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ORGANIZED CRIME



**GLOBAL
SYNTHETIC DRUG MARKETS
THE PRESENT AND FUTURE**


JASON ELIGH

MARCH 2024



FROM VISION TO ACTION: A DECADE OF ANALYSIS, DISRUPTION AND RESILIENCE

The Global Initiative Against Transnational Organized Crime was founded in 2013. Its vision was to mobilize a global strategic approach to tackling organized crime by strengthening political commitment to address the challenge, building the analytical evidence base on organized crime, disrupting criminal economies and developing networks of resilience in affected communities. Ten years on, the threat of organized crime is greater than ever before and it is critical that we continue to take action by building a coordinated global response to meet the challenge.



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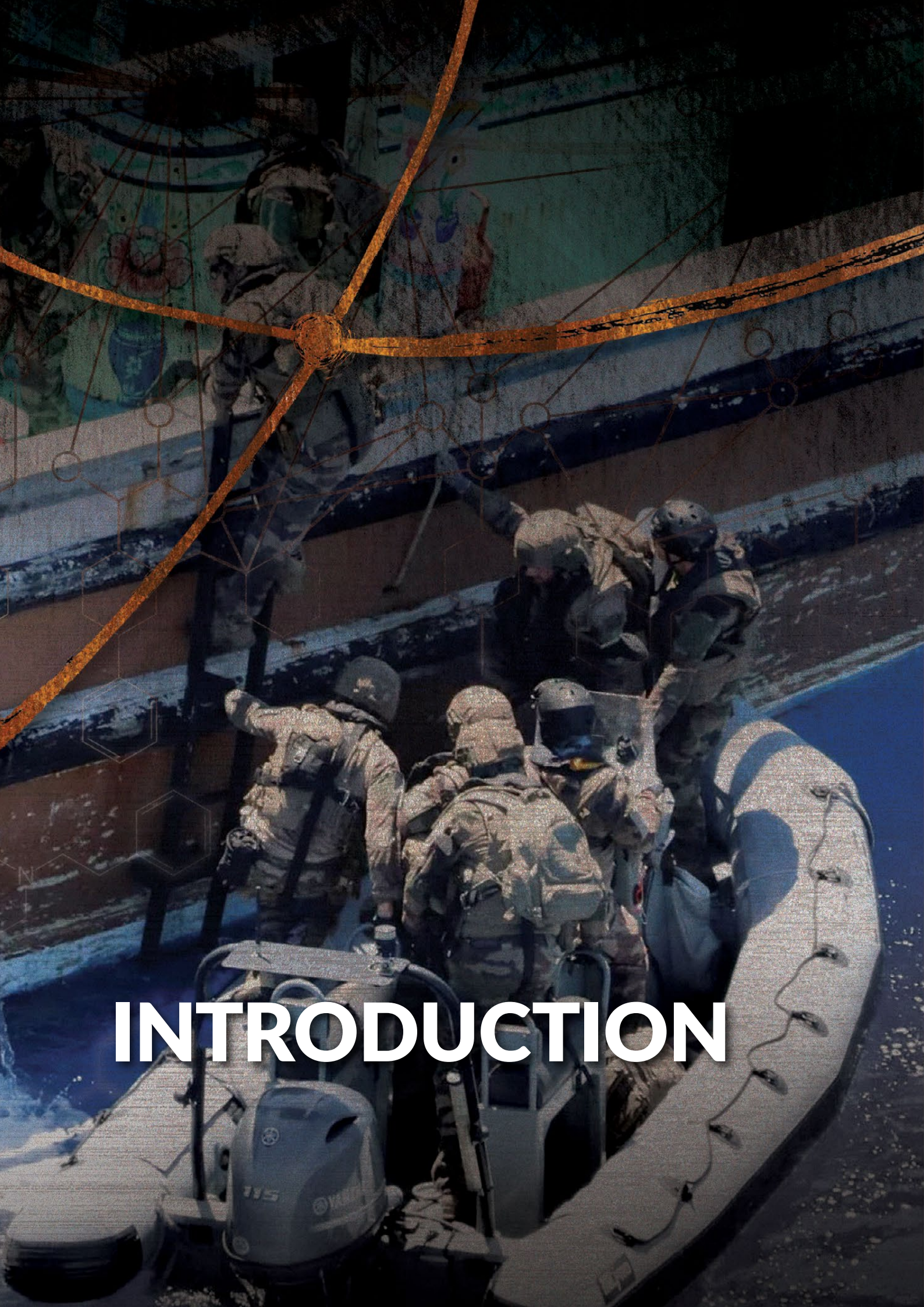
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INTRODUCTION



In recent years, the global landscape of illicit synthetic drug markets has undergone profound transformations, driven by a complex interplay of factors ranging from decentralized production models and deepening geopolitical schisms to open-source databases and other technological advancements. From the proliferation of dark web marketplaces to the emergence of new and novel psychoactive substances (NPS), these trends have generated significant and sometimes contradictory challenges to law enforcement agencies, public health systems and policymakers worldwide.

Rapid, unregulated expansion of the global pharmaceutical and chemical sectors has been a fundamental driver behind what has become, over the last 10 years, but particularly in the last two years, a global explosion in illicit synthetic drug production, trafficking and use.¹ A mass proliferation of chemists and firms producing and vending synthetic substances and their many precursors has helped propel an unprecedented propensity for licit industrial production channels and supply chains being diverted into illicit economic activity. One consequence of all this is the realization that synthetic drugs have become the future of drug trafficking.

One of the most notable trends in illicit synthetic drug markets has been the rapid expansion of online platforms, particularly on the dark web. These anonymous marketplaces provide a convenient and relatively secure environment for the sale and distribution of illicit substances, allowing vendors and buyers to operate with a degree of anonymity. Cryptocurrencies, some boasting of their untraceable digital footprint, have facilitated transactions, enabling actors to evade basic anti-money laundering requirements and law enforcement efforts. Moreover, the globalization of supply chains has enabled the widespread dissemination of synthetic drugs across borders.

Production hubs in countries with lax regulations and enforcement mechanisms serve as primary sources of supply for a diverse array of substances to markets around the world. The decentralization of production and distribution networks complicates efforts to disrupt these illicit activities.

The proliferation of NPS is a major concern. These synthetic compounds are often chemically modified versions of existing drugs, developed to mimic their effects while evading legal restrictions because of their chemical composition. Through its Early Warning Advisory on NPS, and in partnership with voluntary reporting by member states, the United Nations Office on Drugs and Crime (UNODC) has identified over 1 200 NPS from 141 different countries.² The rapid pace of innovation in this domain

challenges regulatory frameworks, as authorities struggle to keep pace with the emergence of these new synthetic substances, their potential health risks and their potential contribution to wider illicit drug market dynamics.

The escalation in the use of synthetic opioids, such as fentanyl and its analogues in North America, and tramadol in Africa, is a particularly alarming trend within illicit drug markets. These substances, vital to public health institutions for pain relief and palliative care purposes, but too often also produced clandestinely in makeshift laboratories, have been responsible for a significant increase in drug-related morbidity and mortality worldwide. Their potency and availability pose unprecedented challenges to public health systems and law enforcement agencies.

The diversion of precursor and pre-precursor chemicals³ from legitimate sources and supply chains has been a fundamental driver of the production of synthetic drugs on an industrial scale – and the harm that accompanies it. This diversion, either directly from the chemical and pharmaceutical enterprises that manufacture these substances or through acquisitions from compromised organizations that source supplies ostensibly on behalf of legitimate industrial end users, demonstrates the ineffectiveness of the current voluntary reporting and regulatory schemes that are in place across such a vast and complex industrial sector.

The intersection of synthetic drug markets with other illicit activities further complicates efforts to address these challenges effectively. Organized criminal networks leverage the profits generated from synthetic

drug production, trafficking and distribution to fund their criminal operations. This contributes to perpetuating cycles of violence and instability that are affecting an ever-greater proportion of countries around the world, and occurs alongside the exploitation of highly interconnected financial hubs, like Singapore, Panama and Dubai.

In response to these evolving trends, governments and international organizations have sought to adopt a multifaceted approach, combining law enforcement efforts with public health initiatives. Some efforts have achieved positive results, particularly those that arise from public health-based objectives.⁴ However, the gravity of the crisis and, in particular, a recognition of the limits of our knowledge and capacity to understand and respond to what is happening in these markets around us, are inescapable. Enhanced international surveillance, cooperation and information sharing will become increasingly crucial in addressing the transnational nature of synthetic drug markets and their trade.⁵

Drug suppliers have adapted to shifts in the illicit drug landscape. As a consequence, these markets reflect a complex and dynamic global economy characterized by advances in technological innovation, the incessant exploitation of vulnerabilities that arise from a steadily globalizing transport and communications infrastructure, and the complicity of corrupted individuals and groups who operate throughout the global economy, without whom the illicit trafficking in synthetics (and other illegal commodities, for that matter) would not exist.

Methodology

The Global Organized Crime Index (henceforth the Index) is a multi-dimensional tool that assesses the level of criminality and resilience to organized crime for 193 countries based on three key pillars – criminal markets, criminal actors and resilience. Developed over a two-year period, the 2023 Index is the second iteration of this project. Index data is drawn from both quantitative and qualitative sources, consisting of more than 400 expert assessments,

including regional and country-based evaluations by the Global Initiative Against Transnational Organized Crime (GI-TOC)'s regional observatories. Four of the 15 criminal markets that are assessed in the Index are drug-related: heroin, cocaine, cannabis and synthetics. This report draws from data in the Index, particularly the market for synthetic drugs, to evaluate the present dynamics of the global synthetic drug markets and the future risks they pose.

Measuring criminality and resilience

The Index evaluates criminality levels and effectiveness of resilience measures for each country on a scale of 1 to 10. Countries' criminality scores are made up of the average of 15 criminal markets and five criminal actor types. While encompassing a range of activities, criminal markets can be thought of as the political, social and economic systems surrounding all stages of the illicit trade in commodities or people. Criminal actor scores are based on assessments of the structure, control and influence of groups engaged in organized criminal activities. The higher the criminality score a country has, the more severe its criminality conditions are.

Resilience scores are created by taking the average of 12 resilience indicators. These indicators represent the political, legal, economic and social spheres of society and the state, which, when taken together, have the potential to provide holistic and effective responses to organized crime. Unlike criminality, the higher the resilience score a country has, the more effective its response measures are to organized crime.⁶

All Index scores have gone through extensive rounds of review and verification by thematic, geographic and technical experts, and are accompanied by qualitative country profiles to ensure these numbers make sense in the real-world context and to offer users a foundation to develop informed policies to counter organized crime. The Index is published every two years, so the tool also offers temporal data to inform policymaking. ■

The Index is designed to provide metrics-based information that allows national policymakers (as well as continental and regional bodies) to shape and hone interventions based on a holistic assessment of where vulnerabilities lie, while also enabling them to measure the efficacy of their responses in mitigating the impact of organized crime and criminal markets.

