the offender and traces of the crime) and typical investigative situations of the initial and subsequent stages of the investigation, but also identified the main forms of use of special knowledge in the investigation of misuse of budget funds allocated for waste management [88].

Particular attention should be paid to the doctoral work of R. L. Stepaniuk, which provides a comprehensive forensic analysis of the theoretical foundations of the formation and implementation of the methodology for investigating crimes committed in the budgetary sphere of Ukraine. The scientist developed a forensic classification of crimes in the budgetary sphere of Ukraine; improved the structure of certain investigation methods; considered the current state of methodological and forensic support for the investigation of certain groups and types of crimes in the budgetary sphere; outlined the prospects for the formation of relevant interspecies, complex, species and subspecies forensic methods; researched the peculiarities of interaction between law enforcement and regulatory authorities in combating crime in the budgetary sphere; revealed the content of certain forms of such interaction; also paid attention to the use of specialised knowledge during the pre-trial investigation of crimes in the budgetary sphere [186].

The following scientists have thoroughly researched the area of public procurement, where violations are very common in the healthcare sector. Although procurement is only a part of the chosen topic, the experience of predecessors will allow for a more thorough study of the methods of committing these crimes, the trail pattern, certain aspects of the use of specialised knowledge, and so on.

Thus, the thesis of A. Y. Spuskanyuk's dissertation is devoted to a comprehensive study of the problems of proof in criminal proceedings on crimes related to public procurement. The researcher analysed the state of scientific development of proof in the relevant criminal proceedings, characterised the concept and content of proof, the main and additional circumstances to be proved, disclosed the grounds and procedural procedure for entering information about these crimes into the Unified Register of Pre-

trial Investigations, certain investigative (search) and covert investigative (search) actions as a means of collecting evidence of crimes related to public procurement, as well as other means of collecting evidence, and so on [180].

A. M. Medentsev devoted his work to the investigation of crimes committed in the field of public procurement, in which he studied the issues of criminalistics classification and characteristics of crimes in the field of public procurement, the peculiarities of the initial stage of investigation and the peculiarities of conducting individual (investigative) search actions [110].

While studying the peculiarities of detection and investigation of crimes committed during public procurement in the healthcare sector, Y. S. Dolinovskyi examined the theoretical aspects of detection and investigation of these offences and provides an economic and legal description of public procurement and a forensic description of crimes committed in this area. The scientist developed a scientific theory of the activities of operational units and state controlling bodies to detect these crimes, as well as the organisation of their interaction, outlined the methodology of investigation, tactics of conducting certain investigative (search) actions in criminal proceedings for crimes committed during public procurement in the healthcare sector [48].

Operational and investigative aspects of public procurement were the subject of research by V. V. Daragan. Among the latest works, a monographic study on the theoretical, legal, organisational and tactical problems of operational and investigative counteraction to crimes in the field of public procurement by the units of the Department of Economic Protection of the National Police of Ukraine is noteworthy, which suggests ways to improve the efficiency of such activities [43].

The analysis of these scientific works has shown that some of them have lost their relevance to some extent for various reasons. In our opinion, the most common are:

- legislative changes,
- reform of law enforcement and financial control bodies,
- transformation of the healthcare system,
- redistribution of allocated budget funds,
- constant transformations of state medical programmes, such as reimbursement of funds spent on medicines; provision of medicines to diabetics and cancer patients; a programme for the purchase of consumables and equipment for haemodialysis, and so on.

Meanwhile, the interest in public procurement in various fields, including healthcare, is still relevant and attracts the attention of a number of criminal scientists. In particular, in recent years, certain issues of investigating crimes in the field of medicine have been covered in the

following dissertation studies.

The dissertation of O. H. Huk is devoted to the analysis of procedural, organisational and tactical features of the investigation of medicines falsification and trafficking of falsified medicines in modern conditions. The author identified the forms of use of specialised knowledge in the investigation of falsification of medicinal products and trafficking in falsified medicinal products and identified the most typical examinations in this category of crimes [42].

The dissertation study of E. V. Kovalevska outlines a set of problematic issues arising from the use of special medical knowledge during pre-trial investigation, in particular, in the course of forensic medical examination, the concept, nature, structure and genesis of the institute of special medical knowledge in the investigation of crimes, the scope and importance of the use of special medical knowledge in the investigation of crimes (and their role in criminal proceedings), and also clarifies in what forms this knowledge is used [70].

The use of specialised knowledge in the investigation of improper performance of professional duties by a medical or pharmaceutical employee was the subject of research by A. M. Taranova. The scientific work highlights the topical issues that are most common in the practice of these crimes. The author reveals the peculiarities of certain types of examinations, specifies the concept, tasks, objects and methods of conducting examinations, taking into account the specifics of these crimes investigation [189].

Outstanding scientific works in the field of the use of specialised knowledge are the works by: H. P. Dondyk, V. V. Kovalenko, O. A. Kravchenko, O. M. Moiseiev, V. M. Makhov, V. V. Semenov, I. V. Pyroh, M. G. Shcherbakovskyi, L. G. Shapiro, E. B. Simakova-Yefremian, and so on.

Taking into account the analysis conducted, we can conclude that scientists have paid considerable attention to the study of economic crimes and the use of specialised knowledge. However, no scientific research that would combine scientific achievements and reflect a comprehensive approach to this issue has been conducted to date. Although combating illegal activities in the healthcare sector has been identified as one of the priority areas of the Strategic Investigations Department of the National Police of Ukraine, law enforcement officers face difficulties in proving the above elements and require the use of specialised knowledge.

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Drawing on the experience of scholars and practitioners, and taking into account changes in legislation and the specifics of the medical system, we have attempted to investigate the use of specialised knowledge in the investigation of crimes related to public funding of the healthcare sector. We found out that there are a variety of areas of criminal offences, the subject of which is always public funds; the perpetrators of these crimes are officials and officials of departments, offices, healthcare facilities, manufacturers and suppliers of medicines, medical equipment, medical devices and non-medical goods, often by prior conspiracy, committed by a group of persons. Sometimes they are international in nature, causing particularly large losses to the state.

1.2. Ways of committing crimes related to state financing of the healthcare sector

The success of crime detection and investigation depends on the extent to which the person conducting the investigation has knowledge of the substantive elements of the forensic characteristic, among which the method of committing the crime is central. Its manifestations in the material or virtual environment provide an opportunity to have an evidence base, put forward versions, identify the offender, etc. The variety of ways of committing economic crimes, including crimes related to the illegal use of budgetary funds in the healthcare sector, demonstrates the relevance of this topic. The breadth of the subject matter of the study is confirmed, on the one hand, by the qualification under numerous articles of the Criminal Code of Ukraine (embezzlement, misappropriation, misuse, forgery, abuse, etc.), and, on the other hand, by the fact that criminal encroachments cover medical equipment, medical devices, medicines, medical services, construction, food, etc.

In the theory of forensic science, scientists pay special attention to the issue of studying the methods of crime, as it is naturally associated with finding traces of certain types of crimes and identifying the perpetrators, as noted by prominent scientists [37, p. 68].

Among the many ways of committing economic crimes, we tried to find out those that are inherent in this category of crimes in today's conditions. To achieve this goal, the author examined the scientific

achievements in the study of the method of committing a crime by R. S. Belkin, L. G. Vidonov, A. F. Volobuiev, I. F. Gerasimov, S. M. Zavyalov, G. G. Zuykov, V. Y. Koldin, M. V. Saltevsky, V. V. Tishchenko, V. Yu. The methods inherent in committing economic crimes and crimes in the budgetary sphere were studied by K. V. Antonov, V. I. Vasylynychuk, O. O. Dudorov, G. A. Matusovskyi, D. B. Serhiieva, R. L. Stepaniuk, L. P. Skalozub, M. A. Pogoretskyi, S. S. Cherniavskyi and others. However, the issue of the methods of committing crimes related to the illegal use of budgetary funds in the healthcare sector has not been addressed by scholars and has not been studied separately from budgetary crimes.

The concept of a method of committing a crime from a forensic point of view is somewhat different from its criminal law understanding. And although it has been thoroughly studied by forensic scientists, it still leaves certain peculiarities of views.

Most scholars consider the methods of committing crimes in terms of a three-tier structure. Thus, S. M. Zavyalov believes that the method of committing a crime is a course of action for the preparation, commission and concealment of traces of a crime, which characterises forensically significant data about the perpetrator and the means used by him and the possibility of their use in the detection and investigation of crimes [58, p. 45].

Outstanding is the view of M. V. Saltevsky and G. G. Zuikov, who defined the method of committing a crime as a system of united by a common plan actions of the offender to prepare, commit and conceal a crime, determined by objective and subjective factors, combined with the use of appropriate tools and means [170, 60].

The scientists rightly noted that the method of committing a crime is a system of intentional actions to prepare, commit and conceal a crime, covered by a single criminal intent, determined by the psychophysical qualities of the offender (his/her accomplices) and the selective use of appropriate conditions, place, time, as well as taking into account possible actions (inaction) on the part of the victim and other persons [21].

Given the above, we can define the concept of a method of committing crimes related to the illegal use of budgetary funds in the healthcare sector. This is a complex of interrelated acts of officials, officers and other persons aimed at preparing, committing and concealing crimes in healthcare facilities using budgetary funds for the purpose of obtaining illegal benefits.

In relation to these crimes, it should be noted that the methods of preparation are closely related and gradually turn into methods of direct commission. However, it should be noted that during the preparation of these crimes, the main role is played by documents (their production, destruction,

alteration, etc.), which we will carefully consider further in various aspects, in particular: during the detection, recording, seizure and examination of traces of crimes, their examination by various specialists during investigative (search) actions, forensic examinations, etc. Concealment methods usually involve the destruction or alteration of relevant documents.

Matusovsky G. A. also drew attention to the richness of economic crimes in terms of their methods of commission. The scientist noted that some are characterised by a variety of methods and their modifications, while others are characterised by a limited number of types of methods. However, the peculiarity of economic crimes in general is the diversity of criminal methods, which is explained by the difference in spheres, industries, types of economic relations, activities of persons involved in the economic and financial process and vested with the relevant powers. Among the methods of theft in institutions and organisations financed by the state budget, depending on the subject of the criminal offence, the scientist distinguished between the methods of theft of material assets and methods of theft of funds [21]. With regard to crimes related to the illegal use of budgetary funds in the healthcare sector, we can distinguish between the following: embezzlement of funds and embezzlement of medicines, medical equipment, medical supplies, etc.

The classification of typical methods by R. L. Stepaniuk, who divides the methods of violations of budget legislation into two general groups: methods of crimes against available budget funds and methods of crimes against planned budget funds, can also be applied to these crimes [186, p.38]. But, given that in our country the healthcare sector is almost entirely financed by the state and local budgets, as well as various funds, loans from international banks, charitable contributions, etc., it is appropriate to classify the ways of committing the crimes under study depending on the type of financing of healthcare institutions.

On the other hand, the opinion of A. F. Volobuiev is correct, who considers it necessary to take into account not only the external attributes of the actions of criminals but also the materiality of economic and financial transactions used by them to achieve the criminal goal in order to build a classification of theft methods in the business sphere [37, p. 70].

We believe that such a substantive criterion most accurately reveals the essence of this issue. Therefore, by interviewing practitioners and studying the materials of criminal cases and proceedings, depending on the nature of the unlawful acts committed, we have identified the following modern methods of committing crimes related to the illegal use of budgetary funds in the healthcare sector (Appendix E):

1. Conducting public procurement in violation of the law:

1.1. Overstating the cost of goods by drawing up additional agreements. Earlier, in our research, we described in detail how procurement participants, in collusion with hospital management, used cases in which it is permissible to change the procurement contract. As the law did not previously clearly state how many times a price could be inflated by an additional agreement in a budget year, a 10% price increase made several times significantly changed the tender price and resulted in the final amount exceeding the offers of other bidders.

Currently, the Law of Ukraine "On Public Procurement" No. 922-VIII dated 25 December 2015 has been amended to provide that Article 41 (5) (2) of the Law stipulates that a proportional increase of up to 10 per cent in the price per unit of goods may occur no more than once every 90 days from the date of signing the procurement agreement. Therefore, this method prevents criminals from obtaining excessive profits that were possible before the legislative changes. However, it is not appropriate to completely exclude this method, since the restriction on the time limits for changing the price per unit of goods does not apply in cases of changing the terms of the contract for the purchase of petrol and diesel fuel, gas and electricity.

This is confirmed by the results of the study of criminal cases and proceedings, which show that in healthcare institutions, the procurement of goods under the above scheme leads to large-scale embezzlement of budget funds.

1.2. Supply of goods that do not meet technical requirements. For example, when procuring medical equipment, criminal offences occur when participants provide only a certificate for certain equipment, but in reality, other equipment with worse performance is supplied. Without a test report, it is impossible to track all the data of a particular device. Thus, the tender proposal wins without having any legal grounds for doing so. Of course, such offences can be committed by the participating company either independently or by prior agreement with authorised persons of healthcare institutions.

A practical example is the following. In 2014-2015, one of the hospitals located in Pavlohrad held a competitive tender for the purchase of 4 steam sterilisers for a total amount of over UAH 600 thousand, which resulted in the award of the tender to LLC P. The tenderer submitted a package of documents that demonstrated the quality and conformity of the equipment. However, the delivery of the equipment revealed facts of non-compliance with the technical and quality characteristics (steriliser chamber with signs of previous use, fittings that do not meet safety requirements, components not designed for use under high steam pressure, etc.), which made it impossible to use it for its intended purpose. By doing so, the supplier caused large-scale damage to the local budget.

1.3. Preparation of tender documents for a specific participant for a fee. According to the law, the procuring entity establishes several qualification

criteria, including: availability of equipment and material and technical facilities; availability of employees with appropriate qualifications and necessary knowledge and experience; availability of documented experience in performing a similar contract, etc. Representatives of healthcare facilities use the provisions of Article 16 of the Law of Ukraine "On Public Procurement" and put forward unreasonable qualification requirements that have no grounds for existence. As a rule, such requirements are met by only one business entity with which the procuring entity has entered into collusion in advance.

For a more thorough understanding, let's look at a case study. An analysis of public procurement of medical equipment conducted by the tender committee of the Department of Health of the Dnipro Regional State Administration in 2017-2018 revealed that the following companies were suppliers of goods: LLC "G", LLC "O", LLC "A", LLC "B", LLC "TM", LLC "I", LLC "M", LLC "H", LLC "C", which have signs of concerted action. According to available information, these business entities belong to the same financial group controlled by the F. family, whose commercial activities were supported by the People's Deputies of Ukraine. These persons acted in the following way. Representatives of the supplier companies, either personally or through proxies, held preliminary negotiations with budget holders on future procurement of medical products or medical equipment for hospitals in the region. During the negotiations, the issues of planning budget expenditures for the procurement of equipment and medical devices for the future period were discussed. All the details of the bidding process were discussed, including: ensuring the victory of a certain entity; terms of supply, quantity and cost of goods; remuneration amounts, etc.

Upon reaching an agreement, the tender committee of the entity was provided with a package of documents for the procurement, including a product specification with specific technical characteristics inherent in the products or equipment of a particular supplier. Subsequently, the tender committee prepared the bidding documents. Then, at the request of the officials of the Department of Health, the said specification in the form of an application was signed by the chief physicians of the healthcare facilities where the goods were to be supplied.

Subsequently, the Committee on Competitive Bidding announced and conducted competitive bidding. Since the specification defined certain technical characteristics of the equipment that were inherent only to the specific equipment and supplied by only one supplier, the bids of other entities offering similar equipment, usually of higher quality and cheaper, were rejected. To ensure the legitimacy of the tender, at least 2 business entities took part in the tender, acting in collusion and offering the same equipment for purchase with

prices that were almost identical (in some cases, the price of equipment worth more than UAH 5-10 million differed by only UAH 1 000).

Thus, these individuals artificially created conditions under which medical devices and medical equipment were purchased from certain suppliers at an inflated cost, causing damage to the budget in particularly large amounts.

It should be noted that a similar situation occurred in other regions of the country. Thus, analysing the competitive tenders held in 2017 in Ukraine, it was established that the tender committees of the Healthcare Departments held tenders for the purchase of the following goods: X-ray diagnostic systems (UA-2017-08-11-000519-b) for an expected value of UAH 9,700,000. The following items were procured by the Departments of Health: fluorographic stationary apparatus with digital image processing (UA-2017-10-18-001307-s) for the expected value of UAH 1 500 000; cabin fluorographic stationary apparatus with digital image processing, for the expected value of UAH 1 800 000. (UA-2016-09-13-000876-s); video endoscopic diagnostic complex (UA-2017-08-22-001148-s) for an expected value of UAH 3 560 000; video endoscopic complex for gastroscopy (UA-2017-09-12-000375-a) for an expected value of UAH 3 500 000. Fibrobronchoscope complete for endoscopic medical and diagnostic procedures within the respiratory tract and tracheobronchial tree (UA-2017-10-03-002284-b) for an expected value of UAH 1,035,000; ambulance vehicles of type "A2" (UA-2017-06-02-001893-b) with equipment for an expected value of UAH 8,000,000. The peculiarity of the tender documents in these cases is that the specification and medical and technical requirements for the procurement items are completely identical and correspond to the equipment supplied by LLC A, LLC M, LLC H, which have a common beneficiary[103]. In the course of the analysis of these tenders, additional facts were found that indicate collusion.

Thus, the actions of the bidders show signs of violation of the requirements of the principles of public procurement enshrined in Article 3 of the Law of Ukraine "On Public Procurement", as well as the requirements of clause 6 of Section III of the tender documentation and the medical and technical requirements provided for in Annex 3 to the tender documentation, but both bidders were allowed to participate in the tender and the tender was cancelled only on the basis of a letter from the UZE to the Department of Health regarding the established violations of the legislation in the field of public procurement.

1.4. The next method related to violation of public procurement is avoidance of the tender by dividing the subject of procurement. Given that the amount of sub-threshold procurement for goods should not exceed UAH

200 thousand, and for construction – UAH 1.5 million, it is worth paying attention to goods that have the same classifier code and whose division is not allowed under the Law of Ukraine "On Public Procurement".

1.5. Prepayment in full before delivery. In this method, the procuring entity uses budgetary funds and unreasonably prepays for goods that the supplier does not have or cannot deliver at the time of procurement.

Resolution of the Cabinet of Ministers of Ukraine No. 1070 dated 04.12.2019 "Some Issues of Prepayment by Budgetary Fund Managers (Recipients) of Goods, Works and Services Procured for Budgetary Funds" stipulates that budgetary fund managers (recipients) may provide for prepayment for a period of three to twenty-four months in contracts for the purchase of goods, works and services for budgetary funds. It should be noted that Resolution No. 1070 cancelled Resolution of the Cabinet of Ministers of Ukraine No. 117 of 23.04.2014 "On Prepayment for Goods, Works and Services Procured for Budgetary Funds", which also provided for prepayment for a period of one to fifty months [162].

Often, the provisions of this Resolution are used by criminals to misappropriate budget funds. Thus, in 2018, investigators based on the materials of the police operational units registered criminal proceedings on the grounds of a criminal offence under Part 5 of Article 191 of the Criminal Code of Ukraine against officials of the Healthcare Department, a healthcare institution and a business entity who, acting in collusion, abusing their official position, misappropriated budget funds in particularly large amounts. The offenders acted according to the following plan. The director of a business entity approached the head of the Healthcare Department and proposed a criminal plan to misappropriate budget funds by purchasing and supplying a magnetic resonance imager to a healthcare facility at an inflated cost. After discussing all the details, the head of the Healthcare Department instructed the chief physician to prepare and conduct a tender for the purchase of equipment, the winner of which was to be determined by a certain supplier. As a result of the tender, a contract for the supply of equipment worth UAH 35 million was concluded with this entity. Then the director of the supplier company applied in writing to the chief medical officer with a request to consider 100 % prepayment for the goods for a period of up to 3 months. In turn, the chief physician applied to the Healthcare Department for permission to make a prepayment of budgetary funds. Having received the budgetary funds, the company delivered to the healthcare facility expensive medical equipment (magnetic resonance imaging scanner), the technical characteristics of which did not meet the requirements of the tender documentation, and the actual cost of the

equipment was overestimated by more than 7 million UAH [95].

After the supply of inappropriate equipment to the hospital, the company is re-registered to a third party and it is virtually impossible to resolve the issue of replacing and supplying the hospital with appropriate equipment or refunding the budget funds paid.

1.6. Forgery of documents on acceptance of work performed or goods delivered. This method is the most widespread, as evidenced by the results of the study of criminal proceedings, and is most often used both independently and in combination with other economic crimes, including embezzlement or misappropriation of budget funds, theft, misuse of budget funds, abuse of office, etc. Both full and partial counterfeiting is used in this way.

1.7. Collusion of bidders in the course of bidding, who deliberately play the role of a technical competitor and usually offer an unlawful offer. This is a conspiracy between bidders who act according to a pre-agreed plan in order to win. As a rule, the crime involves two or more business entities. During the procedure, the criminals deliberately offer a price with a certain step down, which is determined by the customer. If other competitors do not submit their price offers, the business entities that acted in collusion and submitted the lowest price withdraw their offers and the procuring entity is forced to conclude a contract at the highest price, causing losses to the budget.

Often, business entities, acting in collusion with the procuring entity, upload documents to the procurement portal that are deliberately damaged and cannot be opened and evaluated. In these circumstances, the winner is a certain participant whose bid price is the highest.

1.8. Collusion of bidders during the bidding process who agree in advance to dump the price. In order to win the tender and obtain a contract for the supply of goods, works or services, participants offer too low prices. As a result, the customer may receive low-quality goods or poorly performed work. For example, two construction companies took part in a tender in the city of D for the purchase of works on the overhaul of a hospital building. One of them offered the cost of works almost twice cheaper than the other and was selected as the winner. After the contract was concluded, the contractor systematically violated the contractual deadline, and the work was carried out poorly, in violation of technical regulations and regulatory documents. Some time later, after completion of the works, defects in the work began to appear, but the contractor refused to rectify the complaints and, after some time, the company was re-registered as a shell company. Subsequently, the hospital had to redo the work at the expense of the budget, which caused significant losses.

1.9. Unreasonable rejection of the most economically advantageous offer.

In such actions, attention is drawn to formal deficiencies in the submitted proposal. For example, in the tender documentation, the customer required the tenderers to provide a copy of the draft contract signed by the tenderer as the future contractor as part of the proposal. Such a requirement does not affect the price or quality of goods or services at all, but the tender committee subsequently rejected the bids of the participants who did not comply with this requirement, despite the fact that their bids were the most cost-effective.

2. Misappropriation and embezzlement of budgetary funds through unjustified accrual of salaries, bonuses, travel expenses and other payments. A typical scheme of committing the crime is to produce an official document with inaccurate information and use the forged document in the future, for example, to misappropriate budget funds allocated for salary and bonus payments.

For example, during an audit of the financial and economic activities of a dental hospital in Dnipro, the auditors recorded the facts of incredibly high budget expenditures on bonuses for the chief physician, deputy chief physician, chief accountant and some hospital employees.

Subsequently, the audit materials were sent to law enforcement agencies and a thorough investigation was conducted into these facts. The audit found that the chief physician of the dental hospital, together with the accountant, had been forging letters of approval from the head of the Healthcare Department for several years to accrue and pay a monthly bonus to the chief physician at an inflated rate. In turn, the chief physician issued illegal orders to the hospital to accrue and pay the bonus at an inflated rate to the deputy chief physician, chief accountant and other hospital employees. It was later established that the chief physician had agreed to the accrual and payment of inflated bonuses to hospital employees on the condition that the employees would return 50% of the funds paid to him in cash. The deputy and the accountant were paid inflated bonuses for silence about the criminal activities of the chief doctor. In this way, budget funds were misappropriated in particularly large amounts over several years.

3. Accrual and payment of mandatory payments to persons who are registered as employees but do not actually work in a healthcare facility.

In healthcare institutions, it is common for people to be registered as employees who do not actually work in the institution, but are paid monthly salaries, bonuses, and financial assistance. This method is most common in large hospitals, where a large number of employees work and the presence of "dead souls" is invisible to others. The existence of this category of employees is known to an exclusive circle of people, including the head of the institution, human resources and accounting staff.

Most often, such crimes are uncovered through reports to law

enforcement agencies, during audits of financial and economic activities, pre-trial investigations of other crimes, especially during the conduct of SIDA or operational search activities.

For example, the law enforcement agency received materials of a scheduled audit of the financial and economic activities of the city hospital H for a period of four years. The audit examined several issues, including: the legality of procurement of goods, works and services for budgetary funds, the legality of accrual, payment of salaries and other payments to employees of the institution, the preservation, operation and write-off of hospital property, etc. The auditors established the absence of purchased high-value medical equipment and excessive write-off of fuel and lubricants for vehicles on the hospital's balance sheet, which indicated a crime related to embezzlement or misappropriation of budget funds in especially large amounts. Based on the audit materials, criminal proceedings were registered and a number of investigative (search) actions were taken, including the temporary seizure of documents from the hospital, including staffing tables, documents on the calculation and payment of wages, bonuses, etc.

During the interrogation of hospital employees, the case file revealed that some employees were never seen in the hospital, but according to accounting documents, they were paid monthly salaries and bonuses. The pre-trial investigation established that the head of the healthcare facility, in collusion with the chief accountant and the head of the HR department, had registered more than 10 fictitious employees who were illegally paid to their card accounts. In fact, the cards were held by the accountant, who withdrew cash from an ATM on a monthly basis, after which the cash was distributed among all the participants in the crime.

4. The use of medical equipment and medical devices for the purpose of obtaining unlawful benefit. In this case, the equipment purchased with public funds is used by healthcare workers for personal enrichment. When providing free medical care, it is common for a healthcare worker to demand payment from patients for ultrasound, X-ray, MRI, CT, etc.

5. Misuse of budget funds for other purposes. Thus, contrary to the requirements of paragraph 3 of the Procedure and Conditions for Providing Medical Subventions from the State Budget to Local Budgets, approved by the Cabinet of Ministers of Ukraine on 23.01.2015 No. 11, healthcare institutions spend funds on expenses that are not directly related to the payment for the activities specified in Article 103 of the Budget Code of Ukraine. For example, for the maintenance of the control and audit department and the technical supervision service.

6. Misuse of premises, equipment and land plots. According to the

forensic practice, in this way, state property is used for personal purposes or in the interests of third parties, which are often relatives of the responsible person. For example, in 2016, operatives of the UZE uncovered the fact of misuse of a land plot that was in permanent use by the Verkhivtseve Psychoneurological Boarding School. Instead of growing food for patients, the land plot was used by an agricultural producer for personal needs, vehicles, etc. for personal purposes without payment [104].

7. Forgery of medical documentation on the establishment of a disability group, the birth of a child, issuance of fictitious certificates of temporary disability, etc. A common example of this is when parents receive state childbirth assistance with forged documents for three years.

8. Drawing up fictitious documents on the number of patients in order to increase funding for budget programmes. The following example from 2010 can be a loud confirmation of this method. For the treatment of diabetics, each region should develop a programme that provides for the procurement of medicines to cover the needs of patients for a year. When ordering insulin, freelance specialists summarised data on the actual need of patients for a particular type of insulin (there are more than forty types of insulin). Officials of the healthcare facility, ignoring these analytical data, in collusion with the supplier, purchased insulin from only one manufacturer, significantly increasing its cost, and embezzled funds in the amount of over 1.5 million UAH [107]. Today, diabetes patients receive medicines in pharmacies using electronic prescriptions. However, this method cannot be completely ruled out.

9. Excessive write-offs of medicines, medical devices, linen, equipment, etc.

10. Misappropriation of funds by writing them off for routine repairs of hospital buildings that were not actually carried out, fictitious purchases of household equipment under advance reports, etc.

11. Payment of energy, heat supply and other payments from the budget for other business entities – operation of a private cafeteria on the territory of the hospital, a private ultrasound room, a diagnostic laboratory, etc.

Based on the materials of the USE Department, the Investigation Department of the Main Department of the National Police in the Dnipro oblast registered criminal proceedings under Part 1 of Art. 367 of the Criminal Code of Ukraine against officials of the Municipal Institution "Dnipro City Clinical Hospital of the Dnipro Oblast Council" who, due to negligent performance of their official duties, did not include in the payment under lease agreements with business entities the costs of reimbursement of utilities for the common area and operating costs, which led to material damage.

12. Failure to properly perform official duties to preserve the property

of the healthcare facility, which causes its rapid depreciation and loss. For example, the use of motor vehicles in the hospital of the city of O in violation of the technical conditions for their use and storage led to their premature failure, which made it impossible to continue their operation without expensive overhauls, which were carried out at the expense of the budget, causing significant damage.

13. Misappropriation of budgetary funds allocated for the state programme on organ transplantation.

The existence of this method is possible due to the lack of appropriate legislative regulation in this area, and in some cases, the relationship with human trafficking. Scientists emphasise the extremely important role of international law enforcement organisations, namely Interpol, in coordinating efforts in the fight against human trafficking, in particular, for gaining operational experience, exchange of scientific and technical information, etc.

14. The method of misappropriation of budgetary funds provided to finance certain services under the programme of medical guarantees for the population is becoming more widespread. The offenders, acting by prior conspiracy, misappropriate funds allocated from the State Budget and transferred through the National Health Service of Ukraine to healthcare institutions under various schemes, here is one of them. An agreement is concluded between a business entity and the National Health Service of Ukraine to finance certain services under the programme of medical guarantees for the population. Subsequently, the perpetrators enter false information into the electronic healthcare system about the services actually provided to patients, which gives grounds for the NHSU to pay extra funds to the hospital's account, which are subsequently misappropriated by the perpetrators.

15. Use of discounts for goods in the form of a "debit-credit note". When committing crimes on the territory of several states, offshore companies are often used to falsify supporting documents on the origin of goods, their real value, quality, including invoices, manufacturer's declarations, international contracts, certificates of origin, cargo and customs declarations, packing lists, etc. The scheme of artificially inflating the cost of medicines and medical devices by importing companies by providing discounts for goods, the price of which is subsequently changed by the supplier using a "debit-credit note", is becoming more widespread. In other words, under the terms of the agreement, the goods are delivered to the customs territory at an inflated price and sold for budgetary funds by a healthcare facility. The supplier then sends the buyer, depending on the state of settlement, a "debit note" or a "credit note", according to which the buyer is actually granted a discount for the goods that have actually been sold to

healthcare facilities at an inflated price. Excess profits are then embezzled, most often using the services of minimisation companies.

