

The illicit medicines trade from within. An analysis of the demand and supply sides of the illicit market for lifestyle medicines

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The illicit medicines trade from within

An analysis of the demand and supply sides of the illicit market for lifestyle medicines

De illegale geneesmiddelenhandel van binnenuit
Een analyse van de vraag- en aanbodzijde van de illegale lifestyle
geneesmiddelenmarkt
(met een samenvatting in het Nederlands)

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Abstract

Although the existence of illicit medicines is not new, all sorts of these medicines, ranging from antibiotics to weight loss drugs, antimalarial tablets to steroids, are increasingly traded worldwide. As the illicit medicines market is associated with considerable health risks for its users, it is important to gain extensive criminological insights into this global market. Previous studies have expressed concern regarding a perceived growing degree of criminal organization, but, with a few exceptions, little criminological research has been conducted on the nature and dynamics that actually take place on the supply and demand sides of the illicit pharmaceutical market.

The current thesis aims to engage directly with these perceptions as it fills gaps in the literature, by providing in-depth and empirically grounded theoretical insights on the online and offline trade in illicit pharmaceuticals, with particular reference to lifestyle pharmaceuticals. Trade in the Netherlands and manufacturing in China are taken as extended case studies. The main focus lies on the structure, dynamics and activities of actors on both the demand and supply sides of the illicit medicines market in the Netherlands, and on the production and transnational distribution of illicit medicines in and from China. The central research question of this thesis is: how are actors involved in the illicit medicines trade, and how is the illicit market structured.

Chapter 1 introduces the topic of illicit medicines, and the global variation of illicit medicine markets. In *Chapter 2*, an integrated theoretical model is presented. This model incorporates the strengths of several disciplines, including cultural criminology, economic sociology and the sociology of health. *Chapter 3* outlines the methodology of the study, including the use of interviews, analysis of court cases, a survey study and an online analysis. In *Chapter 4*, an overview of the types of illicit medicines being consumed in the Netherlands, and a profile of consumers is provided. *Chapter 5* continues with an in-depth analysis of the motives, perceptions, risk management and social identities of the consumer groups in the Netherlands. In *Chapter 6*, the retail level of the supply side in the Netherlands is analyzed, while in *Chapter 7*, the social organization of the Dutch market is examined. In *Chapter 8*, the role of China as a manufacturing country and distributional departure point in the illicit medicines trade is analyzed. *Chapter 9* offers conclusion and a discussion of further research that could use the current work as its foundation.

Based on analysis of the survey study, it is estimated that 1.6% of the Dutch population has purchased illicit medicines online at least one time, and 2.4% of the population has purchased illicit medicines offline. Consumers may purchase illicit medicines out of convenience, financial considerations, shame or embarrassment. The empirical data show that an important group of consumers turns to illicit sources primarily because they take medicines for recreational, hedonistic and/or enhancing purposes. Some of these customers are well aware that their behavior, at best, occurs in a legal grey area, while others are genuinely aware that they may be exposing themselves to health risks. It is therefore important to distinguish between deceived and non-deceived consumers of illicit medicines; this distinction is associated with important differences in motives for consumption, risk perception, risk management and feelings of shame or failure.

On the supply side, the illicit medicines market can be characterized by the blurred boundaries between legitimate, semi-legitimate and illegitimate trade. The distinction between on- and offline trade also is surprisingly blurry. Suppliers employ several methods that both rely and compete with the legitimate medicines market, as well as compete with other illicit suppliers who are active in the market. Consumers and suppliers alike engage in various forms of risk minimization in order to obtain an acceptable balance between anonymity, deceit, trust and privacy. In addition, the illicit medicines trade is characterized by low entry barriers, especially through online distribution channels. Hence, although the market has been portrayed as one that organized crime groups control on a large scale, the data from this study show that there is a large continuum of suppliers, traders and sellers that are involved in the market, which makes the trade in illicit medicines rather unorganized, with shifting roles and highly flexible networks.

List of abbreviations

ACTA	Anti-Counterfeiting Trade Agreement
API	Active Pharmaceutical Ingredient
B2B	Business to Business
B2C	Business to Customer
BMI	Body Mass Index
C2C	Customer to Customer
CFDA	China Food and Drug Administration
CIBG	Central Information Unit on Health Care Professions
CITES	Convention on International Trade in Endangered Species
CNS	Central Nervous System
DSM	Diagnostic and Statistical Manual of Mental Disorders
ED	Erectile Dysfunction
FDA	Food and Drugs Administration
FIOD	Fiscale Inlichtingen- en Opsporingsdienst (Information and Investigation Service)
GMP	Good Manufacturing Practice
HED	Human Enhancement Drug
IGZ	Inspectie voor de Gezondheidszorg (Health Care Inspectorate)
IPR	Intellectual Property Rights
IMPACT	International Medical Products Anti-Counterfeiting Taskforce
KvK	Kamer van Koophandel (Chamber of Commerce)
LIMS	Laboratory Information Management System
NPS	New Psychoactive Substances
ODM	Original Design Manufacturer
OEM	Original Equipment Manufacturer
OM	Openbaar Ministerie (Public Prosecution Service)
OP	Online Pharmacy
OTC	Over The Counter
POM	Prescription-Only Medicine
RIVM	Rijksinstituut voor Volksgezondheid en Milieu (Dutch National Institute for Public Health and the Environment)
SFK	Stichting Farmaceutische Kengetallen (Foundation for Pharmaceutical Statistics)
TCM	Traditional Chinese Medicine

TRIPS	Trade Related Aspects of Intellectual Property Rights
UNODC	United Nations Office on Drugs and Crime
WCO	World Customs Organization
WHO	World Health Organization
WTO	World Trade Organization

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Chapter 1

Introduction and background

In 2012, the Dutch court jailed two brothers for one and two years, respectively, for their involvement in the illegal pharmaceutical trade. The brothers were primarily involved in the wholesale import and retail of effective, yet hazardous slimming pills. They also sold falsified erectile dysfunction medicines that were imported from China and India, online to customers in the Netherlands (IGZ, 2013). In February 2014, French customs found a container with a total of 2.4 million fake aspirin and erectile dysfunction tablets originating from China (Huet, 2014), while in Germany, a group of five was arrested in September 2015, after 3.5 million doses of illicit lifestyle medicines were confiscated with an estimated value of more than 14 million euro (IRACM, 2015).

These are just a few of the many and diverse cases of worldwide trade in illicit medicines. Generally, the whole chain from production to consumption of pharmaceuticals is strictly regulated at both the national and international levels, but in recent years, it has been suggested that a global trade in all sorts of falsified and otherwise illicit (such as counterfeit, adulterated and unlicensed) medicines¹ is flourishing. Estimates suggest that such trade generated a yearly turnover of 75 billion dollars in 2010, which would represent a 90% increase since 2005 (Trent & Moyer, 2013; Blackstone, Fuhr & Pociask, 2014; IRACM, 2013; WHO, 2012).

The existence of counterfeit medicines is by no means a new phenomenon. The World Health Organization (WHO) stated that forms of falsified drugs have been found in antiquity, as writings in the fourth century BC already warn of the risks of adulterated drugs, while in the first century AD, a Greek physician identified falsified drugs himself (WHO, 1999). In addition, falsified herbs have been found in the 1600s, falsified quinine was discovered in the 1800s, and illicit penicillin was found in Vienna in 1948 (Wertheimer & Wang, 2012). Roger Bate (2008) argues that illicit pharmaceuticals are primarily circulating since the nineteenth century, when technological innovations enabled criminal entrepreneurs to get involved in those falsified goods that offered the most lucrative opportunities with minimum legal risk. The WHO first raised awareness of problems associated with falsified and illicit medicines in 1958

¹ See next paragraph for definitions on illicit medicines

and officially started to take measures since the 1980s (Wertheimer & Wang, 2012: 1). Although the phenomenon of falsified and illicit medicines is thus nothing new, it is suggested that the illicit trade has increased steadily over the last decades (Trent & Moyer, 2013; IRACM, 2013).

In recent years, all sorts of illicit medicines worldwide, ranging from antibiotics to weight loss drugs, antimalarial tablets to steroids, are traded and sold through official, as well as unofficial on- and offline sources, all potentially putting their users at risk. While many of these medicines are purchased for the treatment of a disease, patients who consume falsified medicines cannot be certain that the active ingredients, side effects and medical outcome will match what is written on the label (WHO, 2012). Falsified medicines can contain effective ingredients, but it is also possible that hazardous substances are added, or that the medicines contain no active ingredients at all (Fernandez, Green & Newton, 2008). By means of expanding online trading opportunities, the combination of low risk, high profit and difficulties in enforcing the transnational trade in medicines, it is suggested that the illicit medicine market currently attracts a wide range of criminal actors and organized crime groups (Attaran, Bate & Kendall, 2011; IRACM, 2013).

