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Chapter 13

The (online) supply of illicit lifestyle medicines: A criminological study

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Abstract

It is widely argued that the trade in illicit pharmaceutical drugs is a growing and underestimated criminological phenomenon, especially in the context of the ever-expanding market reach presented by the Internet. However, this extensive and ultimately life-threatening online market is under-researched by criminologists. Drawing on the results of an innovative interdisciplinary project exploring the online trade in illicit medicines, this chapter focuses on the supply of illicit lifestyle medicines – or enhancement drugs – in the United Kingdom. The aim is to offer an empirically-grounded social scientific analysis of the nature and dynamics of the trade. The discussion covers the online sites marketing and advertising illicit lifestyle drugs, the channels and networks of production and distribution, and the illicit suppliers and their social organisation. As the argument unfolds the analysis centres on the rise of the Internet as one factor working in conjunction with the non-digital in a dynamic way, along with a variety of interacting transnational structures and processes, to enable the supply of illicit lifestyle drugs in the UK.

Introduction

The global trade in illicit pharmaceuticals is arguably worth billions of dollars and is growing exponentially year on year (see WHO, 2012). The market includes a huge range of counterfeit, falsified, unlicensed and substandard medicinal products¹ with variations in patterns of use and supply determined by the intersecting dynamics of economy, culture and type of healthcare system. In the USA, high consumption of medicines, a hyper-individualised culture and the expensive private healthcare system contribute to increased demand for all manner of illicit pharmaceutical drugs. In the African context a lack of legitimate healthcare increases demand for illicit lifesaving medicines such as antiretroviral drugs and anti-cancer medication (Nordstrom, 2007; Wertheimer and Wang, 2012; Hall and Antonopoulos, 2016). In the UK, where an individualised culture exists in tension with a collectivised and subsidised healthcare system, illicit lifestyle drugs used to enhance performance and image make up a larger market share (Hall et al, 2017; Hall, forthcoming). Counterfeiters and illicit traders have taken advantage of the increasing demand for lifestyle drugs in the UK and other parts of Western Europe to the extent that the consumption of illicit and grey market products is now seen as a significant public health issue (Hall et al, 2017; Koenraadt & Van de Ven, 2017). Indeed, the supply of and demand for various lifestyle drugs has become hyper-normalised in many western contexts, where the boundaries between “treatment” and “enhancement” in healthcare continue to blur (Hall, forthcoming; see also Cook & Dwyer, 2016; Berkowitz, 2017).

We have been researching the market in illicit medicines since 2012, using a number of methodological approaches, including ethnographies in online and offline contexts, to collect rich empirical data on both the supply and demand dimensions of the trade. It is very difficult

to estimate statistically, but our research suggests that anabolic steroids, erectile dysfunction, weight loss and hair loss medicines are the most popular illicit lifestyle drugs currently bought and sold in the UK (see Di Nicola et al, 2016; Hall & Antonopoulos, 2016; Hall et al, 2017; Koenraadt & Van de Ven, 2017). We also uncovered growing markets in illicit sedatives, opioid analgesics, antibiotics, psychiatric drugs, fertility drugs, and stimulants. Our work analysed the complex dynamics of the trade, highlighting the crucial roles played by the hyper-individualisation and commodification of healthcare, the widespread medicalisation of non-medical issues, the appeal of performance and image enhancement, and the development of online pharmaceutical prosumption (Hall and Antonopoulos, 2016). Throughout the research we found that the cultural drivers for the trade's material and financial flows are entrenched in the structures of the global political economy and global supply chains, as well as an evolving technological infrastructure that has supported a huge expansion of the trade (Hall & Antonopoulos, 2016; see also Di Nicola et al, 2016).

The aim of this chapter is to summarise our findings relating to the supply of illicit medicines in the UK. First, we explain the background to the research, offering a brief discussion of the methodology. Second, we discuss our main findings relating to the online supply of medicines, outlining the infrastructure required for this type of e-commerce and the typology of online sites marketing and advertising illicit lifestyle drugs. Third, bearing in mind the need to analyse the physical flows of medicines, we summarise our findings concerning how the trade functions in terms of the channels and networks of production and distribution, including the trade's social organisation on local and global levels. As the argument unfolds the analysis centres on the rise of the Internet as one factor working in conjunction with the non-digital in a dynamic way, along with a variety of interacting transnational cultural, political, economic and technological processes, to enable the supply of illicit lifestyle medicines in the UK.

