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Horizon Scanning of Global Drug Markets

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As there are already a number of insightful overviews of the global illicit drug trade (i.e. Purvis and Gundur, 2019; Reuter, 2014) this chapter will not re-tread a well-worn path, but rather explore recent developments and scan for future issues. EMCDDA and Europol (2019) suggest that horizon scanning can improve preparedness for future challenges, ensure institutional resilience to future threats and avoid rigid responses. This chapter will first review traditional drug market dynamics. With this context established it will explore: import substitution of cannabis, the exploitation of vulnerable peoples in European drug markets, online drug sales and new psychoactive substance (NPS) markets. The chapter concludes by discussing whether drug markets will become more exploitative and violent.

Traditional drug markets

Precursor chemicals

An early stage in many illicit drug distribution chains is the procurement of precursor chemicals. While these have traditionally been strongly regulated chemicals, used legitimately in medicine or industry, there is a trend towards non-regulated chemicals being converted into precursors (EMCDDA and Europol, 2019; UNODC, 2020a). Chemicals have traditionally been 'diverted'[2] from licit markets through theft, by forging documents or mislabelling chemicals.[3] A more recent trend has been the emergence of 'designer precursors': chemicals which seldom have legitimate uses and are created solely for the manufacture of illicit drugs or precursors. Such chemicals are 'appearing pre-emptively or as soon as new precursors regulations come into force' (UNODC, 2020a:9). This important element in illicit drug distribution chains is closely monitored by INCB and UNODC, under the Global Smart programme, but has received minimal academic attention.

Farmers

[1] I'd like to thank James Cuffe, for advice on China, and Nicki Killeen and Jeremey Douglas for informative chats about recent drug market developments in Ireland and Southeast Asia respectively.

[2] 'Diversion' is a rather innocuous-sounding technical term referring to the theft at any point along regulated production and distribution lines.

[3] For example, Thailand tightened regulations in 2012 after it found that employees at a number of medical establishments where diverting medicines to the black market (Windle, 2015).

This section focuses on coca/opium farmers as cannabis farming will be discussed later in the chapter.[4] Opium and coca supplying illicit markets tend to be cultivated in some of the least developed areas of some of the world's least developed countries, notably Afghanistan, Burma, Columbia, Laos, Mexico and Peru. Many high density farming areas:

- Are isolated from urban centres and local markets;
- Lack basic transport and economic infrastructures required for market economies;
- Are politically and socially isolated from state welfare institutions, such as healthcare and education;
- Suffer violent conflicts;
- Suffer high-levels of public corruption;
- For opium farmers, have high-levels of opium or heroin addiction (Windle, 2016).

Consequently, the majority of farmers live in insecure environments, are malnourished, have high morbidity and mortality rates, and low education. While other crops can compete with opium/coca, in such environments they offer distinct benefits over other incomes and often represent survival mechanism rather than means of accumulating wealth. This is not to say that all farmers in an area choose to grow coca/opium. They are labour intensive crops and susceptible to market forces, nature and eradication and, can divert resources from less risky and more profitable crops. Therefore, like most other farmers, they rationally calculate the best crops to cultivate in any one season; if alternatives are available. Such decisions are not, however, purely economic and can be informed by culture and values (see Chin, 2009; Felbab-Brown, 2019; Mansfield, 2016; Thoumi, 2005; Windle, 2016).

Richard Cloward and Lloyd Ohlin's (1960/1998) opportunity theory could help explain why not everyone living in areas with a high concentration of coca/opium cultivation decide to grow the crop: farmers will grow coca/opium if illegitimate opportunities present (i.e. an existing coca/opium market with farmers who can transmit knowledge of opium/coca cultivation techniques) and legitimate opportunities are blocked (i.e. absence of legitimate crops, markets and employment). This is why the most effective opium/coca control strategies have focused not on the eradication of crops but on expanding the authority of the state and providing farmers with legitimate alternatives (Windle, 2015, 2016).

[4] Farmers have received much more research attention than manufacturers of synthetic drugs, for which the academic literature is slim (although see Chin, 2009). This represents a significant gap in the literature.

Trafficking and wholesaling

Smuggling across borders can be high- or low-tech, depending on the local environment, volume of drugs being smuggled and traffickers' resources. For example, heroin and methamphetamine are exported from Burma by walking the drugs across mountains and shipping them across rivers away from formal border crossings, or concealing them in vehicles at formal border crossings (Chin, 2009; Luong, 2020). Traffickers can, however, be more inventive. Speedboats, planes and semi-submersible or submersible 'narco-subs' have been used to move drugs from South to North America (Guerrero, 2019). In Europe, drones have smuggled drugs into prisons and boats have fired drug filled torpedoes into seabed's (see EMCDDA and Europol, 2019). Underwater drones are no doubt being used, or will soon be used, to bring drugs ashore.

Most drugs are, however, simply camouflaged within licit trade. The growing volume of goods and people crossing international borders has been a major contributing factor to rising drug consumption from the 1970s. Improvements in technology, trade liberalisation and economic integration have made travel and transportation of goods quicker and cheaper (Storti and Grauwe, 2009; Windle and Farrell, 2012). The volume of people and freight crossing borders, coupled with neo-liberal economic ideology, has made it difficult to inspect even a tiny fraction of international trade. For example, less than 2% of global containerised freight is screened, even though it is one of the primary means of shipping large quantities of cocaine (EMCDDA and Europol, 2019:61; see Sergi and Storti, 2020)

Official, media and academic reports often categorise traffickers by ethnicity. For example, in Europe, Turkish traffickers have traditionally dominated heroin trafficking and wholesale while Colombian and Italian traffickers have traditionally dominated these activities in cocaine markets (EMCDDA and Europol, 2019; NCA, 2017; Paoli and Reuter, 2008). Indigenous populations have, however, long dominated Europe's ATS and cannabis markets (Paoli and Reuter, 2008:14) and most traffickers will work with others from outside of their ethnic group at some point; whether as suppliers or customers, or because their network is deficit in particular skills or resources (see Pearson and Hobbs, 2001; Sergi and Storti, 2020; Zaitch, 2002).

This said, identifying traffickers by ethnicity is essentially a convenient shorthand. In reality, trafficking is conducted by a relatively small number of networks, composed of a relatively small number of individuals, who happen to share a particular (often migrant) ethnicity. Such

networks are bounded more by kinship, friendship or other social ties than ethnicity. Regardless of whether a network is ethnically homogenous or diverse their social bonds will have been forged from shared histories and experiences, such as coming from the same area, going to the same school or serving time in prison together (see Desroches, 2005; Pearson and Hobbs, 2001; Kenney, 2007). Such experiences are essential in building the social capital necessary for developing trafficking networks (Windle, 2018a).