As the illicit medicines market is associated with high revenues, characterized by a growing degree of criminal organization, considerable health risks for its users, but also with a wide range of contrasting interests of stakeholders in the legal pharmaceutical industry, it is important to gain extensive criminological insights in this global illicit market. For example, a lot of diversity exists in the types of medicines traded, its users, the associated health risks, profits made, suppliers involved as well as the overall structure of the illicit medicine market. However, apart from a few exceptions (e.g. Lavorgna, 2014; Hall & Antonopoulos, 2016), little criminological research has been conducted on the nature, dynamics and methods used to control the illicit pharmaceutical trade. Although extensive research on the demand and supply of all sorts of illegal drug markets exists, in the field of criminology this particular market has been largely neglected (Yar, 2008). In addition, the available reports and studies on this topic primarily rely on quantitative measures on the scale of the market (IRACM, 2013; UNICRI, 2012; Attaran et al., 2011).

Therefore, this study aims to fill the gap in literature by providing a critical and in-depth empirical study on the illicit market for pharmaceuticals, taking the manufacturing level in China and the trade in the Netherlands as a case study. The main focus lies on the production of illicit medicines in China, and the structure, dynamics and activities of actors within the demand and supply of the illicit medicines market in the Netherlands. In particular, the illicit and online trade in popular lifestyle medicines will be taken into account. To begin with, in this introductory chapter, I review the contextual literature that I used to develop my research questions. The aim of this chapter is thus to analyze the available literature on illicit medicines trade that have set the scene for the focus and research questions of this study. At first, the definitions, the associated

risks of the trade and the global division of illicit medicines are outlined. After those first three sections, the role of the internet, the organization of the illicit medicines trade and the specificities of lifestyle medicines are deliberated on. In the final section of this chapter, the research questions and outline of the rest of the dissertation are presented.

1.1 Definitions of falsified, counterfeit, substandard or illicit medicines

People worldwide consume medicines, which can generally be defined as:

- i) [A]ny substance or combination of substances presented for treating or preventing disease in human beings or animals;
- ii) any substance or combination of substances which may be administered to human beings or animals with a view to making a medical diagnosis or to restoring, correcting or modifying physiological functions in human beings or in animals is likewise considered a medicinal product (Directive 65/65/EU).

In Europe, legal medicines are produced, distributed and sold under strict regulations in order to guarantee the quality, safety and efficacy for their users (Rägo & Santoso, 2008). The pharmaceutical supply chain is composed of manifold processes, operations and organizations that are involved in different transnational levels of the chain. These levels include the research and discovery phase, testing phase, development and manufacturing processes, and the final stage of distribution and sale of medicines (Shah, 2004). Within legal pharmaceutical supply, medicines need to be produced under Good Manufacturing Practices (GMP), which means adhering to specified production and testing processes as well as following regulations regarding distribution, storage, and finally retail sale (Directive 2011/62/EU; Directive 65/65/EU).

However, at every stage of the supply chain, a wide variety of illicit medicines can be identified, such as counterfeit or falsified medicines, adulterated medication or illicit generics. But while in the recent decade illicit medicines have received greater attention by law enforcement and health organizations, an ongoing definitional debate has evolved (Wertheimer & Wang, 2012: 2; Hall & Antonopoulos, 2016). In this study, the umbrella term of *illicit medicines* will be used, which includes all medicines that are not produced, traded or sold according to national or international regulations, regardless of the level of supply. For clarification and identification purposes, in the following parts the most important definitions and their differences will be outlined.

The most widely used term for an illicit medicine is that of a *counterfeit medicine*, developed by the WHO. According to their definition, counterfeit drugs are medicines that are:

- [D]eliberately and fraudulently mislabeled with respect to identity and/or source. Counterfeiting can apply to both branded and generic products and counterfeit products may include products with the correct ingredients or with the wrong

ingredients, without active ingredients, with insufficient active ingredients or with fake packaging (WHO, 2012).

In legal terms, this definition of counterfeiting thus refers to a violation of intellectual property rights (IPR) that are held by the owners of copyrights, patents, and trademarks. While for goods such as clothes or watches, the effects are primarily financial and economic, in the case of counterfeit medicines, the effect extends to matters of health, which is what makes the counterfeiting of medicines problematic and qualitatively different than other counterfeit products (Clift, 2010). While the WHO definition provides the opportunity for companies with branded medicines to defend themselves against counterfeiting of their products, this definition does not take the public health problem into consideration, while generic manufacturers are not able to use this approach (Newton et al., 2008; Degardin, Roggo & Margot, 2014). In addition, with the inclusion of the words “deliberately and fraudulently mislabeled”, the WHO definition of counterfeit medicines emphasizes the intent to deceive, which is often difficult to prove and prosecute (Buckley & Gostin, 2013).

Some scholars suggest that the term *counterfeit medicines* should be used only in cases where the crime involves infringement of intellectual property rights, whereas medicines that pose a public health concern should be associated with two other categories: *falsified drugs*, whose labels misrepresent the medicines’ identity, source, or both, and *substandard drugs*, whose contents fail to meet national quality requirements (Buckley & Gostin, 2013). *Substandard medicines* are generally referring to authentic medicines that are produced by manufacturers accredited by national authorities, but that do not meet the quality specifications set by national standards (IRACM, 2013). Clearly, the definition of illicit medicines is contested, and these products are sometimes described with language that frames the phenomenon exclusively as a public health problem (ibid.). As a result, the European Medicines Agency currently prefers to use the term *falsified medicinal products*, which they define as:

[A]ny medicinal product with a false representation of: (a) its identity, including its packaging and labelling, its name or its composition as regards any of the ingredients including excipients and the strength of those ingredients; (b) its source, including its manufacturer, its country of manufacturing, its country of origin or its marketing authorization holder; or (c) its history, including the records and documents relating to the distribution channels used (Directive/2011/62).

A more recent term being used by the WHO is the Substandard, Spurious, Falsely labelled, Falsified and Counterfeit (SSFFC) Medical Products, while other definitions of medicines of dubious quality include *unlicensed medicinal products* (MHRA, 2014), *unapproved medicines* (FDA, 2014), or *illicit medicines* (Hall & Antonopoulos, 2016). Unlike the definitions of counterfeit or falsified medicines, which include the production of medicines of low quality,

the terms just mentioned above may also refer to medicines that are potentially produced according to national regulatory guidelines and supervision, but are then sold to customers in countries with more stringent health care regulations and policies. Included in this category are *illicit generics*, which are legally produced in one country, but illegally trafficked to another. In addition, a new set of illicit medicines includes *adulterated food supplements* (Venhuis et al., 2011). Whereas these medicines do not hold a medical claim and pretend to be based on natural substances, they nonetheless contain active pharmaceutical ingredients or experimental substances that may have pharmacological effects (ibid.).

Thus, a wide variety of definitions are being used to describe medicines of low quality that put their users at risk, as well as unlicensed and sometimes adulterated medicines that are sold illicitly. While these words *counterfeit*, *falsified*, *substandard* and *illicit* are often used interchangeably with regard to medicine, no consensus over the exact definition has emerged, nor is there agreement among various stakeholders who view the phenomenon as problematic as to how the phenomenon ought to be approached (see section 1.4). Yet, as this study primarily concerns a criminological analysis of the illicit trade, sale and methods of transportation, rather than the exact content and health risks of the consumed pharmaceuticals, the focus here is on illicit medicines in general. Counterfeit, falsified and substandard medicines are included, as are illicit generics or adulterated supplements. When necessary though, specific types of illicit medicines will be referred to. In Chapter 4, the different types of illicit medicines consumed in the Netherlands are outlined in greater detail.