The Index score for illicit synthetic drug markets for each country takes account of the production, distribution and sale of synthetic drugs, and includes all synthetic substances that are scheduled as part of the three main international drug control conventions.⁷ While consumption of such drugs is not itself a form of organized crime, the Index takes account of national consumption to help determine the reach of the synthetics market.⁸

Synthetic drugs may well be the future of drug trafficking. The purpose of this report is to identify, trace and tentatively assess the threats generated by the global synthetic drug markets. It relies on an analysis, grounded in the results of the 2023 Global Organized Crime Index

(published in September), of how global synthetics markets have grown between 2021 and 2023 – in spite of considerable global cooperation and investment in efforts to mitigate their expansion and associated harms. It explores three influential global events and how they have driven far-reaching changes in synthetics production, distribution and consumption. It analyzes the factors behind how this criminal market has expanded so rapidly worldwide; and scans ahead to visualize ways in which new synthetic substances, technologies and actors have the potential to unleash new challenges, risks and harms on societies globally.

As the report demonstrates, unless we respond to the global market expansion in synthetic drugs, and the related potential threats to our collective public health and security concerns, and respond in ways that are different from how we have responded to drug-related challenges in the past, we risk enabling a scenario where drug markets are predominantly synthetic, prominently decentralised and permanently embedded features of the global organized crime landscape.



**ILLICIT
SYNTHETIC
DRUG MARKETS
GLOBAL OVERVIEW**



Key dynamics

The Global Organized Crime Index outlines on a country-by-country basis how pervasive synthetic drug markets and their impacts have become in recent years. The 2023 assessment of data reveals several features. In reference to the severity of the impact of synthetic drug markets, of the 193 states reviewed for the Index a total of 22 were given a score of between 8 and 10.⁹ These are shown in red in Figure 1. This ranking indicates 'severe influence', the highest level of criminal influence in the analysis. Thus, the countries in this band were assessed as possessing a synthetic drugs market that has a negative impact on all parts of society, is highly profitable and dominates (or accrues significant value from) the country's domestic economy.

Represented in orange are 48 states classified as having synthetic drug markets that exert a 'significant influence' on society in terms of their impact.¹⁰ A total of 70 countries – more than one-third of the sample size – therefore have synthetic drug market criminality scores that ranked them as being 'significantly' or 'severely' impacted by this market. While the threats related to synthetic drugs tend to be couched in examples drawn from North American, European and Australian drug market foundations and perceptions, the Index results clearly reveal that the depth and breadth of global synthetic drug markets and their harmful impacts extend well beyond these developed democracies to encompass countries across the membership of the G77 and its Global South territories. For several reasons, including geopolitics, language and other systemic biases and barriers intrinsic to the business that is 'international affairs', many of these countries are absent from the current threat landscape discussion.¹¹

At the other end of the spectrum, while 117 of the states were assessed as having synthetic drug markets of 'moderate' to 'little' influence, only six countries received the lowest ranking of 1.0, a score indicating a country where an illicit synthetic drug market was judged to be non-existent.¹² Thus, the absence of a synthetic drugs market is a global outlier. Synthetics have infiltrated and established domestic markets to varying degrees of criminal influence and harm in 187 of the 193 countries assessed in the Index.¹³ In the context of considering the presence of synthetic drug markets globally with the generally perceived ubiquity of heroin (178/193), cocaine (192/193) and

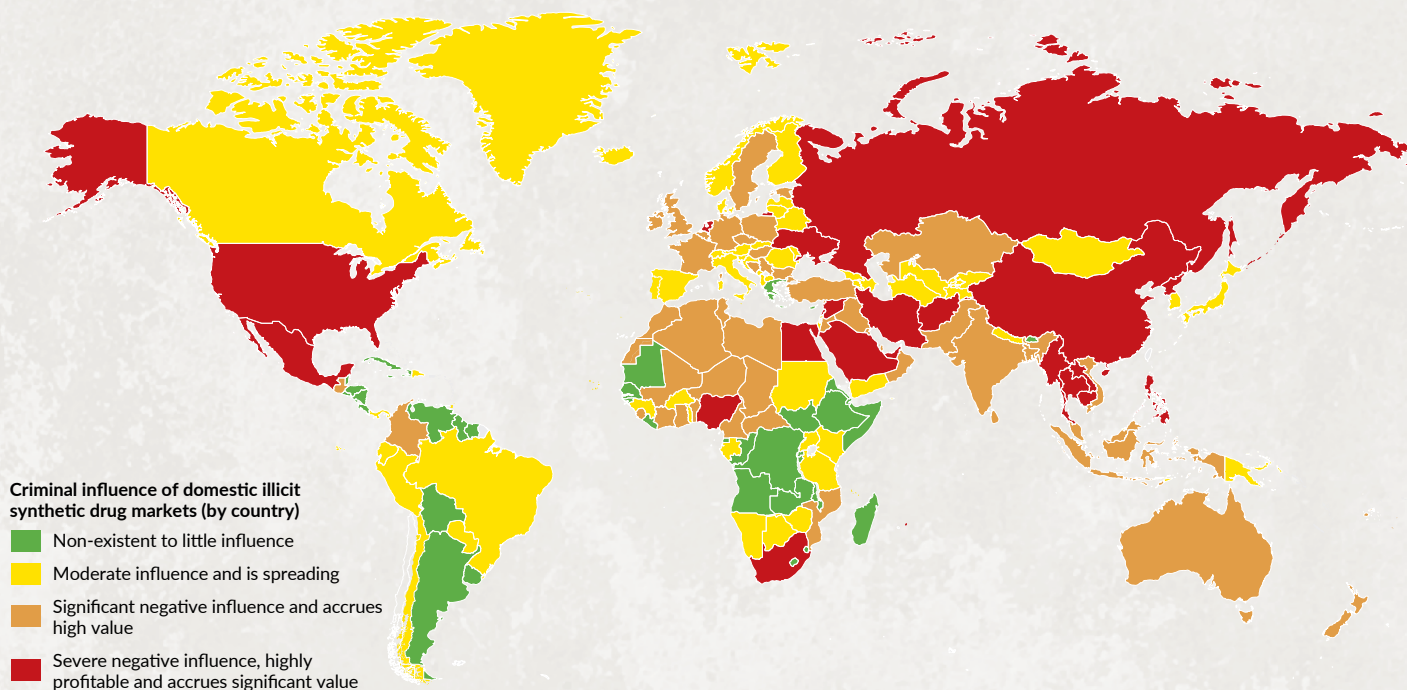


FIGURE 1 Level of criminal influence of synthetic drug markets, from low to severe.

SOURCE: Global Organized Crime Index 2023, GI-TOC, ocindex.net

cannabis (193/193) markets, we find a surprising relationship.¹⁴ Synthetic drugs are globally more pervasive than heroin and close to the long-established illicit markets for cocaine (absent in only one nation) and cannabis (present everywhere).

The Index findings provide us with a stark perspective on the depth and breadth of illicit synthetic substances globally, a situation that extends well beyond the current geographies of the so-called opioid crisis and encapsulates nations at varying degrees of severity when it comes to the current and future impacts of the markets for these substances. These findings mean that much remains to be considered, paramount of which is perhaps the question, how did we get here?

Before evaluating the potential development of the synthetic drug market, it is important first to understand today's market dynamics and ongoing impacts, including through an appreciation of recent mutations. This can be demonstrated in a review of five patterns and features: the opioid crises; the decentralization of production and diversity of actors; the democratization of information, technology and commerce; the emergence of potent poly-substances; and the vastness of what we still don't know.

The opioid crises

Perhaps nothing better defines the global challenge generated by synthetic drugs than the ongoing opioid crises that are playing out in Canada and the US. More than 109 000 overdose deaths in the US¹⁵ and a further 7 328 deaths in Canada¹⁶ were attributed to synthetic opioids in 2022. While accumulated totals are not available yet for 2023, the province of British Columbia – the so-called 'ground zero' of the opioid epidemic in

Canada – released initial figures in January 2024 that showed it experienced a record number of fatal overdoses: 2 511 in 2023.¹⁷ This is the highest mortality level in the eight years since the province first declared a provincial public health emergency in relation to opioid-related deaths. Yet the opioid crisis is characterized by more than the high death rate alone: it represents what has been an evolution in the role that synthetics play in contributing to local drug market dynamics.

Yet, while North America's opioid crisis dominates the general public's perception around primary threats arising from the global growth of synthetic drugs, many other emergent challenges and harms merit serious and equal consideration. Without diminishing the tragic impact of the crisis in North America, that 'opioid crisis' is not the only opioid crisis playing out before us. The other opioid crisis, one that is much less publicized, is the inability of large swathes of the world's population, especially those in developing nations of the Global South, to access synthetic opioids and other controlled substances for medical purposes.

Having access to controlled medicines without discrimination is a fundamental component of the global right to health.¹⁸ It is a constituent feature in the UN's Sustainable Development Goal (SDG) 3.8, which is grounded in the requirement for access to these medicines,¹⁹ and it has been a fundamental feature of International Narcotics Control Board (INCB) advocacy among its member states for several years.²⁰ Yet access remains poor, especially for people living in Africa and Asia.²¹ Reasons are varied, but tend to include ignorance by public health workers around the potential use and efficacy of controlled medicines; high frequency of stockouts of such medicines in medical settings; and the generally unaffordability or availability of such medicines in these regions.²² Strict national laws, particularly in nations that are pursuing a 'war against drugs' strategy in response to the threats perceived from their illicit drug markets, also contribute to the restriction of access to such medicines, often manifesting in overly restrictive prescription practices by medical professionals.²³



American country singer and former fentanyl dealer, Jason DeFord (aka Jelly Roll), testifies before the US Senate Committee on Banking, Housing and Urban Affairs in January 2024 on the subject of fentanyl and the government response to it.

© Kent Nishimura via Getty Images



Overdose Prevention Society members attend to a participant who has overdosed on the street in Vancouver's downtown east side, while a community member holds his hand.
© Ivonne Spinoza, PBS

These consequences of stringent drug control and social conservatism around controlled medicines have therefore contributed to a secondary opioid crisis, one that is grounded not in overprescription and oversupply of pharmaceutical-grade synthetic opioids,²⁴ but rather in the absence of medical relief available for pain treatment. One is a crisis defined by excessive demand (North America);²⁵ the other is a crisis defined by lack of supply – both manifested in the pursuit of illicit alternatives.²⁶ In their own different ways, these opioid crises are public health catastrophes that are contributing to unbridled national morbidity and mortality rates. At the same time, both are contributing to the expansion of synthetic drug markets globally.

Decentralization of production and diversity of actors

A second transformative feature that has contributed to the global expansion of synthetic drug markets has been changes in the production and supply chains of drug trafficking individuals, organizations and networks. The decentralization of production is a characteristic that has grown more apparent in synthetic markets of North America, Europe and Africa. Synthetic drug production is not tied to agricultural production geographies in the same manner as cocaine is to coca and heroin is to the opium poppy.

Many of the determinants influencing synthetic drug production are adaptable features that overlap with licit production and trade economy features. These include the availability of and access to precursor

chemicals and chemists; the identification of appropriate sites for synthesis; presence of efficient transport networks (roads, vessels) and nodes (ports, border crossings); and accessibility to consumer markets.²⁷ The reality is that synthetic drugs can be manufactured almost anywhere, by almost anyone – and evidence shows that they are.²⁸

Evidenced also by an increased regionalization and industrialization of synthetic drug production processes and diversification of distribution strategies, this emergence of new production centres is not an indication that traditional centres of production are being eliminated – rather, it is an indication that such centres may be diversifying in both their risk management and market targeting practices.