Methodological note

Our initial research in this area was undertaken as part of a wider project across European Union member states: www.fakecare.com. The overarching aim of the project was to develop expertise on the online trade in falsified medicines by producing and disseminating knowledge, counterstrategies and tools across the EU. The project adopted an interdisciplinary approach, drawing on research and expertise from a range of fields, including criminology, sociology, law, political science, information science, health and medicine. A number of innovative research methods were employed, including virtual ethnographies, the creation of honey-pot websites, web surveys, legal framework comparisons, script analyses of investigative and judicial case files, and web content analyses (see Di Nicola et al. 2016). With responsibility for the UK study, our research centred on the demand and supply sides in order to examine the size, scope, nature and dynamics of the illicit medicine market. The research was primarily qualitative in nature and involved collecting in-depth data using a number of integrated methodological techniques in both online and offline contexts. Some of the findings we discuss here draw upon data collected via the UK-based virtual ethnography and the analysis of investigative and judicial case files collected as part of Fakecare, alongside additional research we have undertaken.

Additional research included an ethnography in a gym in the Northeast of England. The gym setting presented the opportunity to acquire knowledge regarding the “illicit” use and supply of lifestyle drugs, predominantly anabolic steroids, as well as a number of other pharmaceutical products (see Antonopoulos and Hall, 2016). Further observations and interviews (n= 45) were conducted with a range of consumers, suppliers and professionals outside of the gym setting.

In the adoption of an ethnographic approach (see Hall forthcoming), the fieldwork required building rapport in order to observe and experience a social environment alongside research participants over extended periods. Having lived in these locales for a number of years helped us because we have personal networks and key contacts in the areas and felt confident in our ability to have an “immersive experience” (see Desmond 2016; see also Hobbs 1988; Adler 1998; Winlow 2001). Data were also collected from a range of other sources including judicial and investigative case files, statistics from law enforcement and regulatory agencies, interviews with relevant stakeholders and enforcement officers, and secondary media and academic sources. Script analyses of investigative and judicial case files relating to pharmaceutical crime accessed at the Medicines and Healthcare products Regulatory Agency (MHRA) were concerned with some of the largest cases in the UK to date. Each case file included detailed intelligence on the supply of illicit pharmaceutical products, including information on the social organisation of the trade, its financial management, and a range of marketing and advertising tactics adopted by illicit pharmaceutical traders.

Nature and dynamics of the online market

Alongside the UK’s role as an important transit hub in the global illicit pharmaceutical supply chain, an active end-user market exists that is increasingly facilitated by the Internet. During our initial exploration of the online trade in illicit medicines we found that the Internet plays a range of roles. Electronic transfer of money, online banking and shopping, the ease and affordability of building a website, the expansion of user-generated content and the sheer number of people now online are all factors that have expanded and proliferated a number of business-to-business (B2B), business-to-consumer (B2C) and consumer-to-consumer (C2C) marketplaces with huge market reach. Our research sought to examine the distinct nature and

dynamics of the online market in the UK, which allowed us to build a typology of the sites, services and platforms used to advertise, market and sell illicit medicines online (Hall & Antonopoulos 2016).

Combining data from our virtual ethnography with data from law enforcement and private stakeholders, we found a number of online tactics and techniques used to market and advertise illicit medicines online. These include the use of online marketplaces, peer-to-peer (P2P) networks, BitTorrent index/Tracker websites, one-click host downloads, online mail order and social media link-sharing/posts (Anaman 2014). Some of these are also used for communication between suppliers involved at various stages in the supply chain. The following sections categorise and describe the main B2B, B2C and C2C platforms and sites used to market illicit medicines online, although it is worth mentioning that they can require the use of a range of software and communications protocols.