Ethnicity does, however, play a role in trafficking. Letizia Paoli and Peter Reuter (2008) suggest five reasons why some migrant ethnic minorities dominate the European heroin and cocaine trades. First, drawing from strain theory (Merton, 1938), ethnic minorities often suffer relative deprivation and social exclusion in the old and new country, and have been blocked from achieving cultural goals of financial success. Second, most ethnicities involved in trafficking have large diasporas spread out across many countries. Not only does this provide a pool of impoverished people willing to risk imprisonment but police infiltration can be challenging. Third, traffickers gamble that they can trust diaspora to not cooperate with authorities or steal the product; a trust born of knowledge of the individual and their families, rather than ethnicity. Fourth, involvement often emerges from the exploitation of opportunities presented by proximity to distribution and production sites (i.e. Turkey is the main entry point for European heroin; Columbia is a producer and transhipment point for cocaine). Finally, lax law enforcement in home countries provide safe havens for money and people.

While there are multiple trafficking structures (see Kenney, 2007) academic studies tend to identify trafficking as composed of looser social networks (see Chin and Zhang, 2015; Decker and Chapman, 2008; Desroches, 2005, 2007; Dorn et al., 1992; Kenney, 2007; Pearson and Hobbs, 2001; Reuter and Haaga, 1989; Windle, 2018a; Zaitch, 2002). In an early study, Peter Reuter and John Haaga (1989) suggested that trafficking often involves partnerships between independent traders, cooperating out of mutual self-interest. Many recent studies have identified wheel networks as the most common structure. In wheel networks a small inner core organise shipments and broker deals, and subcontract riskier jobs to other cliques (the spurs of the wheel) (see Chin and Zhang, 2015; Desroaches, 2005; Windle, 2018a). Michael Kenney (2007), for example, suggests that, on closer inspection, the Columbian Cali and Medellín ‘cartels’ were actually wheel networks.

Frederick Desroches (2007) has suggested that large hierarchal trafficking organisations are the exception because they are risky and not necessary for successful enterprises:

> In countries with competent and uncorrupted law enforcement agencies, drug syndicates that remain small, inconspicuous, and fly under the radar of enforcement agencies are much more likely to survive than their larger counterparts.

There are no hard and fast laws around trafficking structures, however, and much depends on the environment and character of core actors. Several hierarchical trafficking or wholesaling organisations have been identified in the academic literature (see Calderoni, 2012; Desroches, 2005; Sergi and Storti, 2020). Mangai Natarajan and colleagues (2015:417) found that while looser networks were most common in New York, hierarchical organisations exist and traffickers 'tend to adopt the structure that is contingent on the environment in which they are working and the tasks to be undertaken'. Structural changes may be impacted by fluctuations in global, national and local drug markets, the type of drugs being sold, the ethnic composition of the organisation, law enforcement responses and technologies used by the trafficker (Natarajan et al., 2017; see Felbab-Brown, 2019; Morselli and Petit, 2007).

As will be discussed below, online drug sales and increased prevalence of NPS could alter the structure of trafficking organisations: posting a small envelope of fentanyl or Spice needs a chain of one or two people rather than an extended network. A number of interview studies have, however, shown that while many are initially motivated by money, they continue trafficking because it offers status, power (Dorn et al., 1992; Reuter and Haaga, 1989), excitement and they get to work with friends (Decker and Chapman, 2008). These cultural and visceral motivations could ensure the maintenance of traditional trafficking structures: posting a package takes the fun out of trafficking.

This said, if things were to be done differently, due to advantages offered by new technology, then new social structures will arise that facilitate new social opportunities. For example, online 'Liftblr' networks have emerged whereby shoplifters show off their wares and speak to likeminded people about their experience of shoplifting (Maher, 2018). While shoplifters are very different to traffickers, it's possible that online networks could provide traffickers with the cultural and visceral rewards of trafficking. Although the risks of leaving an electronic footprint could be too large for more professional entrepreneurs.

Drug couriers

Traffickers have long used disposable, often vulnerable, people to smuggle drugs across borders: the riskiest link of the distribution chain. A number of studies (Chin and Zhang, 2015; Green, 1996; Fleetwood, 2014) highlight a general profile of vulnerability linked to unemployment, poverty and debt. Penny Green (1996:13) analysed basic profile information of almost half of the 2,000 drug importers imprisoned in British jails: one third were unemployed, 14% employed in 'the most menial of jobs' and the majority were responsible for children. Green (1996: 17/18) documents a:

> … research profile … of men and women whose offence was not motivated by greed but by familial concerns and financial despair... // ... Relative poverty, a sense of desperation, an opportunity to rise above the grinding misery of economic hardship in the developing world, all contribute to a rational explanation of the phenomena.

Recent and future market developments

Online drug sales

The 2000s witnessed increased use of the internet by a range of drug market actors. This has developed in three main directions. First, surface web-shops sell NPS and pharmaceuticals, and facilitate the cultivation and manufacture of drugs, sometimes tied to physical offline shops (discussed later in this chapter). Second, social media platforms are used to sell drugs (Moyle et al., 2019) and, by dealers to recruit and control people to move, store or sell drugs offline (Storrod and Densley, 2017). Third, drugs can be purchased on crypto-markets, defined as:

> a marketplace that hosts multiple sellers or 'vendors', provides participants with anonymity via its location on the hidden web and use of cryptocurrencies for payment, and aggregates and displays customer feedback ratings and comments (Barratt and Aldridge, 2016:2)

Crypto-currencies are held in central funds while transactions are completed. If the drugs are not delivered or are incorrectly sold, buyers can be refunded from the central fund. Buyers can post feedback about the drugs purchased and services received. These mechanisms provide dispute resolution functions while facilitating trust between buyers and vendors (see Barratt and Aldridge, 2016; Kruithof et al., 2016). Crypto-markets require a range of actors to run, including: executives to manage the site, developers to design and maintain the site and,

moderators to oversee transactions and support customers (Kruithof et al., 2016). Some have reportedly employed medics to provide harm reduction advice and chemists to test products (Vorobyov, 2020).

EMCDDA and Europol (2019:67) reported 10 active online marketplaces in 2019. Globally, the largest concentration of vendors has been in the US followed by the UK, Australia and Germany. Global dynamics can, however, change quickly with the average site operating for just eight months. Sites have been closed by law enforcement, hacking or scamming, when customers are defrauded in exit scams or because the enterprise was unprofitable (Kruithof et al., 2016).

The most commonly sold drugs are cannabis, Ecstasy/MDMA, ATS and pharmaceuticals. While heroin and crack cocaine retail has remained primarily street based there is a profitably wholesale trade in these drugs (Aldridge and Décary-Hétu, 2016) and a recent sweep of crypto-markets suggests that synthetic opioids sales are growing (Broadhurst et al., 2020:9). The lack of sizeable retail trade in heroin and crack cocaine can be explained by the consumer population: buying drugs online requires planning, patience and financial capital that many of those dependent on heroin/crack cocaine may not possess.[5]

While crypto-markets are a significant development they still utilise traditional distribution systems; depending on the drugs. The cultivation, manufacture and/or production processes remain the same as for street markets, and the drugs must be smuggled to online vendors. The online wholesaler may then sell directly to consumers, retailers or other wholesalers. Kristy Kruithof and colleagues (2016) estimate that while only 1.8% of transactions are for wholesale they generate a quarter of total crypto-market revenue (also Aldridge and Décary-Hétu, 2016, 2016b). Monica Barratt and colleagues (2014) analysis of the Global Drug Survey found that almost a quarter of online buyers sold the drugs they bought. That is, crypto-markets sometimes play a brokerage role for drugs sold or distributed in traditional ways: people selling or distributing to friends, acquaintances and, less often, strangers.