For example, a recent article dissects the public messaging campaign undertaken by the Sinaloa cartel in which it insinuated that it was giving up the production of fentanyl.²⁹ It is an incredible improbability that the cartel would give up such a lucrative commodity, yet this appeared to be the core of their messaging. However, where some saw the literal in the banner slogans, the authors provided an interpretation of what was really happening – namely, a strategic relocation of fentanyl production capacities outside of Sinaloa to areas of greater strategic interest to the cartel, both inside and outside Mexico.³⁰ That cartel-based industrial fentanyl production operations have arisen in significant capacity in western Canada was not lost in their analysis,³¹ and neither has it gone unnoticed by Canadian authorities.³² This relocation

to Canada significantly shortens the supply lines to the lucrative fentanyl market of north-western US, and also provides cartel fentanyl producers (and meth producers, for that matter) proximity to what has been described as the 'compromised' maritime Port of Vancouver, and its large volumes of licit (and, by extension, illicit) trade flows to Australia.³³

Not only have production locations changed, but supply chain routings and actors have also shifted. This is a strategy that has played out in other places with other substances. In an example of technological extension and geographic expansion, some cartel meth production has been offshored to Nigeria, and from there to some of its neighbouring states, as cartels look to the east to find closer transport linkages to Australia, and to exploit the large and growing stimulant markets that exist in Africa and Asia.³⁴ This exercise in the exportation of knowledge (the meth recipe), the expertise (the meth cook) and the tools (the industrial meth lab) is an exchange that benefits both sides. The Nigerians receive state-of-the-art instruction to improve the quality and quantity of their production, particularly as it relates to knowledge on precursors and pre-precursors that are more easily sourced and less easily tracked, while the cartel establishes an external headland, access to Nigerian distribution chains and to a handsome financial benefit in the process.³⁵

Meth flows from Mexico have been detected moving through Brazil, commingled with cocaine shipments that are directed by members of Brazilian organized crime syndicate *Primeiro Comando da Capital* through the port of Santos, with the assistance of compatriots stationed in southern Africa.³⁶ Additionally, allegations of Myanmar meth (also known as 'yaba') being trafficked to and distributed across the synthetic drug markets of a number of West African countries, including Nigeria, and South Africa, though unconfirmed at this point, raise significant concerns over the market connection potentialities that might emerge from such a physical and organizational interconnection.³⁷ Such distinct, transactional networking occurring between national illicit synthetic drug actors, organizations and geographies

is an illustration of the transnational development processes that are at play, particularly in the linking of people, products and markets.

This reveals another feature that has contributed to how synthetic drugs markets have evolved and expanded: the role that the internet and online communications play in the democratization of information, technology and commerce.

Democratization of information, technology and commerce

There is far more information available, for free, in today's world than ever has been in our history. An individual with a smart phone and an internet connection possesses a great amount of knowledge and power. Technology allows borderless access to and distribution of knowledge around illicit chemistry, precursor alternatives, market analytics, logistical operations, and open-source and commercial tech innovation systems and solutions. Besides, the technological advances in improving ease of access to retail and industrial commerce agents, institutions and systems, alongside the proliferation of open-source and commercial digital chemical databases and the easy-to-access 'design-and-build' commercial synthesis enterprises, have contributed to a global drug market operating environment in which anyone with a bit of money and will could become a synthetic drug market entrepreneur.

This is exacerbated by significant state and institutional incapacities (purposeful and otherwise) around industrial sector production monitoring, regulatory enforcement and chemical market surveillance. International information-sharing partnerships do exist to support such activity, and voluntary initiatives are in place across many industrial sectors of concern (e.g. pharmaceutical, chemical, drug development). However the reality of the proliferation of precursors, extension of synthetic drug production technologies and expansion of synthetic drug market geographies appears to indicate that such measures are not fit-for-purpose, and instead are contributing to the ongoing developments in illicit drug markets.

The emergence of potent polysubstances

The emergence of more potent synthetic substances and synthetic drugs that are an amalgamation of different base compounds is another feature that has influenced the advancement of this global market. It is significant to note that there is a dearth of information on the sheer volume and diversity of substances that are infiltrating global synthetics markets.³⁸ Occasionally, however, we get glimpses into local drug market chemistries, and these occasionally offer clarity when it comes to seeing and understanding what really is being sold and consumed in these marketplaces. Passive government-based substance testing regimens – often undertaken on drugs seized, or as part of post-mortem determinations – have been successful in revealing the presence and extent of the adulterants xylazine in North America,³⁹ nitazenes in Europe,⁴⁰ and benzodiazepine-laced substances, otherwise known as ‘benzodope’, that are infiltrating numerous drug markets in an increasing number of places.⁴¹

The use of wastewater epidemiology (WWE) techniques is another meaningful passive state-sponsored surveillance measure. In one three-year observation, WWE was successful in identifying the presence of 18 new synthetic substances across 16 countries, including synthetic cathinones, phenethylamines and designer benzodiazepines.⁴² In another study, WWE testing in Australia identified 20 novel synthetic substances.⁴³ However, WWE has weaknesses in its inability to differentiate between illicit and licit end users of synthetic opioids, and is unable to identify new, unique polysubstance ‘wholes’, rather than some of the constituent pieces. Much is missed in the use of such passive approaches.

Community-based voluntary drug checking services could be regarded as probably one of the most likely places where new or novel synthetic substances⁴⁴ could be identified in a community’s drug supply.⁴⁵ These approaches are more active by comparison, in that they reach out into the community drug supply, acquiring samples from users, with the explicit intention of monitoring for chemical anomalies or contamination. For example, in Canada, over a one month period a substance testing initiative identified samples that were contaminated with benzodiazepines (bromazolam, flubromazepam, etizolam), synthetic opioids (fluorofentanyl, carfentanil) and xylazine.⁴⁶ In a similar period in Australia, three unexpected synthetic substances were identified at a fixed-point community drug checking service. Presented as 4-fluoromethylphenidate (4F-MPH), methoxetamine (MXE), and 3-methylmethcathinone (3-MMC), the substances instead were found to be 4F- α -PiHP, 4F-MBZP and propylphenidine. All three were completely new synthetic substances that had never been identified and described before.⁴⁷

Although such efforts are commendable in identifying chemical emergence in specific marketplaces and time periods, the vastness of the global synthetic drug market and the absence of passive and active substance surveillance in most countries leaves significant space for continued, undetected market evolution to occur. Furthermore, contamination or new polysubstance cocktails for consumption are not the only synthetic developments that such granular surveillance testing could consider or uncover. We are only beginning to grasp that the potential evolution of illicit market chemistry is so much broader.

To cite one example, in Argentina, while testing a seizure of suspected MDMA, authorities identified a curious substance in the load – the amphetamine derivative

N-MOC-MDMA – as a minor component of the MDMA. Upon further examination, however, authorities realized that the presence of N-MOC-MDMA in the sample was not an artifact, but was purposeful. It concluded that the N-MOC-MDMA was instead evidence of a failed synthesis attempt by the MDMA cooks to use it as a chemical ‘mask’, or camouflage, in order to conceal the true composition of the MDMA from the authorities.⁴⁸ That such an instance of chemical masking was uncovered is a concern, in that it potentially validates the existence of yet another evolutionary achievement within the grasp of illicit chemists. But what is of even greater concern is the geographic location of this discovery.

According to the Index, Argentina has extensive cocaine and cannabis markets; yet its synthetic drug market was assessed as being limited (3 out of 10, i.e. within the lowest criminal market band).⁴⁹ The MDMA was confirmed by authorities as intended for local consumption. As a result, an attempted chemical masking of synthetics to a low tier market location raises several concerns. Was this a trial run in a low-risk environment to gauge viability? Are there other, more successful masking agents in production or use? And, more importantly, what else are we not seeing when we look at synthetic drug markets globally?

The vastness of what we don’t know: Blind spots in the synthetics economy

Too often, we think we know more about what is happening in drug markets around us than we really do.⁵⁰ While novel, the identification of one synthetic substance to chemically mask another should not come as a surprise. Instead it should come as a warning of just how little we know about the complexities that make up the global collection of synthetic drug markets.

With some notable exceptions, there has been a dearth of relevant, up-to-date analysis of domestic synthetic drug markets among the 187 countries identified by the Index as possessing an influential synthetic drug market economy.⁵¹ This should be unsurprising to many observers. After all, it is well known that most states, particularly members of the G77, lack capacity (and, perhaps, desire) to generate the surveillance efforts needed to monitor and understand the drug markets in their jurisdictions. Most of the analytical efforts and data production that do occur tend to happen in the developed jurisdictions of North America, Western Europe, and Australia and New Zealand.

This widespread incapacity to see what is happening in the synthetic drug markets that surround us not only diminishes the ability of nations and multilateral institutions to design and implement an evidence-based response to the threats that these illicit synthetic drug markets pose to themselves, but also prejudices the international and regional monitoring systems and tools that rely on such national data for collective analysis and wider regional and global threat projection.⁵² Identifying synthetic contaminants and novel substances in the most capable of market surveillance jurisdictions remains a substantially difficult challenge, and one that is characterized by an ever-increasing overdose mortality rate in spite of efforts. Thus the deterioration of synthetic drug markets, particularly in the past two years, is a feature that has been difficult to overcome – even among the most prepared nations.

Deterioration: Criminal markets and drivers of change

As illustrated by Figure 2, one of the most significant findings of the Index was the globalized deterioration experienced by synthetic drug markets. ‘Deterioration’, in this sense, refers to the fact that, globally, the breadth and depth of synthetic drug markets expanded significantly between 2021 and 2023. In fact, of the four drug markets covered by the Index it is the synthetics market that has most increased in pervasiveness since 2021. Of the 193 countries assessed, 100 (shown in red in Figure 2) saw their synthetic drug market criminality score increase in the two-year period. In other words, the influence and harm of these synthetic drug markets worsened in this period. A further 81 countries saw no change in their synthetic markets (shown in orange). Only 12 countries saw their market’s assessment rating improve (shown in green).⁵³