Online pharmacies

The primary sites for medicine supply online in the UK are Online Pharmacies (OPs). OPs are pharmacies that operate over the Internet and post their products to consumers via a shipping company or the postal service. There are various types of OP, all with a disembodied global mode of operating that constantly blurs the distinction between legitimate and illegitimate trade. A variety of indicators show whether OPs are acting outside the law. Most offer prescription-only medicines (POMs) without a prescription, whereas others offer forged online prescription services which simply ask the customer to “virtually discuss” their supposed health concerns with someone posing as an online doctor. Some are transparently illegitimate on many fronts, yet still maintain a customer base. In the data we found countless OPs offering POMs

that did not require a prescription. Other obvious ways to tell if an OP is illegitimate is the concealment of its physical address and the webpage's connection to specific web-hosting services that are more likely to be implicated in the trade.

During the course of the virtual ethnography a variety of styles and idiosyncrasies were found. A large percentage of illegal OPs that claim to be UK-based are based overseas in order to bypass the UK's legal restrictions. Some sites were noticeably cheap and rogue. Most large-scale illegal OPs were found through a redirect from a page unrelated to the trade, followed by another redirect transferring the consumer to an online merchant trader to pay by credit card. However, we found instances where OPs offered payments via MoneyGram, PayPal or Western Union, some even direct into a seller's bank account. Some solely sold drugs used to treat erectile dysfunction, others a range of lifestyle and lifesaving drugs, and others were initial points of contact before email discussions were generated and full product/price lists offering an entire range of drugs, including pharmaceuticals and new research chemicals. These often included "special deals" on large quantities of specific drugs and offered delivery options and "agents available" in a number of countries.

Social media sites

The use of social media link-sharing and posting by illicit medicine traders is on the rise. Social media sites, particularly Facebook, are used as online sites for the supply of illicit medicines. Connections between seller and buyer are forged via friends' lists and Facebook groups affiliated to prescription drugs or linked to subcultures wherein prescription drug use is prevalent. Friends tend to post stock available directly on their walls or on the page of a group, often with photographic evidence of the product alongside their names and the date. Virtual

“word of mouth” can play an important role in terms of establishing, assuring and circulating the legitimacy of a seller and quality of the service on offer, especially as users are concerned about becoming victims of “scams” and subsequently being defrauded. Some actors use a variety of social networking sites to advertise their products. We also found evidence of illicit medicines for sale via sellers who post on sites such as Instagram and Twitter.

Often there is no clear demarcation between users and suppliers involved in advertising and marketing lifestyle drugs via social media sites, which emphasises a process of digital prosumption emerging in pharmaceutical trading where consumption and production have melded (Hall & Antonopoulos, 2016; see also Beer and Burrows, 2010). Furthermore, although further research is required, the data suggest illicit lifestyle drug traders now use programmatic advertising, which serves up automatic advertisements to meet the demands of consumers via algorithms (Hall & Antonopoulos, 2015).

In a similar vein, online forums have been identified as critical and strategic discussion platforms facilitating what Woerndl et al. (2008) call “viral marketing”: transmitting messages and information about products quickly to a wide audience. This can be manipulated by criminals involved in the trade who pose as consumers. Furthermore, virtual specialised forums are not only spaces in which illegal entrepreneurs identify (and persuade) potential customers to purchase medicines for medical conditions that concern them, but also in which customers often collectively discuss their pharmaceutical consumption online without such persuasion. Forums have also emerged in the form of what Soudijn and Zegers (2012) call “convergence setting” for criminals; locations in which potential collaborators may meet one another. Hence,

Internet-based forums provide access to large numbers of consumers situated globally *and* offer opportunities for criminal entrepreneurs to connect with one another.

Email, spam and web manipulation

Email also plays an essential role in the illicit medicine trade. Often a relationship between buyer and seller forged via an OP or social media site is maintained in a subsequent email discussion. During the ethnographic research numerous introductions to sellers made via social media were continued by email discussion. Another way illicit pharmaceutical suppliers promote their business and merchandise online is through the use of spam emails. Some spam emails are used to send links to OPs or details of a seller directly. The practice of using spam emails is often used in conjunction with web manipulation. This method allows suppliers to infect websites by triggering active redirects to illegal online pharmacy sites (Science Daily, 2011). Affiliate and sub-affiliate networks play a crucial role in this process. An affiliate network is constructed either by entrepreneurs who are responsible for a number of websites illegally trading in medicines; often the websites have a very similar if not identical template, or by the use of “affiliates”, whereby businesses operating OPs pay commercial entities commission to surf the web and set up clone pages or to post a URL link on their site to the pharmacy. In other words, individuals or affiliate programs run by individuals post links to OPs on various online sites (DeKieffer 2006: 9).