Consumers have reported using crypto-markets because: they offer a wider variety of drugs than street markets, the drugs are often better quality, buying is more convenient and vendor rating systems provide a perception of safety (Barratt et al., 2014). While these factors could contribute to increased consumption in the future, and the faster spread of new drugs to local

[5] In the UK, some retailers specialising in heroin and crack cocaine have, however, created social media sites with a dedicated telephone line from which customers can order their drugs for collection.

markets, a number of studies have identified positive harm reduction outcomes, including reduced violence (Barratt et al., 2014; Ormsby, 2016). Situational factors facilitating violence in physical markets are lessened: online vendors are less open to robbery, there is no territory to conflict over and, anonymity and distance between user and dealer lessens the violent enforcement of debts. Crypto-market mediation mechanisms (i.e. buyer reviews, site administration) are also designed to reduce conflict, and vendors do not need violent reputations:

> … having good customer service and writing skills, and a good reputation, via feedback, as a vendor or buyer may be more important than muscles and face-to-face connections (Aldridge and Décary-Hétu 2016b:28)

Kristy Kruithof and colleagues (2016:29) report that, while the evidence base is limited, vendors tend to be young, entrepreneurial and well-educated 'with strong IT-skills', although there were some 'professional drug dealers with close ties to production'. Eileen Ormsby (2016:63) interviewed a mix of 'small-time street dealers who had found a new, lucrative market' and a 'new breed' who were 'ill equipped to become part of the drug trade that included contact with hardened criminals'.

According to Judith Aldridge and David Décary-Hétu (2016b:23), while crypto-markets have enjoyed 'phenomenal growth' since the opening of Silk Road 1 in 2011, they currently 'represent only a tiny fraction of the global drugs trade'. Kristy Kruithof and colleagues (2016) estimate that, while the number of transactions tripled and revenue doubled from 2013, crypto-market sales account for a small share of drug market revenue. This new distribution model does, however, hold 'the potential to transform local offline markets for illegal drugs by providing a new channel for drug diffusion across locales' (Aldridge and Décary-Hétu, 2016) and we should expect increased online sales. Indeed, *if* cryptocurrencies become a more routine aspect of everyday life, and as more of our general (licit) shopping is done online, then these changes to our lifestyle could influence how people buy their drugs. The Covid-19 pandemic may have spurred increased online sales in some areas. Ireland, for example, witnessed an increase in buying/selling drugs online, and home delivery of drugs, during lockdown.[6]

Crypto-markets may develop alongside other technological changes, for example, EMCDDA and Europol (2019:76) floated the possibility of delivery by drones direct from online

[6] Personal communication, Nicki Killeen, HSE National Social Inclusion Office.

vendors – which reflects changes to the licit market with drone delivery cautiously being trialled by some companies – and that the market will become fragmented with an increased number of smaller markets and individual vendor shop focused on specific languages, drugs and geographic areas: another trend which would mirror legitimate online shopping. Buyers from the Russian Hydra crypto-market are sent coordinates and photos to collect their drugs which can be hidden anywhere in the city (within trees, behind pipes) in what has been referred to as 'Pokémon Go for drugs' (Vorokbyov, 2020).

The internet has opened drug markets to people who may have once been unable to gain entry into what can be a lucrative (if risky) endeavour. Traditionally, trafficking and dealing requires criminal, social and cultural capital: context depending, they needed to be good networkers and exhibit a credible threat of violence. The internet has, however, allowed entry for a wider segment of people and could change the demographics and structure of trafficking. A student in Oxford can buy fentanyl from a chemist in China and sell to a user-dealer in London. The user-dealer benefits from not having to buy from a 'scary criminal' in a dark alleyway, the student avoids being robbed by buyers or sellers looking to make money and develop violent reputations, and the chemist can view themselves as an entrepreneur drifting along the boundary of their countries regulations. Structurally, such networks are composed of individual links in a chain and the benefits of ethnicity discussed earlier in this chapter become else important: trust is quickly and anonymously manufactured online, rather than in pubs, at weddings and, prison or school yards.

Cannabis import substitution

Over the past couple of decades many countries have witnessed cannabis cultivation moving closer to the consumer, a trend Tom Decorte and colleagues (2011) predicted would dominate the global cannabis market. While this 'import substitution' (Decorte et al., 2011) represents the localisation of cannabis cultivation it maintains a transnational character.

Domestic cannabis cultivation in the Global North is predominantly small-scale for personal consumption (Decorte, 2010) because few cultivators have the skills, start-up capital or desire to grow their crop into profitable enterprises (Hammersvik et al., 2012). Many decide to cultivate cannabis to reduce costs, to avoid shady characters, control quality and taste, and because they enjoy growing the plants (see Decorte et al., 2011; Potter et al., 2015). More entrepreneurial cultivators can control the source whilst reducing the risks associated with buying from other dealers and cross-border smuggling.

Import substitution has been driven by the Internet and agricultural innovations. Advances in agricultural technology and the cross-breeding of new cannabis varieties initially made it possible to cultivate cannabis indoors, while the Internet has made it easier to share growing techniques and quicker, cheaper and easier to buy seeds and cultivation equipment (see Decorte, 2010; Decorte et al., 2011). These are outcomes of innovations in legitimate industries. For example, the illicit use of hydroponic techniques were preceded by the use of hydroponics to grow vegetables and flowers (Bouchard and Dion, 2009). Online seed banks, chatrooms and grow-shops essentially mirror legitimate innovations which allow us to shop and work from home, and communicate with people across the globe. Cultivators buying specialist lighting kits or cannabis seeds from online shops are not too different from builders buying drills or gardeners buying sunflower seeds online.

New Psychoactive Substances (NPS)

NPS are defined by UNODC (2019:2) as:

> substances of abuse, either in a pure form or in a preparation, that are not controlled by the Single Convention on Narcotic Drugs of 1961, as amended by the 1972 Protocol, or the Convention on Psychotropic Substances of 1971, but which may pose a public health threat.

They include a wide ‘range of substances that are cheap, easily replaceable and potent’ (EMCDDA and Europol, 2019:174; UNODC, 2018, 2020b), including traditional plant-based drugs (i.e. krakom) and those previously synthetized for medical or scientific purposes (i.e. fentanyl). They can complement and/or compete with traditional drugs, and overlap with the market for (real and fake) pharmaceuticals (i.e. Xanax) (see Hall and Antonopoulos, 2016).

UNODC (2018) have identified, since 2013, the emergence of 950 NPS: an average of about one new substance per week. While many NPS fail to secure market share and disappear quickly, others have become established drugs in some countries (UNODC, 2018). Xanax, for example, is central to Mumble rap: a youth subculture characterised by references to the drug and a mumbling flow which parallels the effects of Xanax (like a rap version of Nirvana’s heroin inspired grunge sound). That Xanax jewellery is popular and can be bought in (legitimate surface web) online marketplaces is indicative of the exploitation of drug consumption by legitimate industry.

