

Chapter I.

The role of the Internet, including social media, in drug trafficking and use

The international community faces both challenges and opportunities for drug control, prevention and treatment in the era of the Internet, and the present chapter explores the intersection of the international drug control treaties and the challenges posed by the Internet, with a specific focus on the evolving landscape of online drug trafficking. Law enforcement authorities encounter difficulties in monitoring and prosecuting online drug activities due to the use of encryption technologies and jurisdictional issues that require global collaborative efforts. Social media is increasingly used as a local marketplace for illicit drugs, raising concerns about increased accessibility for children and adolescents. At the same time, these platforms offer opportunities to prevent non-medical drug use and raise awareness about the harms of such use by enabling communication with and between people who use drugs, coordinate strategic community responses and allow drug-checking services

to support public health initiatives. This chapter also discusses the misuse of legitimate e-commerce platforms for drug trafficking, emphasizing efforts to foster cooperation between Governments and online industries. Criminal groups exploit online platforms for the trafficking of narcotic drugs, psychotropic substances, precursor chemicals and other new psychoactive substances. The online presence of fentanyl and synthetic opioids raises serious concerns due to their high potency and the risk of overdose deaths. INCB initiatives to prevent the exploitation of the Internet for drug trafficking include Operation Acronym, the GRIDS Programme and tools such as IONICS for real-time information exchange. INCB notes that there is a need to further develop public-private partnerships and stresses the need for international cooperation and enhanced legislation to address evolving challenges in Internet-driven drug trafficking.

A. Introduction

1. The international community adopted the Single Convention on Narcotic Drugs of 1961 and the Convention on Psychotropic Substances of 1971 prior to the advent of the Internet, and the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988 shortly before the major changes in information and communication technologies became global in reach. These conventions are the cornerstone of the international drug control system and continue to guide concerted actions aimed at safeguarding health and welfare. Signatory countries are obliged to limit exclusively to medical and scientific purposes the production, manufacture, export, import, distribution of, trade in, use and possession of drugs, while

ensuring their availability for such purposes.¹ Legislative, regulatory and policy measures implemented to achieve these aims must be proportionate, humane and grounded in respect for human rights.² The Internet has proved to offer both opportunities to support the aims of the conventions and to undermine them, as it enables communication that facilitates trade and trafficking in and use of narcotic drugs, psychotropic substances and precursor chemicals.³

2. The international cooperation fostered by the three United Nations drug control treaties continues to prevent

¹Single Convention on Narcotic Drugs of 1961, art. 4, para. 1 (c).

²E/INCB/2022/4.

³*World Drug Report 2022* (United Nations publication, 2022).

diversion from licit international trade in narcotic drugs, psychotropic substances and precursor chemicals. However, criminals have also adapted to the new informational and technological environment. The growth in online drug trafficking follows the broader trend in Internet use and Internet-facilitated trade. The role of the Internet in drug trafficking and in the sourcing of precursor chemicals and equipment for illicit drug manufacture has evolved but has not yet dramatically changed drug supply chains. The share of illicit transactions that occur online is still growing, constituting every year a larger share of the global illicit drug market, which is valued at between \$200 billion and \$600 billion.⁴ There is considerable potential for Internet-facilitated drug markets to further expand as the technological components continue to evolve and larger shares of the global population use social media.⁵

3. As early as 2000, the Commission on Narcotic Drugs, in its resolution 43/8, resolved to curtail the availability of controlled pharmaceuticals and precursor chemicals for illicit purposes through the misuse of the World Wide Web.⁶ In 2009, the International Narcotics Control Board (INCB) published the *Guidelines for Governments on Preventing the Illegal Sale of Internationally Controlled Substances through the Internet*.⁷ In chapter I of the annual report of the Board for 2015, entitled “The health and welfare of mankind: challenges and opportunities for the international control of drugs”, the emerging problem of the use of the Internet for drug trafficking and use was addressed. In the conclusions and recommendations of that thematic chapter, the need was underlined for States to expand the range of interventions to cope with new psychoactive substances and the marketing technologies used to promote and facilitate the non-medical use of drugs through the use of the Internet and social media.⁸ Moreover, the INCB annual report for 2021 addressed, as a global issue, the use of social media in the promotion of the non-medical use of drugs.⁹

⁴World Drug Report 2005, vol. 1, *Analysis* (United Nations publication, 2005); and Harry R. Sumnall, “The harm reduction impact of cryptomarkets: inequality and opportunity”, *Addiction*, vol. 113, No. 5 (2018), pp. 801–802.

⁵Judith Aldridge, Alex Stevens and Monica Barratt, “Harms, benefits and the policing of cryptomarkets: a response to commentaries”, *Addiction*, vol. 113, No. 5 (2018), pp. 802–804; Judith Aldridge, Alex Stevens and Monica Barratt, “Will growth in cryptomarket drug buying increase the harms of illicit drugs?”, *Addiction*, vol. 113, No. 5 (2018), pp. 789–796; European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) and European Union Agency for Law Enforcement Cooperation (Europol), *EU Drug Markets: Impact of COVID-19* (Luxembourg, Publications Office of the European Union, 2020); and *World Drug Report 2023*, booklet 2, *Contemporary Issues on Drugs* (United Nations publication, 2023), chap. 7.

⁶E/INCB/2022/4.

⁷United Nations publication, Sales No. E.09.XI.6.

⁸See E/INCB/2015/1, chap. I.

⁹E/INCB/2021/1.

4. Currently, the urgent macro-level challenges to international drug control are the misuse, diversion from domestic trade and evolution of designer and pre-precursor chemicals and new psychoactive substances, including non-medical synthetic opioids, that are not under international control. At the micro level, the Internet and especially social media, in combination with encryption technologies, have increased the availability of drugs on the illicit market and made it more difficult for law enforcement authorities to prevent drug trafficking.

5. The international drug control treaties obligate States parties to take steps to prevent the diversion of controlled substances into illicit channels while also facilitating their availability for legitimate medical and scientific purposes. In a globalized market, reducing illicit supply involves international cooperation, even at the production stage. The identification of suspicious online transactions is challenging because they are hidden within legitimate trade. To apply the international drug control treaties, States parties should implement comprehensive and balanced approaches to regulate new online marketplaces.¹⁰ This requires an appropriate focus on reducing illicit supply and demand for drugs, promoting research and sharing knowledge.

B. Opportunities offered by the Internet to prevent non-medical drug use

6. Telemedicine and Internet pharmacies illustrate the duality of challenges and opportunities. They both hold great potential for improving access to health care but at the same time enable illegitimate actors to hide among legitimate providers. Telemedicine is a fast-growing health-care delivery option.¹¹ Using the Internet, physicians have the ability to issue prescriptions online, but several studies suggest a correlation between telemedicine and overprescription.¹² For consumers, Internet pharmacies offer lower

¹⁰E/INCB/2022/1.

¹¹Laura Hoffman, “Shedding light on telemedicine and online prescribing: the need to balance access to health care and quality of care”, *American Journal of Law and Medicine*, vol. 46, Nos. 2 and 3 (July 2020), pp. 237–251; and Kostas Mouratidis and Apostolos Papagiannakis, “COVID-19, Internet, and mobility: the rise of telework, telehealth, e-learning, and e-shopping”, *Sustainable Cities and Society*, vol. 74 (2021), p. 103182.

¹²Tim K. Mackey, Bryan A. Liang and Steffanie A. Strathdee, “Digital social media, youth, and nonmedical use of prescription drugs: the need for reform”, *Journal of Medical Internet Research*, vol. 15, No. 7 (July 2013), pp. e143.

costs, convenience and privacy, while businesses can save on expenses and increase their competitiveness.¹³

7. For the purposes of providing treatment, rehabilitation, aftercare and social reintegration services for people with drug use disorders, telemedicine represents a valuable additional resource for reaching patients,¹⁴ and the online delivery of services related to drug treatment holds great potential.¹⁵ There are several online discussion forums dedicated to drug-related topics. These discussions sometimes relate to practical logistical issues about procuring drugs illicitly, such as naming fraudulent sellers and describing online security measures,¹⁶ but people also discuss the inherent risks of drug use.¹⁷ This information can be highly localized and includes warnings about adulterated drugs encountered.¹⁸ While this knowledge-sharing is a positive element, it is unknown if it is associated with significant reductions in aggregate health-related costs, as the persons reached in this way are seldom among the most vulnerable people who use drugs.¹⁹

8. National health authorities can improve their use of social media platforms to reach youth with drug use prevention advice and health warnings and provide information on where and how to seek help for problematic drug use. INCB recognizes the efforts of some Governments and international organizations to make use of the Internet to prevent drug use and improve drug control at the national and international levels.

