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Original Contribution

CONTEMPORARY TRANSFORMATIONS OF ILLICIT DRUG TRAFFICKING: SECURITY RISKS, CRIMINAL NETWORKS AND CHALLENGES FOR BULGARIA

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Abstract: *The article examines illicit trafficking of narcotic substances as a multidimensional transnational security threat, with particular emphasis on the Bulgarian context. The research systematizes the conceptual, legal and institutional foundations of drug control and analyses the interaction between transnational trafficking flows, domestic distribution and production, adaptive criminal networks and emerging technological channels. The analysis covers the international and European regulatory framework, the security dimensions of drug trafficking, the role of precursors and new psychoactive substances, synthetic opioids, maritime and land routes, and the digitalization of retail distribution. Particular attention is devoted to selected Bulgarian indicators for 2024–2025 and to the implications of these developments for administrative capacity, interinstitutional coordination and risk management. The study argues, on the basis of the analysed source material, that seizures and criminal-case statistics alone do not adequately capture the security dimension of the phenomenon. A more comprehensive perspective requires assessment of vulnerabilities along the entire criminal supply chain and integration of law-enforcement, customs, judicial, financial, technological, health and preventive capacities.*

Key words: *Narcotic substances, Illicit drug trafficking, Transnational security, Organized crime, Bulgaria, New psychoactive substances, Precursors, Synthetic opioids, Digital distribution, Risk management.*

1. Introduction

Illicit trafficking of narcotic substances has progressively acquired characteristics that extend beyond the traditional boundaries of criminal law and public health. Contemporary drug markets connect production areas, transit territories, ports, logistics systems, financial channels, digital platforms and local distribution networks. The resulting phenomenon simultaneously affects public order, public health, economic activity, institutional integrity and international cooperation.

The security significance of drug trafficking derives not only from the prohibited nature of the activity, but also from the capacity of criminal actors to generate substantial illicit revenues, adapt organizational structures, exploit logistical and administrative vulnerabilities,

and transfer their activities across jurisdictions. The resulting risk is therefore dynamic: changes in routes, substances, technologies and organizational forms can modify the exposure of institutions even when the overall demand for illicit drugs remains relatively stable.

Within this context, Bulgaria occupies a particular position because the country is simultaneously exposed to transit, import, distribution and production risks. Its geographical location, land and maritime infrastructure and participation in European transport and logistics networks create conditions in which international trafficking flows intersect with domestic market processes.

The objective of the present study is to systematize the theoretical and normative foundations of illicit drug control and to analyse the principal characteristics and contemporary transformations of drug trafficking as a security threat, with a specific focus on Bulgaria. The analysis seeks to connect three levels: the normative level of controlled substances and international regulation; the transnational level of criminal supply chains; and the national level of institutional vulnerabilities and response capacity.

The research is based on documentary and analytical examination of the legislation, international and European instruments, institutional information and analytical sources contained in the supplied material. The approach is security-oriented and does not equate enforcement output with the total scale of the phenomenon. Instead, seizure data and reported offences are considered together with organizational, logistical, technological and institutional factors.

2. Theoretical and Normative Framework

2.1. Concept and Classification of Controlled Substances

Under Bulgarian legislation, narcotic substances comprise narcotic and psychotropic substances included in the lists established under the Law on Control of Narcotic Substances and Precursors (LCNSP) [1]. The legal framework regulates production, processing, trade, use, storage, import, export, transit and transportation and establishes measures against abuse and illicit trafficking.

For a security-oriented analysis, the legal definition can be considered together with three interrelated characteristics. The formal-legal characteristic determines whether a substance falls within the legally controlled lists. The medico-biological characteristic concerns dependence, effects on mental state and behaviour, toxicity and health consequences. The social-administrative characteristic reflects the public interest in protecting public health, public order and security. The interaction of these dimensions is particularly important when emerging substances appear faster than regulatory and scientific systems can evaluate them.

Bulgarian legislation applies a three-list structure for controlled substances. The classification differentiates substances according to risk and recognized medical use while maintaining strict control. From the perspective of security analysis, this framework also demonstrates a potential temporal vulnerability: a substance may circulate in an emerging market before regulatory, scientific and institutional mechanisms have fully adapted to its characteristics.

New psychoactive substances illustrate this problem especially clearly. Their chemical structures can be modified rapidly, creating difficulties for identification, assessment and timely regulatory response. Precursors represent a related point of vulnerability because controlling their availability and movement can interrupt synthetic production before finished substances reach distribution networks [10 - 12].