While the number of new substances begun to 'level off somewhat' from 2019, there was a pronounced rise in synthetic opioids between 2018 and 2020 (UNODC, 2020b:2) and an 'upward trend of more potent NPS appearing on' European markets (EMCDDA and Europol, 2019:179). The market is, however, dynamic and periods of 'innovation and stagnation' have previously been observed (UNODC, 2018:6).

Synthetic opioids have attracted particular concern, and have replaced heroin in many countries. Fentanyl consumption has been identified as an epidemic in the US since 2013 but other synthetic opioids (i.e. carfentanil) are also prevalent in some US states (Pardo et al., 2019:v). While heroin has continued to dominate European markets an 'increased number of new synthetic opioids' have been identified in western and central Europe. Fentanyl analogies have been identified in samples of heroin sold through European crypto-markets (UNODC, 2019:8). In the UK, the synthetic cannabinoid Spice has replaced heroin in some areas and amongst some populations, such as prisoners and the homeless (Gray et al., 2020).

NPS have 'challenged the "rules of the game"' (UNODC, 2018:7). States and intergovernmental organisations must constantly monitor for the emergence of new drugs and the risks they pose. NPS use a wider range of precursor chemicals than traditional drugs, which challenges the global regulatory regime. The distribution chain for NPS differentiates them from other drugs: unlike traditional drugs, many NPS are not warehoused in hub countries before distribution to national wholesalers, rather 'parcel post from source to market prevails' (NCA, 2017:32). The rise in postal trafficking parallels the more general rise in online shopping as the increased volume of parcels makes it more difficult to check what's entering countries through the post (EMCDDA and Europol, 2019; UNODC, 2018, 2019).

Some NPS are attractive to traffickers because their high potency mean that small packages can be as profitably as larger ones of traditional drug. While drug policing has traditionally focused on the interdiction of large shipments, or smaller packets arriving through airports, the smuggling of small packages through the mail presents a significant challenge (UNODC, 2019). The concealability of Spice, for example, is one reason for its high prevalence in British prisons (Gray et al., 2020).

EMCDDA and Europol (2019:174) report that the primary sources of NPS are 'chemical and pharmaceutical companies' based in China. India is a source of fake pharmaceuticals and, Russia and Mexico of synthetic opioids (using precursors from China). A relatively small number of illicit laboratories have been identified in some European countries (see Pardo,

2019). The drugs may be sold directly from manufacturer to consumer, or via wholesalers and retailers. The US have, for example, reported that synthetic opioids are posted direct from China or transhipped through Canada and Mexico (Pardo et al., 2019).

Bruce Pardo and colleagues (2019) frame the expansion of synthetic opioid consumption as a 'supplier-led phenomenon', driven by increased manufacturing in China coupled with rising opportunities for online drug sales and the online dissemination of knowledge of new synthesis methods. China's predominance as a source of NPS has been facilitated by a regulatory system which 'does not effectively police the country's expansive pharmaceutical and chemical industries' (Pardo et al., 2019:3). China is one of the world's leading suppliers of both pharmaceuticals and chemicals: home to around 5,000 pharmaceutical companies, with an estimated revenue of $105 billion in 2014 (O'Connor, 2016) and, up to 40,000 chemical manufacturers and distributors (Pardo et al., 2019).

The end of the opium trade?

While the dynamic nature of NPS makes it 'particularly difficult to predict future developments with any degree of certainty' (UNODC, 2018:9) it is very possible that the opioid trade is entering a major new period. From the early-20th century prepared opium was gradually replaced with heroin in almost all countries. Heroin was stronger than opium, less bulky and thus easier to smuggle.

Synthetic opioids could now overtake heroin: they are less bulky and more potent, and suit the slow shift towards online drug sales. The logistics are also more straightforward. Synthetic opioids can be shipped directly from manufacturer to retailers or consumers, without the multiple stages of buying and selling, and border crossings, required to traffic heroin from say Afghanistan to Europe. Merchants do not have to trek through jungles or desserts to purchase opium from farmers, nor traverse the realities of conducting deals amidst violent conflicts. They just have tea with a chemist or send a message via WhatsApp to an online pharmacy (see Westoff, 2019). This has the potential to further fragment the market. Jeremy Douglas (2017:np) of UNODC has drawn parallels with the Uber business model: that a small number of traffickers could give way to a larger number of individuals and partnerships similar to 'the loosely connected network of Uber drivers taking on traditional taxi fleets'.

Synthetic opioids are also cheaper for consumers and dealers.[7] Research from RAND estimate that Mexican 'heroin appears to be at least 100 times more expensive than fentanyl' at import (Pardo et al., 2019:3). It may be, however, that heroin maintains a niche market of connoisseurs. For example, some older cannabis consumers in the UK dislike home grown cannabis and are willing to pay extra for traditionally grown Jamaican cannabis. The same may apply to heroin at some point.

Le Cour Grandmaison and colleagues (2019:313) ethnographic research in Mexico found that, in 2018, 'plummeting demand' for Mexican heroin, due to increased demand for fentanyl in the US, reduced the price of raw opium to a point whereby 'for the first time in modern Mexican history, illicit natural drugs have ceased to be profitable cash crops' (also Felbab-Brown, 2019). Such a market shift is happening in other countries. UNODC (2020c:1) reported that Burmese trafficking had 'evolved to synthetic opioids on a scale nobody anticipated'. Such a shift has historical precedence and would rationalise distribution.

Bruce Pardo and colleagues (2019) suggest that China is likely to remain the primary source in the foreseeable future. While the Chinese Government has attempted to regulate many precursor chemicals and NPS, the size of its chemical and pharmaceutical industry makes governance difficult (Pardo, 2018; O'Connor, 2018). Lack of central coordination and 'competing regulatory oversight' have created gaps which are exploited by those breaking, bending or ignoring regulations. Regulatory bodies often lack time and resources, and often authority, to monitor such a large industry. There have been cases of corruption. While the central government has created regulations, these they are enforced by provisional authorities (Pardo, 2018:9) who are often 'encouraged to prioritize economic growth and development objectives above all else' (O'Connor, 2018:2). Such directives inevitably result in contradictions and increased domestic pressure on Chinese governance as 'the style of economic growth and the development of new social trends and cultural norms wreak havoc underneath the façade of a growing middle class satiated with plentiful goods and broadened horizons' (Cuffe, 2020:32).