C. Challenges posed by the Internet to drug control

9. The Internet connects sellers and potential buyers of both licit and illicit commodities across the globe. Drug traffickers can reach a large international audience by

exploiting social media and other online platforms to advertise their products. Online communication between sellers and potential buyers is discreet and even encrypted and blends in with the massive stream of legitimate messages and e-commerce activities. The sheer scale of communications on these platforms makes it exceedingly difficult for regulatory authorities to monitor, even if the communications leave digital traces. It is complicated to take legal action and prosecute trafficking offences conducted online. There are jurisdictional issues owing to the global reach of Internet-facilitated drug trafficking, and offenders can move their activities to territories with less intensive law enforcement action and lighter criminal sanctions or base themselves in countries where they can evade extradition.

10. New encryption technologies and innovations such as virtual private networks to hide users' Internet Protocol address, combined with conventional free speech protection, the right to anonymity and the use of slang and emojis, leaves law enforcement authorities with a daunting task. While it is difficult to investigate and attribute criminal responsibility to individuals, drug traffickers only have to make one mistake before law enforcement authorities can establish their identity.²⁰

11. Recently, organized criminal groups in Europe have exploited Internet-based technologies to traffic drugs, using modified smartphones, "cryptophones" or "PGP" phones running EncroChat and similar software. They believed that they were communicating confidentially, but law enforcement authorities managed to decrypt their conversations and took down several high-value targets beginning in 2021. In France alone, the National Gendarmerie collected over 120 million text messages from 60,000 mobile phones, with data tracing back to more than 100 countries.²¹ The ensuing criminal cases in several European countries resulted in an unprecedented number of convictions for large-scale drug trafficking, homicides and weapons offences.²² The duality of encrypted online communications is that they are safe for criminals until they are no longer safe.

¹³Sia Chong Hock, Mervyn Ming Xuan Lee and Lai Wah Chan, "Regulating online pharmacies and medicinal product e-commerce", *Pharmaceutical Engineering*, vol. 39, No. 6 (November/December 2019).

¹⁴E/INCB/2022/1.

¹⁵*World Drug Report 2022*.

¹⁶James Martin, Jack Cunliffe and Rasmus Munksgaard, *Cryptomarkets: A Research Companion* (Bingley, United Kingdom, Emerald Group Publishing, 2019).

¹⁷Angus Bancroft, "Responsible use to responsible harm: illicit drug use and peer harm reduction in a darknet cryptomarket", *Health, Risk and Society*, vol. 19, Nos. 7 and 8 (December 2017), pp. 336–350.

¹⁸Aldridge, Stevens and Barratt, "Will growth in cryptomarket drug buying increase?"

¹⁹Sumnall, "The harm reduction impact of cryptomarkets".

²⁰United States, Department of Justice, "Administrators of DeepDotWeb indicted for money-laundering conspiracy, relating to kickbacks for sales of fentanyl, heroin and other illegal goods on the darknet", press release, 8 May 2019; and Europol, "Bitzlato: senior management arrested", press release, 23 January 2023.

²¹Jan-Jaap Oerlemans and D.A.G van Toor, "Legal aspects of the EncroChat operation: a human rights perspective", *European Journal of Crime, Criminal Law and Criminal Justice*, vol. 30, Nos. 3 and 4 (2022), pp. 309–328.

²²Europol, "DeepDotWeb shut down: administrators suspected of receiving millions of kickbacks from illegal dark web proceeds", press release, 8 May 2019; and Europol, "Double blow to dark web marketplaces", press release, 3 May 2019.

Cryptophones are specially designed smartphones with enhanced encryption methods, protecting all communication systems. While their hardware is similar to regular mobile phones, the key distinction lies in advanced encryption software. These devices prioritize security and privacy, offering features such as encrypted calls and texts, secure boot, bootloader protection, and hardware-level security measures to prevent tampering.

12. Access to the Internet varies from region to region and within countries, but its importance is rising everywhere, and the trend is set to continue. In Western countries, young people typically acquire their first mobile phone between the ages of 7 and 10, and a growing share of adolescents' social activities occur online.²³ In the United States of America, nearly 40 per cent of children as young as 8 to 12 years of age use social media, and teenagers spend several hours per day on social media, an average of 3.5 hours according to one survey.²⁴ Almost half of teenagers in the United States say that they use the Internet "almost constantly" – double the number compared with only eight years ago.²⁵ Accompanying this increase among children in time spent online, however, there has been a concurrent decline in risk-taking behaviour in adolescents, including substance use and physical fighting. Less time spent in unstructured socializing with peers in public results in fewer opportunities and temptations for conventional offending.²⁶

13. Seen over a period of 30 years, the evolving use of the Internet shows how drug distributors adapt their behaviours to reduce their risk of being apprehended.²⁷ Initially, this entailed a shift away from open-air, street-level marketplaces and towards indoor sales. Online distribution is a continuation of the leveraging by offenders of technology.²⁸ It is

²³Alex McCord, Philip Birch and Lewis A. Bizo, "Digital displacement of youth offending: scoping and understanding the issue", *Journal of Criminological Research, Policy and Practice*, vol. 8, No. 4 (June 2022), pp. 243–259.

²⁴United States, Department of Health and Human Services, "Surgeon General issues new advisory about effects social media use has on youth mental health", press release, 23 May 2023.

²⁵Emily A. Vogels, Risa Gelles-Watnick and David Massarat, "Teens, social media and technology 2022", Pew Research Center, 10 August 2022.

²⁶Robert Svensson and others, "For whom do unstructured activities matters? The interaction between unstructured and structured activities in delinquency and cannabis use: a national self-report study", *Crime and Delinquency*, vol. 69, No. 10 (July 2022), pp. 2022–2045.

²⁷Kim Moeller, Heith Copes and Andy Hochstetler, "Advancing restrictive deterrence: a qualitative meta-synthesis", *Journal of Criminal Justice*, vol. 46 (2016), pp. 82–93.

²⁸Thomas Friis Sogaard and others, "Ring and bring drug services: delivery dealing and the social life of a drug phone", *International Journal of Drug Policy*, vol. 69 (2019), pp. 8–15; and Maria Tcherni and others, "The dark figure of online property crime: is cyberspace hiding a crime wave?", *Justice Quarterly*, vol. 33, No. 5 (2016), pp. 890–911.

not a uniform trend towards discretion. Some segments of the online trade are "going dark" by utilizing decentralized software and encrypted communications, while others are increasingly brazen and use conventional social media. So far, the available research on these issues has been concentrated on the Global North, Australia and New Zealand.

1. Cryptomarkets: moving towards wholesale

14. Cryptomarkets are online darknet marketplaces located on the Deep Web. The Deep Web has content that is not indexed by search engines, for example, online banking and webmail, and it accounts for 96 per cent of all Internet traffic. Darknet markets are accessible only with specific software, such as the anonymity proxy network the Onion Router (Tor), and they use PGP encryption to mask emails and cryptocurrencies for payment.²⁹ Cryptomarkets first came to the public's attention in 2013 with the arrest of the administrator of Silk Road 2.0. Since then, law enforcement agencies in the United States and the European Union have arrested dozens of administrators and indicted them for narcotics trafficking, money-laundering and conspiracy.³⁰

Tor is a peer-to-peer overlay network that allows people to browse the Internet anonymously. It uses multiple layers of encryption to conceal both the source and destination of information. Tor directs internet traffic through a global volunteer network of over 7,000 relays, making it difficult to trace a user's activity. This free and open-source software protects personal privacy by hiding a user's location and usage from network surveillance or traffic analysis, ensuring IP address anonymity through Tor exit nodes.

15. Administrators operate the sites on a day-to-day basis, collect a transaction fee of 8 to 15 per cent of sales and manage escrow systems enabling the withholding of

²⁹Martin, Cunliffe and Munksgaard, *Cryptomarkets*; and *World Drug Report 2023*, booklet 2.

³⁰United States, Department of Justice, "Three Germans who allegedly operated dark web marketplace with over 1 million users face U.S. narcotics and money-laundering charges", press release, 3 May 2019; United States, Department of Justice, "Administrators of DeepDotWeb indicted for money-laundering conspiracy"; United States, Department of Justice, "Dozens of online 'dark markets' seized pursuant to the forfeiture complaint filed on Manhattan Federal Court in conjunction with the arrest of the operator of Silk Road 2.0", press release, 7 November 2014.

payments to sellers until delivery.³¹ Estimates of the monetary value of these markets vary substantially. In 2021, UNODC suggested that the total value of the drug trade on cryptomarkets is around \$315 million annually, while alternative estimates place total sales on individual platforms at between \$36 million and \$221 million annually.³² The overall value of this darknet trade may have quadrupled from the period 2011–2017 to the period 2017–2020. Purchasing drugs on cryptomarkets involves a certain level of technical literacy, and most people who use drugs are young and educated.³³

16. Buyers have reported that they use these markets because they provide access to drugs of a more predictable quality. Limited forensic tests confirm that drugs sourced from cryptomarkets are less likely to be adulterated and have higher purity compared with offline purchases.³⁴ Both buyers and sellers perceive the transactions as less risky in terms of rip-offs, physical violence and threats compared with street-level exchanges and even exchanges with known dealers and friends.³⁵ Vendors typically operate only for about half a year and deal with only a few buyers,³⁶ and trades are generally concentrated among a few key vendors who make most of the profits.³⁷

³¹United States, Department of Justice, “Three Germans who allegedly operated dark web marketplace with over 1 million users”; and Martin Horton-Eddison and Matteo Di Cristofaro, “Hard interventions and innovation in crypto-drug markets: the escrow example”, *Global Drug Policy Observatory, Policy Brief*, No. 11 (2017), pp. 16–27.