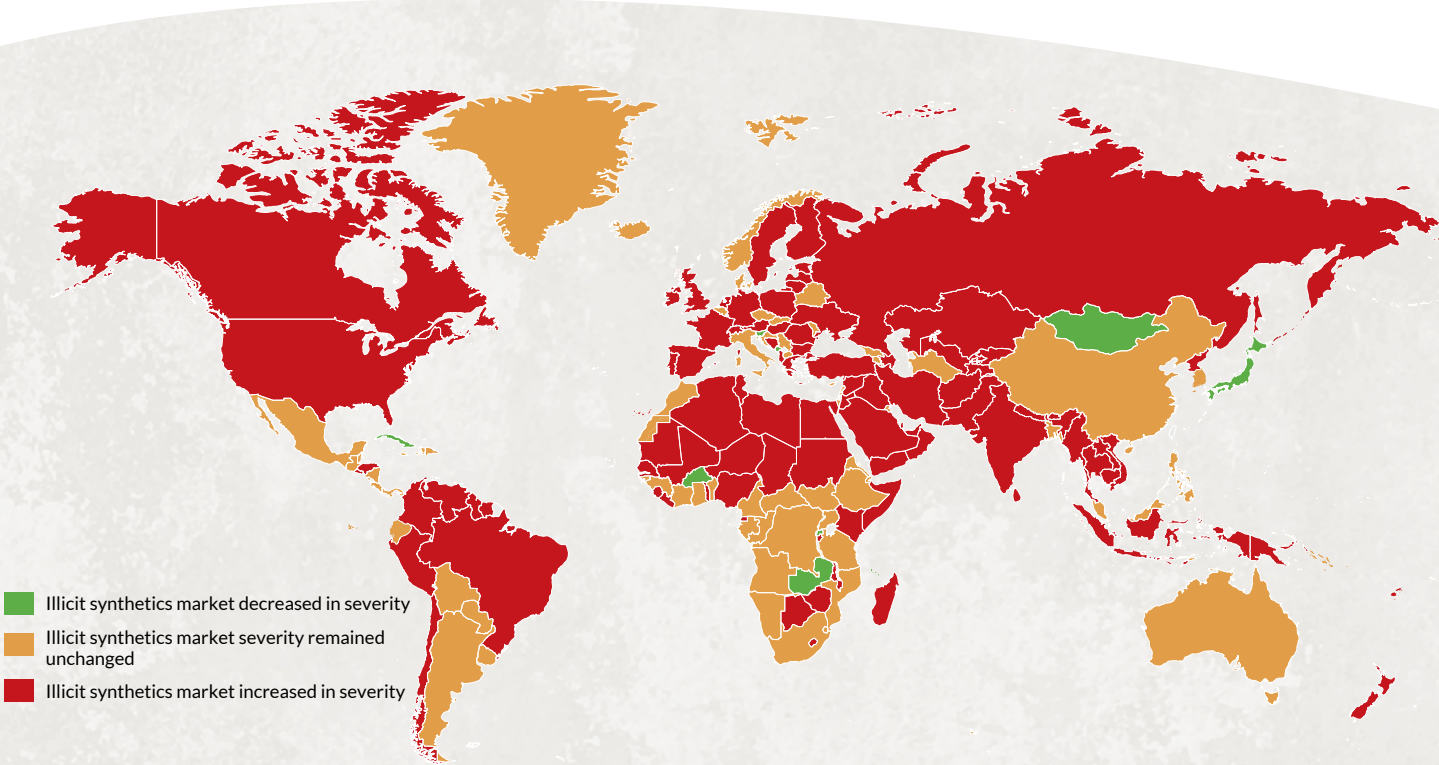


FIGURE 2 From 2021 to 2023, global synthetic drug markets expanded significantly in the breadth and depth of their criminal influence.

SOURCE: Global Organized Crime Index 2023, GI-TOC, ocindex.net

The relative stability of the synthetic situation in these 81 countries may be viewed as a positive feature, a case perhaps that authorities are containing the market. Figure 3 outlines the conditions of these ‘stable’ countries in terms of the influence of their synthetic drug markets.

Little influence	Moderate influence	Significant influence	Severe influence
35	26	15	5

FIGURE 3 Disaggregation by level of synthetic drug market criminal influence of 81 countries that received an unchanged ranking between 2021 and 2023 Index assessments.

SOURCE: Global Organized Crime Index 2023, GI-TOC, ocindex.net

As the table outlines, 61 of the 'stable' countries retained a ranking of little to moderate influence for their synthetic drug markets. Although these countries possess a criminal synthetic drug market, the criminal influence and harms of these markets remained at a comparatively low level. The remaining 20 states retained a level of stability at a significant or severe level of influence. The synthetics drug market situation continues to have an extremely negative influence in these places, and the criminality situation remains unchanged over the interval of the two assessment periods.

Viewing these particular 20 stable countries in the context of the 100 other countries that saw their synthetics drug market situation deteriorate across this period provides some perspective on the nature of the challenge before us. Nearly two-thirds (120/187) of the world's countries that were judged to possess a domestic synthetic drugs market experienced a worsening (or stabilisation at a very negative level of impact and harm) of that market over the past two years.

Generally speaking, there are perhaps three key events, or factors, that highlight fundamental market evolution characteristics that may have contributed to shape and support this deterioration in synthetic drug markets, particularly in terms of their impact on production, supply, distribution and consumption patterns globally. These are the COVID-19 pandemic, the emergence of Afghan methamphetamine and the Russian invasion of Ukraine.

The pandemic: A seismic shift in global drug markets

From the perspective of illicit synthetic drug markets, the global disruption caused by the coronavirus pandemic created both a crisis and an opportunity – the latter resulting in a seismic shift in how suppliers operated. The initial crisis was sparked by the dislocation of transport systems upon which all distribution (both licit and illicit) ultimately depends, as well as the sudden interruption to the bustle of everyday life that ordinarily provides wider cover for illicit behaviour.

COVID – and, more specifically, the various government responses to it – sparked dislocations in the wholesale supply of both precursors and synthesized products, and the retail distribution of the latter. Access in some places became highly restricted, leading to supply stocks dwindling. The vulnerability of some distribution channels became exposed as severe restrictions on citizens' movements largely cut upstream suppliers off from downstream brokers and, in turn, street vendors, who were themselves restricted in (or even entirely prevented from) satisfying increasingly frustrated consumer demand.

However, in crisis there was also opportunity. In this case, law enforcement assets received priority reassignments, largely consisting of enforcing lockdown mandates on local populations and punishing violators. This created space for established organized groups and newcomers with an entrepreneurial mindset to drive market expansion by accessing new marketplaces and consumers, piloting and securing new distribution channels, and increasing resilience by generating new commodity production processes, industrializing manufacturing and regionalizing production centres to draw them closer to target consumer markets.⁵⁴ New production points for synthetics like methamphetamine (in Afghanistan) and MDMA (in South Africa) emerged, but so did new points for synthetic opioids, like fentanyl (in Canada).



In many countries, the lockdown requirements governments deployed during the pandemic significantly affected the ability of people who use drugs to access supplies. Distributors and suppliers had to adapt their business practices to accommodate these changes. Many of these adaptations became permanent. *Photo supplied*

Afghan meth: The unforeseen disruptor

Even before the pandemic, significant changes in global market dynamics were clearly underway. The apparent sudden emergence of methamphetamine production in Afghanistan in 2019 surprised many observers and represents a classic example of an unanticipated development within the constantly mutating global market for illicit synthetics. Afghanistan is also a production base that appears to have navigated the havoc wrought to elongated global supply lines by the pandemic.

Well known for its role as the world's largest cultivator of opium poppies and, by extension, the producer and distributor of much of the world's heroin, the curious emergence of what rapidly became a high volume domestic methamphetamine industry has generated significant concern. Particularly so given that the country and its various illicit markets had been under significant surveillance due to nearly 20 years of occupation and security oversight by a multinational military force.⁵⁵ Yet, the evidence of its genesis during the final years of the Ashraf Ghani administration was compelling.⁵⁶

Not only had this meth production industry blossomed domestically, it was also quickly integrated into the global drug trafficking architecture that connected Afghan supply to global demand. Maritime patrols began to seize large volumes in the territorial waters of countries adjoining the western Indian Ocean.

Combined Task Force 150 (CTF 150), a unit of the Combined Maritime Forces, represents a multinational partnership mandated by the UN Security Council and tasked

with upholding the rules-based international order. This includes counter-narcotics interdiction in the waters in and around the Arabian Gulf.⁵⁷ In 2018, interdiction activities in the CTF 150's area of operations saw the seizure of only 8 kilograms of methamphetamine.⁵⁸ Illicit drug loads seized in this period consisted largely of cannabis resin and heroin. Methamphetamine was a regional outlier. However, things changed in 2019. In October that year, the CTF 150 began to seize commingled loads of Afghan heroin and methamphetamine from the dhows they boarded.⁵⁹

During the following months and years that followed these load seizures would be measured in tonnes.⁶⁰ Seizures were made elsewhere too, with Sri Lanka, Malaysia, Indonesia, Australia, Kenya, Tanzania, Mozambique and South Africa all reporting hauls of Afghan meth in the space of one year.⁶¹ By the time a Joint Narcotics Analysis Centre meeting on the subject was convened by intelligence network Five Eyes in South Africa in June 2022, Afghan meth had moved from being a speculative commodity flow⁶² to becoming viewed as a key component of established synthetic drug market economies across the globe.⁶³

In April that year, the Taliban's supreme leader Haibatullah Akhundzada declared a ban on the production and sale of narcotics, resulting in a drastic and highly visible reduction in poppy cultivation when enforced in 2023,⁶⁴ as the new authorities sought to burnish their credentials to international donors who have so far remained deeply sceptical of re-engaging with the post-Ghani regime. The narcotics ban also ostensibly extended to meth. However, there are competing perspectives on how the ban has or has not affected domestic meth production and trade activities. Some international observers have suggested that the Taliban's drug ban could further shift resources from easily detected poppy cultivation and related heroin production sites to meth factories, which are far harder to detect without unfettered access on the ground – access that ground to a halt with the multinational force's hurried exit in August 2021.⁶⁵ In contrast, the UNODC went so far as to express a position that Afghan meth production and trafficking have 'intensified since the ban'.⁶⁶ Others have argued that 'while the industry still functions, it has been significantly disrupted, operating at reduced capacity with smaller more discrete labs, and at much higher operating costs'.⁶⁷ Whether thriving or struggling, however, it remains true that meth exports continue to leave the country and contribute to global supply.

Southern Africa is a key destination for Afghan meth. It entered the regional drug market via South Asian criminal networks who previously had been channeling heroin, but who quickly repositioned to accommodate the inclusion of meth once they realized local wholesale demand was strong. Afghan meth soon dominated the local stimulant markets, matching up in quality and demand with pre-existing supplies derived from Nigerian, Mexican, Chinese and domestic synthesis operations.⁶⁸ In the process, it contributed to the hastening of a regional transition in stimulant use from crack cocaine to meth, due to a comparatively low cost, stronger effect and longer duration.⁶⁹



Shards of Afghan-origin crystal meth being packed and prepared for international distribution. © David Mansfield



Above: Combined Task Force 150 military personnel board a dhow in international waters in April 2023 and seize 242 kilograms of Afghan-origin methamphetamine. © US Naval Forces Central Command

Right: In February 2024, the French navy seized 1.6 metric tonnes of methamphetamine from a dhow it interdicted north of Mayotte, approaching the Comoros archipelago. While chemical verification is pending, such meth seized in these waters is likely to be of Afghan origin.

Photo: Mayotte Prefecture Facebook page



This new supply chain of Afghan meth contributed also to the structural development of new transit networks and corridors throughout the region, and to other end market destination points. These included Australia, India, the Middle East and reportedly also several Eastern Europe nations.⁷⁰

The advent of methamphetamine production in Afghanistan continues to generate serious reflection around how such a significant market development could have occurred in a country that was, until the return of the Taliban, so heavily observed by

so many expert eyes for so long. Serious consideration is also required to ascertain how this drug transitioned so rapidly and efficiently from its point of emergence to consumers in markets around the world. Originating from the same geography as heroin, this new synthetic commodity piggy-backed onto pre-existing heroin trafficking infrastructure. Strong connections were established with brokers and other actors in the heroin supply chain, and shipments were commingled as they transited departure points in Pakistan and Iran, before these combined loads embarked upon their maritime journeys to transit and destination points across the Indian Ocean Basin.

Such a convergence of drug flows was unusual. Heroin suppliers have tended to avoid overtly mixing their supply chains with those of other substances or commodities. Meth, however, proved complementary to heroin here. It altered the demand profile of local meth markets with its perception by users of greater purity for the same unit price, and a 'taste' that appeared to lack methylsulfonylmethane (MSM), the cutting agent that was so common among the meth of Nigerian and other more local suppliers.