2.2. International and European Regulatory Framework

The international drug-control regime is based on several complementary instruments. The Single Convention on Narcotic Drugs of 1961, as amended by the 1972 Protocol, the Convention on Psychotropic Substances of 1971 and the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988 form the principal international legal framework [3 - 5]. Together they establish systems of control, criminalization of illicit trafficking and international cooperation, including mechanisms concerning confiscation, extradition and mutual legal assistance.

At European Union level, Council Framework Decision 2004/757/JHA establishes minimum rules concerning offences and penalties in the field of illicit drug trafficking [6]. Regulations (EC) No 273/2004 and No 111/2005 provide a regulatory framework for the control of drug precursors within the Union and in trade with third countries [7]. The institutional architecture is complemented by bodies and mechanisms including EUDA, Europol, Eurojust, Frontex, CEPOL and EMPACT.

The development of this framework reflects a shift from predominantly isolated national enforcement towards coordinated, intelligence-led and network-oriented action. The legal framework establishes common standards, but its practical effectiveness remains dependent on national administrative capacity, the quality of information exchange, technological resources, specialized personnel and the ability of institutions to respond to rapidly changing criminal markets.

3. Methodological Framework

The study uses a documentary-analytical methodology. The documentary component is based on Bulgarian legislation, international conventions, European Union legal instruments, institutional reports and analytical materials identified in the supplied source material. The analytical component consists of systematization and interpretation of the relationships between drug-market characteristics and security vulnerabilities.

Three analytical levels are distinguished. First, the normative level concerns the legal status and control of substances, precursors and trafficking activities. Second, the threat level concerns criminal supply chains, routes, organizational structures, corruption opportunities, health and economic consequences, and technological transformation. Third, the institutional level concerns the capacity of competent authorities to detect, disrupt and prevent emerging risks.

The empirical indicators for 2024 - 2025 are used descriptively. They illustrate enforcement activity and selected characteristics of the market but are not interpreted as a direct measurement of the total volume of illicit trafficking. An increase in seizures, for example, may reflect a combination of increased trafficking, improved detection capacity, intensified international cooperation or improved use of technical means. This methodological qualification is essential when interpreting enforcement statistics.

4. Drug Trafficking as a Transnational Security Threat

Drug trafficking affects several security domains simultaneously. The phenomenon can be systematized into five interconnected dimensions: criminal, institutional, health, economic, and political-international. Their interaction explains why a narrow law-enforcement interpretation is insufficient for a comprehensive security assessment.

Table 1. Principal security dimensions of illicit drug trafficking

Security dimension	Principal manifestation	Institutional implication
Criminal	Violence, illicit revenues and links with other illicit markets	Network analysis, intelligence and coordinated investigations
Institutional	Corruption and attempts to exploit administrative vulnerabilities	Integrity controls, transparent procedures and protection of sensitive processes
Health	Overdose, infectious diseases and health and social costs	Early warning, prevention, treatment and specialized response capacity
Economic	Money laundering and distortion of legitimate economic activity	Financial intelligence and tracing of illicit proceeds
Political and international	Cross-border trafficking and need for mutual assistance	Information exchange, joint operations and international legal cooperation

4.1. Criminal and Institutional Dimensions

Drug trafficking generates criminal revenue and may support or intersect with other illicit markets, including trafficking in persons, weapons and excise goods. The financial attractiveness of the market creates incentives for the formation of flexible networks and for the displacement of activities when enforcement pressure increases.

The institutional dimension is particularly significant because high illicit profits can create opportunities for corruption and infiltration at points where officials exercise discretionary control over inspections, investigations or administrative decisions. Consequently, countermeasures must include not only operational enforcement but also integrity safeguards, transparent procedures, staff rotation at sensitive positions, whistleblower protection and sustained accountability [14].

The organizational structure of criminal groups is also changing. Rather than relying exclusively on stable hierarchical organizations, actors may cooperate around individual transactions. Such network characteristics can increase resilience because disruption of one group does not necessarily eliminate the functions previously performed by that group. Security analysis therefore needs to identify relationships, dependencies and vulnerabilities throughout the supply chain rather than focusing exclusively on visible organizational leaders.

4.2. Health, Economic and International Dimensions

The health dimension extends beyond the consequences for individual users. Overdose deaths, infectious diseases and other health consequences generate direct expenditure and social costs. Highly potent synthetic opioids increase the significance of early warning and laboratory capacity. Health and social interventions therefore form part of a comprehensive security response rather than an external addition to law-enforcement policy.

The economic dimension is connected with the laundering of proceeds through legitimate economic sectors. Criminal capital may distort competition, conceal illicit revenue and create additional vulnerabilities for financial and administrative systems. This makes financial analysis an important component of the disruption of criminal supply chains.

The international dimension follows from the structure of the market itself. Production, transit, storage, distribution and financial transactions may occur in different jurisdictions.