16. Methods of misappropriation of budget funds in the fight against coronavirus infections. In the context of the pandemic, the state created conditions for simplifying the bidding procedure, which was used by criminals and increased the number of offences in this area. It is worth noting the widespread scheme of procurement of medicines, medical devices and high-value medical equipment without competitive procurement, i.e. under direct contracts, which results in the purchase of these goods at an inflated price, causing losses to the budget. Officials, using the provisions of CMU Resolution No. 225 of 20.03.2020, deliberately evade bidding for goods that are not related to combating acute respiratory infection Covid-19, thereby making purchases at an inflated price and stealing budget funds in collusion with suppliers.

In addition to this, other methods mentioned above are used, either individually or in various combinations. For example, during the global pandemic, a widespread scheme of misappropriation of budget funds by making a 100% prepayment for medical products that have not been delivered to a healthcare facility. Cases of illegal trade in medicines, hand and room disinfectants, medical masks, gloves, etc. have become widespread. Despite the legal restriction on the export of anti-epidemic goods during the global pandemic, the illegal export of this group of goods abroad has increased, causing a significant shortage in Ukraine.

Given the above methods, it is clear that the range of persons who may be involved in committing crimes in the public healthcare sector is limited. Thus, we consider it necessary to systematise the ways of committing the crimes under study depending on the subject as follows:

- 1) medical representatives of a healthcare institution (chief physician and his/her deputies, etc);
- 2) other representatives of the healthcare facility (accountants, chairman and members of the tender committee, etc) ;
- 3) suppliers of goods or contractors of ordered works;
- 4) representatives of state controlling bodies (antimonopoly committee, state service of medicines, etc) ;
- 5) representatives of state and local authorities (heads of united territorial communities, cities of regional significance, districts, etc);
- 6) representatives of key and lower-level spending units (heads of healthcare departments and offices).

Given that healthcare institutions not only provide medical services to the population, but also have to ensure their functioning, we believe it is appropriate to distinguish the ways of committing crimes depending on the

economic classification of budget expenditures:

- medical equipment, medical devices, medicines,
- medical services,
- salaries, bonuses, other remuneration;
- construction,
- food products,
- energy, heat and water supply, etc.

Of course, the methods of committing these crimes are changing in line with modern transformations and it is impossible to foresee all of them. That is why practitioners and researchers need to be aware of the status of healthcare reforms.

Thus, when considering such an important element of the forensic characterisation of crimes related to public healthcare financing as the method, the author takes into account its three-tier structure, in particular, preparation, direct commission and concealment. It is found that the methods of preparation for a crime are quite difficult to distinguish from the method of their direct commission (i.e., obtaining the opportunity to bring the criminal intent to completion). The methods of concealment usually consist in destroying or altering the relevant documents. Given the scientific achievements, the concept of the method of committing crimes related to the illegal use of budgetary funds in the healthcare sector has been clarified. Among a significant number of methods of committing budget crimes known to law enforcement officers, the author identifies those which are inherent in this category of crimes in the current context. It is noted that as a result of legislative changes, the methods are constantly changing and improving, and therefore some of them, studied by scholars, are gradually losing their relevance and are hardly used. We have tried to systematise and describe the effective typical methods according to various criteria: depending on the subject of the offence, the nature of the unlawful acts committed; the subject of the criminal offence; the type of financing of healthcare institutions; and the economic classification of budget expenditures.

1.3. Trace evidence of a crime

It is well known that any crime leaves certain traces. Clarification of the trace pattern is necessary not only to establish the mechanism of criminal offences, but also other elements of forensic characteristics (methods, place, time, identity of the offender).

In today's conditions, the definition of traces as materially fixed objects

is gradually expanding. It is clear that during the commission of crimes, business communication is increasingly carried out through social networks, email correspondence, open procurement information sites, etc. All of this significantly affects the current understanding of crime traces and requires additional research.

Certain issues of elements of the forensic characterisation of crimes, including the trace pattern, have been repeatedly studied by well-known forensic scientists, including T. V. Averyanova, R. S. Belkin, A. I. Vinberg, G. L. Granovskyi, A. V. Ishchenko, N. I. Klymenko, V. K. Lysychenko, M. V. Saltevsyyi, M. Y. Sehai, V. Y. Shepitko, O. R. Shlyakhov, M. G. Shcherbakovskyi and others. Certain issues of investigation of economic crimes were studied by A. F. Volobuiev, G. P. Dondyk, G. A. Matusovskyi, M. A. Pogoretskyi, R. L. Stepaniuk, L. G. Shapiro, S. S. Cherniavskyi and others. Undoubtedly, scientists have made a significant contribution in these areas, but the issue of identifying modern traces inherent in crimes related to the illegal use of budgetary funds in the healthcare sector requires additional research, due to the rapid development of science and the requirements of law enforcement practice.

The trace pattern of economic crimes differs significantly from such property crimes as theft, robbery, assault, etc. Crimes related to the illegal use of budgetary funds in the healthcare sector are no exception, but their specificity should be noted.

As a rule, forensic scientists focus on documents when studying the trace evidence of budget crimes. We believe that the modern approach to the types of traces should be significantly expanded, taking into account the scientific achievements of predecessors.

Thus, there are different definitions of the concept of traces of crime, but this issue remains controversial both before and now.

Thus, the prominent criminologists noted that in a broad sense, traces of a crime are any material consequences of a crime, changes in the external environment [21].

We consider the definition of M. V. Saltevsyyi to be more acceptable in relation to economic crimes. The scientist noted that the traces of a crime are the result of the reflection of the past presented in the present. These are ideal and material reflections that are sources of data, information for knowledge of the crime event [170, p. 86].

According to G. A. Matusovskyi, the forensic feature of economic crimes is traces that are the result of criminal acts of the relevant subjects encroaching on economic relations and with a greater or lesser degree of probability indicate the event of a crime of this type, perpetrators, time, place,

manner and other circumstances relevant to the detection, investigation and prevention of such acts. The scientist notes that traces of economic crimes are manifested in the following features: a) types of traces; b) their combination, interconnection; c) frequency of detection; d) localisation (place of formation, location, possible detection); e) movement (turnover of funds, material assets, documents) [21].

However, the issue of classification of traces is more uncertain. Previously, criminologists focused on mental and material traces and their varieties. Moreover, the latter were considered more significant due to their greater durability. Recently, more and more attention has been paid to virtual traces (computer, digital, electronic, etc), although some authors deny their existence, justifying the specifics of their origin from the point of view of physics.

Without going into the depths of the formation of virtual traces, we note the results of interviews with practical officers. They showed that during the detection of crimes of this category, in 100 % of cases, traces of a material nature (objects, substances, reflections) were found, as well as those contained in the content of documents; in 68% of cases – virtual traces (in electronic documents, sites of open information on procurement, IP-telephony); in 56 % of cases, traces were preserved in the mental images of witnesses, eyewitnesses (left in the memory of healthcare workers, employees of the supplier or contractor, tenderers). Let's look at the specifics of each type.

So, based on the generally accepted classification of material traces in the narrow sense (traces-objects, traces-substances and traces-reflections), let us consider how they can manifest themselves in crimes related to the illegal use of budgetary funds in the healthcare sector.

Based on the materials of the study of criminal cases and proceedings, it should be noted that trace objects are presented in the form of documents, various medical equipment (X-ray machine, ultrasound machine, pressure measuring device, etc.), construction materials used in the reconstruction of healthcare facilities, medical devices (needles and syringes, cotton wool, gauze, masks, gloves), medical furniture, special food for patients, etc. Trace substances are represented by a variety of medicinal products, including solutions, substances, medicines, drugs, medicines, homeopathic remedies, etc.

The following case is a typical example of a crime detection based on trace substances. It was noticed that a healthcare facility had purchased an ethyl alcohol medicine at a very low price (approximately UAH 16 per 100 ml bottle). At the same time, the cost of the manufactured bottle is more than UAH 26 (including excise duty per bottle, the cost of the bottle, label, cap, alcohol; not including labour, taxes, transportation, depreciation of equipment, etc.) Subsequently, it was established that the medicinal product

was counterfeit, namely made from alcohol that was intended for the manufacture of tinctures. In such circumstances, no excise duty is charged on alcohol. In this case, the state loses money in the form of non-payment of mandatory payments to the budget.

Traces-reflections are quite rare in this category of crimes. Examples include X-rays, magnetic resonance imaging scans, ultrasound scans, etc.

For example, in 2009, the Ministry of Healthcare procured fluoroscopes with certain characteristics that would allow for high-quality images of patients' internal organs. However, the supplier manufactured and supplied equipment with inadequate characteristics (the strength of the X-ray radiation was significantly lower than stated), which did not allow for high-quality images and early diagnosis of diseases. Thus, the state suffered particularly large losses.

Of course, a special place among trace objects is occupied by documents. A. F. Volobuiev rightly notes that from the forensic point of view, documents are considered primarily as an effective trace material, which is of great importance as a source of evidence in the investigation of various economic crimes [36, p. 115].

The classification of documents used in the commission of budget crimes has been fully considered by criminal scientists [37; 186; 174]. When investigating these crimes, we consider it appropriate to conditionally divide them into two groups: 1) those committed by a healthcare facility and 2) those committed by a provider or contractor. In each case, these may be different documents: contracts, additional agreements, specifications, design and estimate documentation (resource lists, project, estimate), financial obligation, acts of acceptance and transfer of completed works, acts of commissioning of equipment, waybills, invoices, payment orders, manager's estimate, procurement plan, etc.

It should be noted that written documents leave traces in the form of signatures, manuscripts, stamps and stamps, printed text, etc. Undoubtedly, these are all material traces. However, written and electronic documents in the investigation of these criminal offences also contain economic, accounting and other data.

Defining a document, E. A. Razumov notes that it is a material medium of information that contains information about the circumstances of the case. This information has the appropriate semantic content and can be recorded in verbal (in the form of written messages, sound recordings) and visual and figurative forms (in the form of graphic, photographic images) [21].

Forensic scientists who have studied economic crimes in general and in the field of budget, in particular, always indicate the content of documents when describing the trace pattern. Thus, R. L. Stepaniuk focuses on the study

of the following features in the documents:

a) inconsistency of data on the distribution, purpose, amount of budget funds in lower-level planning documents (estimates, plans for the use of budget funds, etc.) with the directions specified in higher-level planning documents (budget schedule, appropriation plan, budget of a higher institution);

b) inconsistency of data on the distribution, purpose, amount of budgetary funds in accounting, management, treasury documents, business correspondence with the directions specified in regulatory legal acts and planning documents;

c) inconsistency of data on the amount, distribution, and purpose of budget funds in different copies of the same document or in different documents reflecting the same economic, financial, or regulatory transaction;

d) inconsistency of the data on the areas of activity of the institutions receiving budgetary funds in the constituent documents with the goals financed from the budget, as defined in the regulatory legal acts and planning documents;

e) inconsistencies in the content or form of one document, i.e. signs of its forgery;

e) inconsistency of the data specified in the minutes of meetings of collegial bodies that made a certain decision on the budget with the data established in the regulatory (administrative) act issued by the official for the purpose of implementing this decision [187, p. 61].

A. F. Volobuiev also notes that documents as sources of evidence in the investigation of embezzlement and related crimes can be investigated and used in several aspects

a) from the point of view of the significance of the facts recorded in the document (for example, in the charter of an enterprise, a licence to engage in a certain type of business activity, etc;)

b) in order to determine the method of making a document (for example, by appointing a technical and forensic examination of a forged document);

c) in order to identify the person who wrote (signed) the document, or whose voice and speech are recorded on a magnetic storage medium (by appointing an appropriate forensic examination) [36, p. 120].

M. A. Pogoretskyi, O. O. Vakulik and D. B. Serhiieva also draw attention to the existence of different types of document examination and distinguish between logical and technical. Technical examination reveals signs of complete or partial forgery of a document. In the case of logical examination, the correspondence of its content to the facts of objective reality is established [21].

The analysis shows that scientists always distinguish the content of

documents separately from material forgery. In the investigation of crimes related to the illegal use of budgetary funds in the healthcare sector, such traces contain facts of misuse of funds, embezzlement, misappropriation of state property, etc. and are an integral part of the evidence base of these crimes. Often, they require additional assistance from certain specialists who use a different approach to the investigation. In our opinion, since they do not reflect the characteristics of the trace object, they cannot be recognised as material traces. Therefore, we propose to distinguish them into a separate group of intellectual traces.

A relatively new type of trace is virtual traces, sometimes called digital or electronic traces. Despite all the controversies that exist regarding this type, they are widely used in the investigation of these crimes. In this paper, we do not focus on the difference between these concepts and their correlation and treat them as synonyms. And given the basic concepts provided by the Law of Ukraine "On the Basic Principles of Ensuring Cybersecurity of Ukraine" (in particular, cyberspace or virtual space as an environment that provides opportunities for communication and/or implementation of social relations, formed as a result of the functioning of compatible (connected) communication systems and electronic communications using the Internet and/or other global data networks [213]), we consider it appropriate to use the term "virtual" traces.

Thus, virtual traces are any change in the state of an automated information system associated with a crime event and recorded in the form of computer information. Such traces occupy a conditionally intermediate position between material and ideal traces [197].

As noted by E. Khyzhniak, they do not have a material form of existence, exist only on technical media and have a complex information structure, which, along with significant criminally relevant information, contains a significant amount of auxiliary data responsible for the integrity and availability of computer information of the virtual trace [198, p. 218].

Such traces are left in computer equipment in the form of draft documents, electronic correspondence, electronic gadgets, websites of open information on procurement (Prozorro, Derzhakupili Online, Zakupki UA, Tender Online). They are used to communicate between the parties involved via messengers, IP telephony, etc.

Y. Nayden quite fully highlights the possible use of such types of traces, including: 1) e-mail account. Virtual traces may be left here in the form of correspondence on the creation and dissemination of pornographic information; 2) website. These are usually popular resources on the Internet; 3) profile in social networks (VKontakte, Instagram, Facebook, Odnoklassniki,

Twitter, etc.); 4) account in electronic payment systems (Qiwi-wallet, Yandex.Money, Perfect Money, etc.); 5) database (of telecommunications operators' subscribers, etc.); 6) local network. It allows access to the resources (programs, files, folders, etc.) of all computers connected by cables (telephone lines, radio channels); 7) computer. The hard drive contains information about switching it on, using various materials, sending invoices, and performing other manipulations. Due to the operation of the computer's memory, information about the activity of the operating system resources is stored, so it can be used as a source of evidence in criminal proceedings [116, p. 306].

For the correct detection, fixation and removal of traces, it is necessary to understand the mechanism of their trace formation. D. Pashnev points out that computer traces are formed at three levels of computer information representation:

- 1) physical, where physical fields act;
 - 2) logical, where computer programmes operate;
 - 3) content, where people act with the use of software and hardware
- [68, p. 9].

To detect and remove virtual traces, operational and investigative measures, covert and public investigative (detective) actions are carried out. According to S. M. Knyazev, the possibility of their independent conduct by the investigator will contribute to procedural economy, since the investigator in some cases is exempted from giving instructions to operational units, waiting for their consideration and results. At the same time, it is impossible for the investigator to independently conduct certain covert investigative (detective) actions [68, p. 126].

Continuing the scholar's thought, it should be noted that operational officers are not always able to perform certain actions. To do this, they often involve specialists from the operational and technical department, the department for combating cybercrime.

For example, when studying the documents of bidders for the procurement of medical equipment in the public domain on the Prozorro website, they often find very similar documents. In this case, it is important to establish whether they are sent from the same IP address, which will be evidence of a violation of procurement legislation.

In order to reveal the full trace picture of these crimes, we should also note imaginary traces. In forensic science, they are also known as ideal traces, i.e. traces that have been preserved in the memory of witnesses, eyewitnesses of the crime.

We support the opinion of R. L. Stepaniuk, who notes that the main carriers of material traces of budget crimes are documents, but ideal traces are

also of great importance – mental reflections in the memory of eyewitnesses of criminal acts, which should be divided into groups depending on their place of work, position, nature of official powers and personal relations with the perpetrator [186, p. 185]. In the investigation of these crimes, we have identified mental traces in memory: employees of healthcare facilities, both medical and accounting staff; employees of the supplier or contractor; tenderers, etc.

Summing up, we note that when considering the issue of traces of crimes related to the illegal use of budgetary funds in the healthcare sector, material traces in the narrow sense include 1) traces-objects presented in the form of documents, various medical equipment (X-ray machine, ultrasound machine, pressure measurement, etc.), construction materials used in the reconstruction of healthcare facilities, medical devices (needles and syringes, cotton wool, gauze, masks, gloves), medical furniture, special food for patients; 2) traces-substances presented by various medicines, including medicines, medicines, solutions, substances, homeopathic remedies; 3) traces of reflection (X-ray images of ultrasound examination devices, magnetic resonance tomography).

Particular attention among the trace objects is paid to documents. Based on the analysis of scientific developments, it is proved that most of them distinguish material forgery (signatures, manuscripts, seal and stamp impressions, printed text) separately from the content of documents (economic, accounting data, etc.). Such traces contain the facts of misuse of funds, embezzlement, misappropriation of state property and are an integral part of the evidence base of these crimes, but do not reflect the characteristics of the trace object and cannot be recognised as material traces, so we have identified them as a separate group of intellectual traces. Today, virtual traces are widely used as evidence in the investigation of these crimes, which are left in computer equipment in the form of draft documents, electronic correspondence, electronic gadgets, websites of open information on procurement (Prozorro, Derzhakupili online, ZakupkiUA, TenderOnline), used for communication between accomplices via messengers, IP telephony, etc.

Ideal or imaginary traces are traces preserved in the memory of healthcare workers (both medical and accounting staff), employees of the supplier or contractor, and tenderers.

Thus, in the investigation of crimes related to the illegal use of budgetary funds in the healthcare sector, a specific trace pattern remains, a clear understanding of which, together with other elements of forensic characteristics, will serve as the basis for planning the investigation, conducting further investigative (search) actions, and involving knowledgeable persons in certain areas.

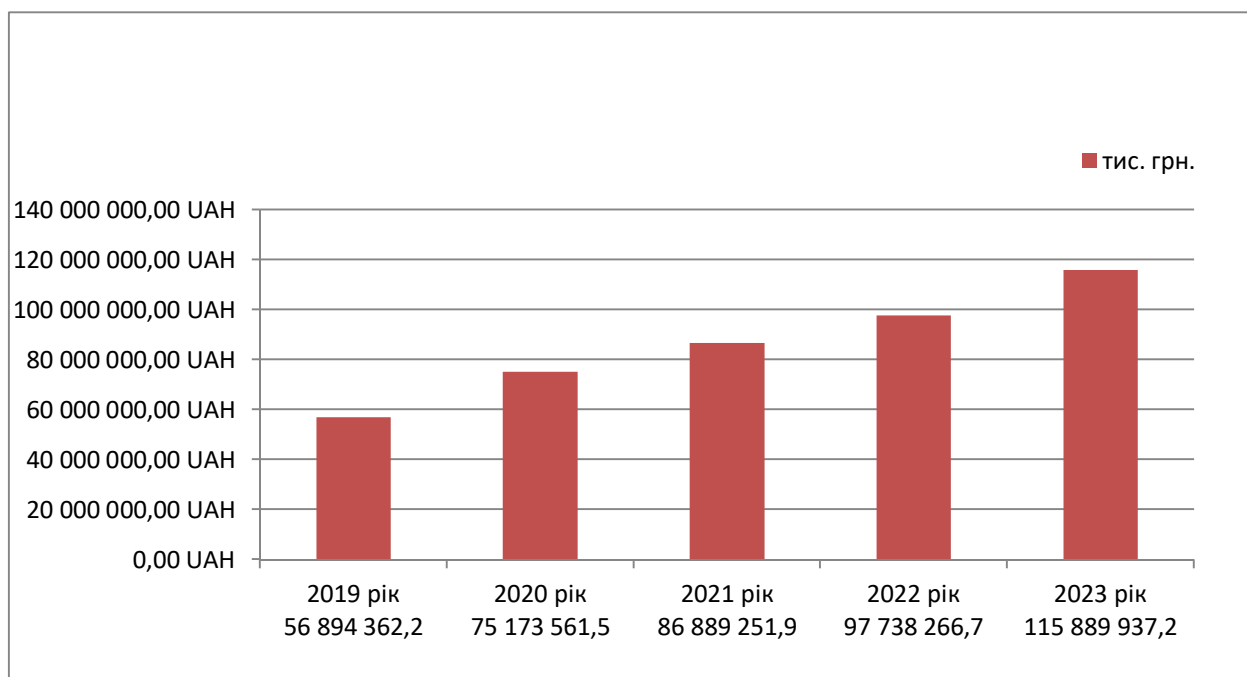
1.4. QUESTIONS FOR SELF-CONTROL:

1. What offences under the Criminal Code of Ukraine cover crimes related to the illegal use of budget funds in the healthcare sector?
2. What is the funding of healthcare institutions according to Semashko system?
3. What is the current financing of healthcare institutions?
4. Which criminologist has studied this topic at the dissertation level?
5. What is a "trace pattern of a crime" and what kind of traces are left behind while determining such crimes?
6. What is an example of trace evidence for this category of crime?
7. What are the typical ways of committing crimes related to the illegal use of budget funds in the healthcare sector?
8. What is the misappropriation and embezzlement of budgetary funds through unjustified accrual of salaries, bonuses, travel expenses and other payments?
9. What are the most common ways of conducting public procurement in violation of the law?

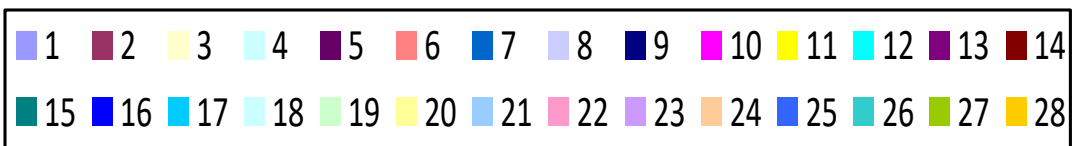
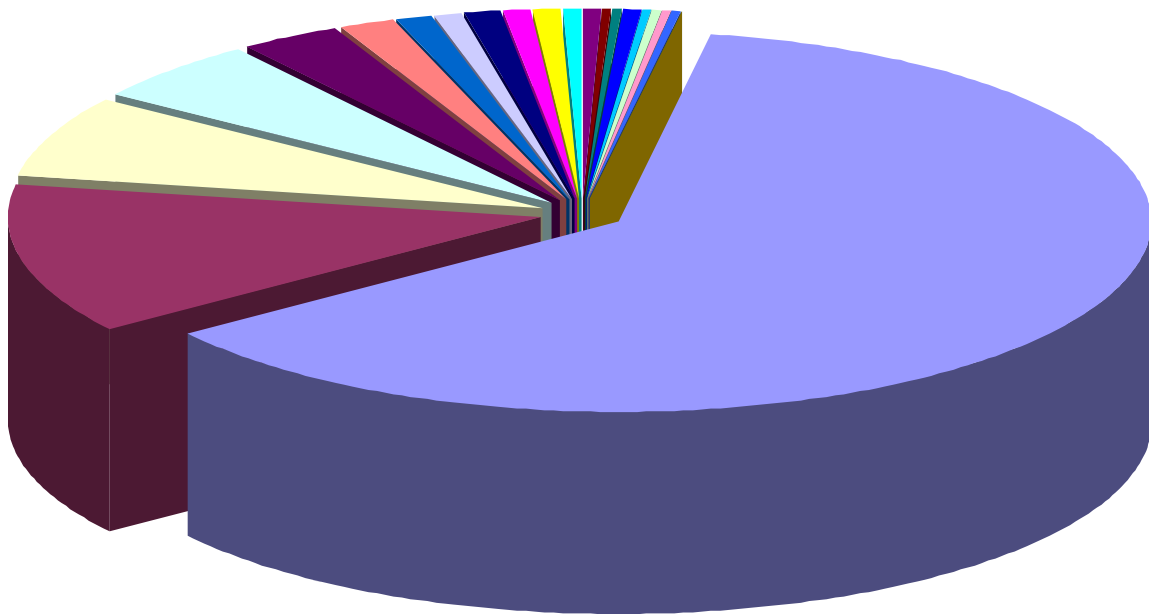
1.5. APPENDICES

Appendix A

STATE FINANCING OF THE HEALTH CARE INDUSTRY



Appendix B

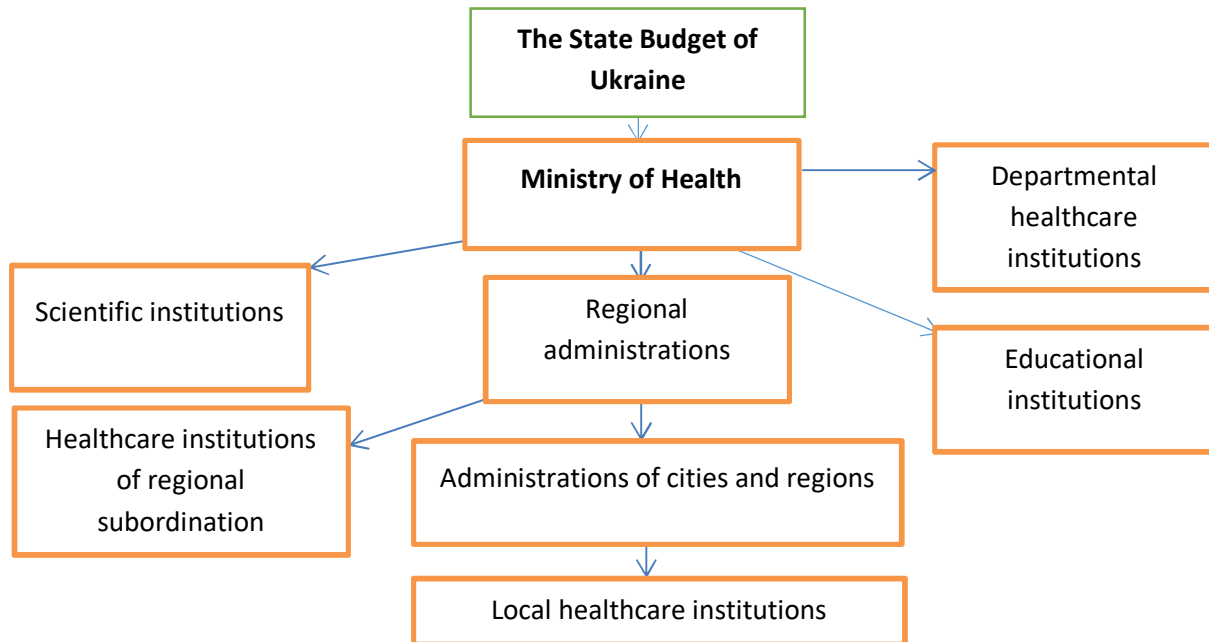


1	National Health Service of Ukraine	72289313,20
2	Medical subvention from the state budget to local budgets	14582774,00
3	Provision of medical measures of separate state programs and complex measures of a programmatic nature	8071917,50
4	Training and advanced training of personnel in the field of health care, training of scientific and scientific-pedagogical personnel by institutions of professional pre-higher and higher education	6088400,60
5	Public health and epidemic control measures	3721399,20
6	Diagnosis and treatment of diseases with the introduction of experimental and new medical technologies in health care institutions of research institutions and higher educational medical institutions of the Ministry of Health of Ukraine	1712249,40
7	Subsidy from the state budget to local budgets to support individual institutions and measures in the health care system	1450611,50
8	Specialized and highly specialized medical care provided by national health care institutions	1093841,10
9	Treatment of citizens of Ukraine abroad	1089948,90
10	Modernization and renewal of the material and technical base of multidisciplinary intensive care hospitals	1000000,00
11	Subsidy from the state budget to local budgets for the development of the emergency medical care system	922568,90
12	Subsidy from the state budget to local budgets for the reform of regional health care systems for the implementation of measures to implement the project "Improving health care at the service of people" jointly with the International Bank for Reconstruction and Development	659100,30
13	Sanatorium treatment of tuberculosis patients and children and adolescents with somatic diseases	502469,50
14	Implementation of the state investment project "Construction of a modern medical and diagnostic complex of the National Children's Specialized Hospital "Okhmatdyt"	500000,00
15	Training, retraining and advanced training of	428924,90

	personnel in the field of health care, training of scientific and scientific-pedagogical personnel by post-graduate education institutions	
16	State institutions and measures in the field of medical education	364484,60
17	Fulfillment of debt obligations under loans obtained by SE "Ukrmedpostach" under state guarantees for the implementation of the investment project, payment of tax obligations (including fines) incurred as part of the implementation of the investment project	319770,80
18	Specialized consultative outpatient polyclinic and dental care provided by higher education institutions, research institutions and national health care institutions	177219,10
19	Scientific and scientific and technical activities in the field of health care	161733,60
20	Implementation of a pilot project on changing the mechanism of financial support for operative treatment for transplantation of organs and other anatomical materials	112015,20
21	Organization and regulation of the activities of institutions and individual measures in the health care system	106998,00
22	Implementation of the state investment project "Improvement of molecular genetic diagnosis of oncological diseases in Ukraine"	106152,00
23	State Service for Medicines and Drug Control	104582,80
24	Leadership and management in the field of health care	93361,20
25	Improving health care at the service of people	92926,60
26	Subsidy from the state budget to local budgets for the purchase of angiographic equipment	80769,50
27	Functioning of the National Scientific Medical Library, preservation and popularization of the history of medicine	45512,20
28	Subsidy from the state budget to the regional budget of the Lviv region for repayment of payables incurred for medical equipment purchased in 2012 (mammographic, x-ray and ultrasound diagnostic devices) of domestic production	10822,50

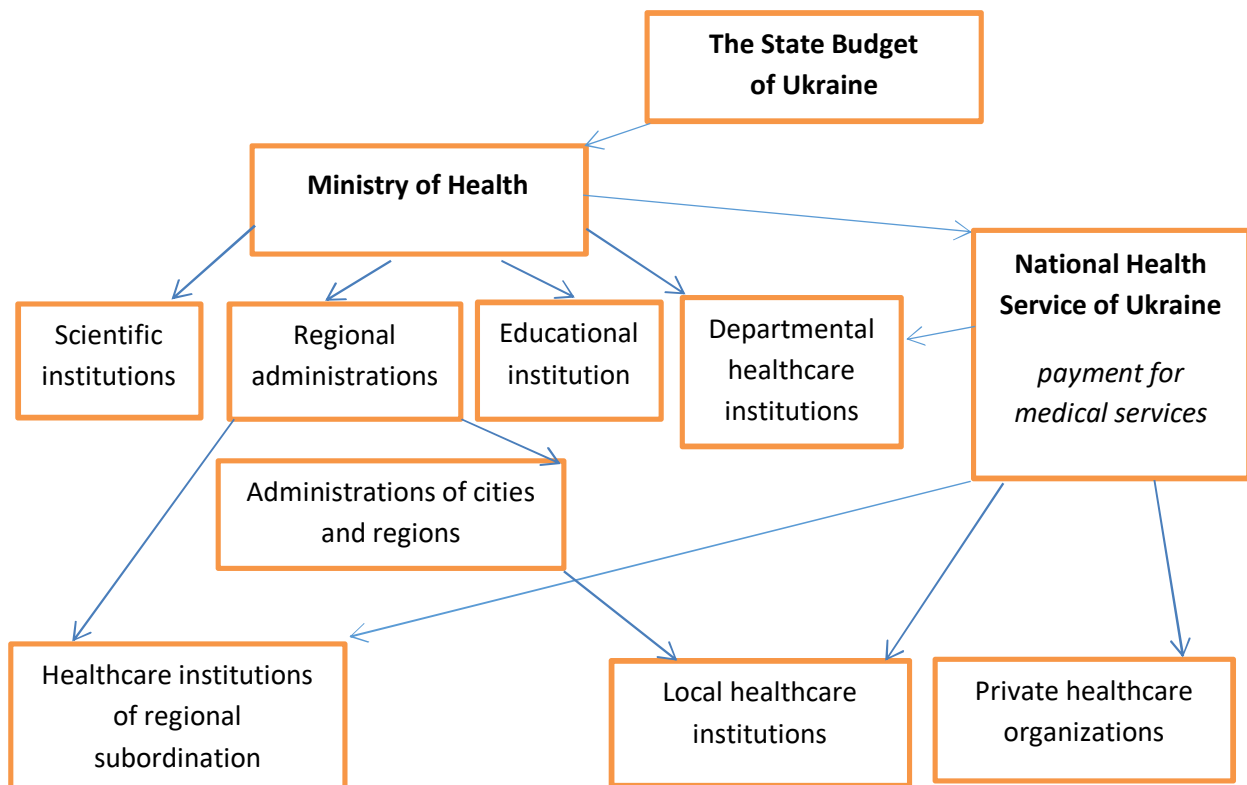
Appendix C

Scheme 1 of budget financing "health care" industry according to the Semashko system



Appendix D

Scheme 2 of budget financing reformed health care sector



Appendix E

Modern methods of committing crimes related to the illegal use of budgetary funds in the healthcare sector:

- 1. Conducting public procurement in violation of the law:
- 2. Misappropriation and embezzlement of budgetary funds through unjustified accrual of salaries, bonuses, travel expenses and other payments.
- 3. Accrual and payment of mandatory payments to persons who are registered as employees but do not actually work in a healthcare facility.
- 4. The use of medical equipment and medical devices for the purpose of obtaining unlawful benefit.
- 5. Misuse of budget funds for other purposes.
- 6. Misuse of premises, equipment and land plots.
- 7. Forgery of medical documentation
- 8. Drawing up fictitious documents on the number of patients in order to increase funding for budget programmes.
- 9. Excessive write-offs of medicines, medical devices, linen, equipment,
- 10. Misappropriation of funds by writing them off for routine repairs of hospital buildings that were not actually carried out, fictitious purchases of household equipment under advance reports, etc.
- 11. Payment of energy, heat supply and other payments from the budget for other business entities.
- 12. Failure to properly perform official duties to preserve the property of the healthcare facility, which causes its rapid depreciation and loss.
- 13. Misappropriation of budgetary funds allocated for the state programme on organ transplantation.
- 14. The method of misappropriation of budgetary funds provided to finance certain services under the programme of medical guarantees for the population.
- 15. Use of discounts for goods in the form of a "debit-credit note".
- 16. Methods of misappropriation of budget funds in the fight against coronavirus infections.