1.2 Risks and consequences of illicit medicines

The direct and evident consequences of consuming illicit medicines are at times clearly visible, for example when patients who consume hazardous medicines die, or when patients bypass their health care system despite suffering from life-threatening diseases (Poon et al., 2009; Blackstone et al., 2014). More often though, the implications are difficult to measure. Indeed, the health risks associated with the consumption of illicit medicines depend on many factors, including the types of medicines, disease, awareness of the patient and a range of details regarding health care systems in each country. Generally, although medicines produced outside the scope of the legitimate supply chain may be substantially similar to the branded version, they might contain incorrect dosages of active ingredients and excipients, no effective ingredients, the wrong ingredients or even harmful ingredients. Each shortcoming carries its own set of health risks for people who consume these medicines (Liang, 2006; Venhuis et al., 2011; Blackstone et al., 2014). When medicines contain no effective or the wrong active ingredients, the drug fails to cure the condition, which is harmful or even lethal when consumed as part of treatment of a life-threatening disease. For example, in 2007, at least 100 people died after taking counterfeit cough syrup in Panama. Because of counterfeited glycerine (containing the active substance

in antifreeze), patients were experiencing kidney failures, paralysis and an impossibility to breath (Bogdanich & Hooker, 2007). In addition, several cases have exposed the potential severe outcomes of consuming illicit weight loss medication that contain the toxic chemical dinitrophenol, also known as DNP. In some these instances, patients died after consuming weigh loss drugs containing DNP that were bought online (Grundlingh et al., 2011; Khomami, 2015; Kamsma, 2015). When harmful substances are consumed, the initial health condition may become more severe and the consumption itself can be toxic (Blackstone et al., 2014). This applies to illicit medicines, with no active ingredients, to cure life-threatening diseases, such as HIV treatment, malaria medication or antibiotics. These types of risks should be distinguished from medicines that are produced within the legitimate supply chain, but are purchased by its consumers outside the regular supply chain. These types of illicit medicines, such as illicit generics, stolen or diverted medication, are often consumed outside the medical supervision of a professional doctor, which raises the risk of inappropriately mixing medicines, inadequate instructions and misuse of prescription medicines (Levaggi, Marcantoni, Filippucci & Gelatti, 2012; EMCDDA, 2016). As such, in several instances it is important to identify different types of illicit medicines, because not all of these products pose the same level of risk.

Beside the health risks associated with the consumption of illicit medicines, their trade is linked to economic loss of revenues. For example, especially online consumers may face financial losses when they pay for medicines that are not delivered (Gelatti et al., 2013). In developing countries, scarce money may be spent on ineffective medication (Wertheimer & Wang, 2012). In addition, the illicit medicines market is associated with a considerable loss of income for developers, manufacturers and retailers of legal pharmaceuticals in the legitimate supply chain. The volume of such losses is hard to measure, but they are estimated to be on the order of billions of euros (Ten Ham, 2012; Blackstone et al., 2014). A final consequence of the trade and consumption of illicit medicines refers to trust in the medical health care systems. It is suggested that patients who regularly consume illicit drugs may develop an inappropriately negative perception of their health care system (Wertheimer & Wang, 2012). For instance, when patients regularly experience insufficient effects of consumed medical treatment, they may develop distrust in local and official pharmacies (Buckley & Gostin, 2013: 71).

1.3 Globalization and global variation

Generally, the market in illicit medicines is believed to flourish globally. Within the global and complex pharmaceutical supply chain, where ingredients are sourced internationally and ample online trading methods exist, there are increasing opportunities for producers and retailers to get involved in the lucrative illicit market (Buckley & Gostin, 2013; Hall & Antonopoulos, 2016). The primary producing and exporting countries of illicit medicines

are China, India, Pakistan and countries in South East Asia (Wertheimer & Wang, 2012: 2; UNODC, 2013). From these manufacturing hubs, medicines are traded through transit countries and end up on markets, shops and streets in countries worldwide. This international character is particularly related to the global enlargement of the legitimate pharmaceutical supply chain (Buckley & Gostin, 2013). Within the global economy, increased movements of capital and demand and supply of goods on an international level takes place. As a result, pharmaceutical manufacturing in recent decades is increasingly outsourced to Asian countries, and a growing number of intermediaries are involved in the supply chain (UNICRI, 2012). As the number of levels grows, the transnational supply chain becomes more vulnerable to infiltration and illicit medicines can be produced and distributed more easily. For example, Bate (2012: 177) claims that, although the pharmaceutical industry in China keeps growing, its regulatory system is lagging behind. Others suggest that some manufacturers may use inferior “ghost factories” for the production of falsified medicines, in which case it is easy to separate falsified medicines from authentic ones, while other illicit medicines are produced in sophisticated factories and so can be difficult to detect (Wertheimer & Wang, 2012: 2).

All told, 10% of all medicines produced and sold globally are considered to be illicit (Blackstone et al., 2014). Because the demand and profits are high and the risks relatively low, trade in pharmaceuticals is believed to be greater than trade in some illicit recreational drugs (IRACM, 2013). Estimates of the size of the market in illicit pharmaceuticals range between \$75 billion (Jackson, Arver, Banks & Stecher, 2009; WHO, 2012) and \$200 billion per year (World Economic Forum, 2011), with the latter value exceeding that of the estimated trade in marijuana and prostitution. Yet, while many estimations and measures have been made in the previous years, the WHO has eventually withdrawn earlier estimates because of a lack of hard evidence (WHO, 2017).

Overall difficulties to measure the volume of illicit pharmaceutical trade (e.g. Thoumi, 2005) are exacerbated by problems with detection of the trade in illicit pharmaceuticals, partly because pharmaceutical companies, nation states and consumers are not always willing to report instances of counterfeiting (Newton et al., 2006; Cockburn et al., 2005; Chika, Bello, Jimoh & Umar, 2011). Although the pharmaceutical industry has commissioned private investigations on networks that are partly or completely illicit, and has invested in scanning equipment for detection, the industry seems to be reluctant about sharing information (Newton et al., 2006; Chika et al., 2011), “apparently motivated by the belief that the publicity will harm the sales of brand-name products in a fiercely competitive business” (Cockburn et al., 2005). Neither developed nor developing countries require pharmaceutical companies to report instances of counterfeits to official authorities or to warn the public. Because of the high profits in both the legal and illegal pharmaceutical industry, and the complex and sometimes cross-cutting political interests of a wide variety of stakeholders, it is important to gain extensive knowledge on the scale, methods, dynamics,

risks and effective measures, while taking existing statistics provided by these stakeholders with some caution. This study seeks to fill this gap.

National or regional illicit medicines markets differ because of variation in health care systems, types of illicit medicines traded and methods of supply. Hereby, a simplified north-south divide can be distinguished (Cahoy, 2007). In developing countries, with a lack of control and regulation, all sorts of illicit medicines are often sold within the legitimate supply chain. Regular pharmacies and shops offer falsified medicines to patients. Legal and illegal pharmaceuticals are widely available on open markets, as in some developing areas inadequate enforcement and insufficient control on the quality of medicines exist (Gaudio et al., 2007; Nordstrom, 2007; Degardin et al., 2014). This includes cases of falsified malaria or HIV treatment, which results in fatal situations as patients may not receive effective treatment for life-threatening diseases. The WHO (2006) estimated earlier that around 30% of the medicines sold in parts of Asia, Africa, and Latin America in 2006 were falsified and of low quality. In other studies, even higher estimates are presented, ranging from 36% to 64% of antimalarial drugs in African countries being falsified (e.g. Nayyar, Breman, Newton & Herrington, 2012; Blackstone et al., 2014; Fatokun, 2016).

In developed countries, by contrast, the illicit market for medicines operates mostly outside the legal supply chain. In these countries, illicit trade in pharmaceuticals primarily involves the opioids and psychotropic substances such as stimulants, antidepressants and benzodiazepines, and lifestyle medicines such as erectile dysfunction products, cognitive enhancers and muscle drugs (Lavorgna, 2014). For example, through measured concentration and metabolites in a Dutch sewage study it was estimated that at least 60% of the sexual enhancers in the Netherlands are not obtained legitimately (Venhuis et al., 2014). The trade in these medicines primarily takes place under the counter, by dealers or especially through the internet, where buying medicines is cheaper, confidential, convenient and easier (Degardin et al., 2014). Through the internet, it has become easier to trade and sell all sorts of drugs, and new drugs can enter the market easily (EMCDDA, 2016). An estimated 50% of the medicines sold online in 2008 were illicit (WHO, 2012; Degardin et al., 2014). Because online sales are generally increasing, confusion is created between which websites sell authentic and legitimate medicines and which do not (Blackstone et al., 2014).

The types of medicines that are being illegally traded, the social organization of the market and extent of the harm caused by these medicines all are thus subject to change, and all vary from country to country and from region to region. In recent years, various studies have been conducted into the sale of illicit medicines in developing countries (e.g. Bate, 2008; 2012; Buckley & Gostin, 2013; Nordstrom, 2007). By and large, these scholars have concluded that access to health care, affordable medicines and insufficient control and enforcement on the pharmaceutical supply chain are mostly associated with the consumption of illicit medicines and health risks for patients (Bate, 2008; 2012; Buckley & Gostin, 2013; Nordstrom, 2007).

On the other hand, the market in illicit medicines in developed countries is largely associated with the online trade, creating a new subset of illegal drugs and medicines with new risks and challenges that are available to a wide online audience (EMCDDA, 2016; Hall & Antonopoulos, 2016; Di Nicola, Martini & Barratto, 2015). In other words, illicit medicines are not necessarily infiltrating Europe's legal pharmaceutical supply chain, but rather outflanking it: illicit trade primarily takes place as a separate illicit and hidden market, through unofficial distribution and selling points. In this sense, the illicit medicines trade shows similarities with other illicit drug markets. The current study specifically focuses on these (online) mechanisms of the demand and supply as a parallel illicit market, taking the illicit market in the Netherlands as a case study.