The Chinese Governments began enforcing stricter controls in 2019, including banning all fentanyl analogues, and made some significant arrests. This was under pressure from the US (Myers, 2019). Using the history of Asian drug control as a guide, external pressure has

[7] These arguments also apply to some other NPS, such as synthetic cannabinoid, which are cheaper and more potent alternatives to cannabis. They may be more addictive than heroin and pose significant physical and mental health risks (Gray et al., 2020).

seldom been enough to motivate states to enforce stringent prohibitions (Windle, 2018b). Indeed, while China prohibited manufacture of fentanyl analogues, other NPS are being manufactured, as are the precursors needed to manufacture fentanyl abroad (Westoff, 2019). Comparative historical research on what motivates countries to crackdown on illicit drug production suggests that governments are motivated by religious or ideological opposition to drugs and apprehension about rising domestic drug consumption; often underpinned by economic and/or security concerns (Windle, 2018b). As China is an ultra-prohibitionist country with long held opposition to some drugs, it will likely clamp down on manufacturers when domestic NPS consumption rises to an extent that is seen to threaten China's economic productivity or national security.

The online sharing of NPS recipes has resulted in a proliferation of small-scale 'minimally trained technicians' manufacturing NPS in China and Mexico (Pardo et a., 2019), and could facilitate the displacement of manufacturing elsewhere if China cracks down. This also has historical precedence: In the 1940s much European and North American heroin was manufactured by poorly regulated Italian pharmaceuticals. In 1952, Italy tightened its domestic regulations; manufacturing was displaced to France, until French regulations tightened and manufacturing went completely underground (Windle, 2016). India's pharmaceutical industry, for example, is as large as China's but even less well-regulated, which places it in a prime position (Felbab-Brown, 2019). Burma has access to precursor chemicals, has already entered the NPS market, and previously diversified from heroin to methamphetamine when the latter became more profitable (see Chin, 2009; Douglas, 2017).

Will the exploitation of vulnerable people increase?

The British press, practitioners and policy makers have, over the last few years, focused considerable attention on 'county lines' drug dealing. This is a new, and rapidly evolving, drug supply model in which out-of-town dealers (Coomber and Moyle, 2018) from large urban areas 'travel to smaller locations (such as a county or coastal town) to sell class A drugs, specifically crack cocaine and heroin' (NCA, 2017:5 cited in Windle et al., 2020).

A distinguishing feature of this new supply model is the systematic predatory recruitment and exploitation of vulnerable peoples to store, transport and sell drugs. Vulnerable peoples have included: children, those with welfare needs and mental health issues and, people using drugs problematically (Windle et al., 2020). The model differs from traditional markets because it:

> Involves operators in hub cities travelling to towns and cities within a wide radius of their home area. Not only do they deliver their product to that location as a 'weight' for wholesale, but they also retail it there using a combination of controlled and controlling young sellers from the urban hub, as well as vulnerable individuals from the new locality (Windle et al., 2020; see Coomber and Moyle, 2018; McLean et al., 2019; Windle and Briggs, 2015).

An EMCDDA and Europol (2019:48) 'targeted data collection exercise' identified similar phenomena developing in Belgium, Estonia, Greece, Ireland and Sweden. In Sweden, for example, there are reports of:

> Criminal gangs recruiting unaccompanied asylum-seeking children or children whose asylum applications have been rejected … to sell drugs. Criminal gangs usually force them to join by using threats and violence (EMCDDA and Europol, 2019:38).

The UK literature has yet to uncover why criminal mobility and exploitation have increased (Windle et al., 2020). Saturation theory suggests that some initially left their urban area as local drug markets became saturated by too many dealers and too few consumers (Windle and Briggs, 2015; also McLean et al., 2019; Spicer, 2019). Saturation is not, however, new and did not previously cause migration to new markets or an upsurge in exploitation (Windle et al., 2020).

The term 'vulnerable' has gained increasing traction over the last ten years in academic, policy and media discourses. Human trafficking followed by the 'me too movement' focused the spotlight on the exploitation of vulnerable peoples. This may have drifted into other realms, such as drug markets. It may, therefore, be that exploitation of vulnerable peoples by drug dealers has always been a feature of drug markets, but was previously overlooked; precisely because of exploited people's vulnerability. As discussed earlier in this chapter, sections of the supply chain have long relied on vulnerable peoples: traffickers exploit diaspora, drug couriering centres on the systematic exploitation of vulnerable peoples, and the use of human trafficking victims in cannabis farms is well established.

While the exploitation of vulnerable peoples has featured in some elements of the drug distribution chain, and amongst some populations, systematic exploitation by drug dealers

within European local drug markets is new. A likely explanation for this market development can be found in Alijah Anderson's (1990:91) ethnographic research in the US. Anderson observed, in the late-1980s, how 'a new style of coercion has developed' in which dealers would exploit vulnerable women and children. He documented how adolescent boys were paid to work in drug selling houses, and addicted women were coerced into sex work. He argued that those exploited by drug dealers were from families 'working or on welfare and trying desperately to make ends meet' and find the 'ghetto street culture' to be 'glamourous and seductive', with drug dealers establishing themselves as role models for vulnerable young people (Anderson, 1990:91).

These observations around the seduction of drug dealing culture, and the background factors of vulnerable peoples, are common in the county lines literature (see review in Windle et al., 2020). For Alijah Anderson (1990, 1999) the causes are structural, subcultural and subjective. That is, 'ghetto street culture' is a product of structural disadvantage and opportunity. Structurally, they are concentrated in areas which have been hardest hit by relative deprivation, unemployment, institutional racism and social exclusion. Legitimate opportunities for both work and leisure are closed to many living within these areas, while illegitimate opportunities from illicit and grey enterprises are plentiful. Subjectively, street cultures are transgenerational: passed down from parent to child who are then socialised further into the culture by interacting with peers and observing violence. For Anderson, wider structural conditions make all within particular areas vulnerable to street codes, but some family dynamics inflate this vulnerability.

As Europe lagged behind the US experience of exploitation by 10/15 years, increased exploitation may be explained by European countries aligning further with US neo-liberal policies. That is, the pool of vulnerable peoples may have increased alongside widening gaps between the richest and poorest, and rising social exclusion, created by neo-liberal policies. Transnationally, neo-liberalism is the hegemonic ideology of our time, and relative deprivation is increasing for many across the world. As such, many countries could soon record upward trends of exploitation of the most vulnerable within local drug markets.

Will drug markets become more violent?