Chapter 2

USE OF SPECIAL KNOWLEDGE IN COLLECTING TRACES OF OFFENCES RELATED TO PUBLIC HEALTHCARE FINANCING

2.1. Concept, forms, types and subjects of the use of special knowledge

Effective counteraction to crimes is ensured by a comprehensive approach, a special component of which is the use of specialised knowledge. In order to study this topic, which is to investigate the theoretical, legal and pragmatic foundations of the use of special knowledge in the investigation of crimes related to the state financing of the healthcare sector, it is essential to have a general understanding of the concept of special knowledge, its forms of use, types, persons who possess and use it in criminal proceedings. However, their essence depends on a number of factors. In particular, the process of investigating these crimes is significantly influenced by the interdependence of the trace pattern, the methods of committing unlawful acts, as well as the specifics of financing the healthcare sector (from the state budget, as well as from local budgets, various funds, loans from international banks, charitable contributions, etc.) These and other factors influence the choice of a particular form of use of specialised knowledge and determine its specificity.

Despite the fact that specialised knowledge has been thoroughly researched by scientists, there are still controversial issues not only in criminalistics, but also in other sciences, such as psychology and philosophy. The uncertainty of the correlation between the concepts of "skills", "abilities", "knowledge" affects numerous scientific views and is one of the reasons for the multifaceted interpretation of the concept of special knowledge.

Thus, the academic dictionary of the Ukrainian language provides the following definitions. Skill – a tendency or need to act, behave in a certain way; habit; ability acquired through exercise and experience. Skill is the ability to do something properly, acquired through experience, knowledge. Knowledge – awareness of something, availability of information about someone, something; a set of information in a field acquired in the course of

study, research, etc. Special – intended exclusively for someone, something; relating to a particular field of science, technology, art, etc. [177].

Another reason for the formation of various approaches is the lack of clear legal regulation of this concept. For a long time, it has been proposed to provide for this definition in the draft amendments to the CPC of Ukraine, but today, some articles only mention "special knowledge" and grant the right to use it.

In the scientific environment, there are many works on this topic. Let us analyse and cite some of them. Thus, scientists noted that special knowledge is knowledge reflecting the current level of development of a particular branch of science, technology, art and craft, obtained as a result of special training or professional experience, which is not publicly available and generally known and is used to establish the truth in a case in cases and in the manner prescribed by law (criminal procedure, civil procedure law, administrative procedure law, etc.).

A number of scholars still consider – professional knowledge and skills in the field of science, technology, art or craft necessary to resolve issues arising during the investigation and trial of specific cases [21]. According to B. Romaniuk, special knowledge is a set of scientifically based information of a separate (special) type possessed by persons (specialists) within any profession in various fields of science, technology, art and craft [167, p. 8].

Some aspects were also clarified by M. Saltevskiy, who understood special knowledge as the constantly improved acquired knowledge, skills and abilities used in any field of human activity, gained in the process of special education, experience and practical activity (except for the professional knowledge of persons conducting investigations) necessary for the prompt and complete disclosure and investigation of a criminal offence, as well as the trial of a case in court [170, p. 184].

The emphasis on professional training and practical experience was made by V. Shepitko, who considers special knowledge as a system of scientific data (information) or skills of an objective nature obtained as a result of higher professional training, scientific activity, practical experience that meet the current level [210, p. 11].

Also, P. V. Tsymbal, M. A. Fedorchuk and Y. L. Varshavets noted that special knowledge is knowledge developed by science and implemented in the practical professional activities of persons who possess it, as a rule, when obtaining higher specialised education. The point is that specialised knowledge is used only by persons who possess it, i.e. knowledgeable persons [199, p. 376].

In our opinion, in his author's definition, V. V. Kovalenko aptly laid

down a different attitude to special knowledge of the subjects of its application and use. He notes that these are scientific and practical knowledge and skills that correspond to the current level of development of the relevant fields of human activity (with the exception of knowledge in the field of procedural and substantive law), used (applied) during the investigation of crimes and court proceedings in order to assist the investigation or court in collecting and examining evidence [71, 51].

Since the main carriers of specialised knowledge are a specialist and an expert, we share the scientific point of view of M. H. Shcherbakovskyi, who provides the author's concepts of specialised knowledge for these subjects separately. Thus, specialist's special knowledge is systematised information from various fields of theoretical and practical activities which is acquired by specialists as a result of training and experience in a particular speciality, and is applied on the basis of skills and abilities in a procedural or non-procedural form for the purpose of collecting (forming), researching, evaluating evidence, and establishing the grounds for making procedural and tactical decisions in criminal proceedings by authorised persons. Special knowledge of an expert is systematic information from various fields of theoretical and practical activity, except for law, which experts acquire as a result of studying at a higher education institution and experience in a particular specialty, used on the basis of skills and abilities to conduct expert research of the presented objects and provide a written opinion on issues raised by the parties and the court [211, p. 65].

Thus, it can be seen that scientists generally identify fairly consistent features of specialised knowledge. However, being aware of the end result, i.e. why specialised knowledge is needed, scholars identify rather stable features of it. At the same time, the developed comprehensive approach to this issue allows us to identify the features of such specialised knowledge:

1) it is a complex of knowledge consisting of a system of information in the field of science, technology and other areas of human activity;

2) specialised knowledge is not legal, i.e. knowledge that is not professional for the investigator, employees of operational units, prosecutor, judge;

3) used in pre-trial investigation and court proceedings in cases and in the manner prescribed by the criminal procedure legislation;

4) according to the method of acquisition, specialised knowledge is acquired either by theoretical study of certain information or periodic practical training in a particular type of work;

5) are implemented by a certain participant in criminal proceedings in the course of practical activity, special training, taking into account

professional experience and are based on the system of theoretical knowledge in the relevant field;

6) contribute to the development of technical means and techniques for working with evidence and establishing significant circumstances relevant to proof [23; 133].

It should be noted that the concept of specialised knowledge is closely related to the forms of its use, which are presented in various forms. At the same time, scholars have quite opposite approaches in this regard. Thus, V. V. Semenov identifies four generally accepted forms: involvement of a specialist in conducting investigative (search) actions, appointment of forensic examinations, reference and consulting form, and audit [173].

Some scholars separately distinguish the audit of accounting records and consider relevant, in addition to the above, the interrogation of an expert and the presence of an investigator during the examination [23; 124].

According to the criterion of regulation in the criminal procedure legislation, criminologists divided the forms of use of special knowledge into Gramovych divided the forms of use of special knowledge into: a) those specified and regulated by the Code of Criminal Procedure; those specified but not regulated by the Code of Criminal Procedure; b) forms of use of special knowledge not specified and not regulated by law [21].

Some scholars have cited the forms of use of specialised knowledge simultaneously according to different criteria. Thus, V. I. Shikanov distinguished: a) direct use of special knowledge by the investigator, prosecutor, court, i.e. by functionaries of procedural activity who are responsible for collecting and evaluating judicial evidence; b) use of special knowledge of specialists without involving them in investigative actions (consultations, obtaining various certificates on special issues); c) use of the results of nonjudicial (departmental, administrative) investigations, as well as the results of studies of individual objects conducted in the course of these investigations by the

A number of scholars, such as another school of forensics and others emphasise the procedural and non-procedural forms of use of specialised knowledge [21]. We do not deny the existence of the classification provided, but we consider it important to implement them in practice in criminal proceedings. That is, the information obtained in this way must be given the status of evidence.

A. M. Lazebnyi rightly notes this point. The scholar notes that the availability of the necessary information, for example, from the field of medicine, psychiatry, accounting and other specialised knowledge, is useful for the investigator to put forward versions, search for evidence and evaluate

it. However, information from non-procedural sources containing information of a special nature is only a reason for the investigator to make a decision on the use of specialist knowledge in the forms established by law [87, p. 97].

On the other hand, the non-procedural form of using specialised knowledge is widely used in criminal proceedings. Thus, as rightly noted by M. G. Shcherbakovskyi, some scholars are categorically against the non-procedural form of using specialised knowledge in criminal proceedings. This statement can be easily refuted if we recall the following types of research that are outside the criminal process but are used in the investigation of crimes, such as checking bullets, shell casings, fingerprints and other objects in forensic records, preliminary studies of crime traces at the place of their discovery, consultations of knowledgeable individuals and legal entities, etc. [211, c. 44].

We also join the scientific opinion of scientists who emphasise that the following forms should be considered procedural, which are directly provided for by law, namely: a) participation of a specialist in criminal proceedings; b) conducting forensic examinations. Non-procedural knowledge should be considered special knowledge outside the criminal proceedings, but not directly provided for by law. Such forms are:

- a) departmental investigations, inspections of technical condition;
- b) conducting research of objects directly at the scene;
- c) consulting and reference assistance;
- d) providing technical assistance in the preparation of technical means, performing labour-intensive work;
- e) using the assistance of knowledgeable persons in conducting operational and investigative activities [133, p. 15].

N. M. Kosmina expands the list of forms of use of special knowledge. The scientist refers to the procedural forms: participation of a specialist in conducting investigative (detective) actions; conducting forensic examinations, interrogation of an expert. Non-procedural forms of using specialised knowledge include: audits, consultations with specialists on special issues; reference assistance; departmental investigations, inspections; preliminary and verification studies of objects; assistance in the preparation of technical means; participation of knowledgeable persons in conducting operational search activities; use of specialised knowledge by an investigator, detective, or operative [78, p. 9]. Due to procedural changes, the division provided may change. For example, consultation is provided for in Article 71 of the CPC of Ukraine. However, the author noted the following forms that are widely used, but have not received enough attention.

O. V. Pchelin somewhat updated the forms of use of special knowledge in the field of official activity: advising a knowledgeable person on certain aspects of the mechanisms of formation of certain traces and, accordingly, their detection, tactical techniques that are more appropriate to use during specific investigative (detective) actions, etc. etc.; involvement of a knowledgeable person in certain investigative (detective) actions as a specialist; appointment of forensic examinations (involvement of a knowledgeable person as an expert); involvement of a knowledgeable person for an audit or other inspection, etc. [164, p. 25]. In addition to the audit, the author undoubtedly rightly notes the existence of other forms of inspection that are widely used in the investigation of both crimes in the field of official activity and crimes related to the illegal use of budgetary funds in the healthcare sector. Among them are monitoring, financial audit, procurement audit and procurement monitoring.

E. V. Kovalevska has built and detailed the classification of forms of use of special medical knowledge. Depending on the procedural significance of the results of their use, the scientist distinguishes procedural and non-procedural forms. Procedural forms:

1) participation of a medical specialist (doctor) as a specialist in the field of medicine in the conduct of investigative (detective) actions;

2) participation of forensic experts in conducting forensic medical examination;

3) participation of a medical specialist (doctor) in carrying out control and verification activities;

4) reference activities of a medical specialist without involving them in the conduct of investigative (detective) actions, which is officially expressed in the issuance of written opinions or certificates by a medical specialist.

Non-procedural forms:

1) consultations of medical specialists before or after investigative (detective) actions;

2) scientific and technical assistance of medical specialists;

3) research work;

4) expert research by medical specialists commissioned by the prosecution or the defence in criminal proceedings, the results of which may be taken into account at the discretion of the court at the stage of trial [70, p. 16].

Based on the opinions of scientists and the results of interviews with practitioners, we tried to find out the forms of use of specialised knowledge in the investigation of crimes related to public funding of the healthcare sector. The study identified the following: appointment of forensic

examinations – 98 %, participation of knowledgeable persons as a specialist during investigative (detective) actions – 76 %, reference and consulting assistance – 100 %, audits and other forms of state financial control – 100 %, other – 10 %.

We will consider in more detail the appointment of forensic examinations, participation of a specialist in investigative (detective) actions, audits and other forms of state financial control in the following subsections.

Scientists note that today, more and more attention is being paid to the need for information and analytical support, which is a higher level of information processing, since the initial information about the object of criminalistic interest is processed by the relevant entities using specially created technologies and is provided in a synthesised form to meet the needs of practical authorities [207, p. 344]. In our opinion, it is quite fair to consider it as a component of reference and advisory assistance.

Scientific approaches to this form of use of specialised knowledge differed depending on the legislative regulation. The current CPC of Ukraine provides for the provision of consultations by a specialist. According to the Law of Ukraine "On the National Police of Ukraine" (Article 25), the police carries out information and analytical activities.

Some scholars distinguish between consulting and reference assistance. Thus, E. D. Lukianchykov and V. E. Lukianchykova study consultation as an independent form of use of specialised knowledge in criminal proceedings. The scholars rightly emphasise two types of its existence – written and oral. Due to the legislative unresolved nature of this issue at the pre-trial investigation stage, there are discussions in the scientific world on this issue. However, we believe that the CPC of Ukraine should contain only fundamental tasks. Therefore, it is quite right that Art. 71 of the CPC of Ukraine contains the name of the form of use of specialised knowledge – provision of advice, without disclosing its essence [89, p. 198].

During the investigation of economic crimes, criminologists notes that the investigator receives consulting assistance:

– during the inspection with the participation of a specialist of the place of commission of an economic offence, including premises, warehouses, vehicles, documents, objects, products, etc;

– in the course of explanation by a specialist of the purpose and content of a financial or business transaction, in the course of explanation by a specialist of a criminal scheme of using accounting and banking documents by members of an organised group in the commission of criminal acts, in the course of detection by a specialist of signs of forgery in primary accounting documents, both in documentary and electronic form;

– in providing information by a specialist about the circumstances related to the detection of signs of criminal technology of an economic crime, other forensically relevant information that is important for solving a crime, determining methods of investigation and tactics of investigative (search) actions [21].

Within the framework of the use of reference and advisory assistance in the use of specialised knowledge in the detection of these crimes, a fairly new service should be noted – the National Agency of Ukraine for finding, tracing and management of assets derived from corruption and other crimes. The legal and organisational framework for National Agency of Ukraine for finding, tracing and management of assets derived from corruption and other crimes was established in 2015 by the Law of Ukraine "On the National Agency of Ukraine for Finding, Tracing and Management of Assets Derived from Corruption and Other Crimes".

The National Agency of Ukraine for finding, tracing and management of assets derived from corruption and other crimes is a central executive body with a special status that ensures the development and implementation of state policy in the field of detection and tracing of assets that may be seized in criminal proceedings or in a case for the recognition of unjustified assets and their recovery as state revenue, and/or management of assets that have been seized in criminal proceedings or in a case for the recognition of unjustified assets and their recovery as state revenue or that have been confiscated in criminal proceedings or recovered by a court decision in a.

Among the functions of the National Agency, the law provides for:

– Providing explanations, methodological and advisory assistance to investigators, detectives, prosecutors and judges on issues related to the identification, tracing, valuation and management of assets;

– carrying out measures to identify, trace, and evaluate assets at the request of an investigator, detective, prosecutor, court (investigating judge);

– analysing statistical data, research results and other information on the identification, tracing and management of assets;

– formation and maintenance of the Unified State Register of Assets Seized in Criminal Proceedings;

– other functions [155].

If the investigator's preliminary actions have revealed that the state has suffered large-scale damage, he or she may apply to the National Agency of Ukraine for finding, tracing and management of assets derived from corruption and other crimes to search for tangible and intangible assets of the defendants, and submit a request for this. The request is checked and responded to as soon as possible, usually within three days, which does not

prevent the procedural deadlines from being extended. If there are unjustified assets, the investigator has the right to apply to the court to seize such property in order to prevent its alienation. The National Agency of Ukraine for finding, tracing and management of assets derived from corruption and other crimes is empowered to effectively sell or manage this property. In this way, in addition to obtaining forensically relevant information for the investigation of a crime, it ensures compensation of losses to the state budget at the stage of pre-trial investigation.

The National Agency interacts not only with the pre-trial investigation, prosecution and court authorities, but also cooperates with other bodies and has access to a large number of different databases. In particular, it has access to the Unified Register of Pre-trial Investigations, automated information and reference systems, registers and data banks, the holder (administrator) of which are state bodies or local self-government bodies, and uses state, including government, means of communication and communication, special communication networks and other technical means [155].

Institutions similar to the National Agency exist in all 28 member states of the European Union and in more than 100 jurisdictions around the world. The State Secretary of the Ministry of Justice of Ukraine, H. Buyadzhi, notes that as of today, the National Agency is almost fully prepared for full-fledged work. In particular, the agency

- has been authorised by the Camden Asset Recovery Interagency Network (CARIN) and the Interpol Global Focal Point Platform for Asset Recovery;
- gained access to INTERPOL’s secure communication system for the exchange of information on asset recovery (I-SECOM);
- became a partner of the Stolen Asset Recovery (StAR) Initiative and is already actively cooperating with the network in terms of information and experience exchange, joint events, including training;
- joined the work of the EU Member States Asset Recovery Institutions Platform and the Asset Management Subgroup of the said Platform;
- informed regional networks of the launch and commencement of their functions in accordance with the established procedure;
- within the framework of establishing cooperation with the Caribbean states, it initiated cooperation with the AssetRecoveryInterAgencyNetwork-EastAfrica (ARIN-CARIB) and has already received a positive response on the possibility of establishing bilateral partnerships [34, p. 146].

Indeed, when economic crimes are committed on the territory of several states, law enforcement often needs such assistance.

For example, according to the Department of Economic Protection of

the National Police of Ukraine, in 2018, commercial structures created a criminal scheme for misappropriation of budget funds during public procurement of medical materials for the treatment of renal failure by haemodialysis. The amount of damage is over UAH 60 million. In exchange for a certain fee, the conditions for the purchase of products of a particular brand were prescribed in advance. Affiliated companies took part in public bidding to ensure a decisive victory. Foreign companies were set up to withdraw budget funds. To identify and trace the assets of the offenders who created the criminal scheme, as well as to compensate for the damage caused to the state in the shortest possible time, it is possible to apply to the National Agency of Ukraine for finding.

A special mention should be made of the reference and consultation assistance provided by medical institutions. These include: medical education institutions, for example, to clarify certain medical capabilities to study categories of patients, healthcare departments and offices that employ freelance specialists and can advise law enforcement on the number of patients, calculation and need for medicines, technical and quality characteristics of medical equipment and medical devices, the state of morbidity in a particular territory, etc. It is often necessary to have the assistance of the State Service for Medicinal Products, which provides answers to inquiries regarding the registration of a medicinal product in Ukraine, the legality of its origin (manufacture, import, storage), etc.

The reference and advisory assistance of such services as the Chamber of Commerce and Industry, the State Fiscal Service, the State Service of Ukraine for Food Safety and Consumer Protection, territorial bodies of the State Customs Service, standardisation and certification bodies, testing laboratories, etc. is widely used.

The next component of this subsection is the study of the types of use of specialised knowledge. They have been studied by forensic scientists to a sufficient extent, and appropriate classifications have been developed. Most attention was paid to the types, subtypes and classes of forensic examinations, while other types of use of specialised knowledge remained insufficiently studied. With regard to crimes related to the illegal use of budgetary funds in the healthcare sector, we consider it expedient to distinguish types of special knowledge, depending on the nature of their occurrence or by the branches of science and technology (forensic, psychological, medical, economic, etc.), and in the healthcare sector, to take into account sub-branches.

As part of modern healthcare, A. G. Akhlamov and N. L. Kussyk identify independent and at the same time extremely closely interacting

structural elements, which are defined as sub-branches of specialisation and production. Some of them are: therapy – surgery – paediatrics – sanitation; radiology – radiology – immunology – dietetics; clinical, medical and preventive, research, organisational and managerial specialisations; inpatient, dispensary, sanatorium and resort, outpatient, hospice and other types of medical care; dermatology – histology – microbiology – neurophysiology – psychiatry – dentistry – oncology – cardiology – diabetology – otolaryngology – gastrology – endocrinology – cytology and many other types of specialised care that have their own specifics [7, p. 134]. Therefore, when investigating certain crimes, an investigator or detective needs to involve specialists not only in the field of medicine, but also in a particular medical field.

A survey of practical officers of the National Police of Ukraine found that in the investigation of crimes related to the misuse of budgetary funds in the healthcare sector, advisory assistance was used in 100% of cases, including medical knowledge.

When investigating crimes related to the illegal use of budgetary funds in the healthcare sector, economic knowledge is one of the most important. Before deciding on the actual value of the goods and calculating the damages caused by the forensic examination, it is important to collect the following documents: contract, specification, design and estimate documentation, acts of completion, invoices, bills, payment orders, manager's estimate, procurement plan, etc. Additionally, you may need an accounting book, an inventory list, and audit reports.

This category of crime, like any economic crime, is committed with the help of certain documents. When examining documents, it is advisable to use specific forensic techniques with the involvement of relevant specialists. Specialised knowledge of handwriting and technical examination of documents is usually required. It is necessary to prepare the material for forensic examination in advance in order to obtain a categorical and timely conclusion. In addition, it should be borne in mind that the proliferation of electronic documents makes it difficult to collect comparative material.

Thus, it can be noted that the main types of specialised knowledge in the investigation of crimes related to the illegal use of budgetary funds in the healthcare sector are: economic (accounting and commodity), handwriting, technical and forensic, and medical. It is not possible to foresee all existing types of specialised knowledge and they should be adjusted for each specific offence.

The involvement of persons with specialised knowledge will provide forensically relevant information at the pre-trial investigation stage.

However, the subjects of the use of specialised knowledge are subject to certain changes depending on the reforms that are rapidly affecting the creation of new services and bodies and the liquidation of old ones. Criminologists have repeatedly studied this issue and formed various classifications. We will adhere to the point of view of M. G. Shcherbakovskiy, V. D. Arseniev, V. G. Zabolotskiy and make an attempt to update this classification and adapt it to this type of crime.

Thus, depending on the procedural position of the subjects of specialised knowledge use, they can be divided into the following groups

a) persons conducting investigations and operational search activities: investigator, detective, detective officer, prosecutor, judge;

b) knowledgeable persons who have a procedural position due to their specialised knowledge. They have procedural rights and obligations, and may be held criminally liable and otherwise responsible. They include: an expert, specialist, doctor, teacher, interpreter, person who understands signs of the deaf or dumb;

c) knowledgeable persons whose procedural position is not determined by the availability of special knowledge: auditor, technical inspector, tax administration employee, etc. [211].

Given that there are other interested parties, based on the scientific conclusions of V. M. Revaka, it would be appropriate to supplement the classification with the following groups

– participants in criminal proceedings (suspect, accused, defendant, defence counsel, victim, civil plaintiff, civil defendant and their representatives)

– other persons participating in criminal proceedings (witnesses, court clerk, etc.) [165, p. 63].

In this paper, we will consider some of these groups of individual actors involved in combating crimes related to public funding in the healthcare sector. These are investigators, operatives, specialists, experts, inspectors of the state financial control body (auditors) and other knowledgeable persons.

Despite the different interpretations and approaches of scholars to the concept of "knowledgeable person", we support the opinion of O. A. Kravchenko and define it as a person who has vital, non-public or scientific knowledge gained as a result of everyday work and personal experience or general or special education. The above-mentioned person is generic in relation to all subjects carrying knowledge, including those with special knowledge [80, p. 8].

Investigations of crimes of this category are usually carried out by

investigators of the police authorities of Ukraine, in some cases by detectives. If one of the persons involved in the crime is a senior official, the criminal proceedings are investigated by investigators of the State Bureau of Investigation. Investigations are carried out by detectives of the National Bureau of Investigation, provided that the offence was committed by a certain entity and depending on the amount of damage caused.

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Detection of crimes and support of such criminal proceedings is the prerogative of operatives of the Strategic Investigations Department of the National Police of Ukraine. The activities of the newly created interregional territorial body within the structure of the National Police of Ukraine in the current period of healthcare system transformation must comply with international standards. This is also emphasised by scholars. Thus, S. M. Knyazev notes many significant developments on the way to harmonisation of the national legislation of Ukraine with international standards, but the implementation of the European integration vector of development of our state requires further work in this direction, ensuring and guaranteeing high democratic standards of human rights and freedoms in the implementation of operational and investigative activities [69, p. 217].

However, investigators and detectives engage specialists to provide consultations, prepare materials for examination, etc. to conduct overt and covert investigative (detective) actions.

A survey of experienced investigators and detectives working in this area found that in 44 % of cases, experts in the economic field were involved in the investigation of crimes related to the misuse of budget funds in the healthcare sector, in 31 % of cases – in the medical field, in 22 % of cases – in the field of criminalistics, in 12 % of cases – in the field of construction, etc (Appendix F).

Depending on the area of expertise, knowledgeable individuals are engaged as specialists and experts from both public and private institutions. For example, economists and criminologists are most often engaged by agreement with the research forensic centres of the Ministry of Internal Affairs of Ukraine and the research institutes of forensic examinations of the Ministry of Justice of Ukraine. If there is a need for photo or video recording of such investigative actions as document examination, search, or investigative experiment, the assistance of forensic experts from the forensic support departments of the MIA of Ukraine's investigative departments or from the MIA of Ukraine's Expert Service in the regions will be required. However, it should be noted that after the reform of the MIA Expert Service,

practitioners have noted a deterioration in interaction with the latter's specialists. During the interviews, they noted the inconvenience of appointing forensic examinations: only one institution per region, not every police department – 89 %; the need for more time to appoint forensic examinations – 68%; inconvenience of obtaining an expert opinion – 56 % (only on behalf of the person who appointed the examination), inconvenience of engaging specialists as experts – 45 %; other – 10 %.

Forensic experts play an important role in the investigation of crimes related to the illegal use of budget funds in the healthcare sector. Sometimes it is not possible for an investigator to obtain a sufficient evidence base without an expert opinion. The procedural status of an expert, like that of a specialist, is clearly defined in the criminal procedure legislation. However, they do not have the right to independently collect the necessary material for an expert study, and its poor collection leads to an incomplete conclusion, and sometimes to the refusal to conduct an expert examination. This is especially true for multi-object handwriting, accounting, and commodity examinations. Therefore, it is imperative for the investigator to prepare comparative samples and research objects in advance, either independently or with the assistance of a specialist.

When investigating crimes related to the illegal use of budgetary funds in the healthcare sector, law enforcement agencies often cooperate with the state financial control body. Thus, according to the current legislation, the state financial control is ensured by the state financial control body through the state financial audit, inspection, procurement audit and procurement monitoring [158]. Reports and acts drawn up as a result of scheduled inspections are fully used by the investigator. However, if there is an objective need for an unscheduled audit, law enforcement agencies should apply to the state financial control body with a proposal to include a particular institution in the audit plan. It should be borne in mind that this procedure takes time, which may interfere with the procedural deadlines.

Of course, it is up to the investigator to organise the interaction of knowledgeable persons with other subjects of the use of special knowledge. However, we believe that the issue of different attitudes to their activities in relation to special knowledge is debatable. For example, an investigator specialising in the investigation of economic crimes and an operative of the Department of Strategic Investigations of the National Police of Ukraine indirectly use economic, medical and partially forensic knowledge in their official activities. In this case, we believe that the term “use” rather than “application” is correct. If knowledge is directly applied to obtain a certain conclusion or information, for example, as an auditor (inspector), expert, or

specialist, then it is appropriate to use “application”. They have a different purpose, scientific approaches, methods, research methods, etc. This conclusion also follows from the authors’ concepts of “special knowledge”, which we have previously considered. Although some of them consider the terms “application” and “use” to be synonymous, one cannot deny the fact that they have different procedural status and, accordingly, perform different functions.