³²Naoki Hiramoto and Yoichi Tsuchiya, “Measuring dark web marketplaces via bitcoin transactions: from birth to independence”, *Forensic Science International: Digital Investigation*, vol. 35, art. No. 301086 (December 2020).

³³Venkataraman Bhaskar, Robin Linacre and Machin Stephen, “The economic functioning of online drugs markets”, *Journal of Economic Behavior and Organization*, vol. 159 (2019), pp. 426–441; and *World Drug Report 2022*.

³⁴Fernando Caudevilla and others, “Results of an international drug testing service for cryptomarket users”, *International Journal of Drug Policy*, vol. 35 (2016), pp. 38–41.

³⁵Monica J. Barratt, Jason A. Ferris and Adam Winstock, “Safer scoring? Cryptomarkets, social supply and drug market violence”, *International Journal of Drug Policy*, vol. 35 (2016), pp. 24–31; and Andréanne Bergeron and others, “The success rate of online illicit drug transactions during a global pandemic”, *International Journal of Drug Policy*, vol. 99, art. No. 103452 (2022).

³⁶Lukas Norbutas, “Offline constraints in online drug marketplaces: an exploratory analysis of a cryptomarket trade network”, *International Journal of Drug Policy*, vol. 56 (2018), pp. 92–100; and *World Drug Report 2022*.

³⁷Scott W. Duxbury and Dana L. Haynie, “Network embeddedness in illegal online markets: endogenous sources of prices and profit in anonymous criminal drug trade”, *Socio-Economic Review*, vol. 21, No. 1 (January 2023), pp. 25–50; Scott W. Duxbury and Dana L. Haynie, “The network structure of opioid distribution on a darknet cryptomarket”, *Journal of Quantitative Criminology*, vol. 34 (2018), pp. 921–941; and Vincent Harinam, “Dealings on the dark web: an examination of the trust, consumer satisfaction, and the efficacy of interventions against a dark web cryptomarket”, PhD thesis, University of Cambridge, 2021.

A VPN, or virtual private network, securely connects computing devices or networks over the public Internet. It extends access to private networks, enhancing security, reducing communication costs and offering flexibility for remote work. VPNs can bypass Internet censorship. While encryption is common, it is not inherent to a VPN. The connection is established through tunnelling protocols, and a public Internet-based VPN can offer some benefits of a private wide area network.

17. Most markets are in English, but the Russian language-oriented Hydra became the world’s largest darknet market in 2019 before being taken down in 2022.³⁸ Shipments across international borders have declined with time, and cryptomarkets mostly serve national markets.³⁹ These cryptomarkets may use caches or drop-off points for delivery. The seller provides the location of the drugs using global navigation satellite system-enabled technology on an encrypted instant messaging app. The buyer can then pick up the drugs without ever meeting the seller.⁴⁰ Recently, there has been an emergence of marketplaces in Asia and South America, and the overall geographical distribution of markets may be changing, with the expansion of the darknet to those regions.⁴¹

18. The average transaction size on cryptomarkets is also increasing. Apparently, there has been a shift towards an increasing amount of wholesale sales of “ecstasy”-type drugs and, secondarily, opioids (“wholesale” was defined as listings priced over \$1,000).⁴² This trend underlines that cryptomarkets are anchored in offline drug markets and can serve as virtual brokers, linking wholesalers with sellers who make stock-sourcing purchases for offline distribution.⁴³ When the scheduling of hydrocodone changed in the United States,

³⁸Anastasia Meylakhs and Ramil Saidashev, “A qualitative analysis of the Russian cryptomarket Hydra”, *Kriminologisches Journal*, vol. 3 (2021), pp. 169–185; and Jonathan Reed, “World’s largest darknet market shut down, \$25 million in bitcoin seized”, *Threat Hunting*, 8 June 2022.

³⁹David Décary-Héту, Masarah Paquet-Clouston and Judith Aldridge, “Going international? Risk taking by cryptomarket drug vendors”, *International Journal of Drug Policy*, vol. 35 (2016), pp. 69–76; and Jakob Demant and others, “Going local on a global platform: a critical analysis of the transformative potential of cryptomarkets for organized illicit drug crime”, *International Criminal Justice Review*, vol. 28, No. 3 (September 2018), pp. 255–274.

⁴⁰EMCDDA and Europol, *EU Drug Markets: Impact of COVID-19*; and Meylakhs and Saidashev, “A qualitative analysis of the Russian cryptomarket Hydra”.

⁴¹*World Drug Report 2022*.

⁴²Judith Aldridge and David Décary-Héту, “Hidden wholesale: the drug diffusing capacity of online drug cryptomarkets”, *International Journal of Drug Policy*, vol. 35 (2016), pp. 7–15; and *World Drug Report 2023*.

⁴³Samantha J. Brown, Jonathan C. Reid and Wesley Myers, “Let’s talk about stealing sh*t: online socialization and its potential to influence offline offending”, *Crime and Delinquency* (2023); and EMCDDA and Europol, *EU Drug Markets: Impact of COVID-19*.

it coincided with a sustained increase in trading in opioids through cryptomarkets.⁴⁴

19. Despite several widely publicized arrests of administrators, the overall ecosystem has proved resilient, albeit volatile.⁴⁵ Marketplaces disappear at short notice, either as a result of law enforcement crackdowns or exit scams by administrators.⁴⁶ People using these systems adapt and introduce features that mitigate security weaknesses, for example, verification methods that enable users to continue with their username and reputation scores intact on a new marketplace.⁴⁷ The next evolution appears to be a migration away from using Tor software towards using the Invisible Internet Project (I2P) and similar “true” darknet tools that have their own networks, because law enforcement authorities have been able to launch successful interventions against Tor.⁴⁸

PGP, or Pretty Good Privacy, is a security program that allows secure communication through message decryption and encryption, digital signature authentication and file encryption. Developed by Phil Zimmermann in 1991, PGP is a pioneering form of public-key cryptography software. It encrypts and decrypts texts, emails, files and more, following the OpenPGP standard (RFC 4880) for data encryption.

2. Social media: increased local availability

20. Conventional social media platforms have started to be used as local marketplaces for illicit drugs and uncontrolled substances with similar effects. There are currently thousands of small-time dealers who sell drugs in local online communities, but it is not known exactly how widespread the problem is and in which countries it is

⁴⁴James Martin and others, “Effect of restricting the legal supply of prescription opioids on buying through online illicit marketplaces: interrupted time series analysis”, *BMJ*, vol. 361 (2018).

⁴⁵David Décarry-Héту and Luca Giommoni, “Do police crackdowns disrupt drug cryptomarkets? A longitudinal analysis of the effects of Operation Onymous”, *Crime, Law and Social Change*, vol. 67, No. 1 (February 2017), pp. 55–75; and Hiramoto and Tsuchiya, “Measuring dark web marketplaces via bitcoin transactions”.

⁴⁶Bhaskar, Linacre and Stephen, “The economic functioning of online drugs markets”; and Joe Van Joe Van Buskirk and others, “The recovery of online drug markets following law enforcement and other disruptions”, *Drug and Alcohol Dependence*, vol. 173 (2017), pp. 159–162; and *World Drug Report 2023*.

⁴⁷Isak Ladegaard, “Open secrecy: how police crackdowns and creative problem-solving brought illegal markets out of the shadows”, *Social Forces*, vol. 99, No. 2 (December 2020), pp. 532–559.