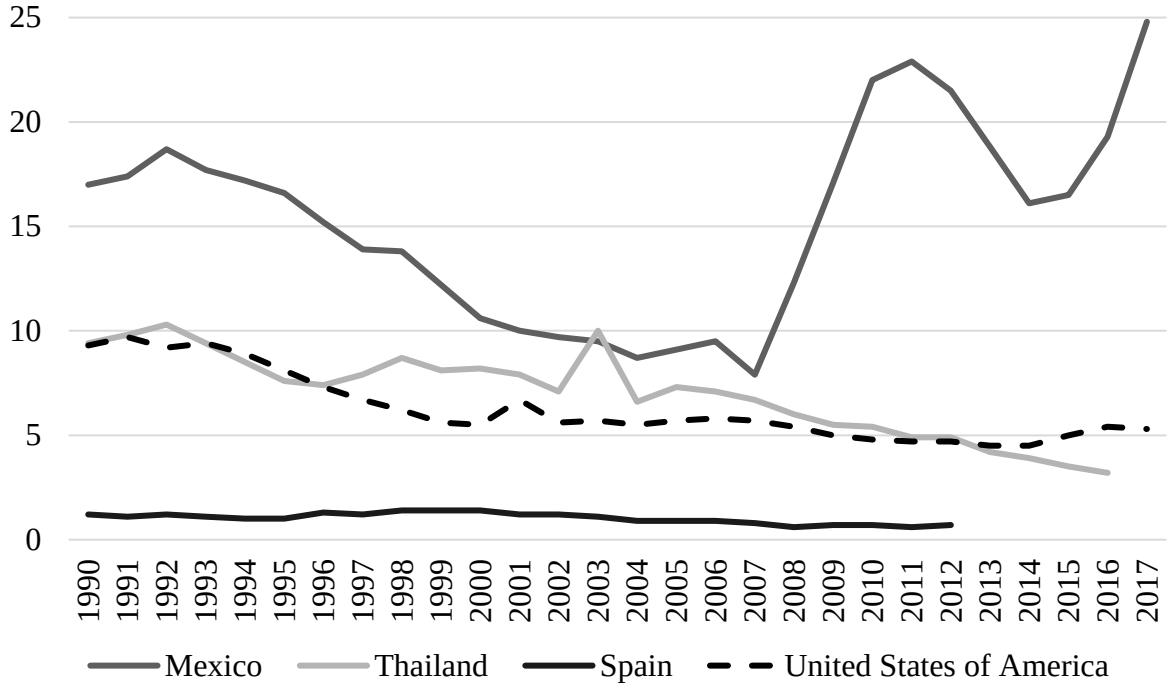
A key concern for many governments is that drug markets are becoming more violent, and contributing to rising homicide rates. The relationship between drug markets and violence is, however, complex.

While violence is common in some local drug markets (see Durán-Martínez, 2017; Felbab-Brown, 2019; Jacobs and Wright, 2006; Pearson and Hobbs, 2001; Windle and Briggs, 2015) most low-level distribution is conducted peacefully between friends and acquaintances with no need nor want for violence (see Coomber, 2015; Hammersvik, 2015). Many entrepreneurial dealers and traffickers avoid violence because it is expensive, risky, attracts too much attention and/or and because they view themselves as entrepreneurs (see Desroches, 2007; Reuter and Haaga, 1989). Even those who employ the threat of violence often avoid actual violence (Pearson and Hobbs, 2001; Zaitch, 2002).[8]

Paul Goldstein (1985) has argued that 'systemic violence' – violence caused by the interaction of individuals 'working or doing business' within a market – is conducted by rational entrepreneurs operating in markets with no legal protection or dispute resolution. Franklin Zimring and Gordon Hawkins (1999:153), however, show that drug markets become violent when 'social circumstances conducive to lethal violence already exist'. For example, while Thailand, Spain and Mexico are all important hub countries for their regional markets, their levels of violence are very different: Mexico has a 27 year average homicide rate of 15.2:100,000, Thailand's is 7:100,000 and Spain is 1:100,000. The US, included here as a familiar benchmark, is 6.2:100,000 (Figure 1).

[8] The Sam Gor Syndicate is a textbook example of a successful trafficking organisation which avoids violence. The Syndicate is believed to have generated annual revenue of between $8-17 billion selling methamphetamine, heroin and ketamine throughout Asia and Oceania. It's been described as 'an organization that is truly transnational' with members from across Asia. Collaboration rather than conflict has been the key to the Syndicate success: that they are 'less prone to uncontrolled outbreaks of internecine violence than the Latin cartels' allowed them to fly under law enforcement radar for long periods (Allard, 2019).

Figure 1: comparison of homicide rates per 100,000 in three hub countries and the USA



Source: https://dataunodc.un.org/GSH_app

Elliot Currie's (2016) comparative analysis has shown how relative deprivation, social exclusion and a lack of meaningful employment explain why violence is geographically concentrated and tends to be be higher in countries in which these inequalities are more pronounced. These insights can be coupled with ethnographic studies which have identified localised violence as founded less in the market and more in violent street cultures (i.e. Anderson, 1999; Bourgois, 1995; Jacobs and Wright, 2006). Violent reputations are not necessary for all drug dealers, but they are for those enmeshed in the street: economically deprived and socially isolated urban areas where alternative sources of income are scarce. That is, certain areas are 'more likely to produce tool kits that promote violent' responses (Copes et al., 2015:8) to challenges in any spheres of human interaction, whether a debt (drug or otherwise) or disrespectful comment. Also, violent reputations are often ends in themselves, and drug dealing can be a means of achieving this end. In short, those areas with high relative deprivation and social exclusion, and low meaningful employment, are more likely to produce subcultures which facilitate violence.

Angélica Durán-Martínez (2017) offers a complimentary explanation. She suggests that drug markets become more violent when security forces are fragmented and if multiple trafficking

organisations compete for market share. It may be that structural inequalities coupled with fragmented security forces within large markets represent fertile ground for the growth of violence to the levels currently witnessed in countries such as Mexico.

Drug market violence may increase in the future, but not in isolation. There is likely to be an increase in violence, including drug market violence, in areas experiencing high-levels of relative deprivation, where there are large numbers of people who are jobless, precariously employed and/or employed in jobs they find meaningless, and/or if the state is unable or unwilling to effectively control trade. If our consumer driven culture continues to demand that we buy stuff to find meaning, while blocking many from achieving these 'cultural goals' (Merton, 1938), then drug dealing and violence will continue. The greater the strain the more prevalent and more intense the violence will likely become. This argument applies to exploitation also.

Conclusion: cautiously looking to the future

This chapter has argued that the Internet and other technological innovations have facilitated significant changes to local and transnational drug markets. This is not new. Traffickers have long been at the forefront of technological change, for example, during the 19th century opium smugglers built faster ships to avoid Chinese import prohibitions. From the 1960s technological developments made travel and transportation of goods quicker and cheaper. This made it easier, quicker and less risky to traffic drugs from source to consumer: one factor in why drugs became cheaper, more available and more heavily consumed from the 1970s in many countries. More recently, online chatrooms and, the online sale of cannabis seeds and growing equipment have moved cannabis cultivation closer to the consumer. Even more recently, online drug sales, through social media and crypto-markets have created new distribution models which are challenging law enforcement. NPS are also posing challenges to law enforcement agencies which must play catch-up with the growing number of new drugs and precursor chemicals.

Traffickers and dealers are inventive and resourceful. Hydra's Pokémon Go model, drone deliveries to buyer's windows and postal deliveries could become more common. The online sale of drugs could change the structure of trafficking; moving relationships online could make trafficking networks even more fluid and reduce the need for physical social ties.

Online sales and NPS could signal the end of opium and coca farming - following a historical pattern whereby more potent and easier to conceal drugs replace old, bulkier, drugs.

Neo-liberal policies have increased violence and the exploitation of vulnerable peoples. If inequalities continue to rise, it's likely that so too will violence and exploitation within markets for drugs and other illicit commodities. Violence as an end in itself will also increase. This said, increased online drug sales of NPS could reduce drug market violence and exploitation could take new forms: opium farmers, couriers and street dealers may be needed less, but online dealers may require vulnerable peoples to manufacture and deliver drugs, and mule money. Holding out hope for market adaption is not good policy, however: reducing violence and exploitation requires wider structural change.