Thus, taking into account the scientific approaches of scholars, the author examines the concept of special knowledge and proves that the subjects of special knowledge use have not only different procedural status, but also different content of their professional activities and attitude to special knowledge, and therefore the author emphasizes the distinction between the terms “application” and “use”. Among the subjects of use of specialised knowledge, the most important role is given to investigators specialising in the investigation of economic crimes and operatives of the Department of Strategic Investigations of the National Police of Ukraine, and among the subjects of application of specialised knowledge – to experts and specialists.

The author analyses the scientific views of scholars on the concept of special knowledge and classification of the forms of its use. The author identifies those which are most effective in the course of investigation of crimes: appointment of forensic examinations, participation of knowledgeable persons as specialists during investigative (detective) actions, reference and advisory assistance, and also the use of various forms of financial control.

The author focuses on the reference and advisory form of using the specialised knowledge of medical institutions, chambers of commerce and industry, the State Fiscal Service, the State Service of Ukraine for Food Safety and Consumer Protection, the National Agency of Ukraine for finding, tracing and management of assets derived from corruption and other crimes, territorial bodies of the State Customs Service, standardisation and certification bodies, testing laboratories, etc. It is proposed that consultations be provided by knowledgeable persons (auditors, specialists and forensic experts in the field of economics, medicine, handwriting, technical examination of documents, construction) in writing or orally and that this be enshrined in law.

The author identifies a list of types of specialised knowledge that should be systematised for crimes of this category depending on the nature of their occurrence or by the fields of science and technology (forensic, medical, economic, etc.).

2.2. Forms of state financial control in the investigation of crimes

Rapid reorganization processes in various spheres of Ukrainian society certainly affect the activities of law enforcement agencies. In the investigation of economic crimes in the public healthcare sector, interaction with financial services, in particular, with the state financial control body, is particularly important. Such interaction is based on clear legislative regulation. At the same time, various legislative conflicts are increasingly arising, which not only impede the effective work of law enforcement and regulatory authorities, but sometimes even make such activities impossible or illegal.

When investigating crimes related to the illegal use of budgetary funds in the healthcare sector, a comprehensive analysis and determination of the forms of state financial control is necessary.

Our research has shown that various forms of financial control are used to form the evidence base in the investigation of budget crimes in the healthcare sector. Thus, during the survey of practitioners in this area, 98 % indicated the importance of their conduct.

The expediency of using specialized knowledge in the form of an audit in the investigation of crimes in the budgetary sphere is also noted by criminalists, including: S. Cherniavskiy, R. Stepaniuk, A. Bondarenko, V. Krysiuk, L. Shapiro [21].

At the same time, the analysis of legal literature has shown that the concept of audit has been repeatedly considered by both domestic and foreign forensic scientists and, in general, has not caused much debate and discussion, since it must be taken into account in the current legislation. According to the latest amendments to the Law of Ukraine “On the Basic Principles of State Financial Control in Ukraine”, an audit is an inspection that consists of a documentary and factual check of a certain complex or individual issues of financial and economic activities of a controlled institution, which should ensure the identification of existing facts of violation of the law, the establishment of those guilty of violation of the activities of officials and financially responsible persons [158].

The question of the nature of audits in the scientific world remains problematic and unresolved, given that none of the sections of the CPC of Ukraine provides for the appointment and conduct of audits or other forms of financial control, such as financial audit, procurement audit, procurement monitoring.

After analyzing the points of view of A. V. Dulov, G. M. Minkovskiy,

S. S. Ostroumov, I. L. Petrukhin and others, we should agree with L. G. Shapiro, who notes that there are two radically different positions. One is that an audit conducted at the request of an investigator loses its administrative and legal character and therefore becomes a criminal procedural action. The other is based on the fact that this is a non-procedural action, since the auditor, performing an official assignment, is subordinate not to the investigator, but to the head of the organization, who appoints the audit and directs the actions of the auditor [13].

Despite numerous discussions, during the investigation of economic crimes in the healthcare sector, there is a need to use both scheduled and unscheduled audits, as indicated by practitioners. Let's consider each of them in relation to the healthcare sector.

To conduct an audit in healthcare institutions, inspectors are involved who must have specific information. In Ukraine, this area is serviced by the social control department of the state financial control body. Of course, in order to conduct a full and qualified audit, the inspector must have the information:

- on the procurement of medicines, taking into account the specifics of the institution (for example, medicines used to treat cancer patients cannot be procured by medical institutions specializing in the treatment of the cardiovascular system);

- prescribing standards for medicines (i.e., in the treatment of tuberculosis, a patient is prescribed a certain dose of a drug. However, the documents sometimes show a double or triple dose, thus artificially inflating the need for this drug and increasing the budget for its procurement);

- norms for the use of equipment (for example, a psychiatric hospital focused only on providing psychiatric care cannot purchase surgical electric knives for operations, as this activity does not comply with their accreditation)

- on depreciation rates for medical equipment (taking into account its book value, the frequency of control repairs in case of wear and tear, and possible overspending of allocated funds);

- technical requirements for medical equipment, etc. (for example, the technical requirements specify a magnetic resonance imaging device with a capacity of 3 Tesla, but by agreement with officials, a device with a capacity of 2 Tesla is actually delivered at the same price. Or a magnetic resonance imaging scanner is purchased with a number of additional options, such as devices for examining the knee joint, gastrointestinal tract, and cerebral vessels. But in fact, the device is delivered that has no options at the declared cost).

The audit is of particular importance for law enforcement agencies when confirming the fact of illegal use of budget funds, for example, misuse, use of extra-budgetary funds.

For example, in 2015, the UZE employees initiated an unscheduled audit of the Health Care Department in the city of N. A criminal group consisting of 8 people (the head of the department, the chief accountant, heads of municipal medical institutions) was organized, who misappropriated budget funds for three years, causing losses to the state in the amount of more than UAH 1.5 million. The audit report documented the unjustified accrual of bonuses and allowances, and was subsequently used in a forensic economic examination.

If violations are detected in the course of a scheduled audit, the state financial control officers independently report such facts to the National Police or the Prosecutor's Office of Ukraine. This may include an unlawfully paid salary supplement, an incorrect bonus coefficient, underpayment of rent to the budget, etc.

An example of this is the following fact. In 2017, employees of the Economic Crime Department received information about the results of a scheduled audit of a municipal healthcare facility in the city of N. to establish the facts of unlawful payment of bonuses to employees in the amount of UAH 200,000. The audit report recorded unjustified accrual of bonuses and allowances, which became the basis for registering criminal proceedings and conducting a pre-trial investigation.

An unscheduled audit is necessary for operational support of the use of budgetary funds, the purpose of which is to prevent embezzlement and misappropriation of funds, and to bring to justice those responsible for committing a criminal act.

For example, in one of the hospitals, the buildings of the therapeutic building were reconstructed on the basis of a defective certificate, which stated that hidden work was required to install a water supply system and sewage system. Operational staff of the State Service for Combating Economic Crime in Dnipropetrovs'k region found that the system had already been installed in previous years and there was no need for its installation and reconstruction. In order to obtain the necessary evidence, the operatives contacted the Control and Audit Department to initiate an unscheduled audit, which was conducted within a month. As a result, the fact of criminal activity of the business entity and hospital officials, who misappropriated budget funds in particularly large amounts, was confirmed.

According to a survey of practitioners involved in the investigation of the above crimes, 90 % noted the need for an unscheduled audit of healthcare

institutions, enterprises, and organizations. The explanation for this is the fact that their activities in terms of the use of budget funds continue throughout the year, and it is difficult to make proposals for a scheduled audit in advance. In most cases, time is lost along with the traces of the crime, forged documents are destroyed, and the funds received that were misappropriated are irretrievably lost. The importance and timeliness of this special form of use of specialized knowledge is also emphasized by A. Zapototskyi, O. Kaplina and N. Maryniv [61; 65].

The opinion of A. F. Volobuiev is correct, who notes that in order to ensure the quality of the audit, close interaction of employees of the control and audit service and law enforcement agencies is necessary, which consists, in particular, in a joint discussion of the audit plan, the composition of the audit team, joint actions and measures to create favorable conditions for the audit [36, p. 151].

V. V. Neganov also draws attention to the establishment of effective communication between the National Police of Ukraine and the State Financial Inspection. The scientist notes that in practice, some investigating judges, along with the submission of a relevant petition, require the investigator to agree in writing with the state financial control body on the date of the start of the audit. Other investigating judges do not consider it obligatory for the investigator to provide such approval and consider the petition in accordance with the provisions of Article 132 of the CPC of Ukraine without agreeing on the date of the event. However, given that the issue of ensuring reasonable terms, objectivity and comprehensiveness in the conduct of pre-trial investigation is entrusted to the investigator, prosecutor, judge, it is these officials and officers who are also entitled by procedural law to determine the date of unscheduled audits [119, p. 74].

Today, the situation with the appointment of unscheduled audits is ambiguous. On the one hand, the Law of Ukraine “On the Basic Principles of State Financial Control in Ukraine” stipulates that the state financial control body coordinates its activities with the Prosecutor’s Office and the National Police of Ukraine. It also monitors compliance with budget legislation by business entities, regardless of their form of ownership, which are not classified by law as controlled entities, based on a court decision in the relevant criminal proceedings. However, according to the procedural law, the investigator or prosecutor cannot actually file such a petition with the court.

This fact is also emphasized by R. Dudarets, who notes that the current CPC of Ukraine does not contain provisions that would provide for an appeal to the investigating judge with a petition for the appointment of an audit and inspection and the grounds for such an appeal [51, p. 40].

Of course, part 2 of Article 93 of the CPC of Ukraine provides that the collection of evidence is possible by requesting and obtaining audit reports and inspection acts, and part 2 of Article 89 of the CPC of Ukraine defines inspection acts as a source of evidence. However, the Ruling of the Supreme Court of Ukraine states that as of July 15, 2015, the prosecutor and investigator do not have the authority to "appoint audits and inspections", since subparagraph 12 of paragraph 5 of Section XII "Final Provisions" of the Law of Ukraine "On the Prosecutor's Office" excluded this authority from the list of powers of the prosecutor (in Article 36 of the CPC) and investigator (in Article 40 of the CPC). These provisions of the procedural law also do not authorize the investigating judge to authorize the appointment of an audit. The use of the phrase "request and obtain" implies the authority to use as evidence the conclusions of audits and inspection reports (as well as any other documents) that exist independently of the pre-trial investigation. The Procedural Law clearly distinguishes between documents created within criminal proceedings and documents whose origin does not depend on criminal proceedings and subordinates these two types of documents to different legal regimes, so it is a mistake to equate the power to "demand" with the power to "appoint" an audit. The provisions of other laws that provide for such a right are blanket provisions that refer to the CPC in their content. In addition, the Law of Ukraine "On the Prosecutor's Office" provides that evidence obtained after the commencement of criminal proceedings through the exercise by pre-trial investigation or prosecution authorities of their powers not provided for by this Code to ensure pre-trial investigation of criminal offenses is inadmissible [193].

Also, the Resolution of the Plenum of the Supreme Court of Ukraine dated 06.03.2018 in case No. 243/6674/17-к notes the contradictory nature of the court practice, as evidenced by the facts that some investigating judges satisfy such motions, referring to the Constitution of Ukraine, Resolutions of the Cabinet of Ministers of Ukraine, the Tax Code, etc.

Scientists agree that judges refuse to satisfy such petitions, but at the same time, given the conflicts between the norms of criminal procedure and tax legislation, they insist on appealing against the decisions of the investigating judge to appoint an unscheduled audit (inspection), thus ensuring access to justice [65, p. 204].

Today, pre-trial investigation authorities have the right to use the results of an unscheduled audit, but in fact cannot initiate it until Article 93 of the CPC of Ukraine is amended and the provision "requesting and receiving audit findings and inspection reports" is replaced by "appointing an inspection in the form of an audit".

As a way out of this situation, when investigating crimes related to the illegal use of budgetary funds in the healthcare sector, the investigator and the operative use acts of a scheduled audit. Even if there is an objective need for law enforcement agencies to inspect a particular institution, they should apply to the state financial control body with a proposal to include it in the audit plan, thus not violating the law. Among the disadvantages, it should be noted that this procedure takes a lot of time and this fact may interfere with the procedural deadlines. Thus, in fact, a scheduled audit is conducted at the initiative of law enforcement agencies.

Such forms of state financial control as financial audit, procurement audit and procurement monitoring remain underestimated in the scientific literature, although they are widely used by law enforcement agencies.

At present, the results of a survey of experienced investigators and operatives working in the above area show that in the investigation of crimes related to the illegal use of budget funds in the healthcare sector, audits (inspections) were used in 44 % of cases, procurement monitoring in 24 %, procurement verification in 21 % and financial audit in 11 % (Appendix G).

The low rate of use of financial audit reports by law enforcement agencies has its explanation. Basically, they are intended to provide companies with an economic picture of the correctness of accounting and reliability of financial statements, the functioning of the internal control system, and can be used as circumstantial evidence in pre-trial investigations.

To monitor procurement in the investigation of crimes related to the illegal use of budget funds in the healthcare sector, an investigator, an operative of the Department of Strategic Investigations, or a prosecutor applies to the state financial control body to monitor public procurement to identify violations of the public procurement legislation, establish discriminatory requirements for participants, identify facts of unfair competition, identify facts of collusion between participants, and misuse of public funds.

For example, in 2016, a hospital in the course of public procurement of expensive medical equipment (magnetic resonance imaging and X-ray equipment) included in the tender documentation certain insignificant technical parameters that do not affect the quality of medical examination (table size 120 cm, not more) and are inherent in equipment manufactured only by a certain manufacturer and supplied only by a certain company. The tender documentation also stated that the supplier company must have two trucks. The UZE staff sent a request to the ACU to monitor this procurement, which revealed the facts of attempted misappropriation of budget funds by hospital officials who, in collusion with the supplier company, prepared

tender documents and, based on the results of the bidding, recognized this company as the winner and tried to purchase the goods at an inflated price, thereby causing damage to the state in the amount of more than UAH 1 million [93].

In some cases, additional evidence of a crime, restoration of the dynamics of the crime, etc. is required, so there is a need for a procurement audit, which results in a report. The Law of Ukraine “On the Basic Principles of State Financial Control in Ukraine” stipulates that procurement audits are also conducted by the state financial control body, the essence of which is a documentary and factual analysis of compliance with procurement legislation.

Thus, it can be noted that the investigation of crimes related to the illegal use of budgetary funds in the healthcare sector requires an integrated approach and the use of various forms of state financial control in the investigation of crimes, in particular: audits (inspections), monitoring, financial audit, procurement review and procurement monitoring. However, there are certain conflicts in the law that do not allow pre-trial investigation authorities to use them to the fullest extent. One of the most important forms of such knowledge is scheduled and unscheduled audits (inspections). To solve the problem of appointing an unscheduled audit, we propose: first, to amend the Criminal Procedure Code of Ukraine and the Law of Ukraine “On the Prosecutor’s Office” in terms of empowering the investigator and prosecutor to initiate audits and other financial control checks; second, to offer investigative and operational units to widely use the right to apply to the state financial control body with proposals for the audit plan.

2.3. Participation of a specialist in certain procedural actions

When detecting crimes and forming an evidence base, law enforcement agencies must use legal means, methods, and measures. Among the variety of ways and means of establishing the truth in a case, the most important place belongs to investigative (detective) actions, including investigative inspection and search.

A survey of detectives and investigators specializing in the investigation of budget crimes, and taking into account the data from the criminal cases and proceedings studied, found that the following investigative (detective) actions were mainly carried out in the detection of crimes related to public funding of the healthcare sector: interrogation – 100 %, appointment of examinations – 100 %, investigative examination – 77 %,

search – 53 %, identification – 9 %, investigative experiment – 6 %. At the same time, the majority of respondents indicated the need to involve a specialist during a search (76 %) and examination (87 %). However, the assistance of a specialist during interrogation was almost never used (3 %) and was considered inappropriate (Appendix H).

Given the results obtained and based on the achievements of scientists, we will consider the participation of a specialist during the inspection and search. As for the participation of a specialist during interrogation, this form of specialized knowledge is used in the investigation of criminal offenses. However, when exposing crimes related to public funding of the healthcare sector, the investigator or detective acting on behalf of the investigator, firstly, must already be prepared for this investigative (detective) action, and secondly, the presence of a third party may interfere with the confession of the suspects. In such circumstances, we believe that it is advisable to plan such a form of use of specialized knowledge as advisory assistance before the interrogation, rather than involve a specialist directly during the interrogation.

There is a certain specificity of the examination, depending on the type of crime, but the main goal is always to identify, record and seize the investigative information of a criminal offense.

The investigative examination has been the subject of research by a number of criminalists and proceduralists. The procedural basis is Article 237 of the CPC of Ukraine. However, in practice, certain problems arise regarding the knowledgeable persons involved in its conduct, the sequence of certain actions, etc.

Studying the experience of foreign colleagues, it should be noted that in any examination of a crime, along with detectives and law enforcement officers, not only one specialist, but a group of specialists in various fields works at the scene: photography, video recording, search and removal of traces, reconstruction of the scene, etc. At the same time, special protective clothing and footwear, respirators, and goggles prevent the possibility of spoiling traces or leaving their own. Of course, in our country it is planned to train a wider range of specialists, but it is impossible for one specialist to simultaneously perform the necessary actions and record them on a photo or video camera, as provided for by the current criminal procedure legislation.

The scientific position of I. V. Pyrih, who also proposes to involve a group of specialists from different fields of knowledge for the review, is reasonable. The scientist suggests that a group of specialists should be involved in the work of the JIT, using the preliminary information of patrol police officers. The first investigator to inspect the object records the general

situation at a static stage in the protocol. Simultaneously with the inspection, photo and video recording is carried out. The investigator determines the tactics and methods of inspecting the scene and the area where the participants can move without disturbing the situation and traces of the crime. The investigator makes this decision after consulting with specialists, taking into account the variety of traces and the specifics of their location. When detecting, recording and seizing material objects that bear trace information of a criminal offense, specialists establish the sequence of actions of the offender during the commission of the crime. Based on the results of the activities of specialists, it is proposed to draw up a certificate indicating all their actions, technical and forensic means used in this case, methods of research and results obtained and to draw up such a document as an appendix to the inspection report [21].

Unlike other crimes, an investigative review in the detection of crimes related to public financing of healthcare is not a primary investigative (detective) action. The investigator and the detective already have enough information about the type of investigation and the specialists to be involved. In particular, when investigating crimes of this category, the objects of inspection are not only a certain place, but also specific equipment, documents, etc.

An example is the following case. A hospital purchased a digital fluoroscope. Employees of the operational units had doubts about the compliance of its technical parameters with those specified in the technical documentation, which led to its lower cost. To establish the actual data, an inspection of the medical equipment was conducted. A specialist was engaged to determine the medical and technical parameters, technical capabilities, connection and functioning of the fluoroscope, who was a medical radiologist. During the inspection, he found that the technical parameters of the fluoroscope did not correspond to the power of the X-ray emitter, which was subsequently taken into account when calculating budget losses, which amounted to more than UAH 500,000 thousand [109].

The results of the study of criminal cases and proceedings showed that the objects of the investigative inspection are: medical equipment (magnetic resonance imaging, artificial lung ventilation devices) – 29 %, medicines – 25 %, medical devices (blood transfusion systems, syringes, gloves) – 30 %, construction objects and materials – 36 %, food – 15 %, etc. (Appendix I).

It is clear that in the course of investigating crimes related to public funding of the healthcare sector, in 100 % of cases, documents are the objects of investigative inspection.

During the inspection of the above-mentioned objects, regardless of the

experience of the investigator and detective in this area, it will be useful to consult with various specialists – economists, doctors, builders, handwriting experts, etc.

During an investigative inspection of various facilities, it is possible to involve specialists from both governmental and non-governmental institutions, which have their own advantages and difficulties.

Among the peculiarities of involving specialists from non-governmental institutions is the fact that they are often reluctant to come to the investigator's call to participate in the inspection. Often, the explanation for this is: firstly, unwillingness to provide such services free of charge, secondly, unwillingness to participate in the pre-trial investigation at all, and thirdly, they are not actually responsible for refusing to participate in investigative (detective) actions. Thus, Article 72 of the CPC of Ukraine provides only for the liability of a specialist in case of failure to appear in court without valid reasons or failure to notify the court of the reasons for failure to appear. The court shall bear all expenses related to the adjournment of the court session [85]. No such obstacles arise when engaging specialists from the Criminalistics Department of the National Police of Ukraine or employees of the Expert Service of the Ministry of Internal Affairs of Ukraine as experts. But such institutions do not always have specialists in the required field of knowledge.

A specific feature of crimes related to public financing of the healthcare sector is the fact that they are committed with the help of certain documents. Therefore, it is important to pay special attention to their study and review as part of both investigative (search) actions and measures to ensure criminal proceedings.

Examination of documents is an investigative (detective) action that consists in their study and research in order to identify and record the features that give the documents the value of material evidence [209, p. 94].

The classification of documents used in the commission of budget crimes has been sufficiently considered by criminalists. Based on their opinions and the experience of practitioners of units that investigate crimes in the budgetary sphere of the healthcare sector, we have conditionally divided them into two groups: 1) those executed by the healthcare institution and 2) those executed by the supplier or contractor.

In each case, these may be different documents. Typical documents to be reviewed include: contracts, supplementary agreements, specifications, design and estimate documentation (resource lists, design, estimate), financial obligation, acceptance certificates for completed works, equipment commissioning certificates, waybills, invoices, payment orders, manager's

estimate, procurement plan, etc.

The diversity and specificity of these documents can be confirmed by the following example from the Unified Register of Court Decisions. PERSON_1, being an official in the position of chief accountant of the children's specialized sanatorium "B" (EDRPOU code 019881945), according to the order No. 82-k of 26.11. 2008, appointed to the position of chief accountant, by abusing her official position in the period from June 2009 to September 2009, she unreasonably transferred funds from the account of DSS "B" to PERSON_2, PERSON_3, in addition, PERSON_1 received her salary both to a bank card and at the cash desk of the sanatorium.

Starting in June 2009, payroll statements were submitted to the bank without the signature of the sanatorium's cash manager, the chief physician PERSON_4, and the information in these statements and those available to SSS B contained differences. After the payroll accountants calculated the salaries and after they were signed by the chief doctor of the sanatorium, the chief accountant PERSON_1 personally entered deliberately false information into the statements, as a result of which the salaries were paid to persons with whom no employment contracts were concluded by SSS B, namely: PERSON_2 and PERSON_3 In addition, as a result of these actions, PERSON_1 received a salary both on a bank card and at the cash desk of the sanatorium, and the amount of the salary significantly exceeded the amount according to the staffing table. As a result of these abuses, PERSON_1 caused damage to the children's specialized sanatorium "B" in the amount of UAH 37.723.77.

The defendant's guilt in committing the crime is also confirmed by other evidence examined in court, namely a statement by the chief physician of the Children's Specialized Sanatorium "B", in which he reports that PERSON_1 personally entered deliberately false information into the records, as a result of which wages were paid to persons who were not enrolled in the staff, a copy of the certificate of state registration of the legal entity Children's Specialized Sanatorium "B" a copy of the charter of the Children's Specialized Sanatorium "B"; copies of payment orders, copies of statements for the payment of money, a certificate from the SSC "B" stating that PERSON_2 and PERSON_3 have never worked and are not currently working at the Children's Specialized Sanatorium "B"; a copy of the job description of the chief accountant of the children's specialized sanatorium "Barvinok" and a copy of order No. 00, according to which PERSON_1 was hired as chief accountant; copies of the staff list of the children's specialized sanatorium "B", copies of payrolls; an act of unscheduled audit of certain

issues of financial and economic activity of the children's specialized sanatorium "Barvinok", according to which the total amount of illegally paid wages for the period from 01. 06.2009 to 31.08.2009 amounted to UAH 37.723.77; copies of Nadra Bank's information on the receipt of funds, copies of cash receipts, and a copy of the chief accountant's payroll [55].

Analyzing the above example, there is a variety and large volume of documents that the investigator needs to work with carefully. In order to conduct a qualified review of documents as material evidence in the investigation of economic crimes, we have already proposed the following recommendations in previous scientific works:

- Examination of their general appearance and condition;
- studying the details of individual documents, in particular: organization code, document form code, name of the organization (structural subdivision of an institution, institution, organization), reference data on the agricultural enterprise, title of the document, date of its preparation (registration), registration index (serial number), resolution of the authorized person, main text, personal signature, seal, etc;
- determination of documents belonging to certain groups (categories);
- determining their intended purpose;
- establishing the circle of persons who had the right to certify specific documents with their personal signature and (or) seal of the agricultural enterprise (institution, institution, organization). After all, as is well known, when studying documents, it is important to determine the relationship of links in the system "document – fact reflected in it – document executor" [199, p. 69].

But their volume and specific data may require additional knowledge, so during the inspection, search, temporary access to things and documents, there is a need to involve specialists from different fields. In this case, it is necessary to separate the study of the content of documents and their external examination.

Some forensic experts distinguish two types of document examination: logical and technical. During the technical examination, signs of complete or partial forgery of a document are identified, while during the logical examination, the compliance of its content with the facts of objective reality is established [21].

Of course, it is advisable to use a variety of technical equipment such as magnifying glasses, microscopes, ultraviolet and infrared illuminators, etc., the skills of which are possessed by forensic specialists. In particular, special attention is paid to columns with signatures, manuscripts, seal and stamp impressions, methods of applying printed text, etc. As a rule, at the

stage of pre-trial investigation, experts in handwriting and technical examination of documents of the Expert Service of the Ministry of Internal Affairs of Ukraine are involved as such specialists. However, the Law does not exclude the possibility of involving other knowledgeable persons.

The logical examination of documents requires the assistance of specialists in economics, accounting, commodity research, construction, medicine, etc.

Investigators rarely involve specialists in conducting investigative (detective) actions, which cannot but negatively affect the course of the investigation. The scientist notes that in the investigation of crimes in the field of economic crime, only 63 % of cases involved a specialist accountant during the review of documents [21].

Some authors emphasize the direct participation of a specialist accountant during an investigative (search) action or a measure to ensure criminal proceedings. At the same time, the specialist often provides new, little or no information known to the investigator, which significantly affects the further investigation. Comparison of unofficial records of mutual settlements with comparative information, inventory acts, consolidated reports and other accounting documents can help the investigator to more accurately establish the amount of material damage and correctly delimit the material liability of individuals [45, p. 66].

Particular attention in the investigation of crimes of this category is paid to the study of medical documents. These include: sick leave certificates, driver's medical certificates, certificates of mental health of the patient, a narcologist's certificate, conclusions of specialized doctors, conclusions of the medical and social expert commission, etc.

The distribution of official correspondence in electronic form often requires the involvement of specialists in the field of computer technology. In such cases, it is necessary to correctly determine the required volume of electronic objects to avoid complaints from the prosecution. It is also important to properly pack the seized objects.

It should be noted that healthcare institutions use part of their budget funds to ensure the maintenance of buildings and infrastructure of medical institutions, so there are frequent cases of abuse in the field of construction. Any construction experts, both public and private, licensed expert institutions, are engaged as specialists. Unlike an economist, these specialists examine the design and estimate documentation (the project itself, drawings, diagrams, pictures, information), the scope of work performed, their compliance, the compliance of the materials used, the stages of work performed, the mechanisms and labor involved, etc.

Thus, when investigating crimes related to the illegal use of budgetary funds in the healthcare sector, certain documents are necessarily used. For their qualified study, along with a specialist in the field of forensic handwriting and technical examination of documents, the assistance of an economist, a medical specialist, a computer specialist, a construction specialist, etc. is required.

When investigating budgetary crimes committed in the healthcare sector, a search is necessary in almost every criminal proceeding to find documents confirming the agreement between the supplier and the customer, abuse by senior management, drafts with information about the crime, computer equipment, funds obtained through criminal means, accounts, etc.

The legal basis is Article 234 of the Criminal Procedure Code of Ukraine. A search is conducted to identify and record information about the circumstances of a criminal offense, to find the instrument of a criminal offense or property obtained as a result of its commission, and to locate wanted persons [85].

When conducting a search for crimes related to public financing of the healthcare sector, unlike other crimes, the investigator and the detective already have enough information about the objects of the search and the specialists to be involved. In particular, when investigating crimes of this category, the objects (places) of the search are office premises, including offices of managers, their deputies, employees of economic departments, warehouses and utility rooms, official and private vehicles, land plots, private premises belonging to the suspects, their close relatives or persons from the circle of close communication.

The results of the study of criminal cases and proceedings showed that the objects of search are documents – 100 %, drafts – 82 %, funds obtained by criminal means – 78 %, medical equipment (X-ray equipment, magnetic resonance imaging devices, ultrasound diagnostic devices, artificial lung ventilation devices, laboratory equipment, etc., etc.) – 15 %, medicines – 18 %, medical products (blood transfusion systems, syringes, gloves, respiratory protection, dressings, disinfectants, etc.) – 16 %, computer equipment – 80 %, mobile phones – 76 %, construction materials – 23 %, food – 17 %, other – 9 % (Appendix J).

In the context of the fight against the acute infectious disease Covid-19, in the spring of 2020, officials of the Department of Health of the Kyiv Regional State Administration signed a contract with a commercial entity for the supply of 15 lung ventilators for a total of UAH 10.5 million. The purchase of medical equipment was made to provide healthcare facilities in Kyiv region with the necessary equipment to prevent the spread of Covid-19

cases in the region. According to intelligence information, the officials transferred 100 % of the cost of the goods to the supplier's account, knowing that the terms of the contract would not be fulfilled. The pre-trial investigation also found that the employees of the private entity claimed to be the official representative of the Chinese manufacturer of the ventilator, while the money for the medical equipment was transferred not to the accounts of this manufacturer, but to a company registered in Slovenia. Ten searches were conducted at the suspects' places of work and residence. Official documents, draft records, seals, cell phones, and laptops were seized [125].

As the analysis of forensic literature has shown, the tactics of the search have always been the object of close attention from scholars. In our opinion, the organizational and tactical features of the search have been thoroughly researched. Given the specifics of our study, we propose to focus on the involvement of a specialist during a search for more professional obtaining of forensically relevant information and compliance of the recording of the said investigative (detective) action with legal requirements. Although a specialist is not a mandatory participant in this investigative (detective) action, practitioners and scholars emphasize its importance.

We share the opinion of E. D. Lukianchikov, V. S. Kuzmychov and other scholars that the search for stolen and hidden property should always be unexpected for suspects and be carried out quickly and efficiently. However, the speed and suddenness of searches should not lead to haste and a decrease in the quality of their conduct, and negative results should not affect the intention to bring them to a logical conclusion [21]. To ensure these factors and achieve maximum results, it is appropriate to involve specialists from different fields of knowledge.