⁴⁸Marie-Helen Maras and others, “Decoding hidden darknet networks: what we learned about the illicit fentanyl trade on AlphaBay”, *Journal of Forensic Sciences*, vol. 68, No. 5 (September 2023).

most predominant.⁴⁹ This inappropriate content is widely accessible to children and adolescents. Such activity is not restricted to individual platforms. The social media landscape is ever-changing, and the most popular apps vary over time and between age groups.⁵⁰ Each platform presents prospective sellers with a space that can be adapted to function as a drug marketplace.⁵¹

21. The process of using social media to procure drugs can start with the buyer searching drug-related hashtags or following profiles that advertise drug sales through use of pictures and videos of products, or captions, hashtags and emojis on related posts. Buyers can contact a nearby seller, who then discloses his or her contact information, typically using messaging apps with end-to-end encryption and temporary message capabilities, where the communication is deleted after a period, or virtual private networks. The final exchange of money for drugs usually takes place face-to-face at the local level through a public meeting or home drop-off, often within an hour.⁵²

22. Social media provides a highly convenient acquisition method that has increased buyers’ options; this accessibility removes the age barriers found in conventional supply chains. The use of social media to buy drugs is more widespread among adolescents aged 16–17 years. Buyers who source drugs using social media are more likely to have lower self-control and mental health problems in the form

⁴⁹United States, Drug Enforcement Administration (DEA), “DEA Washington warns of deadly counterfeit drugs on social media”, press release, 23 July 2021; Ashly Fuller and others, “Understanding and preventing the advertisement and sale of illicit drugs to young people through social media: a multidisciplinary scoping review”, *Drug and Alcohol Review* (2023).

⁵⁰Brooke Auxier and Monica Anderson, “Social media use in 2021” (Washington D.C., Pew Research Center, 2021); Emily A. Vogels, Risa Gelles-Watnick and David Massarat, “Teens, social media and technology 2022” (Washington D.C., Pew Research Center, 2022); United States, Department of Health and Human Services, Office, “Social media and youth mental health: the U.S. Surgeon General’s Advisory” (Washington D.C., Office of the U.S. Surgeon General, 2023).

⁵¹Robin van der Sanden and others, “The use of Discord servers to buy and sell drugs”, *Contemporary Drug Problems*, vol. 49, No. 4 (April 2022), pp. 453–477.

⁵²Silje Anderdal Bakken and Jakob Demant, “Sellers’ risk perceptions in public and private social media drug markets”, *International Journal of Drug Policy*, vol. 73 (2019), pp. 255–262; Jakob Demant and others, “Drug dealing on Facebook, Snapchat and Instagram: a qualitative analysis of novel drug markets in the Nordic countries”, *Drug and Alcohol Review*, vol. 38, No.4 (May 2019), pp. 377–385; Leah Moyle and others, “#Drugsforsale: an exploration of the use of social media and encrypted messaging apps to supply and access drugs”, *International Journal of Drug Policy*, vol. 63 (2019), pp. 101–110; and *World Drug Report 2023*, booklet 2.

of higher psychological distress and engage in compulsive gambling behaviour and excessive Internet use.⁵³

23. Limited research finds that sellers mostly advertise cannabis and cocaine, followed by MDMA. One difference between cryptomarkets and social media markets involves the average quantities offered by sellers. Cocaine is offered in smaller quantities on social media (approximately 5 grams) compared with cryptomarkets (approximately 15 grams), and cannabis is offered in amounts of about 10 grams on social media compared with 20 grams on cryptomarkets.⁵⁴ This trade also involves the non-medical use of prescription drugs. Vulnerable patient groups can access prescription drugs for non-medical purposes through social media.⁵⁵ The United States Drug Enforcement Administration has found counterfeit pills advertised as opioids and benzodiazepines on popular social media apps.⁵⁶ On Twitter, fewer than 1 per cent of tweets related to drug sales involved the sale of opioids. A total of 90 per cent of these had embedded hyperlinks, but only half of them worked. The working links usually led to websites that were illegally selling prescription medicines.⁵⁷

3. Legitimate e-commerce platforms

24. In the last few years, INCB global projects have promoted voluntary cooperation between Governments and e-commerce companies to prevent the misuse of their marketplaces for the illicit marketing of precursors, new psychoactive substances and non-medical synthetic opioids. These projects monitor the posting of offers by suspicious vendors and purchase requests by potential buyers on major legitimate e-commerce marketplaces. Most of those suspicious

⁵³Atte Oksanen and others, “Social media and access to drugs online: a nationwide study in the United States and Spain among adolescents and young adults”, *European Journal of Psychology Applied to Legal Context*, vol. 13, No. 1 (January 2021), pp. 29–36; Robin van der Sanden and others, “Predictors of using social media to purchase drugs in New Zealand: findings from a large-scale online survey”, *International Journal of Drug Policy*, vol. 98, art. No. 103430 (December 2021); and van der Sanden and others, “The use of Discord servers to buy and sell drugs”.

⁵⁴Kim Moeller, Rasmus Munksgaard and Jakob Demant, “Illicit drug prices and quantity discounts: a comparison between a cryptomarket, social media, and police data”, *International Journal of Drug Policy*, vol. 91, art. No. 102969 (2021).

⁵⁵Mackey, Liang and Strathdee, “Digital social media, youth, and nonmedical use of prescription drugs”.

⁵⁶United States, DEA, “DEA Washington warns of deadly counterfeit drugs on social media”.

⁵⁷Tim K. Mackey and others, “Twitter-based detection of illegal online sale of prescription opioid”, *American Journal of Public Health*, vol. 107, No. 12 (December 2017), pp. 1910–1915; and Tim K. Mackey and Gaurvika Nayyar, “Digital danger: a review of the global public health, patient safety and cybersecurity threats posed by illicit online pharmacies”, *British Medical Bulletin*, vol. 118, No. 1 (June 2016), pp. 110–126.

posts are for precursors and newly emerging or non-scheduled substances – and not internationally scheduled substances – since only viewers with knowledge of those non-scheduled substances will notice them. Business-to-business marketplaces are more vulnerable to such misuse than their business-to-consumer equivalents.⁵⁸

25. Under the GRIDS Programme, over 10 regional and interregional meetings have been organized with the goal of facilitating voluntary cooperation or public-private partnerships between Governments and the industries most vulnerable to misuse, namely, the manufacturing, marketing, movement and monetization (4M) industries and the Internet-related service industries.⁵⁹ The industries involved in the meetings have extended their cooperation to areas such as the use of e-commerce, social media, domain name registrars and search engines, with a view to preventing the online targeting of the 4M industries for trafficking in dangerous substances, namely, new psychoactive substances, non-medical synthetic opioids and their related chemical precursors. Through these meetings, over 100 practical recommendations have led to the creation of two sets of guiding documents on the promotion of public-private partnerships with Internet-related services, highlighting common issues, practical recommendations and easy-to-follow checklists for both Governments and their private sector partners.

26. The application of the recommendations contained in these documents has had practical results, including the identification of suspicious listings offering high-dosage tramadol products and ketamine hydrochloride on a major e-commerce platform in a country in Africa. Government authorities requested the e-commerce company to assist in identifying the vendor, which led to arrests and seizures of illicit products. Similarly, a major e-commerce company operating in Latin America identified multiple suspicious listings of kratom (*Mitragyna speciosa*), a non-scheduled plant-based substance, and, utilizing the GRIDS Programme focal point network, was able to share the information with the appropriate authorities, leading to the identification and arrest of the online seller. While these cases resulted in the identification and arrest of those responsible for the marketing of the goods and seizures of illicit substances, such investigations are resource-intensive and in many cases, the contacted platforms simply delete such listings, usually within 24 hours.

⁵⁸E/INCB/2022/4.

⁵⁹Ibid.

4. Internet pharmacies and telemedicine

27. As highlighted by the Board in 2009,⁶⁰ the purchase of medicines outside legitimate supply chains was already a growing problem at that time. Recent studies have indicated that this issue persists in two thirds of countries worldwide that do not have laws explicitly regulating Internet sales of medicinal products. This poses a serious public health concern because many consumers use the Internet to self-diagnose and self-treat.⁶¹

28. The online sale of medicinal products is a growing aspect of health-care systems internationally. Internet pharmacies are platforms that offer to sell substances that require prescriptions, as well as illicit drugs. While there are many legitimate and licensed pharmacies, illegal sites dominate the global market.⁶² Prescription drugs are a commonly searched health topic on the Internet, and the global trade in illicit pharmaceuticals is estimated to be worth \$4.4 billion. An international crackdown spearheaded by INTERPOL in 2021 shut down thousands of fake online pharmacies offering illicit products, mostly fake or unauthorized coronavirus disease (COVID-19) testing kits. Other research supports the observation that this is a rapidly growing phenomenon, but the actual size of the market is unknown.⁶³

29. Internet pharmacies can be found through a simple online search using the terms “pharmacy”, “pharma” or “pharm”. Such searches elicit results that link to an Internet address (URL) that advertises drugs for sale and contact information. Here, the Internet pharmacies provide information on the availability of various substances, shipping terms and contact information on the eventual transaction and how to exchange the product for money.⁶⁴ They also post advertising links by commenting on social media posts on related subjects. In the comments section, they provide information on how to contact them using encrypted,

third-party messaging platforms and respond to enquiries on drug availability and prices.⁶⁵