The example of Afghan meth provides a lesson that requires consideration. No matter how closely we think we are steeped in the nuances of a particular drug market or its surrounding contextual environments, and how much we think we already know about it, the reality of the situation can all too easily elude us. All too often, there is a tendency to think we know more about what is currently happening (and not happening) in a place than in fact we ever really do; and when we belatedly realize the contrary, dynamics have already mutated afresh.

War in Ukraine alters regional drug reality

The Russian invasion of Ukraine in February 2022 had a significant impact on the regional drug market of south-eastern Europe, and on the nature, production and use of synthetics there.⁷¹ After all, when warfare tops a state's agenda, the bulk of state resources are redirected to that end. One consequence of this reprioritization of resources is the weakening of domestic institutions, triggering the breakdown of governance structures, weakening law enforcement and limiting access to basic services. These conditions allow ample ground for criminal groups to flourish and for drug markets to expand.

The invasion was a catalyst for significant changes in the regional demand and supply characteristics of the synthetics drug trade, dramatically altering regional consumption patterns, as well as the regional production and supply chain, and its actors. According to the GI-TOC's 2023 Index, the synthetic drug market in Ukraine has experienced the most significant expansion among all drug markets globally,⁷² primarily due to the impact of the ongoing war.⁷³ Within this trend, the surge in the use of novel or previously unknown synthetics in the region has been particularly alarming. The production and consumption within Ukraine of synthetic stimulants, particularly substances of the synthetic cathinone class – such as alpha-pyrrolidinopentiophenone (alpha-PVP) and 4-methylephedrone (4-MMC) – appears to be high, particularly among Ukrainian and Russian military personnel.⁷⁴

As the invasion began, clandestine labs located in eastern Ukraine, in and around Kharkiv and the Donbas in particular, experienced a temporary halt in production.⁷⁵ This coincided with an increase in detections in the central and western parts of the country, including the Prykarpattia region on the borders with Slovakia, Hungary and Romania.⁷⁶



In September 2023, Ukrainian police seized 68 kilograms of alpha-PVP and a quantity of precursor chemicals in Kyiv. The traffickers distributed their drugs to clients using the domestic postal service and through the use of dead drop deliveries arranged by Telegram channels. Photo: Ukrainian police Telegram channel



In January 2024, Ukrainian police seized a clandestine laboratory used to manufacture alpha-PVP, along with more than 100 kilograms of the drug. Photo: Ukrainian police Telegram channel

The illicit manufacturing and distribution of synthetic drugs then quickly re-emerged in central areas of Ukraine, such as in the region surrounding Kyiv. The geographic shift in production pairs with a change in distribution patterns that saw a significant increase in the delivery of synthetics to consumers through online platform sales that were dispatched through the postal system. Online drug sales have become widespread in Ukraine, though the use of in-person transactions has not disappeared completely.⁷⁷

Seizures in Ukraine during the period leading up to Russia's invasion indicate that most detected synthetic stimulants at that time consisted of imported compounds from China, Turkey, Egypt and some EU countries.⁷⁸ These were fully finished imported products, rather than domestically produced. However, since the invasion, evidence from ongoing fieldwork and information from recent police operations reveals that the supply of synthetic drugs in Ukraine, and of stimulants in particular, is now being driven by a production network of much more advanced locally-based clandestine labs.⁷⁹ From the beginning of 2023, Ukrainian authorities began to detect and seize not only precursors used for large-scale synthetic drug production, but also laboratory equipment and reagents needed for the semi-industrial synthesis of stimulant substances. Since the invasion, Ukrainian authorities have detected and seized increasingly significant quantities of synthetic stimulants, particularly alpha-PVP.⁸⁰

In looking at the impact of the Russian invasion on the production and sale of synthetic drugs, we find a situation where adaptation by the market, supplier and consumer were primary outcomes. The increased detection of clandestine labs and equipment suitable for industrial-level synthesis and the wide availability of chemical 'cooks' with knowledge

of synthetic production processes point to the emergence of a well-organized, embedded and resilient synthetic drug production and trafficking marketplace.

One reason behind the well-organized structures of synthetics supply is the influence of Khimprom, a transnational drug trafficking organization that has flourished across Russia, Ukraine, Kazakhstan and Georgia during the post-invasion period. Although Khimprom pre-existed the war by a decade, its regional influence increased significantly following the invasion. A sprawling, Russian-Ukrainian organization that has embraced technological advancement, it has industrialized synthetics production in the region, and refocused drug market retail sales and delivery transactions towards dark web-based portals. In the process, it has modernized the domestic Ukrainian drug market by removing the need for personal human contact by using an internet-based business model.

However, perhaps the most consequential outcome of the invasion has been the near elimination of the heroin market in Ukraine, and its near wholesale replacement with domestically produced synthetic opioid alternatives. From a market evolution perspective, the Russian military's blockade of the port of Odesa was an unforeseen contributor to change. With the closure of this strategic logistics hub, and the eventual solidification of combat front lines in the eastern region of Ukraine, there emerged a considerable shift in the distribution profile of the drug economy. The port of Odesa and the eastern frontier had both been important features of the drug trafficking logistics in the region. Together they represented key transit waypoints, each key nodes lying along traditional routes by which heroin flowed from Afghanistan to Europe via Ukraine.⁸¹

While some observers had speculated that the Russian invasion could result in a weakening of Ukrainian law enforcement capacities and spark an increase in drug trafficking through the eastern frontier,⁸² it would appear instead that the instability generated from prolonged, entrenched military hostilities in that region – alongside the closure of Odesa's port – created a risk environment that was inconsistent with maintaining effective and reliable drug trafficking operations throughout the country.⁸³ Alternatives had to be pursued, and the most plausible scenario was that heroin flows ceased entry from the east along the northern route supply chain in favour of another channel. It appears therefore that traffickers adapted to the change by rerouting their Afghan heroin flows that had previously passed along the northern route through Ukraine from the east, and flows that had exploited the Black Sea branch of the Caucasus route that transited the port of Odesa. Instead they reconsolidated supply chains through what had traditionally been the primary route to Europe lying to the west – the Balkan route. In point of fact, the data is consistent with this scenario, in that it reveals the heroin trade appears to remain a stable and pervasive criminal market throughout the Balkan region, albeit as a channel that no longer serves Ukraine as a key transit and consumer destination.⁸⁴ What little amounts of heroin that still make it into the Ukrainian market now arrive along the Russian route only.⁸⁵ Supply along the other routes appears to have ended.

To look at this from another perspective, in 2020 Ukraine was estimated to be home to around 350 000 people who injected drugs, the majority of whom were thought to be heroin users.⁸⁶ It was an established transit country for heroin moving from Afghanistan to the EU, and potentially an emergent small-scale cultivator of opium poppy.⁸⁷ Interviews and price data collected by the GI-TOC between late 2022 and August 2023 suggest, however, that in little more than a year heroin largely disappeared from the Ukrainian drug market following the invasion. While it has not been completely eliminated as a

consumer commodity, its market price has risen considerably in the post-invasion period, from around €25 per gram to as much as €90–€100.⁸⁸ With the emergence of a declining, more expensive supply profile, many of the country's heroin users appear to have turned instead to the use of locally-produced synthetic opioid alternatives.⁸⁹

State resilience and deficient responses

One of the most revealing elements of the 2023 Index is its measure of state resilience to organized criminal markets. Of the 187/193 UN member states analyzed in the 2023 Index that were noted as having a domestic synthetic drugs market, 70 were assessed as having a market that was ranked as either significant or severe in its impact. Fifty-eight of this subset of countries were assessed as having poor resilience efficacy that was rated as being in the lowest two categories, either moderately ineffective or extremely ineffective, meaning their capacity to respond to this criminal threat was, at best, very weak. Considering both of these measures together, we find that 10 of these 58 were ranked as having the worst score on both the synthetic criminal market and resilience scales, meaning they possessed a severely criminal synthetic drugs market and an extremely ineffective level of resilience to respond to the threats and influence of this market, its actors and impacts.⁹⁰ In point of fact, these 10 states should be of particular concern for the potential development and proliferation of global synthetic drug market threats, both to themselves and others.

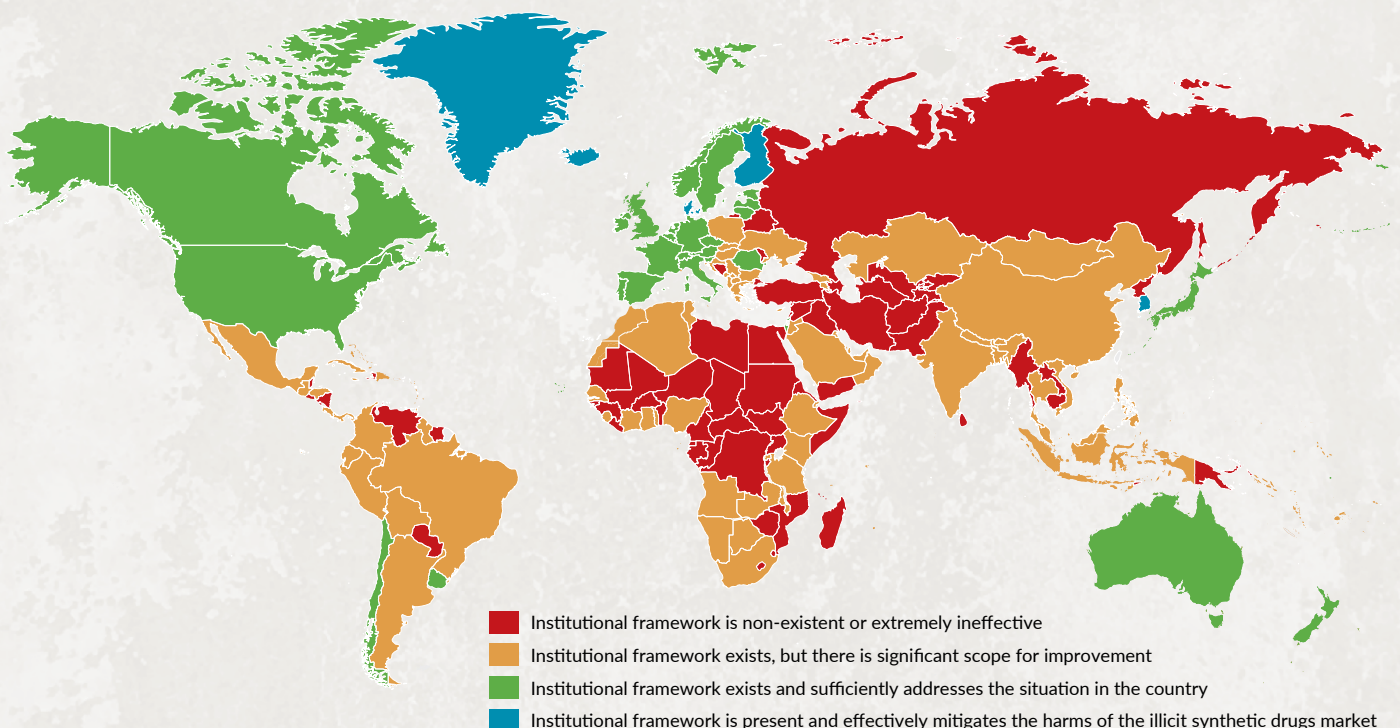


FIGURE 4 A measure of state resilience to criminal markets, including synthetic drugs, and their capacity to respond to and mitigate the harms involved.