References

Anderson, E. (1990). *Streetwise: Race, Class, and Change in an Urban Community*. Chicago: University of Chicago Press.

Anderson, E. (1999). *Code of the Street: Decency, Violence, and the Moral Life of the Inner City*. London: Norton.

Aldridge, J. and Décary-Hétu, D. (2016). Hidden wholesale: The drug diffusing capacity of online drug cryptomarkets. *International Journal of Drug Policy*, 35(1), 7-15.

Aldridge, J. and Décary-Hétu, D. (2016b). Crypto-markets and the future of illicit drug markets. In EMCDDA (ed.) *The Internet and Drug Markets*. Belgium: EMCDDA.

Allard, T. (2019). The hunt for Asia's Al Chapo. *Reuters* https://www.reuters.com/investigates/special-report/meth-syndicate/

Barratt, M.J. and Aldridge, J. (2016). Everything you always wanted to know about drug cryptomarkets* (*but were afraid to ask). *The International Journal of Drug Policy*, 35(1), 1-3

Barratt, M.J., Ferris, J.A. and Winstock, A.R. (2016). Safer scoring? Cryptomarkets, social supply and drug market violence. *International Journal of Drug Policy*, 35(1), 24-31.

Bouchard, M. and Dion, C.B. (2009). Growers and facilitators: probing the role of entrepreneurs in the development of the cannabis cultivation industry. *Journal of Small Business and Entrepreneurship*, 22(1), 25-37.

Bourgois, P. (1995). *In Search of Respect: Selling Crack in El Barrio*. Cambridge: Cambridge University Press.

Broadhurst, R., Ball, M. and Trivedi, H. (2020). Fentanyl availability on darknet markets. https://apo.org.au/node/276711?utm_source=APO-feed&utm_medium=RSS&utm_campaign=rss-all

Calderoni, F. (2012). The structure of drug trafficking mafias: the 'Ndrangheta and cocaine. *Crime, Law and Social Change*, 58(3), 321-349.

Chin, K. (2009). *The Golden Triangle: Inside Southeast Asia's Drug Trade*. London: Cornell University.

Chin, K. and Zhang, S. (2015). *The Chinese Heroin Trade: Cross-Border Drug Trafficking in Southeast Asia and Beyond*. London: NYU Press.

Cloward, R.A. and Ohlin, L.E. (1960 / 1998). *Delinquency and Opportunity: A Study of Delinquent Gangs*. Abingdon: Routledge.

Copes, H., Hochstetler, A. and Sandberg, S. (2015). Using a narrative framework to understand the drugs and violence nexus. *Criminal Justice Review*, 40(1), 32-46.

Coomber, R. (2015). A tale of two cities: Understanding differences in levels of heroin/crack market-related violence—A two city comparison. *Criminal Justice Review*, 40(1), 7-31.

Coomber, R. and Moyle, L. (2018). The changing shape of street-level heroin and crack supply in England: Commuting, holidaying and cuckooing drug dealers across 'county lines'. *The British Journal of Criminology*, 58(6), 1323-1342.

Cuffe, J.B. (2020). *China at a Threshold: Exploring Social Change in Techno-Social Systems*. Abingdon: Routledge

Currie, E. (2016). *The Roots of Danger: Violent Crime in Global Perspective*. Oxford: Oxford University Press.

Decker, S. and Chapman, M.T. (2008). *Drug Smugglers on Drug Smuggling: Lessons from the Inside*. London: Temple University Press.

Decorte, T. (2010). The case for small-scale domestic cannabis cultivation. *International Journal of Drug Policy*, 21(4), 271-275.

Decorte, T., Potter, G. and Bouchard, M. (2011). *Word Wide Weed: Global Trends in Cannabis Cultivation and its Control*. London: Ashgate.

Desroches, F. (2005). *The Crime that Pays: Drug Trafficking and Organized Crime in Canada*. Toronto: Canadian Scholars Press.

Desroches, F. (2007). Research on upper level drug trafficking: A review. *Journal of Drug Issues*, 37(4), 827-844.

Douglas, J. (2017) Market disruption in the shadows: What fentanyl is really telling us. *The Globe and Mail*, 22 October.

Dorn, N., Murji, K. and South, N. (1992). *Traffickers: Drug Markets and Law Enforcement*. Abingdon: Routledge.

Durán-Martínez, A. (2017). *The Politics of Drug Violence: Criminals, Cops and Politicians in Colombia and Mexico*. Oxford: Oxford University Press.

EMCDDA (European Monitoring Centre for Drugs and Drug Addiction) and Europol (2019). *EU Drug Markets Report*. Belgium: EMCDDA.

Felbab-Brown, V. (2019). *Mexico's Out-of-Control Criminal Market*. Washington: Brookings Institute.

Fleetwood, J. (2014). *Drug Mules: Women in the International Cocaine Trade*. London: Springer.

Goldstein, P.J. (1985). The drugs/violence nexus: A tripartite conceptual framework. *Journal of Drug Issues*, 15(4), 493-506.

Gray, P., Ralphs, R. and Williams, L. (2020). The use of synthetic cannabinoid receptor agonists (SCRAs) within the homeless population: motivations, harms and the implications for developing an appropriate response. *Addiction Research and Theory* (online first).

Green, P. (1996). *Drug Couriers: A New Perspective*. London: Quartet.

Guerrero, J. (2019). *Narcosubmarines: Outlaw Innovation and Maritime Interdiction in the War on Drugs*. London: Springer.

Hall, A. and Antonopoulos, G.A. (2016). *Fake Meds Online: The Internet and the Transnational Market in Illicit Pharmaceuticals*. London: Springer.

Hammersvik, E. (2015). Four barriers and a set of values that prevent violence among cannabis growers. *International Journal of Drug Policy*, 26(3), 290-295.

Hammersvik, E., Sandberg, S. and Pedersen, W. (2012). Why small-scale cannabis growers stay small: Five mechanisms that prevent small-scale growers from going large scale. *International Journal of Drug Policy*, 23(6), 458-464.

Jacobs, B.A. and Wright, R. (2006). *Street Justice: Retaliation in the Criminal Underworld*. Cambridge: Cambridge University Press.

Kenney, M. (2007). *From Pablo to Osama: Trafficking and Terrorist Networks, Government Bureaucracies, and Competitive Adaptation*. London: Penn State Press.

Kruithof, K., Aldridge, J., Décary-Hétu, D.D., Sim, M., Dujso, E. and Hoorens, S. (2016). *The Role of the 'Dark Web' in the Trade of Illicit Drugs*. London: RAND.

Le Cour Grandmaison, R., Morris, N. and Smith, B. (2019). The last harvest? From the US fentanyl boom to the Mexican Opium Crisis. *Journal of Illicit Economies and Development*, 1(3), 312-329.

Luong, H.T. (2020). The organisational structure of transnational narcotics trafficking groups in Southeast Asia: A case study of Vietnam's border with Laos. *Trends in Organized Crime* (online first).