30. A survey conducted in the United States at the height of the COVID-19 pandemic found that 18 per cent of respondents bought prescription medications online, using social networking sites such as Tumblr, Wickr and Pinterest to identify Internet pharmacies.⁶⁶ In a survey of outpatients in Hungary, it was found that respondents who often purchased goods online were more likely to buy medications online.⁶⁷ A study comparing perceptions of safety when purchasing prescription drugs online found that Internet pharmacies were perceived as “relatively safe”, while the use of encrypted communication apps (e.g. Kik, QQ, Telegram and WeChat) to transact drug sales was perceived as less safe. Men were more likely to perceive all online platforms as at least somewhat safe.⁶⁸

31. The key problem with Internet pharmacies is that no accountability exists to ensure the quality of purchased products. Estimates suggest that 96 per cent of Internet pharmacies fail to adhere to legal and safety requirements, and some have even stolen customer credit card information. It is impossible for consumers to assess whether drugs purchased from Internet pharmacies are counterfeit, unapproved or even illegal. The World Health Organization (WHO) estimates that 50 per cent of medicines purchased from illegal sites are counterfeit.⁶⁹ Falsified medicines may be harmful, as they can contain low levels of active ingredients, substandard ingredients or even the wrong ingredients. Many Internet pharmacies do not ask for proof of the required medical prescription issued by the consumer’s physician. They may ask potential buyers to fill in a medical questionnaire, but such questionnaires are often incomplete.⁷⁰ Dubious marketing strategies exacerbate all these issues. Many Internet pharmacies do not declare the side effects of the drugs they offer for sale while advertising in a persuasive fashion that reveals an interest in sales and profits rather than consumer safety.

⁶⁰Guidelines for Governments on Preventing the Illegal Sale of Internationally Controlled Substances through the Internet (United Nations publication, Sales No. E.09.XI.6).

⁶¹Hock, Xuan Lee and Wah Chan, “Regulating online pharmacies”.

⁶²András Fittler and others, “Consumers turning to the Internet pharmacy market: cross-sectional study on the frequency and attitudes of Hungarian patients purchasing medications online”, *Journal of Medical Internet Research*, vol. 20, No. 8 (August 2018); and Neal Shah, Jiawei Li and Tim K. Mackey, “An unsupervised machine learning approach for the detection and characterization of illicit drug-dealing comments and interactions on Instagram”, *Substance Abuse*, vol. 43, No. 1 (2022), pp. 273–277.

⁶³INTERPOL “Thousands of fake online pharmacies shut down in INTERPOL operation”, 8 June 2021; INTERPOL, “USD 11 million in illicit medicines seized in global INTERPOL operation”, 20 July 2022; and Grazia Orizio and others, “‘Save 30% if you buy today’: online pharmacies and the enhancement of peripheral thinking in consumers”, *Pharmacoeconomics and Drug Safety*, vol. 19, No. 9 (September 2010), pp. 970–976.

⁶⁴Orizio and others, “‘Save 30% if you buy today’”.

⁶⁵Shah, Li and Mackey, “An unsupervised machine learning approach”.

⁶⁶Charlotte Moureaud and others, “Purchase of prescription medicines via social media: a survey-based study of prevalence, risk perceptions, and motivations”, *Health Policy*, vol. 125, No. 11 (November 2021), pp. 1421–1429.

⁶⁷Fittler and others, “Consumers turning to the internet pharmacy market”.

⁶⁸Moureaud and others, “Purchase of prescription medicines via social media”.

⁶⁹Hock, Xuan Lee and Wah Chan, “Regulating online pharmacies”; Bryan A. Liang and Tim Mackey, “Searching for safety: addressing search engine, website, and provider accountability for illicit online drug sales”, *American Journal of Law and Medicine*, vol. 35, No. 1 (2009), pp. 125–184; and Orizio and others, “‘Save 30% if you buy today’”.

⁷⁰European Medicines Agency, “Buying medicines online”. Available at www.ema.europa.eu; and Moureaud and others, “Purchase of prescription medicines via social media”.

5. Consequences for drug trafficking and the non-medical use of drugs

32. The Internet has increased international trade in narcotic drugs, psychotropic substances and precursor chemicals. Transnational organized criminal groups purchase the requisite chemicals, sold as “research chemicals”, from clandestine chemical manufacturers to produce potent new psychoactive substances.⁷¹ During the COVID-19 pandemic, those criminal groups demonstrated that they were able to adapt and find alternative sources when lockdowns thwarted their original suppliers.⁷² With regard to the international trade in precursor chemicals, the Internet has led to an increase in offers for these substances. Most precursor chemicals are “dual use”, and owing to the large volumes of licit trade, it is easy for traffickers to procure the substances, and difficult for law enforcement authorities to detect. For several years, suspicious online posts related to precursors have prompted criminal investigations and led to seizures of diverted precursors and the arrest of traffickers.

33. For Governments and law enforcement, there are challenges associated with investigations into posts on the surface web. The information gathered from monitoring Internet activity and accessing search records can provide an indication of traffickers’ interest in specific non-controlled chemicals. For example, INCB observed a positive correlation between the number of Internet search records of a particular MDMA precursor (3,4-MDP-2-P ethyl glycidate) and the number and scale of seizures of that same precursor. Since the substance has no licit use, an increase in search records concurrent with an increase in seizures may serve as a proxy for illicit drug manufacturing.⁷³

34. The trend towards the use of conventional social networking sites and encrypted apps indicates increasingly localized distribution in combination with rapid availability. At the regional and local levels, the last step of drug distribution, it is difficult for law enforcement authorities to disrupt transactions between sellers and buyers given their ability to change meeting locations. This localized online distribution may prove to be more transformative in the longer run than other Internet-driven supply models. The utilization of global navigation satellite system technology and drop-off caches may further exacerbate this growth in availability.

⁷¹Jonathan Caulkins, “Radical technological breakthroughs in drugs and drug markets: the cases of cannabis and fentanyl”, *International Journal of Drug Policy*, vol. 94, art. No. 103162 (August 2021); and Bryce Pardo and others, “The dawn of a new synthetic opioid era: the need for innovative interventions”, *Addiction*, vol. 116, No. 6 (June 2021), pp. 1304–1312.

⁷²*World Drug Report 2021*, booklet 5, *COVID-19 and Drugs: Impact and Outlook* (United Nations publication, 2021).

⁷³E/INCB/2022/4, paras. 201–203.

35. That availability has also increased the types of drugs that are otherwise difficult to procure in conventional markets.⁷⁴ Hallucinogens such as lysergic acid diethylamide (LSD) and psilocybin (hallucinogenic mushrooms) are widely available online. Other strictly regulated substances containing narcotic drugs and psychotropic substances are also available through Internet-based markets. The misuse of prescription psychiatric drugs is an increasing global health problem. These products encompass sedatives, central nervous system stimulants and other drugs, including antidepressants, antipsychotics, mood stabilizers and anti-dementia drugs. Although they are available online, their presence is still negligible. An important exception is drugs used in the treatment of opioid dependency; these have a substantial online presence, not only in the United States but also in Europe.⁷⁵

36. The online presence of fentanyl and other synthetic opioids is a serious cause for concern. The continuous introduction of new and modified versions of synthetic opioids challenges regulatory and law enforcement authorities internationally.⁷⁶ Many cryptomarkets have rules against fentanyl, and administrators attempt to ban predatory vendors, but such vendors still manage to sell it covertly. About 10 per cent of cryptomarket drug listings are for opioids, and less than 1 per cent of all drug advertisements are for fentanyl. With some 300 active fentanyl vendors, there was an estimated 27.3 to 39.3 kg on the market during the period 2 January to 27 March 2019⁷⁷ (1 kg of fentanyl has the potential to kill 500,000 people).⁷⁸

6. Online information-sharing

37. People who use drugs share tips and dosing advice on various discussion forums.⁷⁹ While this information-sharing reflects an increase in marketing, it can also strengthen

⁷⁴*World Drug Report 2023*, booklet 2.

⁷⁵Jack Cunliffe, David Décary-Hétu and Thomas A. Pollak, “Non-medical prescription psychiatric drug use and the darknet: a cryptomarket analysis”, *International Journal of Drug Policy*, vol. 73 (2019), pp. 263–272; and Isak Ladegaard, “Instantly hooked? Freebies and samples of opioids, cannabis, MDMA, and other drugs in an illicit E-commerce market”, *Journal of Drug Issues*, vol. 48, No. 2 (April 2018), pp. 226–245.

⁷⁶Kim Moeller and Bengt Svensson, “‘Shop until you drop’: valuing fentanyl analogs on a Swedish Internet forum”, *Journal of Drug Issues*, vol. 51, No. 1 (January 2021), pp. 181–195; and Pardo and others, “The dawn of a new synthetic opioid era”.