SOURCE: Global Organized Crime Index 2023, GI-TOC, ocindex.net

	Country	Avg. resilience score (2023)	Synthetic drug market score (2023)	Synthetic drug market score change (2021-2023)
1	Finland	8.63	5.0	0.5
2	Liechtenstein	8.46	2.0	0.0
3	Iceland	8.21	4.5	0.0
4	Denmark	8.13	5.0	0.0
5	Korea	8.08	5.0	0.0
6	Andorra	7.96	1.5	0.0
7	Norway	7.92	4.5	0.0
8	New Zealand	7.88	6.0	0.5
8	Estonia	7.88	7.0	0.5
10	Singapore	7.83	5.5	0.5
11	Latvia	7.58	5.5	0.5
12	United Kingdom	7.54	6.0	0.5
13	Austria	7.50	5.0	0.5
13	Germany	7.50	6.5	0.5
13	Luxembourg	7.50	3.5	0.5
13	Uruguay	7.50	3.5	0.0
17	Netherlands	7.46	8.0	0.5
17	Sweden	7.46	6.0	0.5
19	Australia	7.38	7.0	0.0
19	Japan	7.38	5.0	-0.5

FIGURE 5 A comparison of synthetic drug market assessment scores and how that score changed from 2021 for the countries with the highest average levels of resilience.

SOURCE: Global Organized Crime Index 2023, GI-TOC, ocindex.net

	Country	Avg. resilience score (2023)	Synthetic drug market score (2023)	Synthetic drug market score change (2021-2023)
193	Afghanistan	1.50	9.0	0.5
192	Libya	1.54	7.5	0.5
191	Myanmar	1.63	10.0	0.5
190	Yemen	1.75	4.5	0.5
189	Central African Republic	1.79	7.0	0.0
189	D.P.R. Korea	1.79	8.0	1.0
189	Somalia	1.79	2.5	0.5
186	South Sudan	1.88	1.0	0.0
186	Venezuela	1.88	3.0	1.5
184	Syria	1.92	10.0	0.5
183	Nicaragua	2.08	3.5	0.0
182	Burundi	2.17	3.0	0.5
181	Equatorial Guinea	2.21	1.5	0.5
181	Turkmenistan	2.21	4.0	0.0
179	Eritrea	2.33	1.5	0.0
178	Comoros	2.38	4.5	-1.5
178	D.R. Congo	2.38	2.5	0.0
178	Mali	2.38	7.0	0.5
175	Chad	2.42	7.5	0.5
174	Haiti	2.46	3.5	0.0

FIGURE 6 A comparison of synthetic drug market assessment scores and how that score changed from 2021 for the countries with the lowest average levels of resilience.

SOURCE: Global Organized Crime Index 2023, GI-TOC, ocindex.net



Seized drug samples are tested in a laboratory to identify the substances. © Usman Sharifi/AFP via Getty Images

Even among those states judged to possess the most effective national systems and structures enabling them to fortify their resilience to the influence of criminal markets, such states have generally been ineffective in mitigating the harms derived from these markets. As mentioned, in the US (high resilience average of 7.13) an estimated 109 000 people died in 2022 alone as a result of drug overdoses grounded in synthetic substances, particularly opioids.⁹¹ British Columbia, in Canada (high resilience average of 7.21), declared its opioid crisis a public health emergency eight years ago and has, for the last year, been trialling a collection of progressive drug policy alternatives. These include the decriminalization of drug possession for personal use, safe consumption sites, widespread naloxone distribution and safe supply provision, among other initiatives. However, despite these programmes, the province registered 2 511 suspected drug overdose deaths in 2023 – the highest annual toll of fatal overdoses it has ever recorded.⁹² Most of these overdoses involved synthetic substances.

As Figures 5 and 6 illustrate, whether a country falls among the top or bottom 20 countries for resilience scores, deterioration of most of their synthetic drug markets continues to occur. Yet the potential ability of those states with high resilience scores to respond better to the harms of these growing markets is significantly higher than those with little or no resilience capacity. While the latter may have corresponding weak synthetic drugs markets now, with their resilience structural incapacities they are left incapable of responding even if they so desired. In the former states, their challenge is not necessarily one of systems or structures, but rather one tied to the politics around drugs and drug policy.

Of most concern going forward, however, would be the structural influence and resilience deficiencies among the 10 states with both the highest level of synthetic drug

market influence and lowest level of resilience capacities in place to challenge these markets and mitigate their harms. Public health concerns abound. However, greater concerns may lie in the potential role that the environments in these states might play in furthering some of the more nefarious threats related to the ever-expanding global synthetics markets. These go beyond public health concerns and encompass global and regional security concerns, particularly in considering the potential of a closing of relationship spacing between transnational organized crime groups, and state- or non-state terrorist actors.


	Country	Avg. resilience score (2023)	Synthetic drug market score (2023)	Synthetic drug market score change (2021–2023)
1	Myanmar	1.63	10.0	0.5
2	Syria	1.92	10.0	0.5
3	Iran	3.13	9.5	1.0
4	Afghanistan	1.50	9.0	0.5
5	Lebanon	3.46	8.5	0.5
5	Laos	3.46	8.5	0.5
7	Russia	3.79	8.5	1.0
8	D.P.R. Korea	1.79	8.0	1.0
9	Cambodia	3.63	8.0	0.5
10	Egypt	3.83	8.0	1.0

FIGURE 7 Ten states of concern: these have the highest levels of synthetic drug market influence and a resilience deficit to respond to the market’s threats and harms.

SOURCE: Global Organized Crime Index 2023, GI-TOC, ocindex.net

A hand is shown holding a piece of aged, yellowed paper. Overlaid on the paper is a golden, glowing network pattern consisting of interconnected lines and nodes, resembling a molecular or data structure. The background is dark, and the overall tone is scientific and exploratory.

SCANNING THE HORIZON



In understanding to some degree where we stand today in respect of both our knowledge of the global synthetic drugs situation, as well as those many geographies and features of the illicit synthetics trade where our knowledge is decidedly weak or absent altogether, this paper turns here to a summary discussion of potentially emergent trends and scenarios that may stem from a continued, unchecked progression in synthetic drugs manufacture, trafficking, distribution and consumption.

Proliferation of existing and new synthetic compounds

One of the alarming consequences of continued synthetic drug market expansion will be the increased availability and accessibility of these substances. Unlike traditional drugs, which often require complex cultivation or extraction processes, synthetic drugs can be manufactured anywhere and in any quantity, using readily available precursor chemicals. This ease of production, combined with advances in global transportation and communication networks, will continue to empower criminal networks to produce and distribute synthetic drugs in larger quantities and across wider geographic areas.

Furthermore, the pursuit of increased production and distribution of existing synthetic substances, as well as the synthesis and distribution of new compounds to be introduced either as adulterants to existing supplies or as commodities on their own are factors for additional consideration. The continued proliferation of synthetic opioids, beyond fentanyl and embracing mixtures with analogues such as carfentanyl, and new opioid compounds of the nitazene family, including protonitazene and metonitazene, is occurring already.⁹³



In January 2024, Fijian police seized over 3 metric tonnes of methamphetamine being stored in a vacant house under construction. Meth use is high in Fiji, where clandestine meth production labs contribute to the growing synthetic drug market supply. *Photo: Fiji police*



In February 2024, Indian police seized 1 700 kilograms of mephedrone (also known as 4-methylmethcathinone, 4-MMC or M-CAT) from a chemical production facility disguised as a pharmaceutical operation. A synthetic stimulant, it was being trafficked to the UK. © NDTV



Nearly 19 000 methaqualone tablets seized by South African police in February 2024. Commonly called mandrax in South Africa and with limited consumption globally, this synthetic substance is now being found in drug markets throughout Africa. *Photo: South African Police Service*



A courier shipment containing one kilogram of synthetic cannabinoid powder seized by Mauritian police in April 2023. *Photo: Mauritius Revenue Authority*

Polysubstance cocktail drug formulations and potency

The rapid expansion of synthetic drug manufacture has led to the continual development of new formulations and analogues. Going forward, it is inevitable that illicit manufacturers will continue to modify the chemical structure of various chemical substances to exploit laxities in existing regulatory frameworks and evade legal control measures. Additionally, the increasing potency of synthetic drugs will remain a serious challenge. One growing concern among public health officials across the North American and European regions is the apparent significant increase in the detection of synthetic drug cocktail formulations, or polysubstances.⁹⁴

These polysubstance mixtures are often overlooked in favour of attention that is placed on more simplistic, public drug threat messaging. Fentanyl and its analogues are a good example of how the politics of drug threat perception (e.g. 'fentanyl is the enemy') potentially blinds us to the detection and tracking of more insidious features of drug supply. Polysubstance cocktails generally appear to be a by-product of the regionalization and industrialization of synthetic drug production processes, diversification of distribution strategies and, to some degree, consumer market forces.⁹⁵

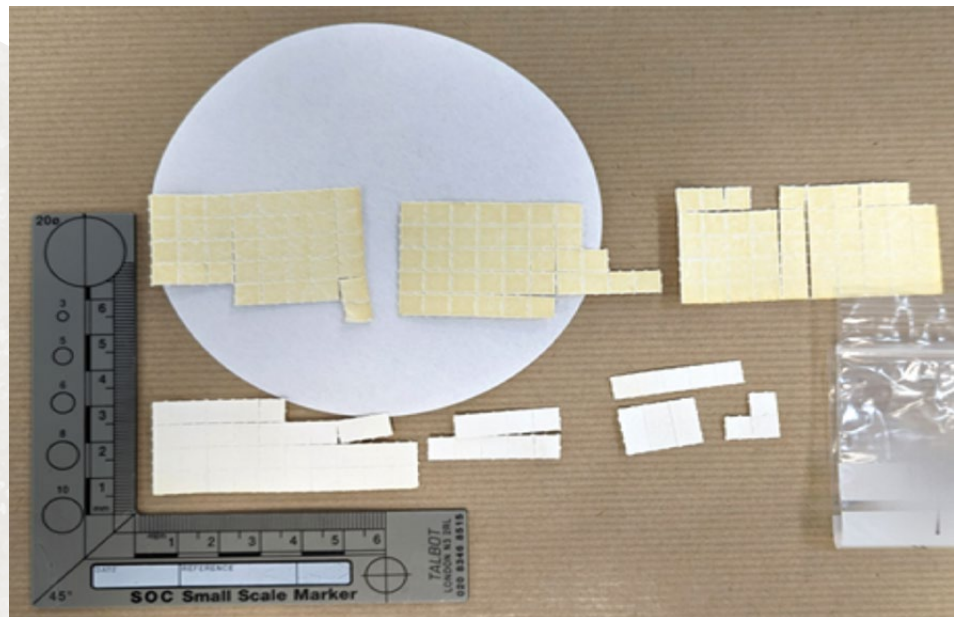
While drug cocktails have been common features of illicit drug markets for decades, particularly when we think of combinations of more traditional opioids (e.g. heroin) and stimulants (e.g. cocaine), compared to the current state of overdose mortality these earlier combinations were less frequently implicated as market drivers of fatal overdose.⁹⁶ The primary difference today is the replacement of these naturally-based recombinants with synthetic variables. 'Down', a polysubstance drug concoction found in parts of Canada, allegedly is a combination of fentanyl analogues with heroin.⁹⁷ Yet spot-testing often proves that in reality 'down' is many more things. For example, in one analysis 'down' was found to include fentanyl, bromazolam, caffeine, erythritol, xylazine, and an unidentified substance.⁹⁸ Thus the polysubstance threat extends well beyond the inclusion of opioids to other less monitored but increasingly more common contaminant substances.