1.4 Legislation and enforcement

In order to understand the illicit medicines market, it is important to begin with national and international legislation that apply and enforcement measures that are in place. In recent years, such national and international organizations as the WHO, United Nations Office on Drugs and Crime (UNODC), Interpol and the World Customs Organization (WCO) have attempted to address and tackle the on- and offline trade in illicit pharmaceuticals through a wide range of initiatives (Mackey, Aung & Liang, 2015). For example, in 2006, the WHO brought together a number of governments, international organizations, civil society groups, private sector actors, law enforcement agencies and others in the International Medical Products Anti-Counterfeiting Taskforce (IMPACT). However, because of the involvement of pharmaceutical companies, the task force quickly became the object of both suspicion and confusion, leading WHO to distance itself from IMPACT (Buckley & Gostin, 2013). Various other operations are led by Interpol in which customs, health regulatory agencies, police and the private sector have been initiated in order to measure the nature of the online trade in medicines. These include Operation Mamba (in East Africa),² Operation Storm (in Southeast Africa)³ and Operation Cobra (in West Africa)⁴ (Buckley & Gostin, 2013).

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- 2 The goal of Operation Mamba is to investigate the activities of groups involved in the trafficking of counterfeit medical products in Eastern Africa including Burundi, Kenya, Rwanda, Tanzania, Uganda and Zanzibar, and to raise awareness on the topic of counterfeit medicines in these countries (Interpol, 2010a).
 - 3 Operation Storm aims to target the manufacture and distribution of counterfeit medicines in Southeast Asia. During Operation Storm VI that took place in September 2015, 13 Asian countries were involved which led to the investigation of almost 500 pharmacies and markets, and 100 illicit online pharmacy websites (Interpol, 2010b; 2015b).
 - 4 Operation Cobra is a multi-country operation for Western Africa. It aims to investigate networks involved in pharmaceutical crime such as counterfeiting, illicit production and unauthorized sales of medicines. During Cobra 2011, seven countries in West-Africa, including Burkina Faso, Cameroon, Ghana, Guinea, Nigeria, Senegal and Togo, participated (Interpol, 2011).

Other initiatives primarily focus on the online trade in illicit medicines. For example, since 2009, Operation Pangea, primarily aims to tackle the illegal online pharmacies and to measure the online trade in illicit medicines (Interpol, 2014a). During the Pangea Operation in 2015, 115 countries worldwide participated in which 20.7 million doses of illicit medicines were confiscated (Interpol, 2015a). In June 2014, the European Commission passed a new Implementing Regulation (699/2014) that dictates online retailers in the European Union to present a common logo on websites (European Commission, 2015). Approved and legally-operating online pharmacies and otherwise medical retailers in the EU member states are required to display the logo on every page of the website. When clicking on the logo, it links to the website of the national authority on the authorized online medicine providers. In the Netherlands, the EU logo links to the website of the Central Information Unit on Health Care Professions (CIBG). Yet, although the logo is meant as a way to secure the online sale of medicines, the logos are easily forged (Di Nicola et al., 2015).

Within an increasingly global pharmaceutical supply chain, international cooperation and oversight is important, but it is often claimed that an international discourse on the problem is lacking (Buckley & Goston, 2013). Despite national and international initiatives, surveillance, enforcement and control on illicit medicines worldwide remain extremely limited (Mackey & Liang, 2013). With various political interests, stakeholders and authorities, as well as incompatible national and international regulations at stake, it appears difficult to craft a joint approach toward tackling this global phenomenon.

What makes enforcement particularly difficult is that within the global supply chain, various national and international rules, laws and regulations exist and, similarly to the definitional debate, no consensus exists regarding which legislative and regulatory approaches ought to be used, or by whom. For example, the WHO's efforts to tackle the problem of falsified and illicit medicines have been hampered by member states that hold incompatible ideologies, most notably between those who prioritize public health and those who seek first to protect commercial intellectual property rights (Mackey & Liang, 2013). For instance, the enforcement of trade in *counterfeit medicines* has long been associated with the multilateral Trade Related Aspects of Intellectual Property Rights (TRIPS) agreement, implemented in 1994 (Buckley & Gostin, 2013). The TRIPS agreement makes it mandatory for all members of the World Trade Organization (WTO) to establish and to enforce intellectual property laws in order to protect the rights of the patent- and trademark holders (Yar, 2008). Yet, as shown above, the definition of counterfeit medicines does not include a focus on health. In addition, whereas in poorer countries access to affordable medicines is problematic, the focus on *counterfeiting*, that is, the infringement of intellectual property rights, could lead to negative health outcomes if countries lose access to affordable medication (Buckley & Gostin, 2013). Other regulations are similarly focusing on counterfeit medicines, including Anti-Counterfeiting Trade Agreement (ACTA).

In Europe, the convention on Counterfeiting of Medical Products and Similar Crimes Involving Threats to Public Health (Medicrime Convention) was adopted in 2010. With this convention, an international approach and harmonization of legislative manners was aimed for. While the intention for a broader implementation was discussed, some nation states have rejected such approaches. In May 2011, Directive 2011/62/EU was adopted by the European Council in order to protect the legitimate supply chain from the infiltration of illicit medicines. The new legislation similarly aimed to implement a more harmonized approach among European member states, although important legislative asymmetries exist (Di Nicola et al., 2015).

The EU directive focuses on the definition of falsified medicinal products, which should be distinguished from products that are infringements of intellectual property rights (Directive 2011/62/EU). Yet, laws and regulations on the sale of medicines from a distance, including the online sale of medicines, range widely between European countries, creating a high degree of confusion over customers (Di Nicola et al., 2015). Within Europe, regulations on what kind of medicines can be sold online differ from country to country. In some countries such as the Netherlands, the UK or Germany, all medicine types can theoretically be sold online. In other countries, including Spain and Belgium, only ‘over the counter’ (OTC) medicines are allowed for online sale, while in some countries no online sale of medicines is allowed at all (Scammel & Bo, 2016).

In addition, throughout the world, each country has its own laws and regulations. In the Dutch context, for example, strict trade regulations have limited the volume of illicit medicine that enters the legitimate supply chain. At the same time, though, a vast trade in illicit medicine continues to exist outside of the regular supply chain, both on- and offline (VWS, 2016). In the Netherlands, trade in pharmaceuticals, including the entire chain, from production, distribution, prescription and sale of medicines, falls under the Dutch Medicines Act (*Geneesmiddelenwet*). The Medicines Act prohibits the sale, distribution or supply of any pharmaceutical product (medicine) that has not been registered and granted a marketing authorization in the Netherlands. The Medicines Act is based on European Law, including the principles of GMP; proper storage and distribution are also based on European legislation, in particular on the Commission Directive 2003/94/EC and 94/C63/03.

Whereas the trade in illicit medicines in the Netherlands primarily takes place outside official distribution and sales sources, it is unsurprising that this trade shows characteristics of an illicit drug market. Because of the increased online trading opportunities and the lack of theoretical understanding and empirical insights in the illicit market for pharmaceuticals, as shown by reviews of both the scholarly literature and governmental legislation, the current thesis specifically focuses on trade in illicit medicines that takes place outside the legitimate distribution and retail sale. The current study particularly analyzes the online trade in illicit medicines, with a specific emphasis on how online

trading relations differ from offline market interactions and how the internet influences the structure of the illicit trade.

With regards to the Chinese legislation, the production and trade of illicit medicines primarily falls under the criminal law and drug administration law. In 1984, the Drug Administration Law of the People's Republic of China was adopted by the Standing Committee of the National People's Congress. Since then, the research, production, selling and use of medicines were covered by legal specifications, including the legal responsibility for the production and sale of illicit medicines (CFDA, 2008). In 2001, the law was revised to provide uniform drug standards, to increase the legal responsibility for the production and sale of illicit medicines, and to define Good Manufacturing Practice (GMP) and Good Supply Practice (GSP) as legal requirements (*ibid.*). Since 2003, the State Food and Drug Administration is responsible for the administrative and technical supervision over the medical supply chain, which in 2013 was renamed as the China Food and Drug Administration (CFDA) (Gaffney, 2013).

1.5 Online trade

With regard to the internet, WHO estimated that up to 50 per cent of all pharmaceuticals sold online are falsified or otherwise illicit (WHO, 2006); during Pangea, an annual 'week of action' by Interpol, a total of 9.6 million pharmaceutical units were confiscated in 2014, and 20.7 million in 2015 (Interpol, 2014a; 2015a). Clearly, a huge volume of illicit medicines is being found to be traded online, and the range of medicines is diverse, including lifestyle medicines such as erectile dysfunction medicines, slimming pills, pain killers, antiviral medication, antidepressants and antibiotics, as well as a wide range of narcotic analgesics, stimulants and benzodiazepines (Orizio, Marla, Schulz & Gelatti, 2011; Lavorgna, 2014; Ghodse, 2011). Online there is limited control over the sale of these illicit medicines, leading to uncertainty regarding just what the consumer is purchasing (Orizio et al., 2011; Venhuis et al., 2011). Medicines sold online can generally be classified as 'over the counter' (OTC) medicines and 'prescription-only medicines' (POMs) that need to be provided by a healthcare professional (Lavorgna, 2014).