⁷⁷Roderic Broadhurst, Matthew Ball and Harshit Trivedi, “Fentanyl availability on darknet markets”, *Trends and Issues in Crime and Criminal Justice*, vol. 590 (2020), pp. 1–14; and Maras and others, “Decoding hidden darknet networks”.

⁷⁸United States, DEA, “Facts about fentanyl”. Available at www.dea.gov/resources/facts-about-fentanyl.

⁷⁹Aldridge, Stevens and Barratt, “Will growth in cryptomarket drug buying increase”.

efforts to reduce the adverse consequences of drug use. Drug-checking services can achieve a wider reach by using the Internet to communicate warnings. Such services analyse samples often provided by people who use “ecstasy” in connection with the electronic dance music scene. They can identify discrepancies between what people who use drugs think they are using and what they are actually consuming. The Internet provides a vehicle for rapidly sharing this information with other people using these substances. In cases where drugs are adulterated with dangerous substances or have unusually high potency, this information can save lives. Most people seeking information on a drug have never been in touch with drug-checking services before and may harbour a sceptical attitude towards warnings issued by official authorities. An additional benefit of drug-checking services is the identification of new psychoactive substances, which can then be communicated to authorities such as the European Union Early Warning System.⁸⁰

38. There are several discussion forums dedicated to cryptomarket-related topics. Initially, libertarian political discussions were prominent, but they subsided in favour of discussions on more practical logistical issues, such as warnings against fraudulent vendors, unreliable administrators and online security measures. People also discuss the inherent risks of drug use, and because the forums do not prohibit discussions about trafficking, this information can be highly localized and includes warnings about adulterated drugs encountered.⁸¹ While this knowledge-sharing is a positive element, it is unlikely to be associated with significant reductions in health-related costs, as cryptomarket users are seldom the most vulnerable among people who use drugs.⁸²

39. With regard to types of drugs that can be manufactured by people who use drugs themselves, instructions on how to do so at low risk can be shared online. Instead of relying on synthesizing regulated precursors for methamphetamine production, people have learned to extract them from processed products that are legal to acquire, and have shared the procedures online.⁸³ A recent trend involves shifting to custom-made precursors, often “disguised precursors”, that

are closer to the desired end products and thus require little chemical processing.⁸⁴

40. Another unintended side effect of knowledge diffusion through use of the Internet is seen in the influence on the social and cultural norms associated with drug use. The legalization of cannabis in some jurisdictions may have inadvertently reduced informal social control related to cannabis in jurisdictions where it is illegal, contributing to its further normalization. Social media influencers and dispensaries in regions where cannabis is legal promote its use as part of a healthy lifestyle, despite the known health risks.⁸⁵

7. International treaties

41. The international drug control conventions can serve as a foundation for extradition and mutual legal assistance. Article 6 of the 1988 Convention covers extradition, and article 7 of the Convention covers mutual legal assistance. Both of these articles are relevant today, even though the Convention predates the widespread use of the Internet. Article 7, paragraph 2, states that mutual legal assistance may be requested for any of the following purposes: (a) taking evidence or statements from persons; (b) effecting service of judicial documents; (c) executing searches and seizures; (d) examining objects and sites; (e) providing information and evidentiary items; (f) providing originals or certified copies of relevant documents and records, including bank, financial, corporate or business records; and (g) identifying or tracing proceeds, property, instrumentalities or other things for evidentiary purposes.

42. To strengthen these efforts further, Member States are currently negotiating a new United Nations cybercrime convention on countering the use of information and communications technologies for criminal purposes. Various international organizations (INTERPOL, UNODC, WCO and WHO) are making use of the Internet to improve drug control, and existing international conventions address issues of cybercrime, but there is currently no legally binding international instrument on the subject. A diverse range of

⁸⁰Claudio Vidal Giné and others, “The utility of drug checking services as monitoring tools and more: a response to Pirona et al.”, *International Journal of Drug Policy*, vol. 45 (2017), pp. 46–47.

⁸¹Bancroft, “Responsible use to responsible harm”; and Martin, Cunliffe and Munksgaard, *Cryptomarkets*.

⁸²Sumnall, “The harm reduction impact of cryptomarkets”.

⁸³Sabrina Vidal and David Décary-Héту, “Shake and bake: exploring drug producers’ adaptability to legal restrictions through online methamphetamine recipes”, *Journal of Drug Issues*, vol. 48, No. 2 (January 2018), pp. 269–284.

⁸⁴Silvia L. Cruz and Raúl Martín-del-Campo, “Synthetic opioids as new psychoactive substances (NPS)”, in *Opioids: Pharmacology, Abuse, and Addiction*, Silvia L. Cruz, ed. (Cham, Switzerland, Springer International Publishing, 2022), pp. 363–383.

⁸⁵Silje Anderdal Bakken and Sidsel Kirstine Harder, “From dealing to influencing: online marketing of cannabis on Instagram”, *Crime, Media, Culture: An International Journal*, vol. 19, No. 1 (March 2023), pp. 135–157; Brown, Reid and Myers, “Let’s talk about stealing sh*t”; Samantha Hooper and others, “‘The perfect formula’: evaluating health claims, products and pricing on cannabis dispensary websites in two recently legalized States”, *Substance Use and Misuse*, vol. 57, No. 8 (May 2022), pp. 1207–1214; and Isak Ladegaard, “Cleansing frames: how digital ‘consumer reports’ of cannabis and psychedelics normalise drug-taking and neutralise its counter-cultural potential”, *Sociology* (2023).

stakeholders is providing input for the cybercrime convention: intergovernmental organizations, non-governmental organizations in consultative status with the Economic and Social Council, as well as other non-governmental organizations, civil society organizations, academic institutions and companies from the private sector. On the basis of written submissions from Member States, the cybercrime convention will contain chapters on criminalization, general provisions, procedural measures and law enforcement, international cooperation, technical assistance, preventive measures, the mechanism of implementation and final provisions.

8. Regulatory efforts

43. National regulatory responses to synthetic opioids and their precursors range from the blanket criminalization of all substances related to a given chemical compound, to individual assessments of substances. When a few countries have less restrictive policies or do not enforce them, it enables others to exploit those loopholes.⁸⁶ With regard to synthetic opioids and related substances, this enables offenders to exploit the differences in national regulations and to purchase products in one jurisdiction and sell them at a premium in another. All the steps in this distribution chain are conducted online.⁸⁷ Some Governments have put in place specific legislation or regulations that cover Internet posts relating to precursors. According to INCB information, this is the case in India, Thailand, the United Arab Emirates and the United States.

44. Illicit Internet pharmacies threaten global patient safety by selling drugs without a prescription directly to the consumer. The current legal, regulatory and law enforcement responses are inadequate. To stem the tide, regulatory authorities are increasingly attempting to use accreditation programmes to address these concerns.⁸⁸ The Board is aware of specific regulations applied in some countries, such as China, where all entities that sell precursors over the Internet are required to register with the competent national authorities. Some experts propose making Internet drug sales contingent on licensing through national Internet pharmacy programmes, even suggesting criminal penalties for all parties, including websites, search engines and health-care providers. In 2014, the “pharmacy” domain scheme was introduced to complement national accreditation

systems. Search engine companies require the “verification” of Internet drug sellers but are not legally accountable for facilitating illegal activities. Internet pharmacies based in the European Union must display a common logo on their website that directs to an online list of verified Internet pharmacies.⁸⁹

9. Law enforcement action

45. The task of keeping track of all the various synthetic opioids and their analogues and precursors requires international cooperation. National law enforcement agencies need to be equipped with knowledge about the different names used for the chemicals and equipment in order to investigate suspicious posts on the surface web relating to the sale of precursor chemicals. It also requires voluntary cooperation with the private Internet industry and Government-initiated monitoring mechanisms to probe leads shared by INCB.⁹⁰ Leads provided by INCB on suspicious Internet posts related to precursors have resulted in seizures and the dismantling of criminal networks. In 2018, an investigation led to the seizure of nearly 10 tons of acetic anhydride, ephedrine and ketamine, as well as the identification of a methamphetamine shipment destined for Australia in 2022.⁹¹

46. Law enforcement and national judiciary authorities need to be equipped with the necessary tools and resources to respond in a coordinated manner. Trafficking and cybercrime are both priorities, and authorities should pursue multi-agency approaches, engage with industry and establish online investigations units, joint operational international task forces and coordinated actions.⁹² Some experts on the investigation of cybercrime note that they currently face legal obstacles in fighting trafficking in precursors, specifically with regard to barriers to the retention of data relating to the registration of Internet protocol addresses and domains.