The functions performed by specialists during this investigative (detective) action cover various fields of knowledge.

Earlier we emphasized that specialists provide the head of the operation and the heads of individual search teams with scientific and technical advice and recommendations (for example, how best to prepare a procedural action; what techniques, methods and means should be used to identify, collect, record and preliminary examine evidence) and assistance in the use of forensic equipment and search devices. At the same time, specialists can assist in the preparation of plans, diagrams and drawings [21].

It should be noted that the preliminary assessment of objects consists in their examination without drawing up a written act or conclusion.

B. B. Teplytskyi, O. M. Shramko and V. V. Yusupov rightly note that during a search, the assistance of a knowledgeable person acting as a

specialist is as follows

- the use of scientific and technical means to search, record, and extract forensically significant information;
- examination of technically complex objects;
- preliminary assessment of objects;
- advisory assistance on issues requiring special knowledge [195, p. 48].

A. V. Kofanov and other scholars note that the assistance of a specialist during a search to an investigator is limited to the detection, seizure of the sought objects and other material evidence. It is carried out and consists of:

- use of scientific and technical means to search for, record, and extract forensically relevant information;
- examination of technically complex objects;
- preliminary evaluation of objects;
- advisory assistance on issues requiring specialized knowledge [82, p. 48].

A. V. Kofanov and other scholars note that the assistance of a specialist during a search to an investigator is limited to the detection, seizure of the sought objects and other material evidence. It is carried out and consists of:

- searching for the objects of the search;
- collecting information that ensures further proof of the belonging of the found objects to a specific person;
- detection, fixation and seizure of traces, objects, substances, materials that will be further subjected to expert examination, as well as samples for comparative study;
- conducting preliminary studies of objects during a search to determine their affiliation with the investigated event and the suspect;
- qualified use of scientific and technical means for the above purposes [82, p. 370].

Analyzing the scientific positions of scientists, it should be noted that the actions of specialists depend on the stages of the search at which they were involved. During the investigation of crimes related to the illegal use of budgetary funds in the healthcare sector, in the course of preparation for the search, the function of specialists is to provide advice and prepare scientific and technical means, focusing on the features of the objects to be found. During the working stage, the specialists directly inspect medical equipment, examine medicines and medical devices, study available documentation, etc. When recording the results of the search, a specialist's assistance is especially needed in correctly describing the search objects seized during the search, highlighting their specific identification features.

A survey of practical officers found that during a search, they have difficulty taking pictures, as indicated by 48 % of respondents, filming – 36 %, seizing the necessary documentation and items – 41 %, packing – 24 %, describing them in the protocol – 18 %, and other – 9 %. All of these negative factors affect the quality of the search and the results obtained.

Thus, if certain items are improperly packaged in large quantities, or large equipment, it can be difficult to conduct an expert examination.

Special attention should be paid to the use of scientific and technical means during the search. In accordance with the current provisions of the CPC of Ukraine, regardless of whether the search is of a conflict nature or not, its course must be recorded on photo and video, which cannot be performed simultaneously by one specialist. In this regard, scientists offer different ways to solve the problem: the simultaneous use of several cameras, quadcopters, etc.

A laser 3D scanner is a scientific and technical tool that provides a comprehensive recording of all traces of the environment with an accurate display of appearance, shape, measurement of distances between objects, their relative position and size. With the help of appropriate software, the use of a 3D scanner allows you to create an accurate photorealistic model of an area of terrain within a short period of time, to view it from any angle and distance, both as a whole and individual objects. It is also important that this software makes it possible to reconstruct the object and perform various operations with individual objects both in the 3D model and separately from it, import other three-dimensional objects into the 3D model of the scanned area to illustrate their location at certain intervals [214].

An analysis of practical activities shows that during a search, investigators and operational units often use them independently. Although the criminal procedural legislation does not explicitly specify the categories of persons who are granted such a right or prohibited, in our opinion, the use of scientific and technical means at a professional level is possible only by an engaged specialist. We consider the opinion of A. M. Lazebnyi regarding the use of sound recording, photo and video recording and stenography by investigators and courts independently to be controversial. The scholar argues that, as a rule, the investigator's professional knowledge and skills are sufficient to use these tools. If, for one reason or another, the investigator believes that his or her professional knowledge and skills are not sufficient, for example, for video recording, he or she uses the assistance of a specialist [87, p. 98]. By studying the annexes to the protocols in the form of photo tables from criminal cases and proceedings, numerous errors of independent use of technology can be identified, among which are common mistakes such

as: blurred images of objects, incorrectly chosen angle, incorrect placement of objects in the frame (very small object and large background), etc. When viewing the video material, it should be noted that there are violations of the methods and techniques of fixation, untimely transfer of the camera to important nodes, etc. As O. Tatarov rightly notes, non-compliance with the procedural form of collecting and examining evidence leads to a violation of citizens' rights and may deprive the data obtained during investigative (detective) actions of evidentiary value [190, p. 146].

At the same time, Yu. M. Chornous notes that the use of new technical means is also a topical issue in the experience of law enforcement agencies of foreign countries. In particular, these are laser scanning of the scene, information retrieval systems for biometric identification of a person, information retrieval systems for identification of human fingerprints and others [208, p. 326].

In addition to the equipment for photo and video recording of the search, specialists use magnifying glasses, microscopes, illuminators with different beams, measuring devices, etc. The use of the latest technologies ensures a more accurate, high-quality, fast reflection of the said investigative (detective) action and avoids disputes with the defence.

However, given all the advantages, the high cost of these devices causes their slow introduction into practice. In our earlier survey of investigators, detectives, experts and specialists (86 %), we found an insufficient level of provision of forensic equipment used in police departments. Of the total amount of digital technical means used, 70 % were not on the balance sheet of the MIA and only 28 % were registered [23, p. 39].

Scholars note that recently, objects that necessarily require special knowledge to identify, record and seize are becoming objects of search. These are electronic information carriers and other computer equipment. The specialist determines the features of the computer environment, helps to inspect the functional part of the computer and external data carriers, as well as technical documentation [82, p. 370].

The involvement of a computer technician is carried out in order to: search for and locate computer equipment (primarily information servers, electronic drives, video recorders, etc.), ensure the safety of information on electronic devices and prevent attempts to remotely delete electronic documents and information, preliminary inspection of computer equipment in order to establish the availability of information and electronic documents relevant to criminal proceedings, description and seizure of the said

The technical assistance of a specialist will also be useful when

reviewing web pages and websites, user accounts in social networks with the subsequent storage and printing of a screenshot with forensically relevant information. A review of the web page hosting the website of a particular company, with further expert research in the field of telecommunications, makes it possible to study the content of information about the activities of certain entities related to the criminal offence, as well as to record the IP address of the computer equipment used to manage the website and identify the Internet provider that provided access to the website [129, p. 65]. In order to prevent the incorrect seizure of computer and technical objects and to increase the qualitative significance of the expert's opinion as a source of evidence in criminal proceedings, we have identified the requirements that must be taken into account during a search, in particular

1) to examine the information contained on computer media, the computer media itself, as well as the computer system that includes the investigated media, shall be seized. In some cases, it is possible to limit the provision of only the computer storage medium;

2) research objects are provided in separate packages that make it impossible to access the storage media directly, connect the system unit to the power supply, or switch on the device. Such objects of study as mobile phones, tablet computers, GPS navigators, smart watches, video recorders, etc. are provided in separate packages (preferably in cardboard boxes) that make it impossible to accidentally or intentionally switch on the device in the package;

3) in order to establish the compliance of software products with certain parameters, it is advisable to immediately make a copy of the software product or software code under investigation, as well as to remove the technical documentation to them;

4) specific objects of research, such as video recorders, smartphones, tablet computers, must be seized with power supplies, as well as, if possible, with information on access passwords (access codes to the administration panel), graphic key data, digital PIN codes [130, p. 75].

Particular attention should be paid to the search for certain documents. As we noted earlier, crimes related to public financing of the healthcare sector are always committed with the help of certain documents. Among the typical documents to be searched during the investigation are The search may include: contracts, supplementary agreements, specifications, design and estimate documentation, acts of acceptance and transfer of completed works, acts of commissioning of equipment, invoices, bills, payment orders, manager's budget, procurement plan, drafts, etc.

The documents found should be carefully examined. As

P. P. Ishchenko rightly notes, the most thorough examination is required to establish whether the object found during the search is an instrument of crime or bears its traces. That is, in fact, two investigative (detective) actions are carried out simultaneously: a search and an examination [21].

Scholars note that documents are the basic link in the system of evidence in criminal proceedings of this category. When conducting a search, pre-trial investigation authorities face difficulties in ensuring the use of documents in the evidence system, which can be overcome by solving the following tactical tasks:

- determining the list of categories of documents that reflect the circumstances of the bidding process and the determination of the winner, as well as financial and economic transactions related to the procurement procedure;

- establishing the location of the documents of various categories;

- selecting the procedural form of seizure of documents relevant to criminal proceedings;

- involvement of persons who will assist in determining the range of documents to be seized [110, p. 119].

During the search, regardless of the experience of the investigator and detective in this area, it will be useful to consult with various specialists – economists, doctors, builders, handwriting experts, etc. who indicate possible signs of falsification (partial or complete), the purpose of the documents, their inconsistency or absence of certain parts, the meaning of specific terminology, violation of the order of preparation, etc.

The opinion of A. M. Medyantsev and A. Y. Spuskanyuk is correct, as they note that when solving the task of involving persons who will assist in determining the scope of documents to be withdrawn, it is necessary to proceed from the fact that such information is best possessed, in particular, by employees of the State Financial Inspection who have experience in conducting inspections of public procurement. Of course, there may be organisational difficulties in engaging such employees, as the State Financial Inspection bodies have their own planned work and tasks and, as a rule, do not want to distract their specialists from their work. Therefore, it is advisable to engage the relevant specialists through the use of the powers of the prosecutor, who is in charge of procedural guidance of criminal proceedings. As a last resort, it is advisable for the investigator to at least consult an experienced specialist of the State Financial Inspection [110, p. 124; 180, p. 144].

The assistance of a specialist accountant is also of great importance. Thus, A. F. Volobuiev notes that during a search at the workplace, the

investigator may receive answers to the following questions from an accountant specialist

- the type of document found;
- who is responsible for its preparation;
- where is the usual place of storage of this document;
- where other copies of the discovered document or other related documents may be stored, etc. [36].

A specialist accountant can draw the investigator's attention only if he or she is directly involved in investigative (detective) actions. In this case, the specialist often provides new, little or no information that is unknown to the investigator, which significantly affects the further investigation. Comparison of unofficial records of mutual settlements with comparative statements, records of mutual settlements with comparative statements, inventory acts, consolidated reports and other accounting documents can help the investigator to more accurately establish the amount of material damage and correctly delimit the material liability of individuals [49, p. 66].

In some criminal proceedings, it is impossible to conduct a qualified search without specialists with medical knowledge. Given the specific medical terminology, there is usually a need to clarify certain statements in documents that can be used as evidence.

Here is an example. For example, in 2018, criminal proceedings were registered against officials of the medical and social expert commission who, in violation of the law, unreasonably recognised people as disabled in order to obtain undue advantage and receive cash payments from the state budget. On the basis of a court order, police officers seized the medical files of certain persons who had been subject to this commission. As it would have been irrational to seize all the files, law enforcement officers needed special medical knowledge of the diagnoses described, the grounds for determining persons as disabled, the specific disability group, the completeness of the necessary documents confirming the diagnoses, and signs of falsification of the diagnosis, and there was a need to involve specialists, including employees of medical institutions and the Bureau of Forensic Medicine. They provided consultative assistance by reviewing medical records and pointing out documents that showed signs of data falsification. Out of several thousand medical files, about two hundred were withdrawn that showed signs of inconsistency and were subsequently subjected to forensic medical examination to confirm the diagnoses.

The involvement of medical professionals as specialists is necessary not only when examining specific medical records, but also when searching office premises and seizing medical equipment, medical devices, etc. In

addition to investigative (detective) actions in this category of cases, measures to ensure criminal proceedings are mandatory. According to the results of interviews with practitioners and analysis of criminal cases and proceedings, these include: temporary access to things and documents – 100 %, temporary seizure of property – 40 %, seizure of property – 47 %, detention of a person – 15 %, preventive measures – 60 %. At the same time, the participation of a specialist was necessary during temporary access to things and documents.

The functions of specialists in conducting temporary access to things and documents are somewhat different from the investigative (detective) actions under consideration. Since only the documents specified in the court order are provided by the institution, agency or organisation, the specialist can only evaluate them. Unlike during a search, where they can insist on seizing other necessary documentation. We have focused on this important issue in previous studies and proposed to include in the provisions of the CPC of Ukraine a provision that would allow for an immediate search in cases where the person in possession of things and documents refused to comply with the investigating judge's decision on temporary access to such [130, p. 112].

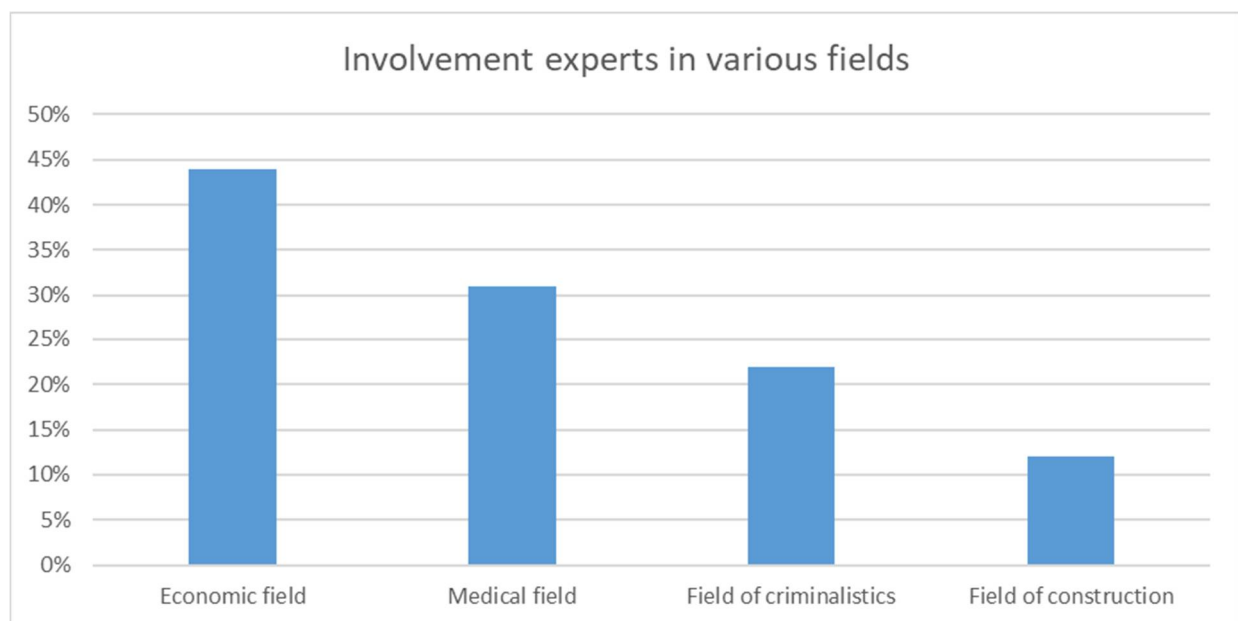
To summarise, during the inspection, search on the facts of abuse related to the illegal use of budgetary funds in the healthcare sector, during temporary access to things and documents, there is a need to involve a group of specialists from different fields. At the same time, there are certain differences in the involvement of specialists from state and non-state institutions to conduct public and covert investigative (detective) actions, provide consultations, prepare materials for examination, etc. Among the objects of inspection (medical equipment, medicines, medical devices, construction objects and construction materials, foodstuffs), special attention is paid to documents conditionally divided into two groups: those issued by a healthcare facility and those issued by a supplier or contractor. The author provides recommendations for their review, focusing on the study of the content (economic, medical, construction components) and material (signatures, manuscripts, printing method).

2.4. QUESTIONS FOR SELF-CONTROL:

1. Define the concept of “specialised knowledge”?
2. In what forms is specialised knowledge used?
3. Name the subjects of special knowledge use in the investigation of such crimes?
4. What are the forms of state financial control in the investigation of crimes?
5. What forms of state financial control are mostly used in the investigation of these crimes?
6. Describe the role of a specialist during a search in the investigation of such crimes?
7. Describe the role of a specialist in conducting an investigative examination in the investigation of such crimes?
8. Describe the role of a specialist in conducting temporary access to things and documents in the investigation of such crimes?
9. Which specialists should be involved in the investigation of this category of crimes?

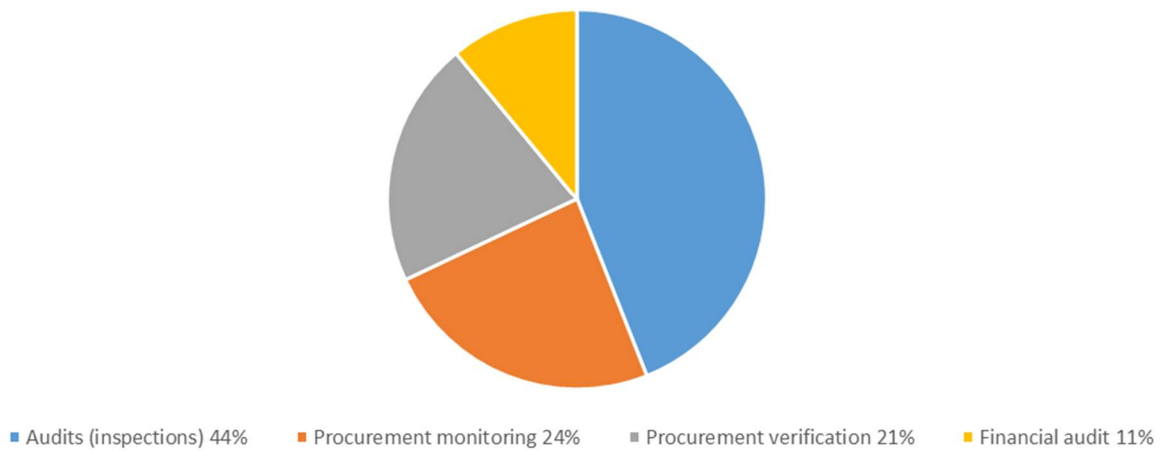
2.5. APPENDICES

Appendix F



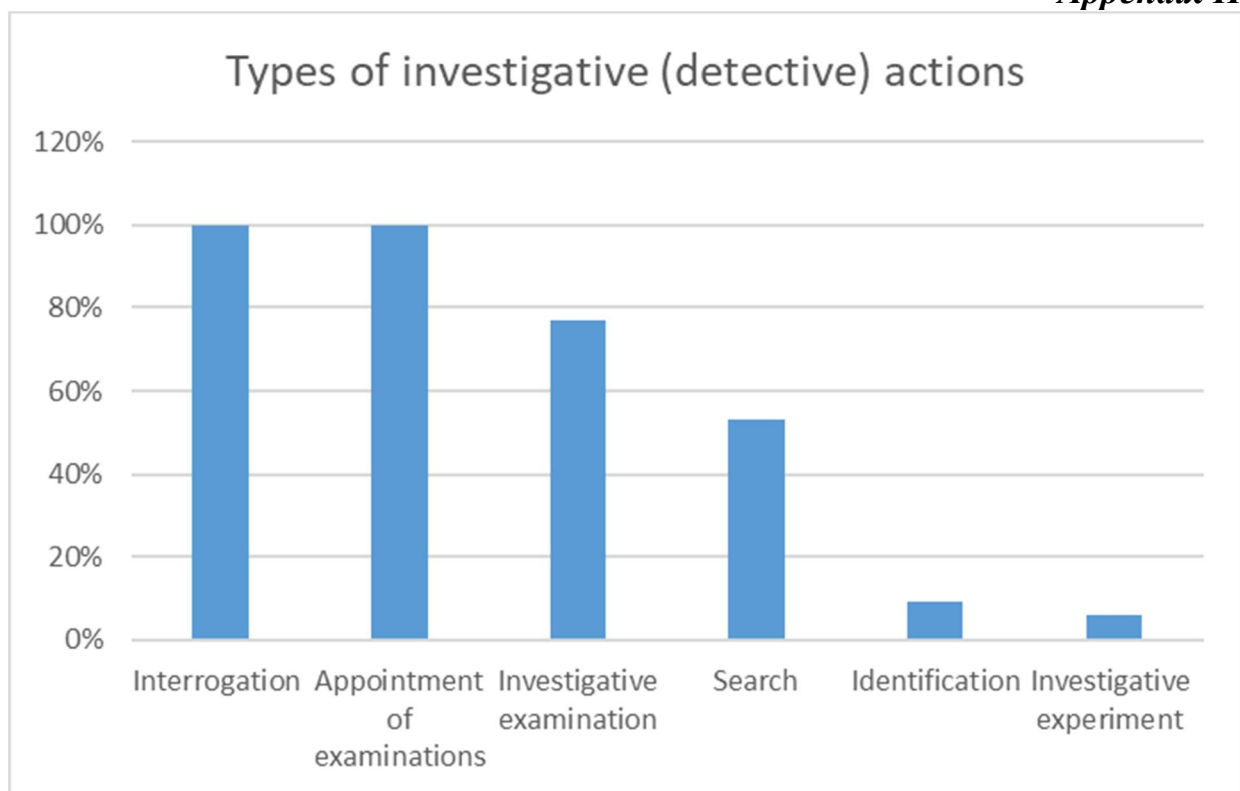
Appendix G

Forms of state financial control

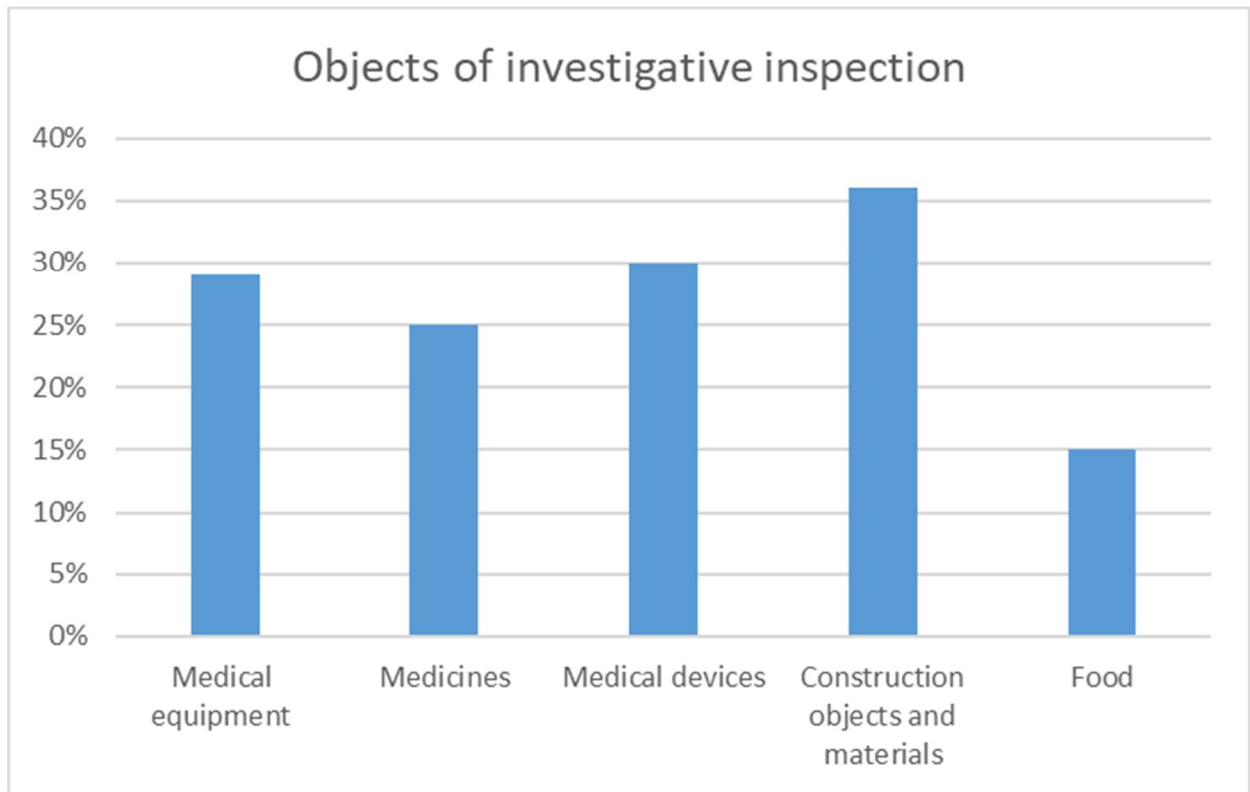


Appendix H

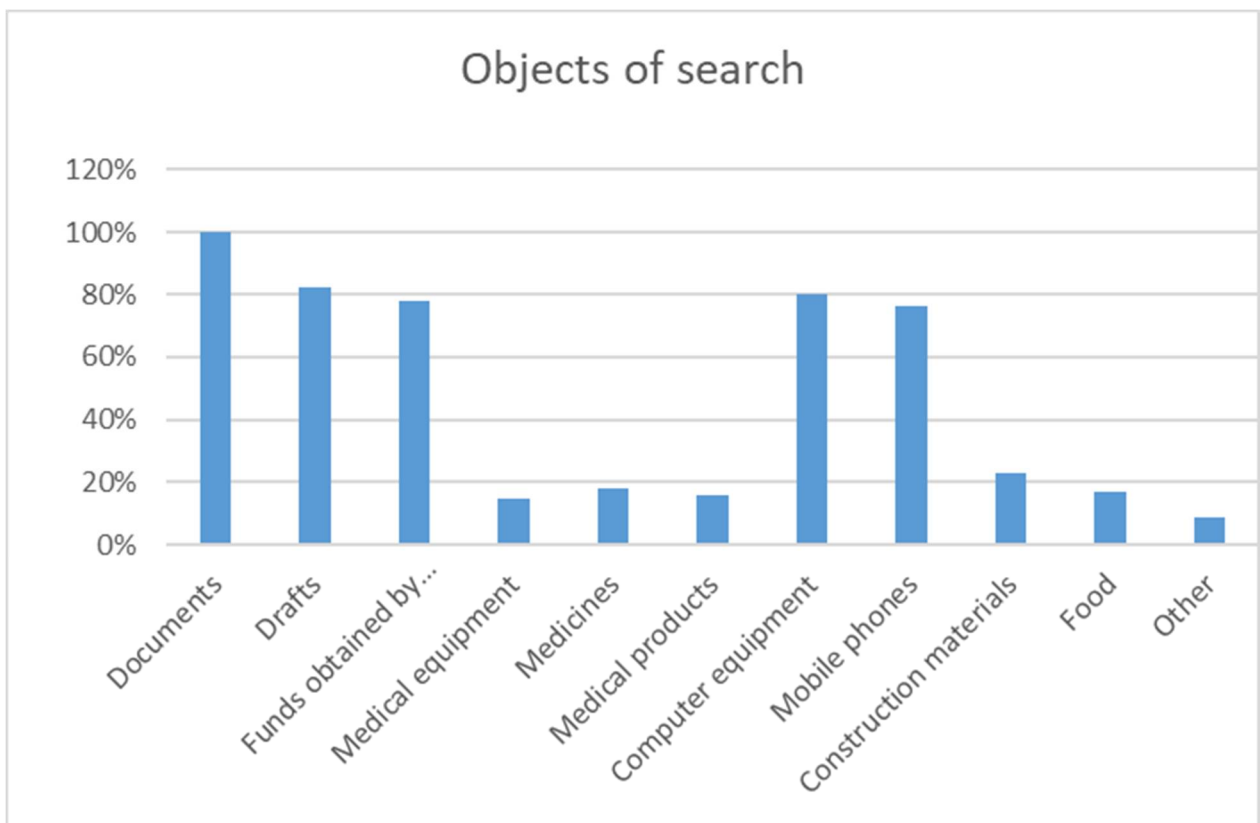
Types of investigative (detective) actions



Appendix I



Appendix J



Chapter 3

USE OF FORENSIC EXAMINATIONS IN INVESTIGATION OF CRIMES RELATED TO STATE FUNDING OF HEALTHCARE SECTOR

3.1. Peculiarities of assignment and conduct of economic and commodity examinations

Crimes related to the illegal use of budgetary funds in the healthcare sector are committed by highly educated persons (officials, employees) and have their own specifics. For a successful investigation, pre-trial investigation bodies need additional knowledge in the fields of economics, medicine, construction, etc. When it comes to the use of specialised knowledge, both practitioners and academics pay considerable attention to the appointment of forensic examinations. This fact is confirmed by the analysis of questionnaire data from a survey of practitioners of the National Police of Ukraine who investigate this category of crimes. It showed that in almost all cases, certain types of forensic examinations were ordered.

The legal, organisational and financial basis for forensic expert activity in order to ensure that the justice system of Ukraine is provided with independent, qualified and objective expertise focused on the maximum use of the achievements of science and technology is provided by the Law of Ukraine "On Forensic Expertise". The law also defines forensic examination as a study based on special knowledge in the field of science, technology, art, craft, etc. of objects, phenomena and processes in order to provide an opinion on issues that are or will be the subject of court proceedings [162].

The procedural basis is Art. 242 of the CPC of Ukraine, which has been amended and supplemented several times recently. As of today, the examination is conducted by an expert institution, expert or experts engaged by the parties to the criminal proceedings or the investigating judge at the request of the defence in cases and in the manner prescribed by Article 244 of this Code, if special knowledge is required to clarify circumstances relevant to the criminal proceedings [85]. Changes in the procedural legislation complicated the process of appointing forensic examinations, especially economic, handwriting and other types of expert studies, which led to an increase in the timeframe for their conduct. Forensic examinations may be

ordered by the investigator, which greatly facilitates the quality preparation of comparative material and the conduct of a thorough and timely investigation.

As we noted earlier, the organisation of a forensic examination begins with the investigator's decision on the need for its appointment and consists of the following stages: selection of an expert institution or private expert, determination of the type of examination and subject matter, selection of the time of appointment of the examination and objects for examination, issuance of a decision on the appointment of an examination, sending the decision and the necessary materials to the expert institution [23, p. 89].

According to a number of scholars, in cases of crimes in the budgetary sphere, the most important are: forensic economic examinations, examination of materials, substances and products, technical examination of documents, handwriting examination, examination of computer equipment and software products, commodity research, construction and technical examination. In some cases, scientists distinguish between the examination of special chemicals and the examination of video and sound recordings [182, p. 106].