Maher, I. (2018). *Virtual Edgework and Risk-Taking Behaviour: An Ethnographic Study into the Online Subculture of 'Liftblr'*. University College Cork.

Mansfield, D. (2016). *A State Built on Sand: How Opium Undermined Afghanistan*. London: Hurst.

McLean, R., Robinson, G. and Densley, J. (2019). *County Lines: Criminal Networks and Evolving Drug Markets in Britain*. London: Springer.

Myers, S. (2019). China cracks down on Fentanyl. *New York Times*, 1 December.

Merton, R.K. (1938). Social structure and anomie. *American Sociological Review*, 3(5), 672-682.

Morselli, C. and Petit, K. (2007). Law-enforcement disruption of a drug importation network. *Global Crime*, 8(2), 109-130.

Moyle, L., Childs, A., Coomber, R. and Barratt, M.J. (2019). #Drugsforsale: An exploration of the use of social media and encrypted messaging apps to supply and access drugs. *International Journal of Drug Policy*, 63(2), 101-110.

Natarajan, M., Zanella, M. and Yu, C. (2015). Classifying the variety of drug trafficking organizations. *Journal of Drug Issues*, 45(4), 409-430.

NCA (National Crime Agency) (2017) *National Strategic Assessment of Serious and Organised Crime*. London: NCA.

Ormsby, E. (2016). Silk Road: insights from interviews with users and vendors. In EMCDDA (ed.) *The Internet and Drug Markets*. Belgium: EMCDDA.

O'Connor, S. (2016). *Meth Precursor Chemicals from China: Implications for the United States*. U.S.-China Economic and Security Review Commission.

O'Connor, S. (2018) *Fentanyl Flows from China: An Update since 2017*. U.S.-China Economic and Security Review Commission.

Pardo, B. (2018). *Evolution of the US Overdose Crisis: Understanding China's Role in the Production and Supply of Synthetic Opioids*. Santa Monica: RAND.

Pardo, B., Taylor, J., Caulkins, J.P., Kilmer, B., Reuter, P. and Stein, B.D. (2019). *The Future of Fentanyl and Other Synthetic Opioids*. Santa Monica: RAND.

Paoli, L. and Reuter, P. (2008). Drug trafficking and ethnic minorities in Western Europe. *European Journal of Criminology*, 5(1), 13-37.

Pearson, G. and Hobbs, R. (2001). *Middle Market Drug Distribution*. London: Home Office.

Potter, G.R., Barratt, M.J., Malm, A., Bouchard, M., Blok, T., Christensen, A.S., Decorte, T., Frank, V.A., Hakkarainen, P., Klein, A., Lenton, S., Werse, B. and Wouters, M. (2015). Global patterns of domestic cannabis cultivation: Sample characteristics and patterns of growing across eleven countries. *International Journal of Drug Policy*, 26(3): 226-237.

Purvis, W.E. and Gundur, R.V. (2019). The drug trade at a glance. In Mitsilegas, V., Hufnagel, S. and Moiseienko, A. (eds.) *Research Handbook on Transnational Crime*. London: Edward Elgar.

Reuter, P. (2014). Drug markets and organized crime. In Paoli, L. (ed.) *The Oxford Handbook of Organized Crime*. Oxford: Oxford University Press.

Reuter, P. and Haaga, J. (1989). *The Organization of High-level Drug Markets*. Santa Monica: RAND.

Sergi, A. and Storti, L. (2020). Survive or perish: Organised crime in the port of Montreal and the port of New York/New Jersey. *International Journal of Law, Crime and Justice*

Spicer, J. (2019). That's their brand, their business: How police officers are interpreting county lines. *Policing and Society*, 29(8), 873-886.

Storti, C.C. and De Grauwe, P. (2009). The cocaine and heroin markets in the era of globalisation and drug reduction policies. *International Journal of Drug Policy*, 20(6), 488-496.

Storrod, M.L. and Densley, J.A. (2017). 'Going viral' and 'Going country': the expressive and instrumental activities of street gangs on social media. *Journal of Youth Studies*, 20(6), 677-696.

Thoumi, F.E. (2005). The Columbian competitive advantage in illegal drugs: The role of policies and institutional changes. *Journal of Drug Issues*, 35(1), 7-26.

UNODC (United Nations Office of Drugs and Crime) (2018) *Understanding the Synthetic Drug Market: The NPS Factor*. Vienna: UNODC.

UNODC (United Nations Office of Drugs and Crime) (2019) *Understanding the Global Opioid Crises*. Vienna: UNODC.

UNODC (United Nations Office of Drugs and Crime) (2020a). *An Expanding Synthetic Drugs Market − Implications for Precursor Control*. Vienna: UNODC.

UNODC (United Nations Office of Drugs and Crime) (2020b). *Current NPS Threats*. Vienna: UNODC.

UNODC (United Nations Office of Drugs and Crime) (2020c). Myanmar operation results in the largest synthetic drug seizures in the history of East and Southeast Asia. Mekong MOU 1511.

Vorobyov, N. (2020). A new breed of drug dealer has turned buying drugs into a treasure hunt. *Vice*, consulted online at https://www.vice.com/en_uk/article/g5x3zj/hydra-russia-drug-cartel-dark-web

Westoff, B. (2019). *Fentanyl Inc*. London: Scribe.

Windle, J. (2015). Drugs and drug policy in Thailand. In Felbab-Brown, V. and Trinkunas, H. (eds.) *Improving Global Drug Policy: Comparative Perspectives and UNGASS 2016*. Washington: Brookings Institute.

Windle, J. (2016). *Suppressing Illicit Opium Production: Successful Intervention in Asia and the Middle East*. London: IB Taurus.

Windle, J. (2018a). 'He just wasn't the bloke I used to know': Social capital and the fragmentation of a British organized crime network. In Windle, J., Morrison, J., Winter, A. and Silke, A. (eds.). *Historical Perspectives on Organized Crime and Terrorism*. Abingdon: Routledge.

Windle, J. (2018b). Why do South-east Asian states choose to suppress opium? A cross-case comparison. *Third World Quarterly*, 39(2), 366-384.

Windle, J. and Briggs, D. (2015). 'It's like working away for two weeks': The harms associated with young drug dealers commuting from a saturated London drug market. *Crime Prevention and Community Safety*, 17(2), 105-119.

Windle, J. and Farrell, G. (2012). Popping the balloon effect: Assessing drug law enforcement in terms of displacement, diffusion, and the containment hypothesis. *Substance Use & Misuse*, 47(8-9), 868-876.

Windle, J., Moyle, L. and Coomber, R. (2020). 'Vulnerable' kids going country: Children and young people's involvement in county lines drug dealing. *Youth Justice*, 20(1-2), 64-78.

Zaitch, D. (2002). *Trafficking Cocaine: Colombian Drug Entrepreneurs in the Netherlands*. Hague: Springer.

Zimring, F.E. and Hawkins, G. (1999). *Crime is not the Problem: Lethal Violence in America*. Oxford: Oxford University Press.