Generally, the internet serves as a platform where products are represented, as a marketplace where information and contacts are exchanged and price agreements are easily made (Martin, 2014). Because online technological innovations and endless new opportunities to trade online, various drug producers and distributors have welcomed this broader audience (EMCDDA, 2016). For example, in recent years, many studies have shown how illegal pharmaceuticals and all sorts of illegal drugs are traded on *the dark web* with a large degree of anonymity (Barratt & Aldridge, 2016; Van Hout & Bingham, 2013; Aldridge & Décarry-Hétu, 2016).

The dark web can generally be accessed by downloading software that runs through secure communication lines and encrypts the IP addresses of their

host computers (Barratt & Aldridge, 2016), while using relatively untraceable cryptocurrencies like bitcoin to improve anonymity (Van Hout & Bingham, 2013; Aldridge & Décary-Héту, 2016). Perhaps around 20 per cent of the products available on the Deep Web involve prescription medicines (Barratt, Ferris & Winstock, 2013), ranging from erectile dysfunction medicines to strong pain killers and antidepressants. However, similar to the distribution of other non-controlled substances or substances for which legal controls differ between countries and jurisdictions, such as new psychoactive substances (NPS) or precursor chemicals, the volume of illicit medicines sold on the surface web far outstrips dark web trade (EMCDDA, 2016; Van de Ven, 2016).

Unlike the dark web, the *surface web* is accessible through regular search engines, and therefore open to a wider online audience (Scammel & Bo, 2016: 109). For example, by displaying images of doctors in white coats, a professional presentation and fake diagnosis tests, websites that hawk illicit medicines dupe consumers into believing that they can order all types of legal medicines. Di Giorgio (2011) distinguishes three main types of online pharmacies: i) legal online pharmacies, which are online websites authorized and controlled by national institutions or by certified organizations; ii) illegal online pharmacies, which provide medicines without authorization or quality certification, including the sale of potentially counterfeit and substandard medicines; and iii) fake online pharmacies, which are websites that seem to sell medicines but in reality either deliver material with no pharmaceutical content or deliver nothing at all (Di Giorgio, 2011: 145–6). However, other types of online websites and platforms have recently been found for the supply of illicit medicines, including sales through discussion platforms, social media or online magazines (Lavorgna, 2014; Scammel & Bo, 2016: 110). In addition, online wholesalers' sites, classified advertising sites, email and spam are found to be used by suppliers on both the retail and wholesale levels (Hall & Antonopoulos, 2016).

While digital trade offers suppliers endless opportunities to get involved in the trade, the medium turns out to be important for consumers and patients as well. Both patients and recreational users of medicines are able to gather all sorts of medical information online, including self-diagnosis tests and explanations of symptoms and prevention, as well as the ability to discuss all things medical with fellow patients. The increased availability of medical information has transformed the lay patient or recreational consumer into a potentially well-informed medical customer who feels confident about deciding on his or her own about consumption of health-related products (Lupton, 2012; Fox, Ward & O'Rourke, 2005). Online suppliers offer other benefits as well. Patients can circumvent a possibly expensive or uncomfortable doctor's visit; online medicines may be cheaper than the genuine ones offered by official pharmacies; and many find it convenient to order from home and have the products delivered by post (Intomart, 2009; 2012).

However, while there is increasing concern about the extensive possibilities of ordering medicines, and the amount of unlicensed or counterfeit prescription medicines sold online, little research has been conducted in this field, especially within Europe (Scammel & Bo, 2016: 110). In the US, the misuse of controlled substances online refers to a growing health concern (ibid.: 110). For example, illicit pharmacies sell all sorts of addictive medicines that are then misused and diverted (Ghodse, 2011). Yet, a wide range of websites in addition to illicit pharmacies can provide online supply. Reliable research on this elusive population is difficult and, hence, very little is known about the actual vendors behind the trade, the dynamics between traders and consumers, and perceptions and ideas of both consumers and retailers. As such, this study aims to understand the nature of the online trade, sources for selling medicines online and the online communication and trust relations taking place between market actors.

1.6 Organization of the trade

As introduced above, the market for illicit pharmaceuticals can flourish because of the absence of harmonized legislation within and across countries, and a lack of adequate enforcement of infractions within the internet economy (Scammel & Bo, 2016). For example, internet pharmacies are difficult to track and take action against, because these websites may appear and disappear suddenly, making it easy to avoid impending law-enforcement action (Ghodse, 2011). Indeed, suppliers can easily relocate to another website and continue their online business through other websites (Hall & Antonopoulos, 2016). Hence, involvement in the illicit pharmaceutical trade is generally associated with low risk (IRACM, 2013).

In addition, while the trade in illicit pharmaceuticals is suggested to have increased steadily, primarily through the internet, the trade and production of illicit pharmaceuticals is increasingly believed to take a form of serious ‘organized crime’ (IRACM, 2013). Especially because of the scale, the international character of the pharmaceutical trade, the complex production processes, and the low risks and the high profits in this industry, trade is associated with organized crime groups and sophisticated criminal networks that were previously involved in the trade of other types of illegal drugs or goods (e.g. IRACM, 2013). For example, according to Attaran et al. (2011), international trade in counterfeit medicines is a more serious transnational crime than had been assumed, and links might exist between medicine counterfeiting and other crimes, such as using revenues from medicine counterfeiting to finance terrorist organizations. These images of hierarchical crime groups involved in the pharmaceutical trade are reinforced by the media, official organizations and the legal pharmaceutical industry (e.g. IRACM, 2013; UNICRI, 2012; Bate, 2012; Delval, 2015).

And yet, some criminologists have found that large hierarchical organizations are hardly to be found in illegal markets, which can better be characterized as an environment of “disorganized” crime. Besides, it is suggested that the internet has not only enhanced the efficacy of communication and transport, but also changed the modus operandi and structure of criminal networks by opening up opportunities to actors that are not affiliated with existing criminal networks (Lavorgna, 2014; Scammel & Bo, 2016). However, online dynamics and the manner in which the internet is used for the international trade in illicit medicines are largely unknown. Furthermore, research on the retail level of other types of lifestyle medicines and lifestyle drugs, such as the trade in cognitive enhancers or steroids, suggests that this economy is bounded by specific subcultural settings, with various types of dealers involved, ranging from social suppliers that often use the substances themselves, to minimal or maximum commercial dealers who are motivated solely by the prospect of economic gain (Van de Ven, 2016; Paoli & Donati, 2014).

The current thesis focuses on the structure and nature of the supply side, in order to understand how contradicting viewpoints on the involvement of organized crime can be combined. Importantly, it focuses not only on internet trade, but also on consumers and suppliers within their social and cultural environments. Surprisingly perhaps, the blurring of boundaries between on- and offline sale of lifestyle drugs, as well as between legal and illegal sale and how suppliers on the illicit market can rely on as well as compete with the legal market for pharmaceuticals, has gone almost undetected by those scholars who have studied illicit medicines.

1.7 Illicit lifestyle medicines

As outlined, the illicit market for medicines that exists in developed countries and online mainly concerns specific types of medicines, such as opioids and lifestyle medicines (Lavorgna, 2014). For example, a Dutch sewage study concluded that at least 60 per cent of consumed erectile dysfunction products are obtained through illegitimate sources (Venhuis et al., 2014). In addition, based on Interpol’s Pangea actions, all sorts of lifestyle medicines, including erectile dysfunction medicines, were found to be traded increasingly online (Interpol, 2015). In recent years, this growing trade in illicit lifestyle medicines has come to be viewed as a public health concern (Evans-Brown, McVeigh, Perkins & Bellis, 2012; McVeigh, Evans-Brown & Bellis, 2012).

Generally, lifestyle medicines are those pharmaceuticals that are consumed in order to improve one’s lifestyle, health or beauty, which places their use on the borderline between a health need and lifestyle wish (Gilbert, Walley & New, 2000). This category includes erectile dysfunction products, medication to stop smoking or weight loss medication; they can be related to one’s health but are generally beyond the scope of most health care systems, because the negative health effects follow directly from a chosen lifestyle (Lexchin, 2001). For

example, immediately after the release of Viagra for the treatment of erectile dysfunction in 1998, critics argued that these types of lifestyle medicines are different from those taken to cure serious medical conditions. This fueled a debate about where to draw the line between treating a serious illness and improving the patients' quality of life (Keith, 2000). The increased demand for lifestyle medicines can generally be understood in light of consumption society, medicalization, improved medical technologies, representations of successful living in the mass media and gender identities (Atkinson, 2002; Rahman, Gupta, Sukhlecha & Khunte, 2010; Featherstone, 2007; Fox & Ward, 2008).