The results of the study of criminal cases and proceedings in this category of offences, as well as interviews with practitioners, show that in 92 % of cases, forensic economic examinations were ordered, 86 % – handwriting examinations, 46 % – commodity examinations, 21 % – technical examination of documents, 28 % – construction and technical, 10% – medical, 9% – other types (Appendix K).

As a rule, all examinations are multi-objective and require a lot of time both for the preparation of materials and for their direct examination. Therefore, it is worth using a consultative form of using specialised knowledge both during the preparation of forensic examinations and during their appointment and conduct.

Law enforcement officers note that additional consultation before the appointment of forensic examinations was necessary: in 56 % of cases almost always; in 24 % – only when appointing certain types; 14 % – not used, but there was a request for additional materials; 6 % – not needed and the examination was carried out on time. In the opinion of knowledgeable persons, it is necessary to involve specialists before conducting an examination: for sampling – 46 %, for seizure of objects – 21 %, in all cases – 20 %, and only 13 % consider it unnecessary.

In order to prevent untimely forensic examinations or the return of materials to the investigator without execution, we will determine the organisational and tactical features of their appointment and conduct.

During the detection and investigation of these crimes, it is obvious that

there is a need to use specialised knowledge in the form of appointment and conduct of forensic economic expertise. They are committed by transferring budget funds, cashing them in and embezzling them. Of course, all these transactions are reflected in certain documents, the study of the content of which is necessary to obtain the status of evidence.

The subject of forensic economic examination is the factual data contained in the objects of study and information on business transactions (status and results of economic activity of economic entities) that are essential for the body that appointed the examination, and are established and obtained as a result of the study of documents using special knowledge in the field of economics [21]. As is well known, the following types of expertise are carried out within the framework of economic expertise: examination of accounting, tax accounting and reporting documents, examination of documents on the economic activities of enterprises and organisations; examination of documents on financial and credit transactions.

Despite the diversity of this type of economic expertise, it should be noted that investigators do not always specify the type of expertise when appointing a forensic economic examination. Despite the fact that the tasks for each of these types are different.

Thus, the tasks of examination of accounting, tax accounting and reporting documents are to determine: documentary substantiation of the amount of shortage or surplus of inventory and cash, the period and place of their formation; documentary substantiation of the execution of transactions for the receipt, storage, manufacture, sale of inventory, including cash, fixed assets, services; documentary substantiation of the reflection in the accounting of cash, securities; documentary substantiation of the

In turn, the main tasks of the examination of documents on the economic activities of enterprises and organisations are: 1) analysing: indicators of financial and economic status (solvency, financial stability, profitability, etc.) of the enterprise/organisation; structure of property and sources of its acquisition; 2) determining: documentary evidence of settlements with debtors and creditors; documentary evidence of cost analysis; documentary evidence of settlements in case of privatisation and lease of privatised property; documentary substantiation of calculations of the share of property in case of withdrawal of a participant from the founders; documentary substantiation of calculations of lost earnings (from untimely payment of compensation for damage caused in case of disability and in other cases); documentary substantiation of targeted spending of budget funds; documentary substantiation of calculations of lost profits.

The tasks for the examination of documents of financial and credit

transactions are formulated quite differently. These include determining the documentary validity of banking transactions for opening accounts, cash flows on accounts; documentary validity of processing and recording transactions for issuing, using and repaying loans; documentary validity of processing and recording in the accounting of banks their financial and economic activities; compliance of the reflection of financial and economic transactions of banks with the requirements of regulations on accounting and reporting; documentary validity of the reflection of financial and economic transactions of banks; and

At the same time, when exposing crimes related to the illegal use of budgetary funds in the healthcare sector, it is common for all types of economic examinations to establish the amount of damage and who caused it. The objects of study are: an agreement between a supplier and a healthcare facility, an invoice, a specification, an invoice, an act of acceptance of goods or services performed, tax reporting, design and estimate documentation (project, estimate, conclusion), a procurement plan, and an account of the supplier's funds, documents on the origin of goods (disinfectants, medicines, medical equipment, medical devices, medical furniture, etc.)

In modern life, accounting is conducted electronically, so documents stored in computers should be printed and certified by the signatures and seals of the institution, numbered in chronological order, and properly packed without compromising their integrity. If it is not possible to provide the materials for expert examination in full, the examination will be suspended at the request of the forensic expert indicating the need for such materials. However, such a request may serve as a justification for the court to conduct a search or temporary access to things and documents.

When investigating the fact of misuse of budgetary funds, it is advisable to provide an audit report indicating which provisions contradict the materials of the criminal proceedings and which questions arise. However, some scholars note that the need to appoint a forensic economic examination is due to a poorly conducted audit, or if there are doubts about the completeness and quality of its conduct, or a well-founded request from the defence [60; 225].

One of the most common ways of committing these crimes is to conduct public procurement in violation of the law. In this regard, it is often necessary to determine the legality of such procurement. It should be noted that the study of the actions of tender committees does not fall within the competence of forensic economic expertise, as stated in the Instruction on the appointment and conduct of forensic examinations and expert studies. The legality of their activities is reviewed by the Antimonopoly Committee of

Ukraine and monitored by the State Audit Service.

In such cases, as noted by O. A. Liashenko and O. V. Shcherbyna, to document the damage caused to the customer of the state procurement, as a result of the supplier changing the price of goods after the conclusion of the procurement contract, in addition to the documents required for the study, the pre-trial investigation body – the customer of the expertise – must provide

- an act of the controlling body whose main tasks include compliance with the public procurement legislation;

- an expert’s opinion on other types of research on establishing the average market value of these goods [90, p. 750].

Also, in order to identify the factors that hinder the conduct of these examinations, we interviewed knowledgeable persons. Among them, it was found that: 46 % of them provided copies of documents rather than originals; 25 % provided drafts rather than officially executed documents with appropriate seals and signatures; 19 % provided information in the form of reports, protocols, audio recordings rather than financial documents, and 10 % provided other information.

Among the common mistakes in the appointment of economic expertise in cases of budget crimes, A. Volobuiev, I. Osyka and R. Stepaniuk note the wording of legal issues, which is unacceptable in accordance with paragraph 2 of the Resolution of the Plenum of the Supreme Court of Ukraine No. 8 “On Forensic Examination in Criminal and Civil Cases” dated 30.05.1997. For example, “Were there any violations of the law in the actions of the officials of the PIB, if so, how did they manifest themselves?” or “Which of the officials committed violations of the legislation on the budget system and which ones?” [38, c. 144].

Along with economic expertise in a complex or separately, there is a need to appoint and conduct a commodity expertise. In the investigation of this category of crimes, there is a need to establish the actual value of the goods, so there is a need to appoint a commodity expert examination. Commodity expertise also solves other tasks that have been repeatedly studied by scientists and specified in the legislation. These include: determining the value of commodity products; determining whether goods belong to the classification categories adopted in the production and trade sector; determining the characteristics of the objects of research in accordance with the requirements of the Ukrainian Classification of Goods for Foreign Economic Activity; determining changes in the quality of commodity products; establishing the method of production of commodity products: industrial or home-made, the manufacturer, the country of manufacture; determining the compliance of packaging and transportation,

storage conditions and terms, etc.

The objects of commodity expertise are: documents – 100 %, medical equipment – 34 %, medical devices – 31 %, construction materials – 47 %, food – 13 %, other – 12 % (Appendix L).

It should be borne in mind that a commodity expertise can be conducted without the object being submitted to an expert institution. However, the investigator is obliged to provide access to it for the forensic expert or provide the relevant documentation contained in the criminal proceedings.

Among the peculiarities of the appointment and conduct of a commodity examination, O. Sadchenko and O. Shevchenko note the fact that food products are seized in full, but the expert is sent an average sample from homogeneous products (bulk, liquid or viscous consistency) for examination. This procedure is regulated by the relevant Resolutions of the Cabinet of Ministers of Ukraine or orders of ministries and departments. Sampling should be carried out in strict accordance with the requirements of regulatory documents regarding the procedure, number and methods of sampling using appropriate equipment and facilities [169, p. 291].

When examining objects, it is not always possible to obtain a categorical the conclusion of a commodity expertise even if all the requirements for its appointment are met. One of the reasons may be the examination of bulky objects consisting of many original components whose value is unknown.

Thus, in the course of the pre-trial investigation of the criminal proceedings regarding the misappropriation of budgetary funds by officials of the Department of Health during the purchase of expensive medical equipment – a magnetic resonance imaging scanner (UAH 35 million per unit), it became necessary to determine the actual cost of the purchased equipment in order to establish the damages caused, since the purchase price was significantly different from the market prices for similar equipment from other manufacturers. The equipment consisted of several complexes mounted in four premises. A merchandising expert was appointed by a non-governmental expert institution, which raised the following questions: “What is the actual value of the magnetic resonance imaging machine”? However, the investigator received an expert opinion with the answer "it is not possible to resolve the issue" [97].

When appointing forensic examinations, law enforcement officers may make certain mistakes for objective and subjective reasons. The results of a survey of knowledgeable persons made it possible to identify factors that complicate the conduct of a commodity examination. These include: the

presence of bulky objects – 33 %, no indication of the time at which the value of the object should be calculated – 36 %, provision of information not in financial documents – 22 %, other – 9 % .

When investigating these crimes, it is advisable to appoint comprehensive examinations, which may include: economic, construction, and commodity expertise. At the same time, it is important to correctly establish the sequence of examination of the same objects, preferably with the prior advice of specialists. As an example, let us cite the following fact. In 2016, in order to misappropriate budgetary funds, hospital officials, in collusion with an individual entrepreneur, agreed to reconstruct the building at an inflated cost. For this purpose, instead of developing design and estimate documentation, the hospital officials drew up a defective act, according to which it was planned to carry out reconstruction works using materials that did not comply with the DSTU, namely window blocks with an inadequate minimum permissible value of heat transfer resistance of the envelope of residential and public buildings. Subsequently, the aforementioned entrepreneur was declared the winner of the tender, which resulted in the supply of goods and services that were significantly overpriced. The UZE employees collected material, which was registered in the URPTI and a pre-trial investigation was initiated. The investigator prepared a motion to the court to appoint a comprehensive examination. The court granted the petition and issued a ruling on the appointment of a comprehensive commodity and construction and technical expertise to address the following issues:

1. What is the market value of the construction materials actually used in the current repair?

2. What is the actual cost of the construction and installation work carried out at the facility?

3. What is the difference between the value indicated in the act of acceptance of completed construction works of form No. KB-2v and the actual cost of construction and installation works?

4. What is the actual cost of the construction and installation works performed at the facility that meet the requirements of the DBN (state construction norms) and DSTU (state standard of Ukraine), namely, construction requirements, installation requirements, etc. Initially, the commodity expert determined the actual cost of construction materials, and then the construction expert examines the actual amount of work performed [94].

In the context of this issue, it should be noted that the names of expert specialties, depending on which the type of examination is specified, and the list of typical questions for each type of forensic examination are set out in

the scientific literature and regulations. However, a large number of questions that are not directly related to the investigation of a particular criminal proceeding only increase the time and cost of conducting examinations and are not actually used by the investigator.

As a result, it can be noted that in the course of detection of crimes related to the state financing of budgetary funds in the healthcare sector, a significant role is played by forensic examinations, the organisational and tactical features of which are subject to changes depending on constant procedural changes. Economic and commodity examinations, which are often appointed in combination, should mainly confirm the amount of illegally transferred funds, calculate the amount of damage caused, and establish the actual value of the goods.

3.2. Peculiarities of assignment and conduct of handwriting examination and technical examination of documents

In the investigation of crimes related to the illegal use of budgetary funds in the healthcare sector, forensic handwriting examinations play a key role. Almost always, they are appointed along with economic expertise on the same documents, but they examine the graphic component using other methods and research techniques.

The signatures of authorised persons and business entities acquire will become even more important after the mandatory use of seals and stamps is cancelled. In public procurements between healthcare institutions and entrepreneurs, the signatures of one contractor on tender proposals from two different participants provide law enforcement with evidence of the illegality of such procurements.

A copy of a document submitted by a business entity to a public authority or local self-government body is considered to be certified in accordance with the established procedure if such copy bears the signature of an authorised person of such a business entity or the personal signature of an individual entrepreneur [142].

We have already noted that this category of crimes, as well as any economic crimes, are committed with the help of certain documents that could already be examined and have the appropriate marks, stamps (stamps) “Object of investigation” and “Sample of investigation”. After studying the opinions of leading forensic scientists, as well as interviewing employees of practical units that investigate crimes in the public sector of the healthcare industry, we will note the disputed documents that may be the subject of

handwriting examination: an agreement between a supplier and a healthcare facility, additional agreements, specifications, design and estimate documentation (lists of resources, project, estimate), financial obligation, acts of acceptance and transfer of goods or services, works, acts of commissioning, etc. Of course, this list of documents is not exhaustive and may be expanded depending on the specific criminal proceedings.

The person conducting the investigation should pay attention to the compliance and coincidence of not only the semantic component of these documents, but also the graphic material. Therefore, it is important to properly prepare both disputed documents, and comparative material in order to reflect all the features of the handwriting skills of the defendants. According to Z. M. Melenevska, the main thing for the subject science of forensic handwriting is the regularities of handwriting formation, its main identification and significant properties, and forensic handwriting examination is the facts obtained by applying the methods of identification and non-identification research of handwriting and signatures [111, p. 95].

The methods in accordance with which identification and non-identification studies are carried out provide for the objects of handwriting examination, including texts of large, medium, small volume and short records. They may be alphabetic, numeric or mixed. A signature is also listed as one of the types of handwriting examination [112, 113, p. 5].

The results of the study of expert opinions on crimes related to the illegal use of budgetary funds in the healthcare sector show that the objects of handwriting expert research in such proceedings are: signatures, including those made on behalf of other persons – 57 %, digital records – 18 %, short texts – 15 %, manuscripts – 10 % (Appendix M). Taking into account the statistics, it can be concluded that large manuscripts are practically not examined, which is explained by the widespread use of computer technology.

When appointing a forensic handwriting examination, the prosecution usually tries to get an answer to the following questions: “Was the signature or handwriting in the specified columns of the relevant document made by a certain person”? However, in addition to identification tasks, forensic handwriting examination also solves classification and diagnostic tasks. That is, in the absence of samples of the suspect, the following questions can be resolved: “Were the manuscripts made by the same person in the specified documents?” (group identification), “Was the executor of the manuscripts in an unusual state”, “Has there been a change in the comfortable writing hand?” and so on.

It is difficult to avoid making mistakes when asking questions. However, you should indicate as clearly as possible in which columns or in

which corner of the document the disputed graphic object is located. Also, the question “Are the signatures in the two documents identical?” should not be asked, as the signatures made by a person cannot be completely identical. In this case, the question “Are the signatures in the documents made by the same person?” is possible.

V. A. Nechytailo rightly notes that in most cases, during the investigation of crimes, investigators and scientists consider the main task of handwriting examination to be the identification of the performer of handwritten text, limited in scope handwritten records (alphabetic and digital) and signatures. As well as solving some diagnostic tasks (establishing the fact that the manuscript was executed in unusual conditions or in an unusual state of the performer, in deliberately altered handwriting, with imitation of another person’s handwriting, determining the gender of the performer, as well as his/her belonging to a certain age group, etc.

An expert opinion in these cases can serve to plan further investigative (detective) actions and put forward versions.

For example, in two acts of acceptance and transfer of work performed for the installation of metal-plastic structures of window blocks in Hospital No. 00 and contracts for the supply of goods, there were signatures on behalf of the chief physician with different transcriptions. The investigator assumed that the signatures were made by different persons. After appointing and conducting a handwriting examination, it was established that the signatures in the acts were not made by the chief doctor, but by another person. Further investigative (search) actions revealed that the signatures had been made by an accountant on behalf of the chief medical officer, which was confirmed by an additional handwriting examination. As a result, the latter was served with a notice of suspicion.

An important issue when appointing a handwriting examination is collecting the necessary handwriting and signature samples. According to experts, the outcome of this examination depends on the quality and quantity of the samples by 90 %.

The investigator or an operative acting on behalf of the investigator must carefully prepare the comparative material. As you know, there are three types of samples: experimental, free and conditionally free (Appendix N).

Experimental samples are made by a person specifically for the purpose of conducting an examination in compliance with the requirements of the current criminal procedure legislation, and the investigator draws up a protocol for taking samples for examination. As for the selection of experimental samples, scientists recommend using samples made in the same

handwriting style as the disputed manuscripts for examination. There are options for free written narration, rewriting the text, and writing from dictation.

P. V. Komisarchuk and P. V. Bondarenko consider the most effective way to obtain comparative samples to be by writing a specially designed text containing all variants of lowercase and capital letters in various combinations and phrases [75, p. 161].

Instead, some forensic scientists suggest taking samples from dictation of a text that contains words and phrases from the document under study or recommends that a person compose a document (autobiography). In this case, the spelling of the words is not explained, the person must write as he or she considers correct. Experimental samples may be taken in conditions as similar as possible to those of the disputed manuscripts in any form and quantity. However, the writer may try to distort his or her handwriting. To prevent this, the scientist suggests varying the pace of dictation [21].

In any case, copying from the document under study or from a typewritten (printed) text is unacceptable [148].

Free manuscripts are manuscripts made before the initiation of criminal proceedings in normal (convenient) conditions for the writer, without intentional distortion of handwriting.

They most closely reflect the features that characterize a person's handwriting skills. Free samples are valuable material for conducting a comparative handwriting study, provided that they are collected in sufficient quantities and their ownership is beyond doubt [21]. These can be personal records of a healthcare worker or those related to his/her professional activities (outpatient records, orders, instructions), but not related to this criminal proceeding. In any case, their reliability must be verified by comparing them with other types of samples.

Conditional free samples are manuscripts that a person did not execute specifically for an examination, but may have realized that they could potentially be used for it. These are records in the protocols of investigative (search) actions, complaints, petitions, etc. Investigators underestimate the importance of this type of sample. However, in the absence of others, they are quite informative, as the executor focuses on the content of the document, not the graphic part. Thus, all variations of identification features are manifested. The investigator should try to create such conditions for the writer so that he or she personally executes as many manuscripts as possible. For example, for a person to sign in several places in the protocol or to write their own answers to the investigator's questions in the interrogation report, as the inscription: "According to my words, it is written correctly" is a

limited graphic material that neither includes all the letters of the alphabet nor allows to evaluate handwriting in terms of variability.

Before attaching free and conditionally free samples to the criminal proceedings, the investigator (judge) must present them to the person to be identified, and then mark each sample, i.e., indicate that it is a free sample of handwriting (signature) of a certain person (indicate his/her surname, name, patronymic) and certify it with his/her signature [148].

Interviews with forensic experts revealed that the completeness of the handwriting expert examination is affected by: improperly collected material – 36 %, insufficient number of samples – 39 %, violation of packaging rules – 14 %, other – 11 %.

The requirements that samples must meet remain constant and have been considered repeatedly in the works of scientists. In particular, they must coincide with the objects under study in terms of: writing and language; time of writing; content and purpose; writing material; method of execution; conditions of execution of the document; state of the writer; writing pace [21].

That is, if the disputed manuscripts are made with a ballpoint pen, then samples should be taken with a ballpoint pen, and not with another writing device. If the form of the disputed document is lined and there is not much space for signature, then lined paper for samples should be prepared in the same way. As for the relevance of the samples in terms of the time of writing, it is not recommended that they have a gap of more than 5 years with the document under investigation. It should be borne in mind that the handwriting of persons involved in this category of crimes is usually highly developed.

One of the controversial issues that arise between the investigator and the expert is the number of samples, since the former collects them and the latter uses them in the study. We believe it is advisable to use the advisory assistance of a handwriting expert in each specific criminal proceeding, since the graphic material is very variable, making it impossible to provide specific meaningful advice or consult by phone or photocopy of a document.

However, in accordance with the general Methodology for Handwriting Research, the minimum amount of comparative material is specified:

- lettered text on at least 15 sheets;
- digital text, provided in the form of records of single and multi-digit numbers with accompanying letter records, on at least 15 sheets;
- records in “printed” letters – at least 15 pages of standard format.

If possible, free signature samples should be provided on at least 15 documents, experimental samples – on at least 5-8 sheets, each of which should contain 20 to 30 signatures [113, p. 8].

As a rule, this volume is not enough or it is impossible to provide all varieties of these samples. Thus, practice shows repeated cases of refusal of persons to provide experimental samples, and the specificity of handwriting is such that forced selection is impossible. With regard to free samples, it should be borne in mind that the proliferation of electronic documents also hinders their collection in sufficient quantities.

Pursuant to the Law of Ukraine “On Forensic Expertise”, if the quantity and quality of comparative material is insufficient, the expert may send a letter to the investigator warning him/her to suspend the expert examination. If such a request is ignored within 45 days, the examination is returned to the customer without being completed [162]. The survey and analysis of expert opinions revealed that one in three expert examinations was suspended. This situation indicates, on the one hand, the complexity of appointing such examinations, and, on the other hand, the insufficient volume and quality of samples. Of course, the procedure is painstaking and requires preparing material in advance for a timely forensic examination and obtaining a complete, well-founded conclusion.

Particular attention should be paid to signatures. In the above documents, they can be executed on behalf of another person in various ways: by visually observing the signature to be forged; redrawn on the clearance; with the help of technical training. In such cases, experimental samples are of particular importance, which must be taken both from the person indicated in the document as the executor and from the person suspected of making the disputed entry or signature. In the latter case, if the person does not refuse to provide samples for expert examination, it is imperative to take samples of his or her signatures on his or her own behalf and on behalf of the person indicated in the document as the executor.

At the present stage, electrophotographic copies of documents are widely used in the document circulation of Ukraine, which are increasingly sent to an expert institution for handwriting analysis. There are also situations when the original documents submitted for examination contain signatures made using a facsimile cliché, and therefore are essentially an image of a handwritten object, not the handwritten object itself. Agreeing with the opinion that a handwriting expert should examine such objects, it should be noted that their specificity requires additional knowledge of: 1) image acquisition technology; 2) features that characterize the morphological structure of the stroke depending on the method of applying the graphic object; 3) handwriting features preserved in the images; 4) features that may have changed [111, p. 96].

In the above cases, it is advisable to appoint a handwriting examination

along with a technical examination of documents that previously formed a single whole. M. V. Terziev divided the forensic examination of documents into two parts: graphic or handwriting examination and technical examination of documents and introduced the term “technical examination of documents” [21]. This novelty found support in the scientific community and still exists today.

It is known that technical examination of documents is divided into examination of document details, examination of printing forms and examination of document materials. In the course of investigating these crimes, the following tasks are usually solved by examination of document details:

- establishing the facts and methods of making changes to documents (erasing, etching, adding, pasting photographs, letters, etc.) and identifying their original content
- determining the type and identification of writing instruments by strokes;
- determining the relative age of the document or its fragments, as well as the sequence of overlapping strokes;
- identification of a document produced by mounting with the use of copying and reproduction and computer equipment.

At the same time, the tasks of the printing plates examination include:

- establishing the peculiarities of manufacturing printing media (forms) and their reflection in prints;
- determining the type and identification of writing instruments by strokes;
- determining the relative age of the document or its fragments, as well as the sequence of overlapping strokes;
- identification of a document produced by mounting with the use of copying and reproduction and computer equipment.

At the same time, the tasks of the printing plates examination include:

- establishing the peculiarities of manufacturing printing media (forms) and their reflection in prints;
- determination of the type, system, brand, model of copying and reproduction equipment (electrophotographic machines, faxes) and identification of copying and reproduction equipment by their prints;
- establishing the method of applying seals, stamps, facsimiles; identification of seals, stamps, facsimiles, etc. by their imprints; matching the time of applying seals, stamps to the date of production of the document;
- establishing the type and identification of computer equipment by the document produced with their help [148].

Scholars note that the most common objects of forensic technical examination of documents are document details, document materials and

devices for document production (equipment, substances and means used in the production of documents) [67, 41, 83]. At the same time, it should be noted that the examination of document materials in the investigation of these crimes is irrelevant.

Instead, when there is a need to establish the method of making a document form, the sequence of intersecting strokes of a document, a technical examination of documents is appointed. At the same time, it is necessary to take into account the peculiarities of paper and plastic documents, methods of filling in the details and making forms.

The use of modern copying and multiplication equipment and the specifics of its reflection in documents is extremely common for document forgery. V. Biriukov, V. Kovalenko and others use the term “small printing equipment” and divide them into two large groups: the first is devices for copying (retrography), the second is printers, i.e. devices for obtaining images of electronic documents prepared with the help of computer technology. According to scientists, it is unacceptable to use such equipment for the production of strict accountability documents [83, p. 259].

Here is an example of an expert examination of a passport form in the form of an ID card. “The passport was examined visually under natural and artificial light, in the field of view of the microscope “MBS-10” (at different magnification modes), video spectral comparator F&F “VSC 40/FS” in the UV and IR spectral zones (regions). It was found that:

- all strokes of the passport images consist of horizontal elements, which is why the signs have a stepped (jagged) structure;
- there is no pressure and relief in the strokes; the coloring substance lies on the surface in a uniform layer; the transitions between the primary colors of the images are smooth;
- special protection elements: UV and IR protection, microtexts, optically variable image, tactile font elements and protective engraving elements are absent.

The combination of the established features allows us to conclude that all the images of the front and back sides of the passport of a citizen of Ukraine in the form of ID-card No. 000 in the name of L were applied by thermal sublimation using a dye-sublimation printer. Since the thermal sublimation method of printing is not used in the manufacture of passport forms of a citizen of Ukraine in the form of an ID-card, there are no special security elements, this allows us to conclude that the form of the passport of a citizen of Ukraine in the form of an ID-card No. 000 in the name of L does not correspond in terms of the printing method and special security elements to the established sample – similar forms of passports of a citizen of Ukraine

in the form of an ID-card that are in official circulation in Ukraine”.

When studying forensic expert opinions on the technical examination of documents in this category of crimes, it was found that the method of printing documents is examined in 25 % of cases, seals and stamps – 46 %, signatures with technical forgery – 15 %, printers – 12 %, other – 2 % (Appendix O).

The issue of identification of seal impressions also remains relevant, although their presence is no longer required. Pursuant to the Law of Ukraine “On Amendments to Certain Legislative Acts of Ukraine on the Use of Seals by Legal Entities and Individual Entrepreneurs”, a business entity has the right to use seals in its activities. The use of a seal by a business entity is not mandatory. The production, sale and/or purchase of seals is carried out without obtaining any permits [142].

This provision complicates the research process. The expert may not have information about the peculiarities of manufacturing seals that affect the display of the seal in the document.

The results of interviews with knowledgeable persons indicate that the study of seals and stamps is complicated by: lack of information about the manufacturing technology – 56 %, inconsistency of display on paper – 23 %, incompetence of the expert – 3 %, other – 13 %.

Scientists note that earlier experts had information on the technologies for making seals and stamps, knew the requirements for them, and, of course, were able to distinguish clichés from each other by certain features. The situation became more complicated after the abolition of the Instruction on the procedure for issuing permits to ministries and other central executive bodies, enterprises, institutions, organizations, business associations and citizens to open and operate stamp and engraving workshops, manufacture seals and stamps by Order of the Ministry of Internal Affairs No. 5 of January 11, 2011, which contributed to the legislative uncertainty. At the same time, the latest technologies allow the use of easy-to-use equipment for the production of clichés of seals and stamps in modern ways, which negatively affects not only the work of experts but also increases the level of crime [23, p. 101].

In addition, the use of photopolymer clichés and the identification of their prints poses corresponding difficulties. Forensic experts note that the reflection of such a cliché on paper is influenced by various factors, including the composition of the ink applied to the working part of the seal, the force of the seal on the paper, etc. In such cases, it is advisable to provide for comparison not samples of the seal of a particular organization or institution, but the seal or cliché itself. As a rule, such studies include questions about the method of manufacturing the form, the method of filling in its columns and, of course, the identification of the cliché itself.

Expert practice has the following example:

“The study of the city mayor’s order was carried out visually under natural and artificial light, in the field of view of the MBS-10 microscope (at different magnification modes), the F&F VSC 40/FS video spectral comparator in the UV and IR spectral zones (regions).

It was found that:

the strokes of printed texts, lines and graphic images are formed by black small melted powder (toner) particles; they have uneven stroke edges; the fine-grained dye located on the paper surface has a characteristic luster, no pressure marks; the coloring matter is located in a dense, flattened layer; there are contaminations of the background in the form of individual dots of “daisies” and accumulations of powder particles along the perimeter of the strokes and in the white areas; the layer of coloring matter in the strokes is not strong, when it is mechanically impacted with a pointed object, pressure marks remain and, if the impact continues, the coloring layer is removed from the paper surface;

the strokes of handwritten records have different widths; the dye is located on the surface of the paper, does not penetrate deep into its thickness, and has a shine; the strokes of the characters are unevenly colored (the presence of non-colored areas (grooves) and individual dye clots); the presence of relief in the strokes in the form of an oval-shaped depressed trough; the dye is not dissolved by water;

the strokes of the round seal have a standard structure of characters (the same pattern of letters of the same name, the correct shape of ovals and semi-oval, the same height of letters in a word and the main elements in a letter, the same width of letters of the same name); correct arrangement of characters in the text (straight line, uniform intervals between characters, the same location of the vertical axes of characters relative to the line); concentric rim lines, no distortions; coloring matter in the strokes is unevenly distributed, elements of some characters are not fully reflected; strokes have clear boundaries, smooth edges, only at the ends of the strokes there is an oval shape; intense and saturated color of the print; no discrepancies in the luminescence of the surface of the forms in UV rays.

The combination of the established features allows us to conclude that:

printed texts, lines and graphic images of the city mayor’s resolution were obtained by electrophotographic printing using a monochrome laser or LED printing device such as a printer, copier, etc;

handwritten entries are made by hand using a writing device such as a ballpoint pen;

the imprint of the round seal was made by contact method, namely,

with a relief elastic letterpress cliché.

Upon further examination of the city mayor's order, no signs of alterations (erasures, additions, etchings, corrections, etc.) to the original text were found.

Further examination of the impression of the round seal revealed that it was fully and clearly displayed, with some defects in the display of letters and other elements of the impression, which allows us to conclude that it is suitable for comparative research...

During the comparative study of the impression of the round seal applied at the disposal of the mayor with the experimental samples of the impressions of the round seal with the details "FOR COPIES" of the Department of the State Department of the City Council, made by the expert during the expert experiment, by optical superimposition and comparison, it was established:

1. Differences in general features: diameters of the circles of the rims of the prints; width of the strokes of the marks, as well as in individual features:

– the horizontal length of the upper serif of the 1st element of the letter "M" in the word "MISKAYA": in the investigated print, it is longer than in the samples;

– placement of the letters "M" and "I" in the word "CITY": in the investigated print – merged, in the samples – separate;

– the direction of the 3rd element of the letter "A" in the word "MANAGEMENT": in the investigated print – ascending, in the samples – horizontal;

2. Coincidences on general features: semantic content of the text; type of fonts and font size of texts and signs; distance between letters and words, location of signs in words and words in lines in relation to each other.