Xylazine is a good example of this point. A potent sedative, it has been identified as a recent contaminant to the fentanyl supply in Canada and the US, and its identification has coincided with an increase in fatal overdoses.⁹⁹ Ostensibly used to prolong the effect of fentanyl experienced by users, the substance is resistant to opioid overdose reversal medications, such as naloxone. First recognized as an adulterant in Puerto Rico in 2001, xylazine has proliferated across US drug markets and in western Canada in tandem with illicitly manufactured fentanyl.¹⁰⁰ More recently, it has been detected as an adulterant in the drug supply of Estonia,¹⁰¹ and was implicated in an overdose death in the UK.¹⁰²

As an extension to the polysubstance threat, there is recognition that in a growing number of global markets we are seeing branded synthetic compounds that turn out to be a variety of polysubstances exploiting the name recognition that a brand may already command. In a number of markets we encounter substitute substances that are peddled on the basis of a brand name rather than on their inconsistent chemical content. Captagon is a prime example. Historically made of fenethylamine, Captagon is a substance most commonly produced in Syria and Lebanon today, supplied mainly to markets and

consumers in the Middle East, and an ongoing antagonist of the regional border conflict between Jordan and Syria.¹⁰³ More recently, however, Captagon production and trafficking have been noted in the EU, with seizures of tablets and labs providing an indication of this change, as well as seizures outside of Europe that would indicate its production within Europe (rather than Syria, for example).¹⁰⁴ In the EU seizures, however, forensic testing has revealed that rather than fenethylamine-based tablets, these Captagon tabs were instead amphetamine sulfate-based, with no indication of fenethylamine present.¹⁰⁵ Same brand, different product. There are also allegations of Captagon-branded tablets being sold in the drug markets of South Sudan, Kenya, Tanzania and South Africa, though in line with the EU example, these instances appear most likely to be cases of the brand Captagon being used as a sales pitch rather than the substance itself.¹⁰⁶

In Scotland in December 2023, these paper tabs seized by police were to be sold as etizolam, but were found instead by the Scottish Police Authority Forensics Services Laboratory to contain the synthetic opioid metonitazene. © Public Health Scotland, Rapid action drug alerts and response quarterly report, October 2023.



A vial allegedly containing powdered LSD base sourced from the Netherlands, to be reconstituted in liquid form and impregnated into tabs of blotter paper in southern Africa. *Photo supplied*



The green flakes in the cigarette wrapper (right) are an example of 'kush', an increasingly common drug found in Sierra Leone and elsewhere in West Africa. Thought to be a variation of a synthetic cannabinoid, its actual chemical components are largely unknown and currently under analysis. *Photo supplied*

'Tusi' is another brand name that transcends its origin chemistry and geography. Tusi is a polysubstance cocktail that allegedly emerged in Latin America, migrated to Spain around 2016, and is now found in North America, Europe and southern Africa.¹⁰⁷ Sometimes called 'pink cocaine', its name is derived from a shortening of 2C-B, a hallucinogenic phenethylamine. The curious thing about Tusi is that it has no standard recipe: its chemistry tends to vary geographically, and has included a varying combination of substances such as ketamine, MDMA, methamphetamine, caffeine, xylocaine, cocaine and tramadol.¹⁰⁸

These are just two examples of substances traded with a common brand name that differ in chemistry depending on the location of the marketplace and the origin of production. In too many instances, substances we see are not the substances we think they are. This continual mutation in formulation and potency of substances will pose further challenges for legislators, enforcement agencies and public health bodies at all levels. If we add to this the potential challenge of polysubstance variability being overlapped with chemical masking, then the continued proliferation of new and novel substances makes the potential for detection more difficult. It also poses additional challenges to public health systems and programmes in responding effectively to the synthetic complexities of their drug markets through harm-reduction-based overdose prevention programming in particular.

Escalation of transnational criminal organizations and actors

The global illicit synthetic drug trade will remain dominated by increasingly sophisticated transnational criminal networks. These organizations exploit gaps in international law enforcement, take advantage of porous borders and weak regulatory frameworks, exacerbate violence and insecurity, and challenge community governance structures. Further, the advancement of technology could facilitate more discreet methods of manufacture, trafficking and distribution by these organizations and their networks.

At the same time, however, the synthetic drug market has become increasingly attractive to smaller operators. The disconnect with an agricultural origin, alongside a proliferation of open-source and commercial knowledge, new technologies, efficient lab set-ups, subject matter experts (chemists and cooks), and access to broad swathes of the global consumer market have created an industry that is diverse, accessible and lucrative. The cost of entry is low and the revenue potential is high. While large criminal organizations have dominated the synthetic drugs landscape, an increasing wave of entrepreneurial-driven actors have entered the trade as well. We see this in the increased levels of local production of meth, MDMA and methaqualone in southern African markets;¹⁰⁹ the growth in fentanyl and meth production in the western provinces of Canada, and its shipment to Australia and the Pacific islands;¹¹⁰ and in the rapid escalation in the number of new actors and local labs tackling alpha-PVP production in Ukraine following the Russian invasion.¹¹¹

Synthetic drug production is no longer solely the output of large organizations. It is today a vast, diverse and accessible marketplace for a variety of criminal actors, from large to small, geographically diverse, and increasingly entrepreneurial in their engagement. A much



Clandestine fentanyl lab discovered in April 2023 in Vancouver. 'Super lab' manufacture of fentanyl and methamphetamine in Canada has become a growing international security threat, with exports targeting the US, Australia, New Zealand and the Pacific islands. *Photo: Vancouver Police Department*

wider geographical distribution of producers and distributors has emerged alongside a growing global foundation of consumption and harm, both of which have created an increased challenge to the potential efficacy of law enforcement and public health intervention and mitigation.

Exploitation of synthetics by nations under sanctions

Syria is perhaps the ultimate example of a state actor that has come to depend heavily on the revenues generated by the production and sale of synthetic drugs. Squeezed by its more than decade-long civil war and repeated rounds of sanctions imposed on licit businesses, the regime has increasingly sought to sustain patronage networks by tapping into this trade; so much so, that Syria is estimated by the UK government to produce 80% of the world's Captagon supply.¹¹² Alongside strong domestic demand from military personnel, much of the Syrian supply is destined for other Middle East countries, including Saudi Arabia. Jordan, a key transit route for such supplies, has been a crucial partner of the international community in attempting to stem the flow.

Meanwhile, despite concerns about the continued supply of Captagon into its own territories, regional heavyweights – most notably Saudi Arabia and the United Arab Emirates – last year welcomed Syria's government back into the Arab League. Even though this was done on the condition that Syria curbs its Captagon production, even if Syria were not to curb Captagon it is unlikely that this normalization will be reversed.¹¹³ This serves as a further example of

the geopolitical limits of the international community's attempts to coordinate a coherent response to the explosion of synthetic drug supplies and wider organized criminal activity. It also demonstrates the difficulty of shrinking the opportunity space for illicit economies more widely if the main players are state-embedded actors.

Illicit synthetic drug production and asymmetric weaponry

We should not discount the threat potential of a synthetic polysubstance being developed for deployment by state or organized criminal group actors as an asymmetric weapon. While the engineering of synthetics in such a manner has been within the capacity of state-based warfare for a considerable time,¹¹⁴ the threat of bespoke synthetic drug-based chemical agents produced by entrepreneurial criminal groups and their chemists becoming a commodity refined for ill-intentioned individuals or groups should be a principal national security consideration for all countries.

Convergence of synthetic drugs and asymmetric weaponry

The potential for synthetic substances to be developed as asymmetric weapons presents several security concerns:

- Large-scale weaponization of synthetic substances: Some synthetic drug formulae have the potential to be modified or engineered to enhance their lethality. They could be weaponized, either through aerosolization or contamination of food/water supplies, leading to mass casualties or disruption and destabilisation of societal functions through deployment as tools of psychological warfare.
- Covert administration: Synthetic substances could be covertly administered to individuals without their knowledge or consent, leading to potentially harmful outcomes. This could be employed for purposes such as assassinations or incapacitating targets in covert operations.
- Terrorist/armed group exploitation: Groups may seek to exploit synthetic drugs for their disruptive potential, either by using them as weapons themselves or by funding their activities through illicit drug trafficking.
- Dual-use nature: The same technology and expertise used to produce synthetic drugs could potentially be

repurposed for the development of chemical or biological weapons, posing a dual-use dilemma for law enforcement and security agencies.

- Biological and chemical terrorism: The potential exists for synthetic drugs to serve as a cover, or precursor, for more sophisticated biological or chemical terrorist plots (or plots by rogue states), potentially to complicate detection and response efforts.

In considering the above points, it is important to note also that the global supply chain for precursor chemicals used in synthetic drug production presents vulnerabilities that could be exploited by malicious actors seeking to acquire materials for asymmetric weapons. Addressing these risks requires enhanced monitoring of both the synthetic drug trade and potential avenues for weaponization, as well as cooperation between law enforcement, intelligence agencies, public health authorities and international partners to mitigate the dual threats posed by synthetic drugs and asymmetric weapons. In particular, surveillance should focus on drug market and organized criminal actor characteristics in the afore-mentioned 10 states classified as having the most severe synthetic drug markets and the least resilient national capacity to respond to these markets. ■

Dual use potential of artificial intelligence

'The thought had never struck us.' This is how Fabio Urbina and colleagues opened their article published in the *Nature Machine Intelligence* journal in March 2022.¹¹⁵ For scientists who used artificial intelligence (AI)-powered machine learning model predictions to develop *de novo* molecules in the field of synthetic drug discovery, the 'thought' that had never occurred to them was to use this AI-based drug discovery technology to design novel, potent and durable synthetic drug molecules and compounds. Yet, as they explain in their proof-of-concept narrative, the technology already exists and enables this very tactic to be used. The *de novo* design process of new molecules can easily be paired with commercial or open-source software to integrate synthesizability assessment and retrosynthesis procedures in order to identify the most viable molecular candidate. The global array of hundreds of poorly regulated commercial chemical and pharmaceutical companies that can offer chemical synthesis services for production of these compounds further emphasizes the gravity of this particular global security threat.

As the authors of the study conclude, 'with current breakthroughs and research into autonomous synthesis, a complete design-make-test cycle to making not only drugs, but toxins, is within reach.'¹¹⁶ Thus, rather than continually tweaking field-based recipes in their quest to revise and refine existing synthetic substances, organized criminal groups and their chemists could instead revert to the use of existing commercial and open source software tools and databases to design a bespoke synthetic compound that would exist outside any known surveillance or drug monitoring databases, and the scheduling regimes that are tied to them.