Online trade, especially with regard to lifestyle medicines, is believed often to use deception as a major marketing strategy. This plays straight into consumer motivations: the wish for anonymity, ease of delivery and financial motivations (Intomart, 2009; 2012). Since half of the medicines sold online are considered falsified or otherwise illicit, the risk of illegal pharmacies using deceptive marketing claims is high (WHO, 2012; IRACM, 2013). With blurring boundaries between what is legal and illegal in an online environment, and improved techniques for falsifying medicines, packages as well as online logos, consumers might not even realize they are purchasing illicit medicines (Di Nicola et al., 2015; Walsh, 2011; Lavorgna, 2014).

Yet, the demand for lifestyle medicines, including illicit products, continues to rise, as does the range of pills and products that claim the ability to improving one's lifestyle and human attributes (McVeigh et al., 2012). In case these medicines are sold on the illicit market, lifestyle medicines are also often referred to as *human enhancement drugs* and can generally be divided into six different categories: i) muscle drugs, such as anabolic-androgenic steroids; ii) weight-loss drugs, such as ephedrine and Sibutramine; iii) skin and hair enhancing drugs, such as Melanotan); iv) sexual enhancers, such as sildenafil; v) cognitive enhancers, such as methylphenidate); vi) and mood and behavior enhancers, such as beta-blockers (Evans-Brown et al., 2012; van de Ven, 2016). As these products are not always available on the legitimate market, users in search for enhancing human attributes, are moving to the illicit market to retrieve their pills and products.

As there is limited information available on consumers that purchase illicit lifestyle medicines, both on- and offline in the Netherlands, this thesis aims to understand the motivations, ideas and activities from these consumers. Although the main focus of this dissertation lies on the supply side of the market for illicit lifestyle medicines, it is important to understand the interaction with the demand side, too. Particular attention will be paid to the perceptions, behavior and social and cultural contours of consumers who enter the market for medical or nonmedical reasons.

In addition, whereas the aim of enhancing human attributes and consuming certain lifestyle drugs is nothing new, a distinction should be made between using the terms lifestyle *medicine* or lifestyle *drug*. The term *drug* embraces all products, including lifestyle supplements as well as alcohol, doping and

steroids, and illicit drugs such as cocaine (Møldrup, 2006: 776), while the term lifestyle *medicine* is limited to those products that claim to deliver a therapeutic benefit for conditions related to lifestyle (Flower, 2004). As this study focuses on the trade in illicit medicines, in the current thesis, the term lifestyle medicines will be used as the analysis will focus on the market for substances that either have a therapeutic pharmacological effect or whose promotion contains a medical claim.

1.8 Research questions

While trade in illicit medicines is growing, (e.g. Di Nicola et al., 2015, Lavorgna, 2014; Hall & Antonopoulos, 2016), criminological empirical and theoretical studies are not keeping pace. The few studies that are available focus primarily on statistical information or are based on data from a narrow range of the relevant actors – unsurprisingly those who are most easily identified and tracked down: enforcement officers, governmental officials or employees from the pharmaceutical industry. This study avoids the bias inherent in work based on a subset of market actors by presenting and analyzing data from the universe of stakeholders in the market for illicit medicines. Also, in order to understand the specificities, it differentiates between various types of illicit medicines, as the dynamics of the trade, the suppliers and structure vary, and thus require separate analytical attention.

In short, the current thesis aims to fill this gap by providing in-depth empirical and theoretical insights on the on- and offline trade in illicit pharmaceuticals, and particularly lifestyle pharmaceuticals, to provide a better understanding of the nature, dynamics and activities taking place. More knowledge on this understudied topic will contribute to a better empirical and theoretical foundation for designing and implementing effective health care and drug policies. The thesis presents cases both at the manufacturing level, in China, and at the trade level, in the Netherlands.

The main research question of this study is: *How are actors involved in the illicit medicines trade and how is the illicit market structured?*

In order to be able to study these aspects, the following sub-questions are addressed:

1. Why is there a demand for illicit lifestyle medicines?
2. What are the characteristics, motives and preferences of the consumers?
3. What are the characteristics, preferences and modus operandi of the suppliers involved?
4. How do consumers and suppliers build trust and interact in an online environment?
5. What is the nature of the trade and how is the market organized?

The first two sub-questions focus on the demand side of the market and contain both a descriptive and theoretical analysis. The third question focuses on the actors directly involved in the supply of illicit lifestyle medicines and is foremost a descriptive question in nature. The final two sub-questions frame an analysis of the supply side of the market and again, and include both descriptive and theoretical components.

1.9 Relevance of the study

With the key objective of this study being to analyze both the demand and supply of the illicit medicines trade in the Netherlands, this research will have relevance in a number of ways. First, it provides a theoretical contribution that offers a nuanced understanding of markets that share characteristics with both legal and illegal markets, as currently understood in the literature. These theoretical findings buttress the discipline of economic sociology and cultural criminology. In addition, it provides theoretical contributions to the understanding of the role of the internet within drug markets.

Second, a methodological contribution is provided by demonstrating the value of a multi-method approach within the field of cultural criminology. Whereas cultural criminologists often uphold a certain level of reluctance towards the use quantitative data sources, the current study shows how the triangulation of a multitude of research methods, including both qualitative and quantitative data sources, has the benefit to greatly improve the strength and validity of the overall data. This research design is especially beneficial on hidden or sensitive research populations.

Third, this study offers policy contributions based on its delicate understanding of the motives of both consumers and suppliers of the illicit medicines trade. Whereas there is little consensus on the global trade in illicit medicines, and little differentiation among the consumers and the purpose of consumption, this study provides insights into the ideas and preferences of both medical and nonmedical consumers. Without having the aim to present extensive policy recommendations in this study, the empirical and theoretical insights can be used for the design and implementation of health care and drug policies.

1.10 Overview of chapters

In order to elaborate on the research questions, the dissertation is comprised of nine chapters. In *Chapter 2*, the theoretical foundation of the illicit pharmaceutical market is outlined. Mirroring the market itself, which is shaped by various macro, meso and micro forces, the theoretical chapter is divided among those three levels of analysis. On a societal level, the illicit market for lifestyle medicines is situated within the context of a globalized, late modern society, with a specific emphasis on consumerism and identity forming. With a sociological focus on health and illness, concepts of beauty, lifestyle and

medicalization are discussed. On a meso level, the structure of illicit markets is theorized in terms of organized crime and social embeddedness. Whereas the trade in illicit medicines is generally portrayed as large organized crime groups, theoretical notions on the structure of illicit markets and the involvement of organized crime are outlined. On a micro level, cultural contours and individual motivations are theorized, with a specific focus on subcultural values and beliefs, online entry barriers and online identity forming. In *Chapter 3*, the methodological tools and methods that underpin this study are outlined. Herein, five methodological approaches are justified: the use of i) literature, ii) interviews; iii) case file analysis; iv) a survey study; and v) an online ethnography. In addition, an overview of the ethical considerations, strengths and weaknesses of the chosen research design and the methods of data analysis are provided. After the theoretical and methodological foundations have been established, the size of the market is estimated via an examination of confiscated and purchased medicines, in *Chapter 4*. This chapter is based on quantitative data sources and covers the most important types of illicit medicines in the Netherlands, based on survey studies and confiscations of the Dutch customs. It provides a general demographic profile of the consumers and the main methods to purchase illicit medicines in the Netherlands. *Chapter 5* focuses on the demand side of the illicit medicine market and juxtaposes the empirical data on consumers with available theories. The demand for illicit lifestyle medicines is situated within aspects of contemporary consumer culture, the search for bodily perfection and enhancing capabilities. The data presented demonstrate that the use of lifestyle medicines is generally an individual and private encounter, hiding forms of cheating and imperfection. *Chapter 6* entails the retail level of the market in the Netherlands, with a specific emphasis on the suppliers involved in the online and offline sale of illicit medicines, the importance of trust and connections. After that, *Chapter 7* outlines the structure of the market, the nature of the networks involved and the importation of illicit medicines in the Netherlands. Herein, actors and networks are theorized on a meso level, providing an overview of the existing trust relations and (online) market relations and cooperation. *Chapter 8* provides the final analysis of the supply side of the market, focusing on the production of illicit medicines in China. As China is known as one of the most important producing countries of counterfeit and other sorts of illicit medicines, this chapter analyzes the economic, cultural and social components that all shape the market for illicit medicines in China. Finally, *Chapter 9* presents the work's overarching views on the empirical and theoretical foundations of this thesis, as well as their policy relevance.