47. Law enforcement agencies have successfully applied novel investigative measures against trafficking in precursors and non-scheduled chemicals. These measures include

⁸⁹European Medicines Agency, “Buying medicines online”; Hock, Xuan Lee and Wah Chan, “Regulating online pharmacies”; E/INCB/2022/4; and Liang and Mackey, “Searching for safety”.

⁹⁰E/INCB/2021/4.

⁹¹Ibid.

⁹²EMCDDA and Europol, *EU Drug Markets: Impact of COVID-19*; Harinam, “Dealings on the dark web”; Mehdi Najafi, Hossein Zolfagharinia and Fatemeh Asadi, “Angels against demons: fight against smuggling in an illicit supply chain with uncertain outcomes and unknown structure”, *Computers and Industrial Engineering*, vol. 176, art. No. 109007 (2023); and Lukas Norbutas, Stijn Ruiter and Rense Corten, “Believe it when you see it: dyadic embeddedness and reputation effects on trust in cryptomarkets for illegal drugs”, *Social Networks*, vol. 63 (2020), pp. 150–161.

⁸⁶World Drug Report 2022.

⁸⁷Pardo and others, “The dawn of a new synthetic opioid era”; Peter Reuter, Bryce Pardo and Jirka Taylor, “Imagining a fentanyl future: some consequences of synthetic opioids replacing heroin”, *International Journal of Drug Policy*, vol. 94, art. No. 103086 (August 2021).

⁸⁸Hock, Xuan Lee and Wah Chan, “Regulating online pharmacies”; and Mackey and Nayyar, “Digital danger”.

the setting up of fake online advertisements for precursors or non-scheduled chemicals on business-to-business websites or social media or other platforms, and the use of sting operations to gather information on both prospective buyers and sellers of related chemicals. Further access to undercover activities would increase efficiency and enable better cross-border cooperation, including electronic data exchange, in investigations.⁹³ INCB conducted a training exercise on the investigation of suspicious Internet posts relating to precursor chemicals in June 2023. This highlighted the value of tailored training on the specificities of precursor-related Internet posts, which often appear on the surface web, in contrast to new psychoactive substance end products, which mostly appear on the darknet.

D. INCB support to Governments to prevent exploitation of the Internet

48. In 2009, the Board issued the Guidelines for Governments on Preventing the Illegal Sale of Internationally Controlled Substances through the Internet, which recommended a wide range of actions, including administrative, legislative and regulatory provisions, to be taken by Governments to curb the illegal sale of internationally controlled substances, as recognized in Commission on Narcotic Drugs resolution 58/3.

49. In addition, the Board has developed practical tools to facilitate the international trade in internationally controlled narcotic drugs and psychotropic substances to ensure the availability of these substances for medical and scientific purposes. Those tools include the International Import and Export Authorization System (I2ES), and the INCB International Drug Control System (IDS) which enables the Board to monitor the utilization of controlled substances. To facilitate the international trade in precursor chemicals while preventing diversion into illicit channels, and to support Governments in addressing trafficking in new psychoactive substances and non-medical synthetic opioids not under international control, INCB has also developed online systems to monitor trade and facilitate governmental cooperation, information exchange and joint investigations. These tools include PEN Online, PEN Online Light, PICS, IONICS and GRIDS Intelligence. To build the capacity of Governments to implement the three international drug control conventions, INCB Learning e-modules are available to competent national authorities.

⁹³E/INCB/2022/4.

50. A further area in which INCB global projects have successfully promoted voluntary cooperation between Governments and e-commerce companies to prevent the misuse of their marketplaces was, in 2021, the targeted, time-bound Operation Acronym focused on trafficking in precursors over the surface web. INCB further assisted in identifying practical obstacles and legal challenges to investigations related to precursors and cybercrime. The obstacles and challenges identified included the following: (a) a lack of national regulations concerning the offering for sale or distribution, or the mediating in the sale or purchase, of precursors through a website or social media; (b) hesitation to initiate investigations into suspicious posts because they might represent scams rather than legitimate trade in precursors; and (c) a lack of sufficient proof of the buyer's or vendor's knowledge that a precursor proposed to be sold or bought online was intended to be used for the illicit manufacture of drugs, leading to a perceived lack of legal grounds to support the initiation of criminal investigations.⁹⁴ These obstacles and challenges need to be addressed in order to improve national authorities' ability to launch investigations into suspicious online posts.

51. The global nature of online drug distribution makes collaborative efforts necessary. Reducing trafficking in illicitly manufactured precursors requires recognition of the shared responsibility for preventing their diversion from licit channels and cooperation between national authorities and industry sectors.⁹⁵ These efforts are increasingly important for identifying new threats and developing effective responses. The GRIDS Programme builds national capacity to address trafficking in new psychoactive substances, synthetic opioids and their precursors and supports Governments in developing public-private partnerships to prevent the exploitation of the Internet-related service industry, including e-commerce marketplaces, social media, search engines and domain name registries/registrars.⁹⁶ The GRIDS Programme consists of online tools that provide the infrastructure to exchange information on organized criminal groups. These tools help prevent trafficking through the misuse of legitimate Internet-related services and include monitoring and surveillance lists for substances with no known legitimate uses. Such substances are used as substitutes for controlled precursors.

52. IONICS enables Governments to share information in real time on incidents involving new psychoactive substances and non-medical synthetic opioids, while the GRIDS Intelligence tool facilitates communication between Governments on incidents relating to these dangerous

⁹⁴Ibid.

⁹⁵E/INCB/2017/4 and E/INCB/2016/1.

⁹⁶E/INCB/2022/1.

substances, including instances in which they are being offered on the Internet.

53. Partnerships with the relevant business-to-business companies are an important element of efforts to provide an effective deterrent to the exploitation of the surface web for trafficking in precursors.⁹⁷ The GRIDS Programme provides a platform to foster cooperation with private sector partners working in relevant areas, namely, payment services, chemical and drug manufacturers, postal services, express courier services, freight forwarders, air cargo agents and private postal, express mail and courier services, as well as domain name registrars and newly emerging financial services and products such as e-wallet services, virtual asset service providers and cryptocurrencies. The outcomes of the dialogues between Governments and these sectors have been compiled into several practical guidance publications for practitioners' reference and use.

54. The GRIDS Programme also informs major e-commerce and social media companies that are keen to maintain their platforms free of illicit activities involving offers of suspicious and dangerous substances. The guidance provided includes information on voluntary cooperation measures, the monitoring of and investigations into suspicious posts and the adoption of a balanced approach to preventing Internet-facilitated diversion and smuggling.⁹⁸ Recent experiences from targeted operations supported by INCB indicate that follow-up investigations to identify prospective buyers and sellers are also needed to achieve lasting results.

E. Law enforcement, public health and community responses to address the non-medical use of drugs

55. From a law enforcement perspective, the scale and diversity of illegal Internet-based activity pose considerable challenges for the implementation of the international drug control conventions. Law enforcement agencies worldwide struggle to establish a credible deterrent threat for trafficking offences in the online context, at both the wholesale and retail levels. Focused deterrence can increase the disruptive effects of law enforcement by prioritizing targets based on predefined high-value or high-risk transaction criteria.⁹⁹

⁹⁷E/INCB/2022/4.

⁹⁸E/INCB/2021/1.

⁹⁹EMCDDA and Europol, *EU Drug Markets: Impact of COVID-19*; Najafi, Zolfagharinia, and Asadi, "Angels against demons".

Darknet administrators are targeted in law enforcement crackdowns, arrested and prosecuted. Despite the appearance of new cryptomarkets and the migration of users to them after law enforcement crackdowns, the efforts are not in vain. Targeting the most active offenders reduces crime and creates uncertainty for others involved. That extra uncertainty adds costs throughout the distribution chain, as the demands on operational security procedures increase.¹⁰⁰

56. Further, adding an element of communication may improve the efficiency of crackdowns.¹⁰¹ While the Internet makes it difficult to identify targets, it also makes it much easier to contact them. Authorities could communicate to very active vendors that they are being specifically targeted in a programme, and that law enforcement is aware of their activities and is working on de-anonymizing them. This effort is complementary to arrests and is aimed at discouraging users, similar to how warning banners reduce the duration of other types of cybercrime.¹⁰² Like all offending, the online trade in controlled drugs hinges on trust between sellers and buyers. This trust includes trust in the technical competencies of the platform administrators. Successful examples of disrupting that trust include the takeover of sites by law enforcement agencies, which then continue to run the site after arresting the original administrator. Such actions can reduce the overall level of trust among buyers and sellers in the technical infrastructure of the online drug trade, similar to how infiltration by undercover police officers places pressure on drug dealers to adapt their practices.¹⁰³

57. The Internet also provides new avenues for public health and community responses that implement strategies for preventing drug use, providing treatment, aftercare and achieving social reintegration. Community participation and civil society play important roles in that regard.