Challenges ahead for law enforcement agencies and policymakers

The continued evolution of illicit synthetic drug markets will present novel challenges for law enforcement agencies and policymakers. Traditional approaches to law enforcement have focused on targeting well-established drug trafficking networks. However, the adaptability and decentralization of manufacturing hubs and distribution networks that continues to characterize the synthetic drug market will exacerbate the already challenging environment that characterizes current attempts to disrupt these supply chains effectively. The digitalization of the market through online platforms and pseudonymous or even anonymous cryptocurrency transactions compounds the difficulties faced by law enforcement.¹¹⁷ Some cryptocurrency projects, notably Monero, are actively promoted as 'privacy' coins,¹¹⁸ attracting criminals who seek to avoid the digital footprint left by bitcoin transactions.¹¹⁹

Exploitation of surveillance, classification and control incapacities

The continued introduction of new substances into the market will continue to pose a regulatory challenge. As illicit producers modify synthesis recipes to accommodate use of alternative precursors and pre-precursors, they create surveillance and interdiction challenges for substances that fall outside existing regulatory frameworks, making it



A seizure by the Royal Thai Police in November 2020 of over 12 metric tonnes of ketamine. After further analysis, however, the seizure was found to contain only trisodium phosphate, a licit food additive that allegedly generated a false positive result on tests for ketamine. *Photo: Royal Thai Police*



Found in a container originating from China and seized by Namibian customs at Walvis Bay due to suspicious paperwork, these drums contained an unidentified liquid. Auctioned off after having lain unclaimed by the receiver, the drums were re-seized before transfer to the buyer after police were able to identify the substance as safrole, a precursor in the synthesis of MDMA. *Photo: Namibian Police Force*

difficult for national authorities to identify, classify and control them. Besides, many jurisdictions lack the human resource, financial and technical capacities needed in their public health or public security institutions to be able to properly identify, classify and then control the supply and use of illicit synthetic substances. This is a particular challenge for states in the Global South.

The illicit/licit paradox in the control of synthetic pharmaceuticals for medical use

The INCB has continued to affirm that the availability of and access to pain medication, including opioid analgaesics and medicines used for opioid agonist therapy, as well as medication required for the treatment of mental illnesses and palliative care regimens, remains low in many parts of the world.¹²⁰ Efforts to respond more effectively



The Narcotics Control Commission of Ghana seized 4.7 metric tonnes of various tramadol-type substances in January 2024. West Africa sees high volumes of diverted, fake and counterfeit synthetic pharmaceuticals enter its drug markets each year. *Photo: Narcotics Control Commission of Ghana*



The diversion of large volumes of synthetic pharmaceuticals from government health facilities in Kenya, including varieties of synthetic opioids, stimulants, antipsychotics and benzodiazepines, is contributing to a significant shift in synthetic polydrug use and related harms in the country's domestic drug market. *Photo supplied*

to the growing synthetic drug crisis in many countries has resulted in the creation of a conflict between the objectives of public health and public security policy regimens. Specifically, efforts to interdict the supply and distribution of illicit synthetic substances, particularly opioids, often makes it difficult to distinguish between those substances necessary for medical purposes and those that are being used for illicit purposes.

Challenges around the use and position of tramadol within the medical science and drug control communities in West Africa, in particular, present an example of such a struggle – particularly as this overlaps with the practice of licit diversion, and the related illicit production and trade in fake and counterfeit tramadol.¹²¹ Diversion of licit substances into illicit spaces, particularly pharmaceuticals from medical facilities and other government institutions, is an issue shared across many regions. In Kenya, recent research has found significant volumes of government-sourced pharmaceuticals available in the local illicit drug markets. These include synthetic opioids, stimulants, benzodiazepines, anti-psychotics, and anti-convulsants, among many others.¹²²

Escalating public health crises

An increase in synthetic drug consumption could lead to an expanded and protracted public health crisis, overwhelming healthcare systems in some parts of the world. The constantly changing composition of synthetic drugs increases the risks associated with their consumption. Users often are unaware of the potency, adulterants, or potential harms of the substances they are taking. Furthermore, the availability and accessibility of synthetic drugs through online platforms will continue to enable their


spread, making it harder to control their distribution and monitor their impact on users. Existing treatment regimens are largely ineffective in responding to the pharmacological and behavioural complexities emerging from use of these new substances.

Furthermore, there remains no consensus as to why the dire public health consequences of a widespread contamination of illicit drug supplies by fentanyl and other synthetic opioids appears to dominate only Canadian and US drug markets right now. As such, serious consideration should be given to the possibility that such an escalation in substance transformation might soon occur in other opioid markets.¹²³ But we must not dwell on trying to predict the location of the next synthetic drug disaster. Given the widespread proliferation of opioid consumption across many G77 nations, this places a significant threat potential on those governments that have moderately ineffective to extremely ineffective national resilience capacities to respond. The potential for an extended and unmitigated synthetic drug-based public health emergency in such places is high. How do we anticipate and prepare to respond to an extended synthetic drug-related health crisis within the vast, largely unknown market spaces of the 187 synthetic drug market countries of the world – particularly when the response to the original opioid crisis itself has been so muted, and mostly unsuccessful?



SYNTHETIC DRUGS

THE PRESENT AND THE FUTURE



Synthetic drugs are the future of drug trafficking.¹²⁴ They may also be the future of organized crime. In spite of much political, health and law enforcement strategic policy and intervention action that has already been taken, the harms of these markets have only continued to grow. We don't need to generate any more paper-based promises, or politically nuanced policies. These will not lead us to effective, sustained deterrence. We need to generate resilience, and we need to do it now.

We need to stop thinking of disruption of these markets and their harms as aspirational goals. Instead, real, actionable measures must begin to be taken to push states and regions, and their related multilateral bodies, towards the realization that the 'old ways' have not worked. New approaches and objectives need to be considered and pursued. Further, this needs to be done over an implementation timeframe that is both expedited and intensely collaborative in its orientation. Change is possible, particularly if we conceive of the necessity of its achievement as being the same as with those 'necessary' political, financial and technological investments that we pursue in member states around major public-private economic ventures.

With synthetic drug markets present in 187 countries of the world and already exerting a significant or severe influence on many of these states, the threat potential of the current situation is extraordinary. Given that the majority of affected states possess only a moderately effective resilience capacity to respond to this market and its impacts, it is evident that as a global community we have been too slow to react to the new realities of synthetics. The same cannot be said for organized criminal organizations, the actors behind them and their enablers in the private and public sectors. In the short space of two years, they have been successful in expanding the reach and influence of synthetic drugs across 100 countries. In that same time, only 12 states were able to moderately reduce this influence.

We must change our mindset. Efforts like the Global Coalition to Address Synthetic Drug Threats, combining our forces to respond more rapidly and more effectively, need to be paired with state- and industry-based action. We must recognize the urgency of the moment and change our strategic planning horizons. Given the sustained growth rate and geographic extension of synthetics, and the vulnerability of dozens of nations to further exploitation over the next two years, deterrence of these synthetic drug threats must be achieved in a timeframe that is significantly shorter than the current consensus-driven aspirational policy and planning timelines – otherwise we will be too late. If we are to avoid the imminent and widespread realization of these synthetic drug-related threats, then we need to achieve a universally enforced level of deterrence in a target period that is closer to three to five years than to the more traditional decade or more of other consensus-driven aspirational endeavours.

As we begin to accept that synthetic drugs are the future of drug markets, and potentially of organized crime, we need to consider this: what is the future of our action? Or, more appropriately, what is the future of our inaction? To that end, the following recommendations should be considered:

- Dramatically improve member state surveillance and reporting capacities, particularly among states of the Global South, to increase their potential to identify, classify, seize and control existing and new illicit synthetic substances.
- Immediately improve the monitoring and regulatory capacity in areas of weak or low governance, and controlling flows of precursors into and out of those areas, and from pharmaceutical and chemical companies. Demand and establish the replacement of voluntary industry-driven schemes with the imposition of a mandatory, multinational, external regulatory system to monitor and control these industries, and the export–import flows.
- Fund and support collaborative research initiatives in scientific and academic institutions with particular organizational focus on involvement of civil society bodies, and market focus on Global South geographies to improve surveillance of synthetic drug infiltration in under-monitored markets.
- Fund and implement an expansion of lab-based ‘early warning’ systems of substance detection, identification and reporting by member states, particularly in the Global South, and with particular reference to markets with significant and severe synthetic market influence.
- Increase availability of and access to evidence-based treatment and support programming, particularly in under-served areas, and including provision of adequate funding by governments for the establishment and operation of these programmes.
- Prioritize and demand access to essential medications, particularly among those states with pre-existing limitations in the availability and use of these substances in medical settings.
- Align public health and public security policy agendas to preserve legitimate uses of synthetic substances, detect diversion and distinguish the licit from the illicit.
- Recognize that the complexity of regulating synthetic drugs requires adaptable legal frameworks that can keep pace with evolving substances. Pursue harmonization of member state regulatory frameworks, sharing insights with one another into effective legislation and enforcement strategies. Improved diplomacy and collaboration through multilateral institutions and regional bodies are a necessity.
- Demand pharmaceutical and chemical industries implement stricter controls on precursor chemicals used in synthetic drug production. Current voluntary industrial frameworks of control have been ineffective.

*Synthetic drugs are the future of drug trafficking.
They may also be the future of organized crime.*

NOTES

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- 4 Some examples have included community- and event-based pill testing services; safe consumption rooms; decriminalization of substances for personal possession and use; safe supply services; naloxone distribution and other overdose prevention services; and mental health intervention activities.
- 5 Some examples of this, as formulated and pursued by the International Narcotics Control Board (INCB) and that are focused directly on the threat of synthetics include: Project Ion Incident Communication System, that brings together the intelligence-sharing of 160 law and regulatory enforcement agents; the Scanning of Novel Opioids on Online Platforms, that scrapes online data to identify suspicious online synthetics marketplaces and vendors; the Precursors Incident Communication System, which is a secure online tool designed to provide voluntary information-sharing on precursors between national authorities; and the PEN Online Light System, which enables the voluntary exchange of pre-export notifications of legitimate shipments of non-scheduled (i.e. precursor and pre-precursor) chemicals.
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- 8 The Index defines 'reach' as the non-monetary impact of a market considering different factors such as the geographic concentration of the market, the number of people affected by or involved in the market, the presence of violence and the scarcity of the commodity illicitly traded.
- 9 These 22 countries included: Afghanistan, Cambodia, China, Egypt, Iran, DPR Korea, Laos, Lebanon, Mauritius, Mexico, Myanmar, the Netherlands, Nigeria, Philippines, Russia, Saudi Arabia, South Africa, Syria, Thailand, Ukraine, the United Arab Emirates and the United States.
- 10 These 48 countries included: Algeria, Australia, Bahrain, Bangladesh, Belgium, Benin, Bosnia and Herzegovina, Bulgaria, Cameroon, the Central African Republic, Chad, Colombia, Côte d'Ivoire, Czech Republic, Estonia, Fiji, France, Germany, Ghana, Guatemala, Hungary, India, Indonesia, Iraq, Ireland, Jordan, Kazakhstan, Kuwait, Libya, Malaysia, Mali, Morocco, Mozambique, New Zealand, Niger, Oman, Pakistan, Poland, Qatar, Serbia, Sierra Leone, Sri Lanka, Sweden, Tonga, Tunisia, Turkey, the United Kingdom and Vietnam.
- 11 It is recognized and acknowledged that this 'absence' should not necessarily be equated with an absence of membership or an absence of inclusion in multilateral forums. After all, many of these 70 nations are current participant partners in the US-led Global Coalition to Address Synthetic Drug Threats, for example. Instead, what is addressed here is an absence of voice; of physical access to and informed participation in the global discussion; and the absence of an accepted recognition of the equivalency of harm when it comes to the potential impacts that the current global synthetics evolution will have on drug markets across the global spectrum of nations – and not just on the ones that currently populate the discussion floors.
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