Chapter 2

Theoretical perspectives on illicit markets and medicines

The illicit market for lifestyle medicines involves a wide variety of market actors, all of whom are shaped by their social, cultural, political and economic contexts. In order to understand the behaviour, ideas and motivations of market actors on both the demand and supply side of the illicit pharmaceutical market in the Netherlands, I have adopted an integrated theoretical model that borrows from a variety of disciplines, including cultural criminology, economic sociology and the sociology of health and illness. This theoretical chapter begins with an outline of an economic sociological and cultural criminological approach to market analysis, focusing on differences, similarities and overlaps between licit and illicit markets. This framework will be distinguished from alternative approaches, and their theoretical underpinnings, to the study of markets. Next, I situate the analysis of illicit markets for lifestyle medicines along macro, meso and micro levels. On the macro level, broader cultural and political economic features are analyzed, including sociological concepts of globalization, consumerism, late modernity and medicalization. On the meso level, the structure of illicit markets, subcultural values and trust relationships are theorized, including an extended interlude on the sociology of health. Finally, on the micro level, the dynamics between suppliers and entry to the market are taken into account. Although this chapter uses ‘level of analysis’ as an organizational anchor, the boundaries between levels are impossible to delineate with precision and, indeed, various macro- and meso-level concepts interact and shape phenomena on the micro level.

2.1 Economic sociology, cultural criminology and illicit markets

In the field of criminology, an extensive amount of research has been conducted on all types of illegal, illicit, semi-legal and informal markets, ranging from illicit drugs to human trafficking, from weapons to wildlife, from organs to diamonds. An illicit market can generally be defined as ‘places in which goods and services are exchanged whose production, sale and consumption are forbidden or strictly regulated by the majority of national states and/or by international legislation’ (Arlacchi, 1998). Products traded within illicit markets are considered illegal because of the simple fact that they are defined as such, as the trade is prohibited by law (Antonopoulos, 2008). Yet, in another sense,

their status can be evaluated by how vigorously laws and regulations against such trade are applied. Both laws and their enforcement affect the structure and dynamics of illicit markets (Beckert & Wehinger, 2013).

To understand variations in such structures and dynamics, it is valuable to start with the basic concept of a market. In general, markets are arenas of regular voluntary exchange of goods or services for money under conditions of competition (Beckert & Wehinger, 2013). Several essential elements are required in order to speak of a market, including exchange, buyers, sellers, property rights, coordination and competition (Aspers, 2011: 120; Ahrne, Aspers & Brunsson, 2015). Illegal markets largely operate like all others: they have buyers, sellers, wholesalers, retailers, importers, distributors, and so on (Arlacchi, 1998), and both legal and illegal markets only come into existence when there is demand as well as supply for particular goods or services (Beckert & Wehinger, 2013: 3). And yet, illegal markets have various distinguishing factors, including the problems of value, competition and cooperation (Beckert, 2009). For example, the quality of illegal market regulation is substantially different from legal ones; the state's role in market regulation is much less straightforward. Transport of product, customers and sellers is more difficult when the role of the state is, at best, more ambiguous (Naylor, 2004) and, more so than in legitimate markets, actors in illicit markets, rely on personal relationships to reduce both transaction costs and the risks of getting caught (Williams & Vlassis, 1998). Dependence on trust relations carries its own set of risks (Naylor, 2004), and property as well as employee rights are often poorly protected which makes the existence of large underground organizations ineffective (Paoli, 2000: 129). Yet, these shortcomings are partly mollified by fragile trust relationships built through repeated transactions (Paoli, 2003: 36-8). The absence of a legal framework and formal apparatus, especially in high value markets, leaves room for deceit, betrayal and the use of violence (Paoli, 2003: 36; May & Hough, 2004). In addition, while no market rises to the level of operating under conditions of complete information, illicit markets are considerably farther from the ideal-type than their legal counterparts. Quality of goods and services cannot be guaranteed, sellers cannot openly advertise the availability of their goods and services, and the creation of value, which is vital in legitimate markets, is merely irrelevant in illegal markets (Beckert & Wehinger, 2013).

However, in criminological literature, illicit markets and their actors are often studied through the framework of organized crime, networks or enterprises, which may result in relevant market features being overlooked or discounted (Gounev, 2011). For example, the (sub)cultural context, the types of goods traded and their relation to the structure of the market or to the entry of market actors are aspects that are often neglected in criminological studies of illicit markets and organized crime. In addition, the boundary between licit and illicit markets is increasingly blurry which makes a simple distinction between licit and illicit markets usually impossible (e.g. Ruggiero, 1997; Curtis & Wendel, 2000): legitimate corporations are at times involved in illegal and criminal activities,

while so-called illicit entrepreneurs and networks may operate within legitimate channels (e.g. in the tobacco or art industry, Tjihuis, 2006; Passas & Goodwin, 2010). Passas (2002) outlines how legal and illegal sales may be interwoven on an organizational and an individual level. Hereby, the intertwinement can show an antithetical or symbiotic relationship, in which the legal and illegal actors demonstrate either opposite or interdependent interests. Especially because of the many resemblances between legal and illegal markets and their intertwinement, combining knowledge of both legal and illegal markets will help to develop an appropriate criminological framework. For theorizing the structure and actors within the illicit market for lifestyle medicines, it is thus valuable to start with insights from economics and economic sociology.

Over the decades, various disciplines, approaches and contrasting theoretical foundations have been harnessed to the task of understanding both licit and illicit markets. For example, in the core neoclassical economics approach, markets are viewed as abstract spaces in which demand and supply meet (Gounev, 2011). Scholars who use this starting point often suggest that markets may reach an equilibrium when prices stabilize at levels satisfactory to both buyers and sellers, that markets are comprised of anonymous traders, and both buyers and sellers have sufficient information to make informed choices (Dwyer & Moore, 2010). However, whereas economic approaches have a strong theoretical foundation for the analysis of licit and illicit markets, reliance on this foundation alone precludes a thorough understanding, as market externalities, institutions, social relations and networks, not to mention power considerations, are largely neglected (Lie, 1997: 344; Gounev, 2011). These approaches are thus criticized for their reliance on simple economic models of supply and demand, for their abstraction from local contexts and because they overlook social, cultural and political processes (Dwyer & Moore, 2010; Gounev, 2011).

In recent decades, the disciplines economic sociology and the sociology of markets have gained ground (Beckert, 2009: 246). Economic sociology strives to come up with general market theories in which historically specific institutions and social relations are taken into account (Gemici, 2012). In this way, the importance of social relations and culture is demonstrated to be crucial for the analysis and understanding of markets (Dwyer & Moore, 2010). For example, Granovetter (1985) emphasizes how economic action is embedded within social relations and social networks. Social factors such as trust deepen our understanding of exchange between market actors: by means of establishing trust, market actors can reduce risk and uncertainty which may cause buyers and sellers to become more willing to exchange goods or services (Dwyer & Moore, 2010; Gounev, 2011; Sandberg, 2012). As Gounev (2011:183) states: ‘social relations and the wider social context within which criminal and economic activities take place, help to understand how and why individuals become involved in the market, how enterprises are structured and how illicit markets operate’. Thus, a framework that yields an understanding

of social actions will support investigations into cooperation, dynamics and competition in licit and illicit markets (Beckert & Wehinger, 2013).

In the field of economic sociology, Fourcade-Gourinchas (2007) lists three explanatory theoretical concepts along which market dynamics can be analyzed: networks, institutions and performativity. *Network* scholars focus on the relational ties between actors as the basis of social structure. *Institutionalists* highlight the market rules, power and norms and *performative* scholars focus on calculative processes related to technologies and artifacts (Fourcade-Gourinchas, 2007). Fligstein & Dauter (2007) add two more schools of thought: *political economy*, in which the role of government and law within the formation of specific market features is studied, as well as the *population ecology* in which the effect of competition on the production of markets is being analyzed.

In addition to the social embeddedness of market actors, variations in *market culture* can help to explain why markets for the same products or services may operate differently in various countries or cultures (Ahrne et al., 2015). Culture, defined as the beliefs, norms, ‘tools’, rules and behaviours appropriate to the setting, is increasingly included as a key factor for understanding markets (Aspers, 2011: 9; Sandberg, 2012). For example, Aspers (2011: 94) argues that distinguishing between two types of cultures can enhance explanations of the dynamics of the demand and supply within markets: a *general market culture*, shaped by historic capitalism and a *partial market culture*, which refers to the unique culture of the market, such as deciding ‘who contacts whom’ or ‘how market actors are allowed and expected to cooperate and compete’. As such, in the field of economic anthropology, economic structures are situated within a cultural and historic context, which includes, for instance, the importance of religion and kinship, the role of reciprocity, and the adoption of gift-giving strategies in economic behavior (Mauss, 1966; Polanyi, 1944; Sahlins, 1972). Similarly, Potter (2009) argues that drug markets ‘vary in relation to time, to place, to culture, and by the type of drugs being distributed, among other factors.’ With reference to the cannabis market, Sandberg (2012) distinguishes between private, semi-public or public cannabis market. These types of markets are associated with their own culture and differ in terms of levels of violence, trust and quality levels (ibid). As such, it is imperative to situate market actors within their social and cultural context.