Online wholesalers and classified advertising

Alibaba is one of the largest e-commerce markets in the world, so big that in 2012 the site processed the selling of more goods than Amazon and eBay combined (The Economist 2013). This particular e-commerce company operates B2B, B2C and C2C services. We found large

quantities of powdered active pharmaceutical ingredients under their generic names and the equipment needed to press pills at home for sale. TradeIndia, an online Indian-based B2B portal, was another large online marketplace illegitimately offering direct sales of pharmaceutical products under patent in the UK. We found direct evidence of a seller on Facebook who was supplied by a TradeIndia seller. Furthermore, we found classified advertising via such sites as Craigslist being used to sell smaller quantities of illicit medicines, mainly in the “Health and Beauty” section.

Darknet markets

There has been growing media and academic attention placed on the role darknet markets play in drug distribution (Christin, 2012; Martin, 2014). Darknet markets use overlay networks that can be accessed only by using specific software designed to offer further anonymity to buyers and sellers. This offers a near-perfect opportunity for dealers of illicit pharmaceutical drugs to trade online with lower risk of detection. These “anonymous” networks with layered encryption are more difficult for authorities to monitor. One of the largest networks operating on the dark web is Tor, an acronym for The Onion Router, which is designed for online anonymity and offers layered encryption to buyers and sellers. It is a network designed to pass IP addresses and web transactions through numerous relays, using random and anonymised URLs in order to conceal users’ locations and Internet activities. Once Tor is accessed, a buyer and seller can trade in various digital currencies, such as Bitcoin, and use data encryption and decryption tools, for example, PGP encryption, to encrypt and decrypt messages. Darknets can also include P2P networks, which are also heavily implicated in the illicit medicine trade (see Anaman 2014). Our research found numerous sellers of prescription-only medicines, steroids and other

illicit drugs on darknet marketplaces but this should not deter attention away from the large trade being done on the surface web (Van de Ven and Koenraadt, 2017).

Glocal supply chains: channels and networks of pharmaceutical production and circulation

It has been argued that in the context of the online trade in illicit medicines too much emphasis is placed on cybercriminals and online trading companies at the expense of appreciating how the trade functions in the “real” world (Guarnieri and Przyswa 2013). Therefore, alongside researching the evolving technological infrastructure, it was important for us to examine the complexities of the illicit pharmaceutical supply chain and the physical flows of illicit medicines globally. This section will summarise our findings relating to the channels and networks of production and circulation, including a discussion of the trade’s social organisation.

Our research found that the trade in illicit medicines is fully embedded in the late-capitalist global political economy and the blurred boundaries between legal and illegal economies. Made up of a range of legal, illicit and grey area products, the global market in lifestyle drugs is a prime example of a booming trade that is entrenched in the extra-legal and widely dispersed in space (Nordstrom, 2007; Hall & Antonopoulos, 2016). The legal status of a pharmaceutical product is spatially contingent on various legal and regulatory frameworks that depend on the category and origin of the drug and the geographical location in the global commodity chain in which it is sold and consumed. Specific politico-legal and economic structures and institutions have expanded the opportunities for actors involved in the supply of illicit medicines, sometimes facilitating and encouraging the trade. For example, our research exposed the

crucial facilitating roles played by the use of special economic zones (SEZs), historically established trade routes and parallel trading practices (Hall & Antonopoulos, 2016).