The identified discrepancies are significant, persistent and in their totality sufficient to conclude that the imprint of the round seal with the details "FOR COPIES" of the Department of Administration of the City Council, which is at the disposal of the city mayor, is not applied with a cliché of the round seal provided for examination as a comparative sample, but with another cliché of the round seal. The identified similarities can be explained by the manufacture of seals using the same original layout or photomold, or the manufacture of stereo clichés from the seal impression, and do not affect the categorical negative conclusion".

As we can see from the above excerpt, investigations are multi-objective, cumbersome and time-consuming, which should be taken into account by those conducting the investigation.

In the course of unfair bidding, the issue of identifying printers is a

pressing one. It is important to establish the fact that the documents of two or three participants are printed on the same printer. However, there are certain peculiarities in the investigation. First, such equipment is sent to the expert institution in the form in which it was seized as soon as possible (to prevent the dyes from drying out). If possible, free samples of documents printed on the printer under investigation and dated at the time of the search or inspection should be taken in advance. In accordance with the Instruction, this equipment is provided in a complete set (computer system unit, installation disk with a printer or multifunctional device driver, connecting and network cables, printer). No work on the computer equipment is allowed until it is sent for examination. Identification issues shall be resolved within the framework of a comprehensive computer and technical examination and technical examination of documents in the presence of an electronic original of the document (file). The seizure of computer equipment and its examination shall be carried out with the participation of a specialist in the field of computer and technical research.

First, general features are established (type of printer, i.e. laser, inkjet, thermal sublimation, etc.). And then they move on to identification, which is based on private features that may not always be displayed, which is the complexity of the study.

In this case, it is appropriate to ask the following questions to the expert:

- What is the type of printer used to produce the text?
- Was the provided document produced on the printer, samples of which were provided for comparative study?
- Were the provided documents produced on the same or different printers? [148].

Another difficult task of technical document examination, but very important for the investigation, is to establish the relative age of a document based on handwriting. In such cases, it is important that the disputed manuscripts were made with an identical writing device. The age is set depending on the dye within five years for ballpoint pens and two years for ink from the date of execution.

For example, an outpatient card of a person was sent for examination, the records in which were dated twenty years ago. But the investigator had doubts about the authenticity of the person's diagnoses. To work out the version that all the manuscripts were made recently, he asked the expert what the relative age of their execution was. Since all the entries were made with ballpoint pens, the expert was able to establish that the relative age of the manuscripts dated from different years was from one to three months.

The date of production of the document can also be established by the seal. But this requires a large number of samples from different periods.

The proceeds of crime seized during a search may also be subject to investigation. As a rule, there is a need to confirm that they were manufactured by the enterprise that issues the relevant banknotes (for example, the Banknote Mint of the National Bank of Ukraine).

Given the specifics of crimes related to the illegal use of budgetary funds in the healthcare sector, it is usually necessary to use comprehensive application of specialized knowledge in the form of appointing expert examinations. In order to avoid red tape and speed up the investigation process, it is recommended to appoint comprehensive examinations. In criminal proceedings of this category, it is advisable to appoint the following: handwriting and economic, handwriting and commodity, handwriting and technical examination of documents, handwriting and construction and technical. The issue of the sequence of appointment and conduct of forensic examinations is not regulated by law, so if in doubt, the investigator should use the advisory form of special knowledge.

Thus, O. V. Sakhnenko and O. Y. Kaniuk note that in practice, the court and investigative authorities rarely appoint comprehensive examinations, preferring separate independent examinations so that the expert can give the most complete and timely opinion on these issues. In practice, there are many cases when an investigator wants to order different examinations of the same object of investigation. But he needs to find out the order of their appointment to ensure maximum informativeness. [171, c. 298].

All materials submitted for examination together with the decision to appoint an expert must be packed and sealed, and the expert must make a note of this in the research part of the expert's opinion. For example, here is the following fragment: "The object and the comparative material came for examination packed in two bags of the National Police of Ukraine: a light brown paper bag measuring 229x323 mm and a special polymer safe bag No. 000 measuring 237x343 mm. The emblem of the National Police of Ukraine, texts and lines of engraving are printed on the bags with black dye and explanatory handwritten notes and signatures are made with blue dye. On the paper bag, the blue dye imprints of the round seal "Investigation Department" with a diameter of 40 mm. The bag flaps are sealed. The packages have no visible violations and ensure the storage of the object of study and comparison material and prevent unauthorized access to them. The general view of the packages (from both sides) is shown in the images of the illustrative table attached to the expert's opinion".

To summarize, in the investigation of crimes related to the illegal use of

budgetary funds in the healthcare sector, handwriting examinations are necessary to establish certain forensically significant facts that may affect the course of the investigation, the peculiarities of planning and putting forward versions, affect the change in the procedural status of certain persons, etc. A specific and problematic issue is the preparation of the necessary comparative material, the absence of which makes it impossible to obtain a categorical identification conclusion. In order to obtain more complete information on the investigated documents regarding the methods of manufacturing forms, seals and stamps, technical forgery of signatures, printers, overlapping strokes, it is advisable to appoint a technical examination of documents.

3.3. Peculiarities of assignment and conduct of other types of forensic research. Evaluation of the expert's opinion

To ensure a comprehensive, effective and impartial pre-trial investigation, law enforcement agencies must use all available legal means, methods and techniques. The healthcare industry is very diverse and has a specific nature, which is why it is necessary to use specialized knowledge in various fields. In the investigation of these crimes, among the existing classes of forensic examinations, a special place is occupied by the appointment of construction and technical forensic examinations.

According to the results of the study of expert opinions, the objects of research are most often: design and estimate documentation (the project itself, drawings, diagrams, drawings, information) – 73 %, new construction of health care facilities – 22 %, major repairs (their compliance, the amount of work performed, the compliance of the materials used, the stages of work performed, the mechanisms and labor involved) – 45 %, current repairs – 43 %, other – 13 % (Appendix P).

Despite the fact that the documents to be examined, as a rule, have already been the objects of economic expertise, the tasks of construction and technical expertise are quite different and include the following:

- determining the compliance of the developed design, technical and estimate documentation with the requirements of regulatory legal acts in the field of construction;

- determination of compliance of the completed construction works and constructed real estate objects (buildings, structures, etc.) with the design and technical documentation and requirements of regulatory legal acts in the field of construction;

- establishing compliance of the performed construction works, individual elements of real estate objects, structures, products and materials with the design and technical documentation and requirements of regulatory legal acts in the field of construction;
- verification and determination of the scope and cost of construction works performed and primary construction reporting documentation and their compliance with the design and estimate documentation and the requirements of regulatory legal acts in the field of construction;
- determination of the capital group, complexity category, degree of fire resistance of buildings and structures and the degree of construction readiness of unfinished construction projects;
- determining the technical condition of buildings, structures and utility networks, the causes of damage and destruction of facilities and their elements;
- determination of the cost of construction works related to re-equipment, elimination of the consequences of flooding, fire, natural disaster, mechanical impact, etc;
- determination of the possibility and development of options for the distribution (allocation of a share; procedure for use) of real estate objects [148].

As noted by scholars, during the pre-trial investigation and in court, special knowledge is necessary to establish the scope and quality of construction and installation work, the cost of materials, and the validity of projects [167, p. 467].

Construction and technical expertise can show that the contractor has not completed the work or has not started repair or construction work in the presence of a signed certificate of completion. In this case, economic expertise should calculate the amount of damage caused to the state. And forensic handwriting and technical examination of documents must confirm the authenticity of signatures and seal impressions.

An example is a case from the Unified Register of Court Decisions.

By the decision of the Yakovlivka village council No. 5/34-357 of 26.03.2009 “On allocation of funds and approval of estimate documentation for the repair of the paramedic stations in Bilohorivka and Vasylivka villages”, in order to provide the population of the villages of the village council with quality and timely medical care, funds totaling 65,000 UAH were allocated from the village council budget for the repair of the paramedic stations in Bilohorivka and Vasylivka villages. This decision of the village council approved the estimates, according to which UAH 23,134 was allocated for the repair of the paramedic station in Bilohorivka village and UAH 42,009 was allocated for the repair of the paramedic station in Vasylivka village.

On 09.04.2009, the Yakovlivka Village Council of Artemivsk District, hereinafter referred to as the “Customer”, represented by the head of the Council, PERSON_1, and PE PERSON_3B, hereinafter referred to as the “Contractor”, entered into Contract No. 11 for the current repair of the Vasylivka village first aid post, according to which the contractual price for the performance of works under the contract is UAH 42,009, Final payments are made after signing the acceptance certificate (KB-2) and certificate KB-3, the contract is valid until 31.12.2009.

On 13.04.2009, in the daytime, PERSON_1, being in the premises of the Yakovlivka village council, located in the village of Yakovlivka, Artemivsk district, at 5 Donetska Street, knowing that the contractor’s works on the current repair of the paramedic station in the village of Vasylivka, Artemivsk district, had not yet been completed. Vasylivka village, Artemivsk district, has not yet been started in order to avoid returning to the state budget the funds allocated from the budget of the Yakovlivka village council for the current repair of the paramedic station in Vasylivka village, Artemivsk district, in the amount of UAH 42,009, He drew up and issued a knowingly false document, namely, he signed and sealed a computer-generated acceptance certificate for April 2009, form No. KB-2 dated 13.04.2009, containing untrue information about the completion of the said repairs in full, whereas in fact, at the time of drawing up and signing the said document, PERSON_3 had not yet started the repairs.

The act was also signed and sealed by PERSON_3. On the same day, PERSON_1 submitted a knowingly false document, an act of acceptance of contractor work performed in April 2009, form No. KB-2, to the State Treasury Department in Artemivsk, as a result of which, on 21.04.2009, the State Treasury Department in Artemivsk transferred funds in the amount of UAH 42,009 to the current account of PE PERSON_3 on the basis of this act submitted by PERSON_1 under payment order No. 155.

On 27 May 2009, when a specialist of the Capital Construction Department of the Artemivsk City Council carried out control measurements of the actual amount of work performed under contract No. 11 of 09.04.2009, it was established that the work on the current repair of the first-aid post in Vasylivka village, Artemivsk district, had not been completed in full at the time of the control measurements. The cost of the unfinished work is UAH 17,989.57.

In the period from 12.05.2009 to 04.06.2009, the Yakovlivka Village Council inspected the Artemivske MCSD in accordance with the audit plan and found the above violations. After the audit of the Artemivske MCDC, it and PERSON_3 made a defective act on the replacement of the electrical equipment of the first-aid post, and in order to transfer the necessary budget

funds, they concluded an additional agreement No. 19 for the current repair of the electrical wiring of the first-aid post, which was signed on 10.06.2009. PERSON_3 also drew up cost estimates under this agreement, the amount of which was UAH 18,000, and these documents were signed by

There is also a need to conduct comprehensive forensic examinations in the case of offences involving the use of abandoned facilities that are not in operation, i.e. not protected and not preserved. I. G. Zavdovieva rightly notes that measures to protect and preserve abandoned objects require certain costs. The cost of maintaining buildings in disrepair, ensuring the protection of such facilities and the surrounding area usually leads to excessive use of budgetary funds [59, p. 111].

In the course of investigation of these crimes, an appraisal and construction expertise is also appointed, the main task of which is to determine whether the real estate valuation performed complies with the requirements of regulatory legal acts on property valuation, methodology, methods, and valuation procedures. The following questions are addressed:

– What is the value (specify the type of value: market value, residual value, liquidation value, special value, investment value, etc.) of the real estate object (specify the object: building, premises, apartment, structure, etc.)?

– What is the value (indicate the type of value: market, residual, liquidation, liquidation value, special, investment, etc.) of a share (indicate the share: -1/2, -1/4, etc.) of the real estate object (indicate the object: building, premises, apartment, structure, etc.)?

– Does the performed valuation of the real estate (specify the object) comply with the requirements of the regulatory legal acts on property valuation, methodology, methods, valuation procedures? [148].

Practitioners note that among the typical questions of construction and technical and construction appraisal expertise, it is necessary to ask only those that are directly related to criminal proceedings, which will significantly speed up the timeframe for forensic examination and will not cause a violation of procedural deadlines. In the investigation of crimes related to the illegal use of budgetary funds in the healthcare sector, it is important to resolve the following issues:

a) confirmation of the scope of work performed as envisaged by the project;

b) compliance of the performed works with the requirements of regulatory documents;

c) establishing the actual cost of the work performed.

The methodological recommendations of the Instruction on conducting and appointing forensic examinations contain a more complete list of issues

to be resolved [148].

Here is an example. Thus, in 2018, at a regular session of the city council, a decision was made to redistribute city budget funds and planned expenditures in the amount of UAH 7.5 million for the overhaul of the city hospital.

According to the design and estimate documentation, it was planned to strengthen the building's foundation, insulate the facades, replace windows and doors with energy-saving ones, repair the roof, etc. The institution announced a tender and conducted the procurement through an open bidding procedure, which resulted in the selection of the contractor with the highest price offer. The proposals of other participants were rejected due to formal deficiencies, despite the fact that their proposals were the most advantageous.

After completion of the overhaul, the hospital and the contractor drew up and signed the Act of Contractor's Work Performed Form KB-2v, which was also signed by the person involved in the technical supervision of the construction work, and the State Treasury sent an obligation to transfer funds to the contractor.

At the same time, the operative unit received information about the planning of misappropriation of budget funds by a group of people, which included a representative of the budget commission of the city council, the chief physician of the healthcare facility, the director of the contractor and the person who performed technical supervision, by overstating the amount of construction work performed on the premises of the city hospital. After verifying the information received, the decision was made to register the materials in the URPTI and organise a pre-trial investigation.

In the course of the pre-trial investigation, the documents related to the overhaul, which were in the possession of the hospital, were seized, including: the budget of the medical institution, procurement plan, design and estimate documentation, work contract, acts of completion, payment documents, etc. Documents in the possession of the contractor were also seized, including contracts and payment documents for the purchase of construction materials, information on the involvement of certain categories of employees in the performance of work, documents on the involvement of business entities in the performance of work as subcontractors. At the same time, a comprehensive construction, technical, commodity and economic examination was ordered. The study raised a number of questions, including: whether the scope of the contractor's work actually performed corresponds to the scope of work planned in the design and estimate documentation and specified in the Acts of Contractor's Work Completed Form KB-2v, to establish discrepancies; to establish the actual scope of work performed in accordance with the requirements of applicable law in compliance with the State Construction

Norms and Standards; to establish the market value of the construction materials used; to establish the amount of damage caused to the city budget, etc.

During the inspection of the scope of work performed, the experts found evidence of overstatement of the scope of work performed on the arrangement of slopes, the use of inappropriate insulation in the insulation of facades, and the performance of work in violation of the State Building Standards for the use of vapour barrier of the roof. In addition, there were facts of significant deviations from the design and estimate documentation and discrepancies in the Acts of completed contractor work. The commodity expertise revealed discrepancies in the prices of construction materials that were actually purchased by the contractor at a much lower price than indicated in the Resource Statements. The economic examination established the amount of budgetary losses incurred, which amounted to over UAH 1.5 million. The NSDI and public investigative (detective) actions obtained evidence of the criminal activity of the said group of persons, each of whom acted according to a pre-designed plan developed by an official of the city council.

Thus, a representative of the city council prepared documents for consideration by the session on the redistribution of city budget funds and the allocation of UAH 7.5 million for the overhaul of the city hospital. The chief physician of the hospital instructed the chairman of the hospital's tender committee to conduct the procurement procedure and ensure that a certain participant won the tender by any means. The contractor, acting intentionally in collusion with the administrator, performed the work using cheap and inappropriate construction materials, underestimating the actual volume, and produced fictitious documents signed by the administrator and the person who performed technical supervision. The budgetary funds transferred to the contractor were to be cashed out with the help of firms providing tax minimisation services and distributed among all the conspirators. By the way, it was found out that the financial and economic activities of the contractor were controlled by a representative of the city council, as the ultimate beneficiary of the company was his wife.

However, timely actions of the operational and investigative units of the National Police with the involvement of experts of appropriate qualifications prevented the misappropriation of funds in especially large amounts [95].

Undoubtedly, forensic examinations differ from each other in terms of the complexity of the research. Forensic experts pointed out the difficulties that arise during expert research, among which they noted: identifying hidden construction works – 30 %, identifying the number of workers involved in the work performed – 33%, their qualifications – 35 %, the quality of the

materials used – 22 %, other – 10 %.

Recently, practitioners and scholars have been discussing the automation of construction and technical expertise. According to E. E. Kolesov, automation allows to increase the reliability of the expert's opinion. The use of automated complexes and systems in practice makes it possible to raise the organisation of expert research to a new level, creates conditions for freeing the expert builder from performing a large number of routine operations related to calculations, graphic constructions, and allows focusing on the creative side of the examination [74, p. 155].

In the investigation of crimes related to the illegal use of budgetary funds in the healthcare sector, there is a need to appoint a forensic medical examination, which has its own specifics. As a rule, a forensic medical examination of health and disability is ordered.

The objects of the forensic medical examination in crimes related to the illegal use of budgetary funds in the healthcare sector are usually documents, not persons.

The analysis of expert opinions revealed that in these criminal proceedings, the following were sent for examination: opinions of the medical and social expert commission to establish a disability group – 47 %, opinions of narrow-profile specialists to establish a diagnosis – 32 %, living persons – 13 %, other – 8 % (Appendix R).

As a rule, expert examination of these objects requires specialists in various medical fields. The Instructions for conducting forensic medical examinations provide for the mandatory participation of several experts in the following 1) examinations in cases of criminal prosecution of medical professionals for professional offences; 2) examinations to determine the loss of general and professional ability to work, etc. [62].

In order to establish the percentage of loss of professional capacity for work, commission examinations are carried out in the commission examination departments of the forensic medical examination bureaus of the healthcare departments of the Ministry of Health of Ukraine. Depending on the nature of the examination, the commission may include specialists in the field of forensic medicine only, as well as specialists in other medical (including specialists of medical and social expert commissions of the Ministry of Health) and non-medical specialties. By their procedural position, all of them are forensic experts when conducting an examination [10].

The conclusions of the medical and social expert commission require special attention. Medical and social expertise is conducted in relation to persons applying for disability determination upon referral from a healthcare facility after diagnostic, treatment and rehabilitation measures have been carried

out, if there is information confirming a persistent impairment of body functions caused by diseases, consequences of injuries or congenital defects that cause limitation of life. Medical and social expertise is carried out by medical and social expert commissions belonging to healthcare institutions [21].

Typical issues in such cases are the legitimacy of establishing a disability group or determining the degree of loss of professional capacity, which is carried out in compliance with the Rules for conducting commission forensic examinations in the bureau of forensic medical examination.

The following questions can also be addressed in a forensic medical examination of health and disability:

- What injuries, diseases or their adverse effects does the examinee have?
- Does the examinee have an objective opportunity, in the presence of a specific pathological condition, to perform certain actions or be in a certain place?
- Is there a causal relationship between the disease detected in the examinee and occupational hazards?
- What are the possible adverse consequences of the pathological condition?
- Does the examinee need medical care? If so, to what extent and in which medical institution?
- What injuries, diseases or their adverse effects does the examinee have?
- What is the duration of their origin?
- Does the examinee have any disability?
- What is the percentage of permanent disability?
- What is the percentage of occupational disability?
- Did the disability occur as a result of a specific event? [10].

The issue of establishing a disability group during the anti-terrorist operation and the Joint Forces Operation in the East of our country has become an urgent one. Unfortunately, there have been repeated cases of abuse by officials of medical institutions, including members of medical commissions and medical and social expert commissions.

Officials of medical and social expert commissions, abusing their official position, unreasonably, by entering inappropriate information in official documents, violating the procedure for conducting medical and social expertise, assign a disability group to individuals, which causes serious consequences for the state.

For example, in 2017, the Economic Defence Department collected material and found that the regional medical and social expert commission of the Regional Clinical Centre for Medical and Social Expertise of the State Regional Department of Education, consisting of the chairman and members,

had unreasonably assigned disability groups to citizens: II and III groups, who during 2016-2017 were participants of the anti-terrorist operation and took part in hostilities in the territory of Luhansk and Donetsk regions.

Subsequently, in accordance with the Resolution of the Cabinet of Ministers of Ukraine of 25.12.2013 No. 925 “On Approval of the Procedure for Appointment and Payment of One-time Financial Allowance in Case of Death, Disability or Partial Disability without Establishment of Disability of Servicemen, Persons Liable for Military Service and Reservists Called up for Training (or Testing) and Special Training or for Service in the Military Reserve”, these persons were appointed and paid one-time financial allowances in the amount of 100-150 times the subsistence level. The collected material was sent to the Prosecutor’s Office and registered in the Unified Register of Pre-trial Investigations on the grounds of a criminal offence under Part 2 of Article 366 of the Criminal Code of Ukraine, and a pre-trial investigation was initiated.

In the course of the pre-trial investigation, forensic medical examinations were conducted in each case, which confirmed the facts of unreasonable and unjustified recognition of these persons as disabled by the medical and social expert commission and payment of a one-off financial assistance to them. The mechanism of committing the crimes was established, which usually consisted of unreasonable upgrading of the patient’s diagnosis by the commission members to the required diagnosis, which is required by law to establish a disability group. It should be noted that the members of the commission acted on the instructions of the chairperson of the commission, L., who had significant influence on her subordinates [90].

After forensic medical examinations, it is necessary to appoint and conduct a forensic economic examination, based on the results of which the total amount of damage caused as a result of unlawful actions should be established by paying a one-time financial assistance from the State Budget of Ukraine to the accounts of illegally identified disabled persons.

The task of a forensic medical examination of such criminal acts is to establish a stronger diagnosis or even an inappropriate diagnosis. As a rule, forensic experts involve other knowledgeable persons, such as psychiatrists, neurologists, traumatologists, etc.

For example, the documents of patient Z. were received by the regional medical and social expert commission in August 2015, including: a referral to the medical and social expert commission with the consequences of a gunshot-shrapnel wound to the right upper limb and the consequences of repeated brain contusions with minor functional impairment, the diagnosis at the time of referral does not give grounds for establishing the third group of

disability, but the commission established Z. III disability group, which is a gross violation of Order of the Ministry of Health of Ukraine of 05.09.2011 No. 561 “On Approval of the Instruction on Establishing Disability Groups”. During the examination by the medical and social expert commission, the patient’s functional impairments were unreasonably aggravated (from slightly to moderately expressed vegetative-vascular insufficiency). The cause of disability (injury related to the performance of military service) was unreasonably established from 12 August 2015, as only this cause was approved by the MEC on 21 October 2015, so the medical and social expert commission had no right to determine this cause of disability before the issuance of the certificate of illness No. 000 of 21.10.2015. Thus, the medical and social expert commission violated paragraph 17 of the “Regulation on the MSE” No. 1317 of 03.12.2009, as on 12 August 2015 it did not accept a complete set of documents for the patient.

The grounds for the unjustified assignment of disability group III to gr. Z.’s disability group III was based on a neurological diagnosis, the functional impairment of which was unreasonably and without auxiliary examinations aggravated by neurologist M., while other members of the commission and the chairman of the medical and social expert commission L. (who is a neurologist by profession) supported these impairments, as the examination report did not contain any special opinions of the commission members on this matter. The act of 02.09.2015 was signed by all members of the commission without an expert decision, which violated the order of the Ministry of Health of Ukraine No. 577 of 05.06.2012. On the basis of the documents on the determination of gr. Z. as a disabled person of group III, he was paid a one-off allowance of UAH 230 thousand.

Similar unlawful actions were committed in cases of assignment of disability groups to other patients. Thus, as a result of the unlawful actions of the group of individuals, the State Budget of Ukraine suffered losses in excess of UAH 1 million. Mr L. was served a notice of suspicion on the grounds of a criminal offence under Part 2 of Art. 364 of the Criminal Code of Ukraine on the fact of unlawful assignment of the third disability group to Mr Z. Z., who subsequently received financial assistance from the state budget in the amount of UAH 185,385, causing damage to the state budget in the amount of this amount [10].

In accordance with the Rules for conducting commission forensic examinations in the bureau of forensic medicine, an examination can be carried out only if the person who appointed the examination provides all the necessary materials on the case. They must necessarily include criminal or civil materials and originals of medical, including primary expert

documentation. In addition, depending on the type of expertise, these materials must be accompanied by material evidence and other necessary documents [159]. Without the necessary materials, the expert has the right to suspend the study and send a request to the party that appointed the examination within three days. As a rule, this negatively affects the procedural timeframe, so materials should be carefully collected during other investigative (search) actions and measures to ensure criminal proceedings.

Another object of research of interest in the investigation of these crimes is the primary, so-called feasible medical documentation for persons requiring a disability group. It is drawn up by medical (military medical) commissions for military personnel, reservists, police officers, etc. or by medical commissions at healthcare facilities, and then sent to the medical and social expert commission. The primary documentation also often contains false information that needs to be investigated.

For example, in the course of preventive measures, it was found that the patient was assigned a disability group. A member of the medical and social expert commission drew attention to the presence of a certificate of shrapnel wound of the patient's femur. However, during the examination of the patient, it was found that the said injury had been sustained in childhood, which was confirmed by the conclusion of a forensic medical examination. It was found that the said certificate had been issued unreasonably by a surgeon of the medical (military medical) commission, thereby committing a crime under Article 366 of the Criminal Code of Ukraine, and the patient had encroached on receiving payments from the state budget.

Depending on each specific case, there is a need to conduct other classes, types, subtypes of forensic examinations, which must take into account the general rules and certain specifics of expert research.

During a survey of knowledgeable persons involved in providing assistance in these crimes, the following typical mistakes made by investigators when appointing forensic examinations were identified: failure to provide the full scope of materials – 25 %, untimely appointment – 20 %, provision of comparative material that does not meet certain requirements specified in the methods of conducting examinations – 18 %, taking samples for expert examination without the participation of a specialist – 14 %, choosing the wrong sequence of appointing examinations – 9 %, providing copies of documents rather than originals – 8 %, other – 6 %.

In order to eliminate them, we consider it advisable to use a consultative form of using specialised knowledge both during the preparation of forensic examinations and during their conduct.

In summary, it can be noted that to effectively counteract crimes related

to the illegal use of budgetary funds in the healthcare sector, specialised knowledge is used in the form of forensic examinations, in particular: economic, commodity, handwriting, technical examination of documents, medical (disability, health), construction and technical, etc. Each of them has certain organisational and tactical features that must be taken into account to increase the evidence base and comply with procedural requirements during the pre-trial investigation.

Of great importance for the investigation of crimes in general and those related to the illegal use of budgetary funds in the healthcare sector is the documentation of the results of scientific research obtained in the course of forensic examinations, i.e., the expert's opinion.

According to the current CPC, along with testimony, material evidence, and documents, an expert's opinion is also a procedural source of evidence (Article 84). The latter is defined by the legislator as "a detailed description of the research conducted by the expert and the conclusions drawn on their results, substantiated answers to the questions posed by the person who engaged the expert, or by the investigating judge or court that commissioned the examination" (Article 101).

We have studied this issue and shared the opinions of scholars who consider the expert opinion in two aspects. On the one hand, it is a written act that describes the research procedures, proves intermediate results and justifies the final conclusions. The logic of the expert's conclusion is such that it reflects the entire course and results of the research conducted by him. On the other hand, it is a procedural document that must be drawn up in accordance with the provisions of the criminal procedure legislation [211, p. 161]. The expert's opinion, as a source of evidence, has a distinct content (a conclusion based on the expert's research and professional assessment of the facts of reality) and form (an opinion as a procedural act).

Of course, an expert's opinion has no advantages over other evidence, but it has significant specifics. Article 4 of the Law of Ukraine "On Forensic Expertise" guarantees the independence of a forensic expert and the correctness of his or her opinion. The independence of a forensic expert and the correctness of his/her conclusion are ensured by: the procedural procedure for the appointment of a forensic expert; prohibition of interference with a forensic examination under the threat of liability provided for by law; existence of forensic institutions independent of the bodies conducting operational and investigative activities, pre-trial investigation bodies and the court; creation of the necessary conditions for the activities of a forensic expert, his/her material and social security; criminal liability of a forensic expert [164].

However, scholars have repeatedly pointed out that, unlike other types

of evidence, the knowledge contained in an expert opinion has more guarantees of reliability due to the scientific nature of the information contained in the opinion. At the same time, in order for the factual data contained in an expert opinion to acquire the status of evidence and have an undoubted origin, sufficient attention must be paid to its content.

One of the most controversial issues that arises in the expert investigative practice in the investigation of crimes remains unresolved – the degree of detail of the information contained in the expert’s opinion. Analysis of forensic practice and questionnaires of employees of practical units of internal affairs agencies show that in most cases investigators and judges do not delve into the research and synthesis parts of the conclusion. It is not uncommon for them to first examine the findings, their relevance to the issues raised and other evidence in the proceedings, then the availability of the necessary details and compliance with other procedural requirements. Such facts were noted in categorical conclusions and, on the contrary, are directly opposite in probable conclusions and conclusions “it is not possible”. That is, the investigator does not examine the investigative part.

It was also found that when ordering identification examinations, in 90 % of cases, investigators are interested in the results of the study. In the case of diagnostic and classification examinations, 83 % of investigators emphasise the importance of the information obtained for the organisation of the investigation of the investigative part. At the same time, when interviewing experts, they noted that during interrogation in court, questions about research methods were raised by defendants [10].

The information contained in the research part of the expert’s opinion is of a specific nature, where the features of the object, methods of manufacture, experiments, comparisons, etc. are carefully described. Often, criminals use this data to avoid liability for other similar offences or take it into account to improve illegal ways of doing business, etc. Today, the model of electronic criminal proceedings, in which procedural documents are not fully disclosed, is widely discussed. By analogy, we believe it is fair to do the same with the expert’s opinion. Based on our previous studies, we emphasise the limited access to the research part of the expert’s opinion and consider it appropriate to draw up one of the copies of the opinion in an abridged form, which will be provided to the party requesting the examination. The second copy should be prepared in a detailed form, where the research part will set out in detail all the processes, research methods, and features on which the conclusion is based. The full copy should be kept in the archive of the expert institution, where the investigator can review it if necessary.

Certain provisions of an expert’s opinion can be verified or clarified

through the use of other forms of specialised knowledge, such as consultation or the presence of an investigator during the examination, an investigative experiment, or the appointment of expert interrogation in court to clarify the reasons for discrepancies in the conclusions.