Effective counteraction consequently requires information exchange, mutual legal assistance and coordinated operational activity. European cooperation mechanisms contribute to this process, but national institutions remain responsible for translating common standards into effective domestic practice [6 - 9].

5. Contemporary Transformation of Production, Trafficking and Distribution

European drug markets are characterized by continuity in demand combined with changes in composition, routes and distribution methods. Cannabis remains widely used, while cocaine has become increasingly accessible in a number of European markets. MDMA and amphetamines remain significant synthetic stimulants [10]. Synthetic cathinones illustrate the rapid adaptation of the market: the supplied material reports seizures of at least 37 tonnes in 2023 compared with 27 tonnes in 2022 and 4.5 tonnes in 2021 [11].

Maritime trafficking has acquired particular significance. The source material reports 419 tonnes of cocaine seized in the European Union in 2023 and identifies ports as important points of vulnerability [12]. The security implication is not limited to customs inspection. It includes container risk analysis, integration of logistics information and coordinated action among customs, law-enforcement authorities and port stakeholders.

Digitalization further transforms distribution. Encrypted communication services, darknet markets, postal and courier deliveries and online contact between buyers and sellers reduce the importance of some traditional physical distribution points [9]. This creates a requirement for technological investigative capabilities and cross-border cooperation, while simultaneously raising demands for lawful handling and analysis of digital evidence.

The emergence of synthetic opioids represents another significant change. The supplied material highlights fentanyl and nitazenes as substances associated with severe overdose risks and increased institutional attention [13]. Early warning, laboratory capacity, specialized training and international exchange of expertise therefore become central elements of preparedness.

6. The Bulgarian Illicit Drug Market

Bulgaria's strategic position is a central factor in understanding the national drug market. The country is situated at the intersection of several trafficking flows and is associated with the Balkan route for opiates as well as reverse flows of synthetic drugs and precursors and cannabis from the Western Balkans. This geographical position creates simultaneous exposure to transit risks and opportunities for participation in European coordination mechanisms.

Black Sea ports are particularly relevant. The source material identifies the Port of Burgas and the seizure of 436 kg of heroin concealed in cable machines as an example of the use of Bulgarian port infrastructure in international trafficking [1]. Such cases demonstrate the importance of container risk analysis and cooperation among customs, law-enforcement bodies and port operators.

The Bulgarian market has a dual character: it functions as a transit environment while also sustaining domestic distribution. The so-called spillover effect means that part of the material moving through the country may enter the domestic market, including through forms of payment in kind associated with transport and logistics. This creates a requirement for parallel attention to international transit and internal distribution.

The adaptive character of criminal networks is also visible in the Bulgarian context. Small autonomous groups and transaction-based cooperation can replace more stable hierarchical structures. This increases the importance of long-term intelligence work, financial-flow analysis and identification of multiple parallel links.

Domestic production constitutes an additional dimension. The supplied material identifies indoor cannabis cultivation and reports 18 methamphetamine laboratories detected in Bulgaria in 2023. The latter indicator supports the conclusion that the country should not be considered solely as a transit territory; domestic production and the movement of precursors must also be incorporated into the security assessment.

6.1. Selected Bulgarian Indicators for 2024–2025

Available institutional data provide several indicators of enforcement activity. In 2024, the Customs Agency reported more than 10 tonnes of seized narcotic substances, representing an increase of 33% compared with 2023. More than half of the seizures were reported at the border with Greece, while cocaine seizures increased from 23 kg in 2023 to more than 420 kg in 2024 [2].

These figures require careful interpretation. A higher volume of seizures may result from increased trafficking, improved detection, intensified cooperation with international partners or improved technical capabilities. Accordingly, the data demonstrate enforcement activity and detected flows, but cannot by themselves establish the total scale of the illicit market.

During January–November 2025, 7,450 drug-related offences were reported, with an average detection rate of approximately 50% according to the cited source [3]. On 20 July 2025, the operation 'Orient Express' at Kapitan Andreevo resulted in the detection of approximately 205.94 kg of cocaine concealed in five suitcases. The case illustrates the significance of the Bulgarian–Turkish land border and the relevance of cooperation with partner services [3].

The supplied material further reports that joint operations in 2025 resulted in the seizure of approximately 450 kg of cocaine, nearly 3 tonnes of marijuana, more than 27 kg of synthetic cannabinoid, 250,000 pseudoephedrine tablets and 50 kg of precursors, alongside significant quantities of amphetamine [4]. These data illustrate a diversified market rather than a threat concentrated in a single substance or route.