Hubs of production and distribution

It is generally understood that the trade in illicit medicines follows a common pattern from production and distribution through to consumption. The trade is widely dispersed in geographical space, and the products are manufactured and packaged, often in stages, before being transited and distributed through a variety of trade routes in a complex supply chain. Production centres are to be found mainly in South and East Asia (particularly India and China), Russia, and Latin America. The rise of newly economically advanced countries offers distinct economic advantages in terms of the production of medicines. In China and India manufacturing costs are as much as 40 per cent cheaper than competitors in other states because of the relative affordability of labour and resource price differentials. These countries are major commercial platforms where counterfeit products have been historically produced. The large existing legitimate pharmaceutical industries producing generic and branded products in these countries also offer opportunities for counterfeit operations, which are sometimes illicit operations running alongside legitimate production and distribution processes. There are various organisational scales of production (see Yar 2008). They range from small-scale operations running from an individual's home, through medium-scale operations including legitimate factories functioning counterfeit operations at night, to large-scale industrial illicit operations or clandestine factories. There are also various and distinct stages in production: the chemical production of APIs, pill pressing, packaging, repackaging and so on. Usually, raw materials/APIs are produced in China and India, but sometimes these materials are then "smuggled" through porous borders into countries in Africa, Latin America and Eastern Europe

for secondary production, which includes pressing pills and packaging. Packaging is of utmost importance, especially for products targeting countries in the Global North. Processes of packaging and repackaging are located in various geographic locations, sometimes in SEZs such as free ports that lie *en route* as the products are in transit. These designated zones offer spaces with the least resistance in terms of policing, with reduced or removed tariffs and duties and relatively lax customs controls. They offer the ideal spaces in which to repackage, conceal and smuggle illicit medicines (Hall and Antonopoulos, 2016).

As Wertheimer and Wang point out, the trade in pharmaceuticals includes “several intermediaries”, which “increases the opportunities for counterfeiters” (2012: 41). The use of shell companies and the Internet and e-commerce in the distribution process is significant (see IRACM 2013; Yar 2008, discussion above). However, in terms of physical flows between the chemical manufacturer, the pharmaceutical producer and the importer country we can find a number of points of transit and distribution, which, with parallel trade in the EU internal market, also means that various avenues are opened up for trade in illicit medicines once products reach the EU. Our evidence suggests that parts of the Middle East, Central and Eastern Europe, and Africa are active hubs of transit and distribution significantly implicated in the illicit medicine trade. For example, a large number of SEZs in Nigeria and the UAE have been implicated in the illicit medicine trade. These are ideal locations for counterfeit products to be placed in transit before being distributed around the globe. With the arrival of the final stage of globalisation in the late twentieth century, containerisation became a popular means of transiting goods but also a particularly popular way of concealing and smuggling counterfeit products. The Middle East, the UAE—and Dubai in particular—offers way stations for goods moving around the globe (Bogadich 2007). Since most of the shipments do not officially enter the country, there are fewer bureaucratic entanglements. In the emirates’ zones, the usual

requirement for local ownership of companies is waived, and there are no import and export fees or income tax (Bogadich 2007). The products are then passed through a multitude of distribution channels before reaching their destinations. The supply chain of a batch of illicit medicines may start in China and be transited in Dubai before heading through Caribbean island states to the USA, to Europe and back again before landing in the UK. These distribution channels vary and take advantage of porous borders and container-based shipping. Counterfeiters are aware that the longer the distribution chain, the harder the products are to detect.

The trade's social organisation

As we have seen, the online trade in illicit medicines can involve a number of online sites and services to market products and maintain financial flows, as well as a range of channels and networks formed around distribution and production. However, who are the actors involved in the supply and how are they organised? As we touched on above, a number of actors and various operational structures are involved in the processes of manufacturing, formulating, distributing and selling illicit pharmaceuticals. Functional roles range from obtaining raw materials, primary manufacture of APIs, formulation of APIs (drug synthesis) including pressing and coating, and packaging and repackaging, to marketing, advertising, online selling and transportation of the final products. In order to manufacture illicit medicines actors must produce or obtain both the APIs and the packaging that is comparable to popular branded products (Wertheimer and Wang 2012: 2). For large-scale operations this requires a skilled workforce and plants/factories with necessary equipment for the various stages of the production process, and a team of people involved in the distribution of the products both

online and offline from chemical engineers and internet service providers to transportation intermediaries and corrupt officials (see Hall & Antonopoulos, 2016 for a full list).