¹⁰⁰United States, Department of Justice, "Three Germans who allegedly operated dark web marketplace with over 1 million users"; Department of Justice, "Administrators of DeepDotWeb indicted for money-laundering conspiracy"; Décary-Héту and Giommoni, "Do police crackdowns disrupt drug cryptomarkets?"; Isak Ladegaard, "We know where you are, what you are doing and we will catch you: testing deterrence theory in digital drug markets", *British Journal of Criminology*, vol. 58, No. 2 (March 2018), pp. 414–433; and Harold A. Pollack and Peter Reuter, "Does tougher enforcement make drugs more expensive?", *Addiction*, vol. 109, No. 12 (December 2014), pp. 1959–1966.

¹⁰¹Nicholas Corsaro, Rod K. Brunson and Edmund F. McGarrell, "Problem-oriented policing and open-air drug markets: examining the Rockford pulling levers deterrence strategy", *Crime and Delinquency*, vol. 59, No. 7 (October 2013), pp. 1085–1107.

¹⁰²David Maimon and Eric R. Louderback, "Cyber-dependent crimes: an interdisciplinary review", *Annual Review of Criminology*, vol. 2 (2019), pp. 191–216.

¹⁰³Bruce A. Jacobs, "Deterrence and deterrability", *Criminology*, vol. 48, No. 2 (May 2010), pp. 417–441; and Rasmus Munksgaard and others, "Better bang for the buck? Generalizing trust in online drug markets", *British Journal of Criminology*, vol. 63, No. 4 (July 2023), pp. 906–928.

Drug-checking services are an example that constitutes a form of peer education, information-sharing and counseling, and can even contribute to early warning systems for new psychoactive substances. While those health and community responses have positive attributes, it is important to note that the objective of such measures should be to reduce the adverse consequences of non-medical drug use without condoning or encouraging drug trafficking.¹⁰⁴

F. Conclusions and recommendations

58. The Internet offers potential for improving international drug control and preventing non-medical drug use. The international trade in controlled substances for medical, scientific and industrial purposes is facilitated through the Internet. Licit Internet pharmacies and telemedicine enable patients in remote locations to access essential medicines and consultations. Ongoing research at the global and national levels can improve the early detection of potential misuse of the Internet and detect non-licensed Internet pharmacies. The online sharing of information among people who use drugs and public health, and community services can reduce the adverse consequences of the non-medical use of drugs, serve as an early warning of new drug use patterns and connect people who use drugs with treatment and other health services. The primordial objective of Government action in this area remains the prevention of substance abuse, in particular among young people.¹⁰⁵ **The Board recommends that Governments conduct drug abuse prevention campaigns, using awareness-raising messages on drug-related risks circulated using social media.**

59. However, the Internet also provides new opportunities for trafficking in and the non-medical use of controlled drugs. The various forms of Internet-facilitated drug and precursor trafficking outlined in this chapter constitute transnational cybercrimes that require effective regulatory and technological actions by Governments, international organizations, and the private sector. The challenges posed by the various incarnations of Internet-facilitated drug trafficking – the use of cryptomarkets, social networking sites, encrypted apps, e-commerce platforms and illicit Internet pharmacies – all require legislative and policy measures to address their unique roles in trafficking in narcotic

drugs, psychotropic substances and precursor chemicals.¹⁰⁶ The global proliferation of legitimate online platforms for communication and trade in goods and services enables illegal traders to adapt such platforms to achieve their ends. Global communication and commerce increasingly rely on advances in information technology and digitalization. These advances also facilitate illegal activities, as more criminal offences are occurring online while merging with criminal offences occurring offline.¹⁰⁷ Even at the highest levels of the illicit global drug trade, contact is facilitated by the Internet and encrypted communications and growth in drug distribution using social media leads to an increase in the promotion of drugs at the regional level, increased availability and knowledge-sharing between people who use drugs.¹⁰⁸ Governments are therefore urged to ensure that the legal and operational means are available to prosecute illegal marketplaces operating on social media platforms.

60. Meeting these challenges requires cooperation between international organizations, national Governments, regulatory authorities and private companies working in the relevant sectors. The issues associated with identifying illegal content on the Internet are not limited to trafficking in narcotic drugs, psychotropic substances and precursor chemicals. This question concerns a much broader problem of addressing online content that promotes illegal behaviours. Finding an appropriate balance between the interests of individuals, the public and the businesses concerned is difficult and contingent on time and place. Different countries have very different legal traditions, which complicates efforts to restrict an international phenomenon. The international community needs to consider this issue collectively, drawing on the expertise, across various organizations, of specialists in cybercrime and money-laundering as well as trafficking in drugs and firearms, counterfeiting and other forms of smuggling.¹⁰⁹

61. These ongoing efforts are currently reliant on voluntary cooperation between Governments and social media companies. Internet-facilitated drug trafficking using conventional social media requires new and concurrent responses based on public-private partnerships. The potential for restricting this trade can be illustrated by the international cooperation around improved cooperation with Internet pharmacies. The aim is to engage the public and private sectors and civil society in new and innovative

¹⁰⁶Hoffman, “Shedding light on telemedicine and online prescribing”; Mackey and Nayyar, “Digital danger”; and Tim K. Mackey, Liang and Strathdee, “Digital social media, youth, and nonmedical use of prescription drugs”.

¹⁰⁷EMCDDA and Europol, *EU Drug Markets: Impact of COVID-19*; and Maimon and Louderback, “Cyber-dependent crimes”.

¹⁰⁸*World Drug Report 2023*, booklet 2.

¹⁰⁹E/INCB/2022/1.

¹⁰⁴E/INCB/2016/1.

¹⁰⁵E/INCB/2019/1.

ways.¹¹⁰ Law enforcement investigations are most efficient when delivery couriers, financial service providers and Internet companies help enforce e-commerce regulations. Public-private partnerships aimed at regulating the e-commerce of medicinal products effectively should consist of implementing industry guidelines, advisories and warnings. Legislation should address the risks associated with illegitimate Internet pharmacies. Legal frameworks are fundamentally national and extradition requests involving suspects need to be harmonized on the basis of treaties or conventions.¹¹¹ The Board encourages States parties to develop private sector partnerships with those vulnerable-to-exploitation private sector entities to foster voluntary actions to protect the integrity, reputation and security of their services. This includes allocating sufficient resources and building national capacities and capabilities in the field of online investigations and improved cooperation at the national and international levels to develop an early detection system for Internet-based offences.

62. This requires a longer-term effort to build international consensus and improve the capacity of Governments to engage with the private sector. Public-private partnerships should include key industries, academia and non-governmental organizations working with people who use drugs in the development of effective responses. INCB is active in this area and, through Governments, engages several key industries from the private sector in the form of social media companies, online payment services and information technology providers.¹¹² The global nature of the Internet-based services used for trafficking gives rise to difficult questions regarding the provision of mutual legal assistance between national Governments and regulatory agencies. International action against traffickers is complicated by jurisdictional issues and differences in national legal standards relating to the authenticity of evidence gathered and the chain of evidence.

63. **In particular, with regard to the Board's efforts under its GRIDS Programme to assist Governments in addressing the threat posed by synthetic drugs, States parties are encouraged to:**

- **Identify private sector companies, industry associations and related stakeholders vulnerable to exploitation by traffickers of synthetic drugs, such as business-to-business, business-to-consumer and search engine services, Internet registries/registrars, social media and online financial services, so that they may work with them to help**

prevent the trafficking of dangerous substances using Internet-related services.

- **Use the OPIOIDS project's fentanyl-related substances list, and the Project's other lists of dangerous substances with no known legitimate medical, scientific or industrial use, to encourage industry partners voluntarily to refrain from any manufacture, marketing, import, export or distribution of the substances on those lists except for the purposes of research and analysis.**
- **Work with the GRIDS Programme to facilitate public-private partnership engagement, dialogue and cooperation between Governments and industry using tools such as the Board's "Practical guidance for voluntary cooperation for e-commerce and Internet-related services by Government and industry to prevent trafficking of synthetic opioids, fentanyls and related dangerous substances".**
- **Nominate active GRIDS Programme enforcement focal points in their national police, customs, postal, health regulatory and drug control agencies to exchange suspicious shipment and seizure information through the INCB IONICS system to help foster joint actions with the private sector to deny, disrupt and dismantle trafficking networks that exploit Internet-related and e-commerce services.**
- **Utilize the real-time counter-trafficking tools available through IONICS, including GRIDS Intelligence HD, ELITE and other tools, to develop actionable intelligence that identifies and links traffickers that exploit Internet-related and e-commerce services.**

¹¹⁰E/INCB/2021/1.

¹¹¹Hock, Xuan Lee and Wah Chan, "Regulating online pharmacies".

¹¹²EMCDDA and Europol, *EU Drug Markets: Impact of COVID-19*; and E/INCB/2022/1.