Table 2. Selected indicators of the Bulgarian illicit drug market and enforcement activity, based on the supplied source material [2 - 5]

Indicator	Period	Documented value	Analytical significance
Narcotic substances seized by Customs Agency	2024	over 10 tonnes; +33% vs. 2023	Sustained enforcement and border - control workload
Cocaine seizures	2023 - 2024	23 kg → over 420 kg	Marked change in detected cocaine flows; interpretation requires contextual data
Drug-related offences	Jan. - Nov. 2025	7,450; approx. 50% detection rate	High operational workload
Cocaine seized at Kapitan Andreevo	20 July 2025	approx. 205.94 kg	Importance of the Turkish land-border corridor
Methamphetamine laboratories detected	2023	18	Evidence of domestic synthetic-drug production

6.2. Synthetic Opioids and Digital Distribution in Bulgaria

The appearance of fentanyl-related cases in Bulgaria in 2025 adds a new layer to the national risk profile. The significance of synthetic opioids is associated with their high potency and the resulting potential for severe overdose. The source material notes increased institutional attention and the establishment of specialized capacity. From a security-management perspective, this development supports the need for early-warning mechanisms, laboratory preparedness and specialized professional training [13].

Digitalization is also changing domestic distribution. The supplied material describes a movement from visible street markets towards messaging applications and courier-based deliveries. This can reduce physical contact between participants and complicate traditional surveillance and evidence-gathering. The resulting institutional requirement is not simply greater technological capacity, but integration of digital intelligence with financial, courier, telecommunications and conventional investigative information.

The interaction between digital distribution and flexible criminal networks is especially important. When distribution functions can be reorganized through digital communication and logistics services, disruption of a physical location may have only a limited effect on the wider network. This reinforces the need for supply-chain analysis and identification of systemic vulnerabilities.

7. Discussion

The analysis demonstrates that the central security problem is not the absence of legal instruments. The international, European and Bulgarian frameworks provide mechanisms for classification, control, criminalization and cooperation. The more difficult issue is institutional adaptation to an environment in which criminal actors can modify substances, routes, organizational forms and distribution technologies faster than established control procedures may change.

Three analytical conclusions follow from the examined material. First, early-warning and analytical capacity should be treated as a core security function because new psychoactive substances, synthetic opioids and precursor-related risks can develop rapidly. Second, the security system should integrate maritime, customs, financial and digital intelligence rather than treating these as separate domains. Third, institutional cooperation must include law-enforcement and judicial authorities as well as customs, health, social, educational and local-government structures.

The Bulgarian case illustrates the interaction of these requirements particularly clearly. The country faces transit and import risks while simultaneously confronting domestic distribution and production. A response focused primarily on individual seizures can demonstrate operational effectiveness but does not necessarily remove the vulnerabilities that permit criminal networks to reorganize. A risk-oriented approach instead asks where the system is vulnerable, how criminal actors exploit those vulnerabilities and which institutional resources can reduce exposure.

Corruption prevention is an integral part of this approach. Where trafficking generates substantial illicit profits, sensitive administrative processes may become targets for influence. Integrity controls, transparent procedures, rotation at sensitive positions, whistleblower protection and accountability should therefore be considered components of drug-trafficking prevention rather than separate administrative measures [14].

Finally, the health and social dimensions should be integrated into the security framework. Prevention, early intervention, treatment, harm reduction and social reintegration address factors sustaining demand, while law-enforcement and customs measures address

supply. The combination provides a broader basis for long-term security management than reliance on any single institutional sector.

8. Conclusion

Illicit trafficking of narcotic substances constitutes a multidimensional transnational security threat whose effects extend to criminality, institutional integrity, public health, economic activity and international cooperation. Its contemporary characteristics are determined by the interaction of global supply chains, flexible criminal networks, new substances, precursor flows, maritime logistics and digital distribution.

The Bulgarian case demonstrates the simultaneous presence of transit, import, domestic distribution and production risks. The data and cases contained in the analysed material for 2024 - 2025 indicate significant enforcement activity and a diversification of the substances and channels requiring institutional attention. At the same time, enforcement statistics should be interpreted cautiously because detected quantities reflect both the activity of criminal markets and the capacity of institutions to detect them.

An effective security model should therefore combine proactive risk assessment with intelligence-led law enforcement, customs control, precursor monitoring, financial analysis, digital capabilities, laboratory preparedness and early-warning mechanisms. Interinstitutional information exchange and international cooperation are essential because the criminal supply chain extends beyond national borders.

The main practical implication of the analysis is that security management should focus not only on the quantity of drugs seized or the number of cases registered, but also on the vulnerabilities that enable criminal networks to reproduce their activities. Further research could develop measurable indicators for assessing institutional readiness in relation to digital distribution, synthetic substances, maritime trafficking, precursor control and domestic production.

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