At retail level organisational models vary in scale, the time they have been involved in the field, and whether or not they are operating online (Guarnieri and Przyswa, 2013). We have found instances of various models, working across different sites, scales and networks including businesses trading exclusively offline, those having originally been involved in the trade offline moving online, and businesses that focus their skills exclusively in the virtual world. As the Internet has developed across the globe, we can begin to see a changing dynamic in criminal organisation and the counterfeit trade. We have found that the actors involved do not form “transnational criminal organisations” working collectively and constantly, although these types of organisation may become involved at some point. Instead, the organisational models run on a continuum and form dispersed and adaptable networks of actors and organisations often lying at the margins of legitimacy (Treadwell, 2011). Overall, there are various structures and scales of operations: some are larger criminal collectives with international links often embedded in legitimate businesses, others small-scale locally based groups or individuals.

Actors using social media can be small-scale amateur sellers, sometimes also users of prescription drugs; a “virtual” role that seems to mimic the “real” street-level dealers involved in illicit drug distribution. For example, in the steroids market in particular a loose social organisation of supply was evident among user-sellers. This revolves around individuals who are regulars in gyms and participants in the bodybuilding/power-lifting/fighting scene, who consume and sell steroids primarily to friends and other bodybuilders (Antonopoulos and Hall,

2016; Van de Ven and Mulrooney, 2017). This trend of “social supply” has been identified in other substance markets (see, e.g. Pearson and Hobbs 2001; Chatwin and Potter 2014; Moyle and Coomber 2015). Previous research has shown some cases of high-volume traders selling in teams linked to operations running thousands of affiliate sites as part of wider drug supply schemes (Siva 2010). As we have highlighted, the use of affiliate and sub-affiliate networks can play a significant role in these operations where similar templates are used and users redirected to the webpages from a variety of online searches. However, as Van de Ven and Koenraadt’s (2017) work emphasises, this does not necessarily mean these dealers are not social suppliers.

Therefore, the organisational structures of the actors involved are best understood in terms of flexible networks. Criminals involved in the trade form complex and often hard-to-detect networked structures. Links are made between actors involved in both offline and online activities related to the trade at various operational stages and in different geographical locations. These connections can form information networks, manufacturing networks and (sub)networks within networks. These fluid networks of actors are working in the context of global trade liberalisation and the rise of the Internet and e-commerce (Hall and Antonopoulos, 2016). Strategic planning is practiced, but operations and networks at times appear to be unstructured. In the context of outsourcing in the pharmaceutical industry, the trade utilises a number of third parties in the process of manufacturing APIs and packaging, usually operating in countries “that are politically stable and have cheap and skilled labour and a favourable tax regime” (Satchwell 2004: 9). As Satchwell points out, this process “involves the sharing of valuable information about the exact design and construction of drugs”, which counterfeiters use to produce illicit medicines (2004; 9). Wertheimer and Wang label these “inferior ghost factories”, typically legitimate operations running an illegitimate sister company during the

night (2012: 2). This is not just a case of an illegal trade emerging in the shadows of a legal trade, but of the boundaries between legal and illegal businesses becoming blurred in various stages of the production and distribution process.

Furthermore, while in many cases the activities of counterfeiters can be seen in light of the literature on “transnationalism”—in as much as they encompass a multiplicity of interactions and linkages of individuals and institutions across the borders of nation states—they also have national and local manifestations, with communities and criminals positioned globally in order to maintain the smooth running of a complex supply chain. As Hobbs (1998) notes, flexibility and adaptability of criminal practices are necessities in an era of unfettered global capitalism, but transnationalism should not detract from situated locales and local interests. Therefore, modern criminality lies at the dialectic between the global and the local. More recently, and specifically in the context of counterfeiting and cybercrime, Treadwell supports this contention: “The commonly held perception of both types of offending suggest that it is controlled by organised criminal syndicates, yet clearly such crime likely runs a continuum from the macro level of the sophisticated counterfeiting cartel through to the micro level of neighbourhood and localised criminal actors” (2011: 177). This seems to suggest that an appropriate analytical framework can be found in the work on *glocalisation*, in which an attempt is made to “recast” global processes as existing on various yet simultaneous “spatial scales” (see Swyngedouw, 2004: 25).