In our research, we have repeatedly focused on the personal file, which is mandatory for each expert opinion in state expert institutions and can be used for verification purposes. In accordance with the practice of these institutions, it is completed with the following documents: a registration card (containing data on the expert, the term of the examination, the type of examination, etc.), a copy of the resolution on the appointment of the examination (statement or application), a description of objects and material evidence, an agreement for conducting research (testing), a research protocol, a copy of the examination report (copy of the cover letter, copy of the invoice for the research), data on primary observations, a letter of negotiation with the initiators of the research (testing), etc. These materials are also stored in the archive of the expert body.

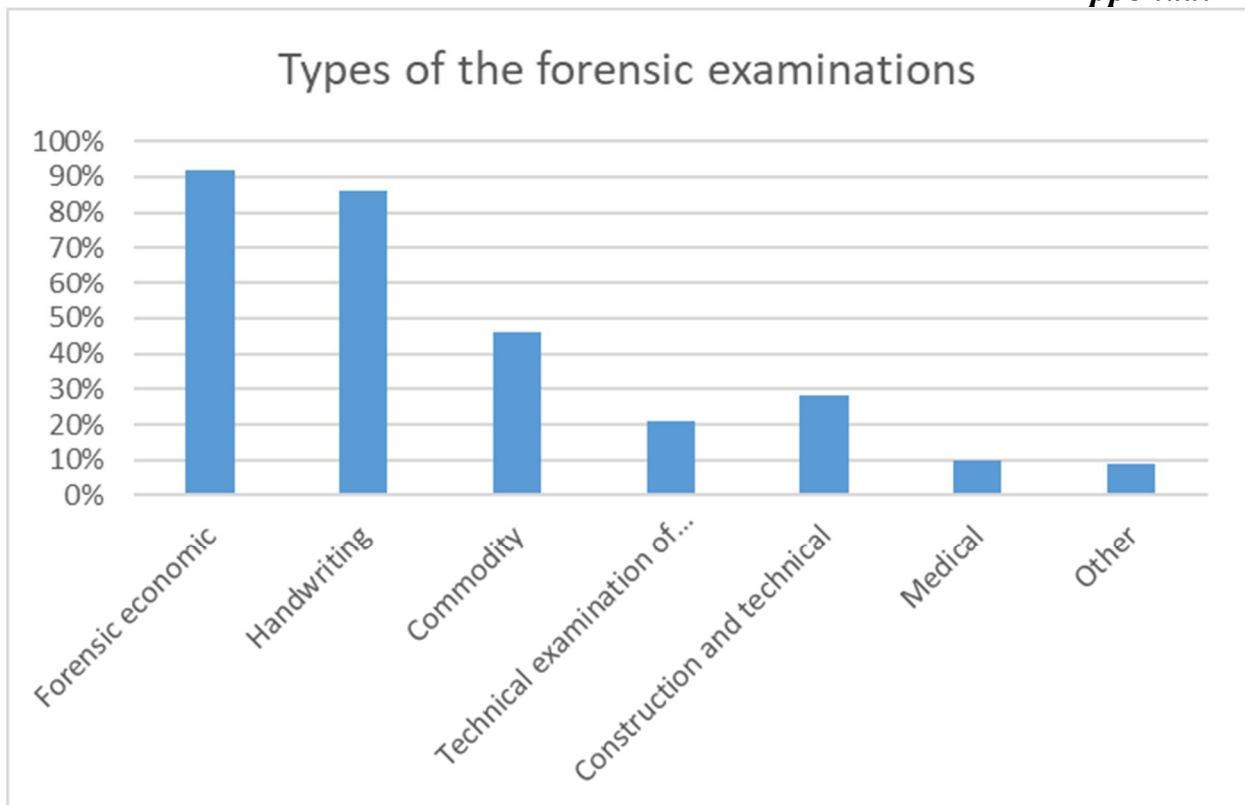
Undoubtedly, the investigator must carefully study the expert's opinion in order to have evidentiary, indicative or search value. In the investigation of crimes related to public funding of the healthcare sector, at the initial stage, the conclusion of an economic examination to establish the amount of actual damages, handwriting examination of signatories to economic documentation, etc. is crucial. At the same time, the investigator does not and cannot have the appropriate amount of knowledge sufficient to assess the correctness and quality of the research conducted and the methods used by the expert. Undoubtedly, he or she will professionally assess the procedural side, i.e. the question of the expert's competence, whether the procedural procedure was violated when obtaining samples for examination, whether the procedural form of the expert's opinion was followed and whether all the necessary details were available, the connection of the results of the expert study with a particular criminal proceeding, the compliance of the expert's conclusions with the evidence available in the proceedings, i.e. the assessment of the expert opinion together with other evidence, and the verification of the expert's opinion. However, verification of the authenticity and sufficiency of the examined material evidence and samples, their suitability for research and sufficiency to give a conclusion; assessment of the scientific validity of the expert methodology and the legality of its application in a particular case, verification and assessment of the completeness of the expert's conclusion, logical validity of the course and results of the expert study cannot be professionally and objectively assessed by any person other than another expert (experts) who has the appropriate education and experience in the specified.

3.4. QUESTIONS FOR SELF-CONTROL:

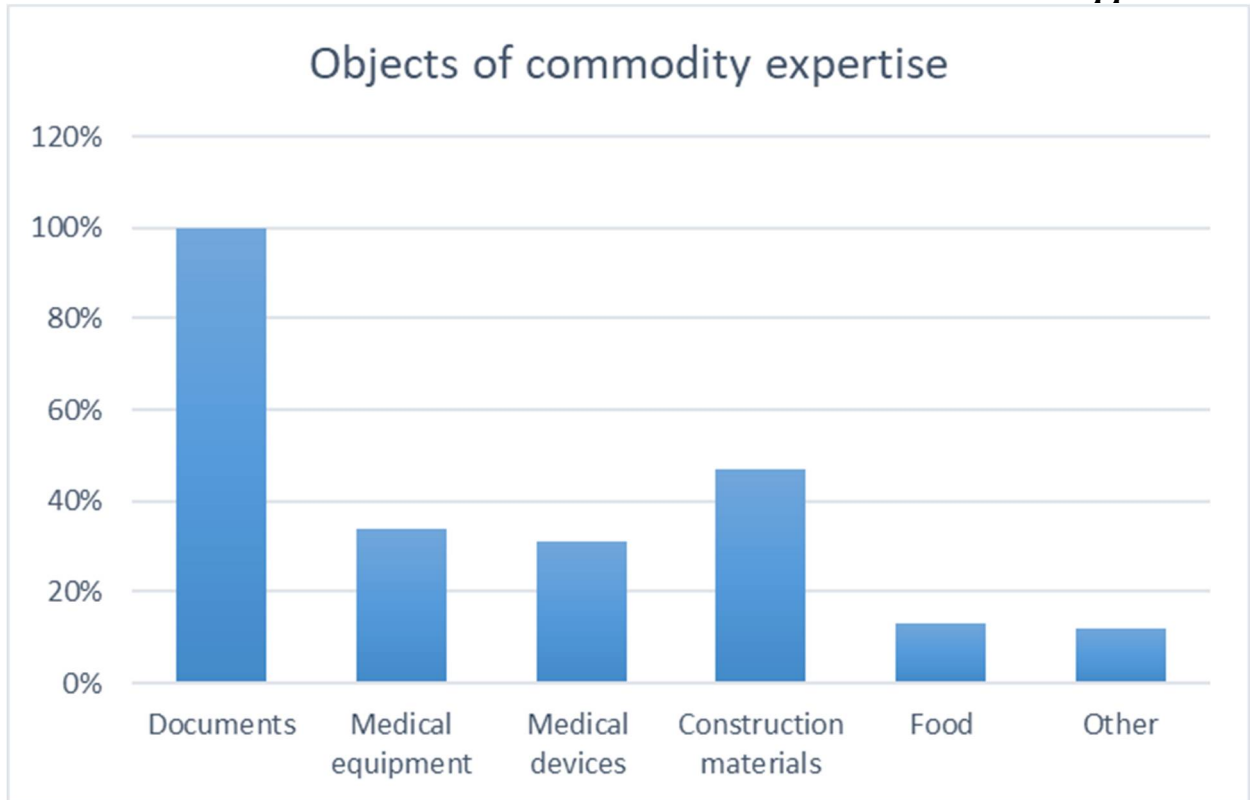
1. What are the types of forensic examinations that are appointed in the investigation of crimes of this category?
2. What objects are usually the objects of forensic handwriting examinations?
3. Explain the features of the appointment of economic expertise?
4. Explain the features of the appointment of commodity expertise?
5. Explain the features of the appointment of handwriting expertise?
6. What types of samples for forensic handwriting examination do you know and what is their essence?
7. What are the peculiarities of appointing a technical examination of documents?
8. Explain the features of the appointment of forensic medical examination?
9. Why is an expert opinion assessment necessary and what does it affect?

APPENDICES

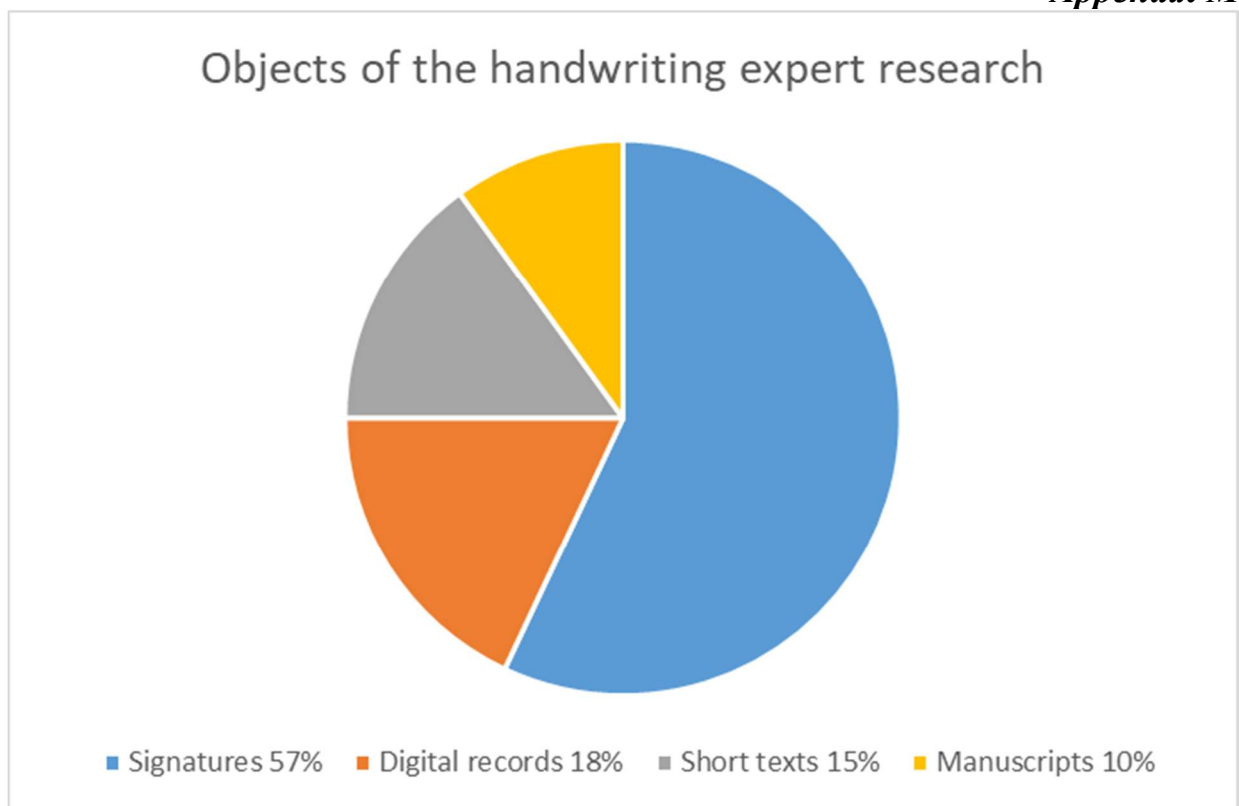
Appendix K

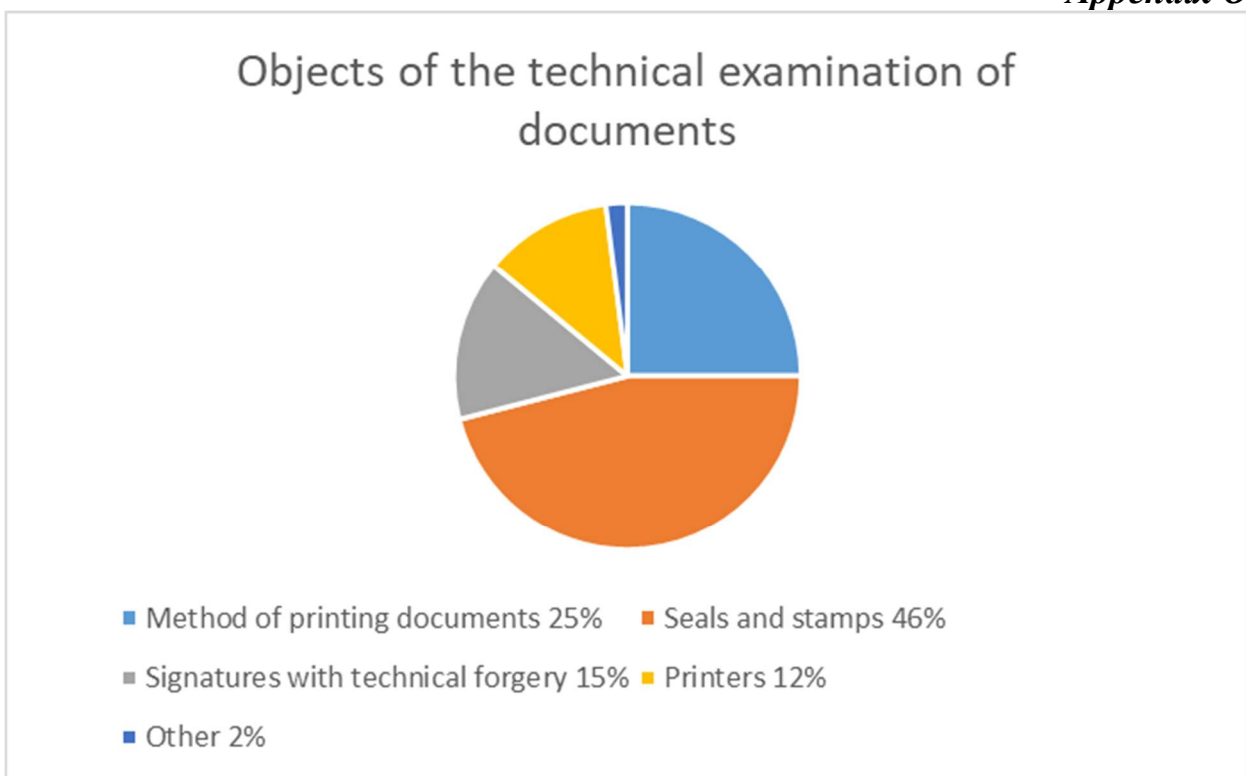
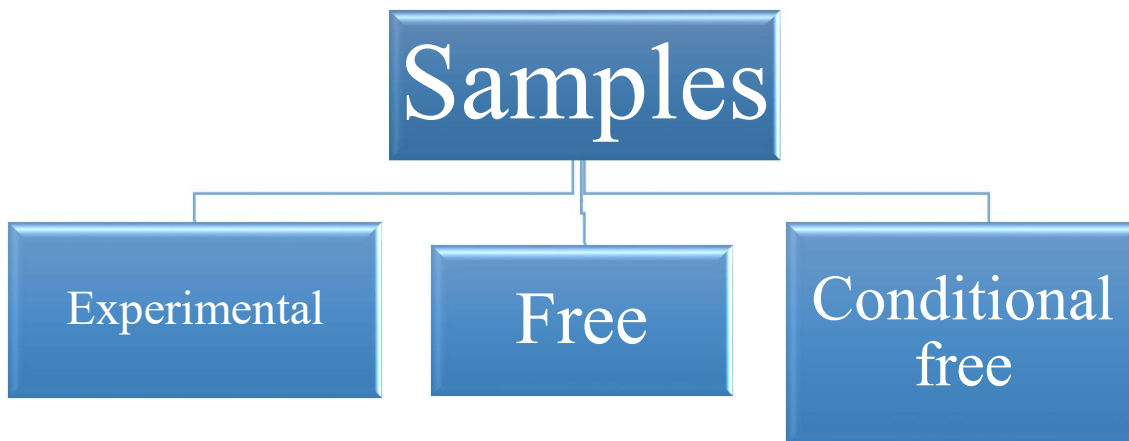


Appendix L

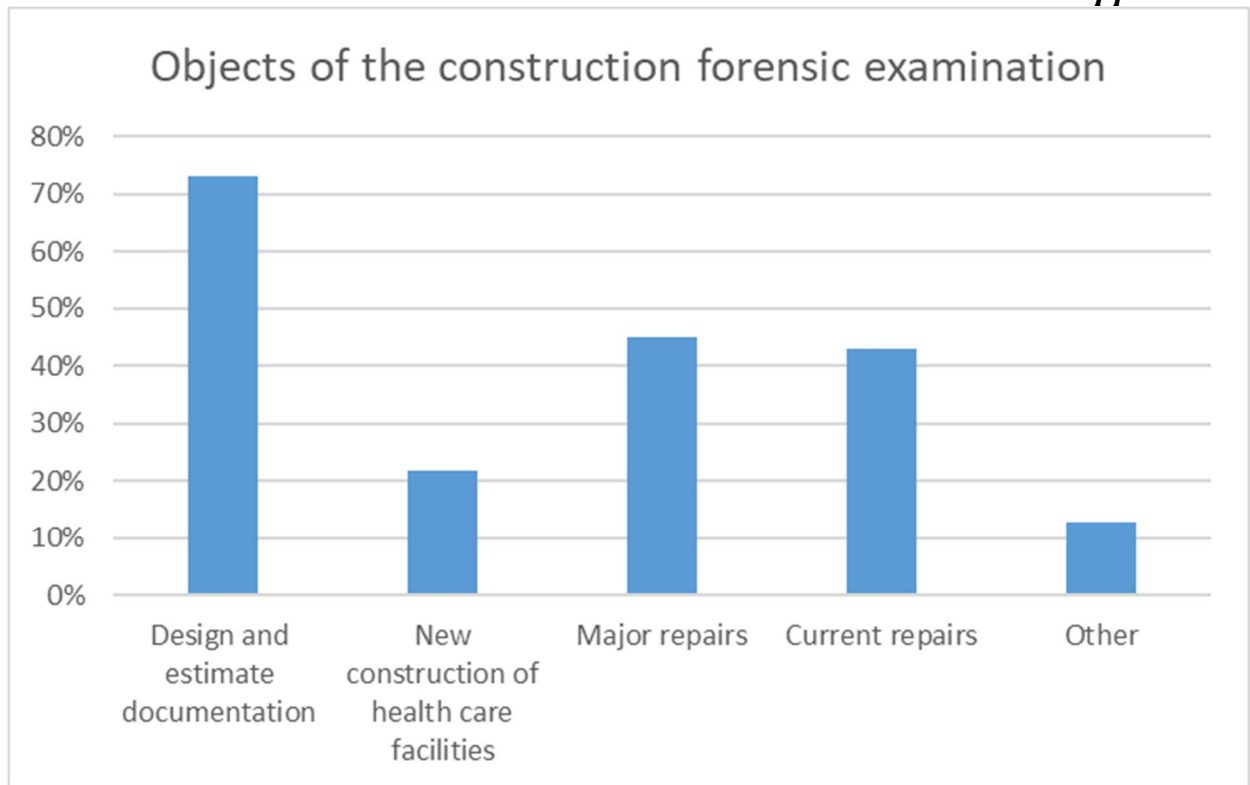


Appendix M

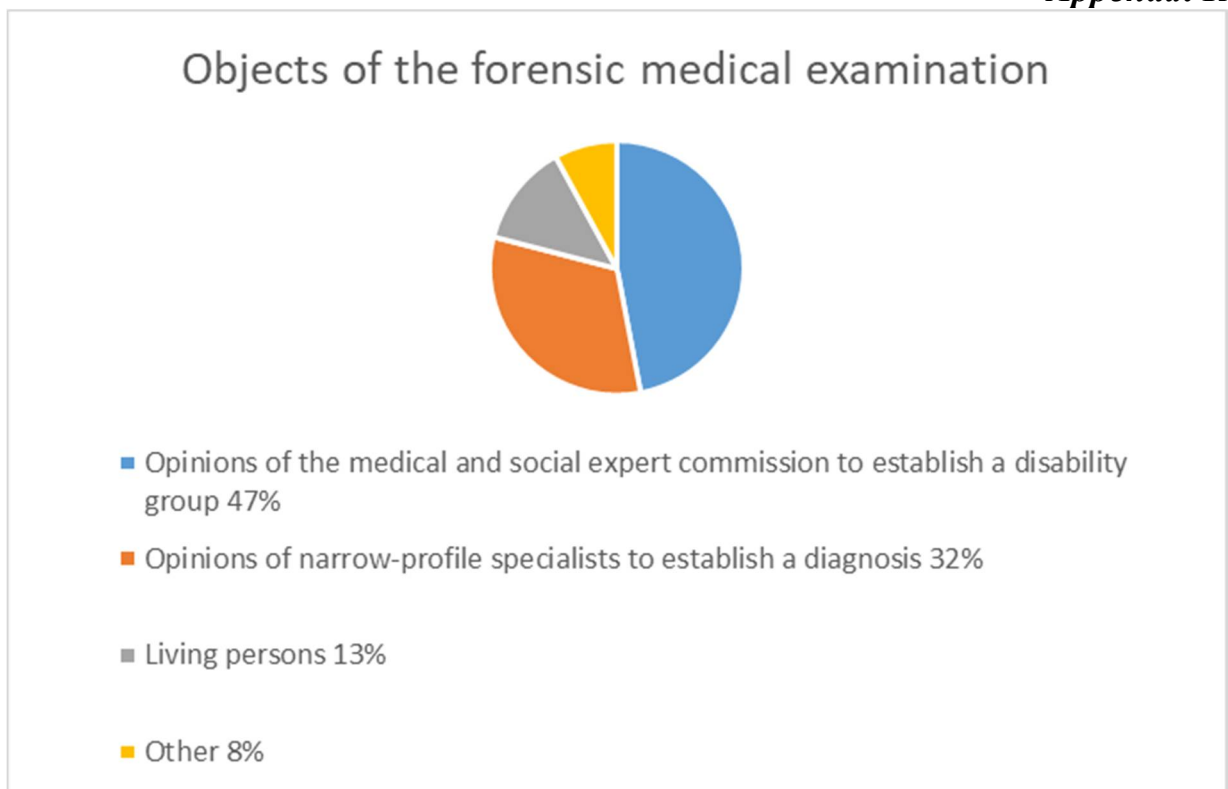




Appendix P



Appendix R



TEST BLOCK FOR SELF-CONTROL

1. *The offences related to the illegal use of budget funds in the healthcare sector include criminal acts:*

- that committed during the preparation, review, approval and execution of budgets;
- that committed during the control of budget execution;
- that committed during the approval and execution of budgets.

2. *The offences related to the illegal use of budget funds in the healthcare sector envisaged by Articles:*

- 191, 210, 211, 212, 222, 358 of the Criminal Code of Ukraine and others;
- 438, 185, 187, 121, 138 of the Criminal Code of Ukraine and others.

3. *The subject matter of the crimes is:*

- public funds;
- private funds;
- international funds.

4. *The perpetrators of these crimes are:*

- officials and officials of departments, offices, healthcare facilities, manufacturers and suppliers of medicines, medical equipment, medical devices and non-medical goods;
- officials and officials of departments, offices, Ministry of Internal Affairs, manufacturers and suppliers of medicines, medical equipment, medical devices and non-medical goods;
- officials and officials of departments, offices, Department of Justice, manufacturers and suppliers of medicines, medical equipment, medical devices and non-medical goods.

5. *In nature the offences related to the illegal use of budget funds in the healthcare sector are:*

- international in some cases;
- exclusively international.

6. *The offences related to the illegal use of budget funds in the healthcare sector usually cause:*

- large losses to the state;
- small losses to the state.

7. *Typical methods of committing criminal offences related to public financing of the healthcare sector have:*

- three-level structure (preparation, direct commission and concealment);
- two-level structure (direct commission and concealment);
- one-level structure (concealment);

8. *Typical methods of committing criminal offences related to public financing of the healthcare sector are:*

- connected with the trace pattern and special knowledge used in criminal proceedings;
- not connected with the traces of the crime.

9. *The method of committing crimes related to the illegal use of budgetary funds in the healthcare sector, which is considered as:*

- a complex of interrelated acts of officials, officers and other persons aimed at preparing, committing and concealing crimes in healthcare institutions using budgetary funds with the aim of enrichment or obtaining benefits
- a complex of interrelated acts of officials, officers and other persons aimed at preparing, committing and concealing crimes in healthcare institutions using private funds with the aim of enrichment or obtaining benefits

10. *The modern methods of committing these crimes with due regard to the transformation of the healthcare system, which are systematised according to various criteria:*

- depending on the subject of the crime; nature of the unlawful acts; object of the criminal offence; type of financing of healthcare institutions; economic classification of budget expenditures
- depending on the subject of the crime; object of the criminal offence;
- only economic classification of budget expenditures.

11. *What are the typical traces of crimes related to public financing of the healthcare sector?*

- material, mental, virtual traces, intellectual traces;
- experimental, free, conditionally free;
- legal, illegal.

12. *What are the mental types of traces?*

- left in the memory of healthcare facilities' employees, employees of a supplier or contractor, and tenderers;
- contained in paper documents, open procurement information from

person;

- contained in electronic documents, open procurement information websites and IP telephony.

13. What are the virtual traces?

- contained in electronic documents, open procurement information websites and IP telephony;

- left in the memory of healthcare facilities' employees, employees of a supplier or contractor, and tenderers;

- contained in paper documents, open procurement information from person.

14. What are the intellectual traces?

- contained in the content of documents;

- signatures, manuscripts, fingerprints.

15. The categories of subjects of use of specialised knowledge are:

- investigators, operatives, prosecutors, investigating judges, and judges;

- only investigating judges;

- only prosecutors.

16. Who are the knowledgeable persons?

- experts, specialists, auditors;

- only experts;

- only specialists.

17. The comprehensive forms of use of specialised knowledge in the investigation of the crimes:

- appointment of forensic examinations, consultations, audits, participation of a specialist in procedural actions, the financial audit, procurement audit and monitoring.

- appointment of forensic examinations and participation of a specialist in procedural actions;

- the financial audit, procurement audit and monitoring.

18. The main types of specialised knowledge used in the investigation of these crimes by the following areas of application:

- economic, commodity, handwriting, technical and forensic, medical, construction and technical, and computer;

- economic, commodity, handwriting, explosive;

- fingerprint, explosive, ballistic.

20. What are the forms of state financial control?

- audits, procurement monitoring, procurement verification, and financial audit.
- appointment of forensic examinations and participation of a specialist in procedural actions;
- appointment of forensic examinations, consultations.

19. The procurement monitoring is used to:

- to detect violations of the law during public procurement by the department, departments, healthcare institutions, to establish discriminatory requirements for participants, to identify facts of unfair competition, to identify facts of collusion between participants, misuse of budget funds;
- to establish discriminatory requirements for participants;
- to identify facts of unfair competition or collusion between participants.

20. The procurement audits are used for:

- for documentary and factual analysis of compliance with public procurement legislation by healthcare institutions;
- for documentary analysis of compliance with public procurement legislation by healthcare institutions;
- for factual analysis of compliance with public procurement legislation by healthcare institutions.

21. Who conducts an audit in healthcare facilities?

- inspectors in this area are involved, namely, from the social control department, who must have specific information on the procurement of medicines, the norms of their prescription and use, the load standards for medical equipment, technical requirements for medical equipment;
- experts from the Ministry of Internal Affairs;
- any experts in economic field.

22. Match which documents are used to commit these crimes:

- an agreement between a supplier and a healthcare facility, an invoice, a specification, an act of acceptance and transfer of goods or services performed, tax reporting, design and estimate documentation, a procurement plan, an account of the supplier's funds, documents on the origin of goods;
- complaints, petitions of lawyers and suspects;
- culinary recipes, personal correspondence, lecture notes, reports.

23. The emphasis is placed on such important issues of economic expertise as:

- confirmation of the amount of illegally transferred funds;

calculation of the amount of damages caused; calculation of the amount of damages caused; confirmation of the amount of damages established during the audit, etc.

- calculation of the amount of damages caused;
- confirmation of the amount of damages established during the audit, etc.

24. The objects that are of great importance in the process of appointing handwriting expert examinations are:

- signatures made on behalf of other persons, digital records, short texts, manuscripts;
- conclusions of the medical and social expert commission on establishing a disability group, conclusions of narrow-profile specialists for establishing a diagnosis;
- food, computer and medical devices, construction materials.

25. Particular attention is paid to signatures made on behalf of another person in such ways:

- by visually observing the signature to be forged; redrawn on the clearance; with the help of technical training;
- redrawn on the clearance;
- with the help of technical training.

26. During the forensic handwriting examination author focuses on solving such issues:

- identification, classification and diagnostic tasks;
- only identification;
- only diagnostic tasks;
- only classification tasks.

27. What types of samples is there for forensic handwriting examination?

- experimental, free, conditionally free;
- procedural, judicial;
- legal, illegal.

28. The typical issues and tasks of construction and technical expertise are:

- confirmation of the scope of work performed under the project; compliance of the work performed with the requirements of regulatory documents; establishment of the actual cost of the work performed;
- only compliance of the work performed with the requirements of regulatory documents;

- only establishment of the actual cost of the work performed.

29. Issues that can be resolved by commodity expertise:

- regarding the actual value of goods;
- establishing the suspect's guilt;
- calculation of damages.

30. The comprehensive factors that hinder the conduct of commodity and economic examinations:

- submission of copies of documents rather than originals; drafts rather than officially executed documents with appropriate seals and signatures; submission of information in the form of reports, protocols, audio recordings rather than financial documents;
- submission of copies of documents rather than originals; submission of information in the form of reports, protocols, audio recordings rather than financial documents;
- drafts rather than officially executed documents with appropriate seals and signatures.

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ПІД ЧАС РОЗСЛІДУВАННЯ ЗЛОЧИНІВ, ПОВ'ЯЗАНИХ
ІЗ ДЕРЖАВНИМ ФІНАНСУВАННЯМ
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