In the context of the online trade in illicit medicines, we have found the local to be of significance in terms of tracing the activities of individual criminal entrepreneurs, and in contextualising small-scale operations in spaces connecting producers, distributors and

consumers positioned in different national and local settings. However, we have also witnessed a heightened degree of anonymity offered by virtual spaces that has weakened this sense of locale. Alongside the Internet and e-commerce, modern postal and transport systems and the deregulated conduits of global trade have now compressed spatial and temporal features of criminal markets in the field of commercial transactions. Some criminal actors involved in the trade—although they function in collaboration with networks of other actors—never physically meet their suppliers or customers and exchange data and facilitate financial transactions from the privacy of their own homes. These individuals and groups can then build flexible underground networks with ease (see Castells 2010). Moreover, commodities move freely through liberalised and unrestricted spaces. Here, we found it important to identify the role of legitimate businesses and abstract processes of the global political economy. After all, transnationally, nationally and/or locally manifested criminal activities do not exist in a vacuum, but accompany overarching processes of neoliberal globalisation (Hall, 2012).

Conclusion

This chapter summarised our research on the illicit medicine market. It explored the distinct characteristics of the market in the UK, which acts as both a transit zone and consumer hub targeted by suppliers looking to cash in on the relatively lucrative end-user market in illicit lifestyle drugs. The chapter examined the Internet infrastructure required to trade in illicit medicines online, which comprises a number of tools, services and tactics, including an increasingly significant role played by user-generated content. The chapter then examined the dynamics shaping the physical flows of illicit medicines in the UK and around the world. Our research explored the political economy of supply, which exposed the main production hubs, historically established criminal distribution channels and networks, and the formation of

global SEZs, which combine to play an important role in the global supply of illicit medicines. The chapter finished by summarising the social organisation of the illicit medicine trade, highlighting the key actors involved in the trade, their motivations, how they are organised and how the trade can be conceptualised as a by-product of the legal industry with both global and local, online and offline dimensions.

The few existing analyses of pharmaceutical falsification tend to associate the trade with “organised crime”. However, the limited focus of mainstream accounts frequently omits the crucial facilitating components of the structures and processes of the global political economy, the simultaneous global and local manifestations of the crimes, and the often “disorganised” and fluid patterns and routes through which these activities take place. Instead—along with evidence of a diverse and flexible nature to the types of criminal organisation involved in the online trade in illicit medicines—this chapter has shown that the supply of illicit medicines is entrenched in global variations in IPR, the blurred boundaries of the legitimate and illegitimate pharmaceutical industries, the global free market and transnational trade relations (Hall and Antonopoulos, 2016).

Although our research focuses specifically on the online trade, we have found the online and offline elements of the trade are inextricably linked. The communications revolution and the ensuing global reach of the Internet has facilitated a huge expansion in opportunities for geographically dispersed criminal actors involved in the illicit medicine trade. Not only marketing and selling, but production and distribution processes are facilitated by the Internet, e-commerce and modern ICTs. However, as we have shown, the channels and networks of the physical flows of illicit medicines are just as significant to our analysis, from the use of SEZs

and modern transport facilities, to the simultaneous global, national and local scales in which these processes occur (Hall and Antonopoulos, 2016). Overall, the supply of illicit medicines is embedded in inseparable and interrelated political forces, economic processes and technological advancements that blur the boundaries of legality, but it is also socially and culturally rooted, requiring the formation of networks of actors situated on a range of sites.

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¹ The term "counterfeit" medicines relates to products that infringe intellectual property rights; "falsified" medicines encompass all pharmaceuticals falsely claiming to be an authentic product; "substandard" medicines are genuine products that do not meet national regulatory standards; and "unlicensed" pharmaceuticals can be generic or branded products legally produced abroad yet sold in a country with different licensing agreements in order to by-pass existing intellectual property laws and patents (see Hall and Antonopoulos, 2016). To overcome this definitional confusion, in the current paper we use the term 'illicit medicines' to encompass all types of counterfeit, falsified and illegal traded pharmaceuticals. Therefore, this term includes the trade in adulterated and counterfeit medicines as well as medicines sold without a license.