Therefore, in the current thesis, a cultural criminological approach will be adopted. This school of thought explores the ways in which cultural dynamics intertwine with the practices of crime and crime control in contemporary late-modern society (Ferrell, Hayward & Young, 2008). Cultural criminology situates deviant or criminal behaviour in the social and cultural context in which it is presented and thus analyses crime as a cultural creation instead of interpreting objective forms of crime or deviancy (ibid). In addition, the strength of this approach lies in highlighting how power relations and representation are associated with the construction of crime and deviant behavior. As this approach includes both the social, cultural, political and societal dynamics into account,

a cultural criminological perspective is thus important to the understanding of market actors involved in the illicit pharmaceutical market, as on macro and meso as well as micro levels, cultural and social factors are intertwined with the practices of daily life. The cultural criminological approach will specifically be useful as a way to unravel how power relations, meaning and media representations are shaped in the illicit market for lifestyle medicines.

In the current thesis, interacting forces on the macro, meso and micro levels will be used, including concepts from cultural criminology, economic sociology, political economy and sociology. On the macro level, illicit market for lifestyle medicines will be situated in late-modern consumer culture; subcultural values are situated on the meso level; and, on the micro level, identity and strain will be used to explain this particular pharmaceutical market.

2.2 The macro level: globalization, late modernity and consumerism

Whereas the type of product provides an essential first step for the analysis of illicit markets, situating the illicit market for pharmaceuticals in a broader cultural, societal, economic and social context is essential in order to understand the nature and dynamics taking place. On a macro level, at least five notions interact and provide the broader theoretical context for the illicit market for lifestyle pharmaceuticals. In the following sections I focus on these five notions separately, which includes i) globalization; ii) late modernity, and iii) consumerism, which I discuss in the current section, while in the following section I will specifically focus on the sociology of health, including iv) identity and v) drivers of medicalization.

First, transnational trade and the proliferation of online markets for both legal and illegal products need to be understood within the globalized market economy. As such, in a globalized world, the increase of technological and economic developments and growing worldwide interconnectedness have resulted in constant flows of goods, services, images and cultural capital (Aas, 2007). The reach of the media is expanding and affects people globally. Transnational flows of products, money or facilities as well as cultural flows of images and values can easily cross borders (*ibid.*). Also, worldwide inequalities cause an expanding demand and supply for products that can be bought in the 'global marketplace' (Aas, 2007: 40; Passas, 2002). Goods that are produced and manufactured in the developing world where raw materials, labor and services are cheap and easy to obtain, are subsequently trafficked to demanding and wealthier countries in the west. This is particularly the case in the market for both licit and illicit medicines, as the majority of the counterfeit medicines are produced in Asian countries such as India and China and sold in the large consumer markets in Europe and North America (IRACM, 2013; Interpol, 2014b). Increased worldwide exchange of all sorts of legal and illegal goods and products, the expansion of online markets, and changing forms of organized

crime are all associated with the globalized marketplace and deregulation of national economies (Castells, 1997; Naim, 2006).

These transnational flows of both licit and illicit goods have systematic adverse effects on the economic and political development of many of the poorest countries. Processes of globalization and neoliberalism may expand criminogenic asymmetries, which are defined as structural discrepancies between countries or regions in the realms of the law and regulations, economy, politics, technology and/or culture (Passas, 2000). Economic crimes and misconduct are emerging because of growing structural asymmetries between countries, rising inequality, and global anomie (Passas, 2000). In this way, all asymmetries contain a criminogenic potential which is most likely to occur when there are opportunities, motives and weak controls (Passas, 1999). Whereas pharmaceuticals are bound by national laws and regulations, juridical differences between countries are causing incentives for transnational trade.

The legal and illegal worlds are becoming increasingly interdependent as processes of globalization fuel the assimilation of legal and illegal markets. Legitimate organizations can profit from such global connections as cheap labour from poorer countries or ‘jurisdiction shopping’ as they search out the most profitable combination of laws, enforcement, and standard economic production variables (Passas, 2002). On a transnational level, the intertwinement between legality and illegality can increasingly be seen in the form of corruption, bribery, trading or other practices. For example, Tjihuis (2006) analyzes how illicit antiquities are intertwined within the legitimate art market, while in the diamond industry, wildlife or timber markets, illicitly acquired products are equally whitewashed into legitimate supply chains (Siegel, 2008; Boekhout van Solinge, 2008; Van Uhm, 2016). A variety of interfaces, whether antithetical or symbiotic, can be distinguished (Tjihuis, 2006). Nordstrom (2007) refers to the extralegal and highlights the relation between legal and illegal flows in global capitalism. The illicit pharmaceutical market is characterized by large production centers in Asia and a growing consumer market in the west; analysis of illicit pharmaceutical supply thus needs to be situated within the context of contemporary neoliberal and globalized society. Worldwide inequalities that are manifested between developed and developing countries, processes that fuel transnational markets and expanding online trading possibilities through technological developments all shape the nature of this particular market.

Second, worldwide changes of globalization are regarded as an essential part of what is described as the contemporary period of late modernity (Giddens, 1990). Various theorists have claimed that contemporary society is changing through forces such as globalization, individualism, time and space compression, decline of the community and changing labour markets (Young, 1999; Bauman, 2000; Giddens, 1990). Young (1999) outlines how an inclusive period of modernity with an accent on assimilation and incorporation has changed into an exclusive period of late modernity, largely related to a growing focus on individualism and transformation of labor markets. Furthermore,

Bauman (2000) denotes how the change from a solid to a liquid modernity has resulted in profound feelings of insecurity. Beck's (1992) 'risk society' incorporates the focus on instability and insecurity in contemporary society, whereby social inequality is individualized and a great emphasis lies on fear and safety. And, according to Giddens (1990) a late-modern ontological security refers to a lack of confidence in self-identity related to the fluid world constantly in action.

Third, late-modern society is particularly characterized by a *culture of consumption* in which consumerism, advertisement and capitalism are permeating all levels of western societies (Hayward, 2004: 144; Moxon, 2011). While the first signs of consumer culture can be traced back as far to the 'commercial revolution' of the sixteenth and seventeenth century, scholars suggests that the twentieth century is distinctively characterized by mass consumption that is driven not by production, but rather by advertising and marketing (e.g. Moxon, 2011). Bauman (1997) sees consumerism as a mechanism of social sorting, through which successful and flawed consumers are being sorted. Hayward (2004) outlines a way in which consumption is transformed into a mode of expression and how self-identity is increasingly dependent on expressions of material consumption. As he argues: 'what is unique about the last few decades of the twentieth century, is the way that the creation and expression of identity via the display and celebration of consumer goods have triumphed over and above other more traditional modes of self-expression.' (Hayward, 2004: 144). Self-presentation of body, fashion, leisure, eating and drinking preferences enables one's taste and style to be expressed (Featherstone, 2007: 81). In short, various scholars have emphasized how, via consumer society, a 'dream world' of a 'simulational culture' is generated (Benjamin, 1982; Baudrillard, 1983), whereby highly luxurious lifestyles and consumption patterns are actually experienced at the top end of the social structure, while consumption for those at the low end occurs through media and dreams (Featherstone, 2007: xxi).

Fourth, changing notion of identity is thus of great importance in globalized late-modern consumer society. For example, Castells (1997) outlines how globalization changes the way in which people traditionally experience national identities, while at the same time the internet has opened up opportunities to identify with groups, subcultures and images worldwide. Online communities are formed which create transnational feelings of security and recreation of identities (Eriksen, 2003). Giddens (1991) describes the dialectic relation between late-modern institutions on a macro level and the self and identity-forming on the micro level. He argues that individuals have become responsible for the creation and maintenance of their own identity, which is continuously reflected upon and altered; in this way, the self becomes a reflexive project (Giddens, 1991). In various aspects of life, people are constantly evaluating their levels of success and failure; failure is understood as one's own responsibility and negatively affects one's self-image (Young, 2007).

Hence, while the trade and supply of illicit pharmaceuticals must be understood in the context of global capitalism and trading opportunities, it is important to situate the demand for lifestyle medicines in the context of late-modern culture. Risk taking, identity formation and the media shape consumption patterns through a dialectical interaction that helps to explain the increased demand for lifestyle medicines. Notions of consumerism, risk and identity are thus important to the understanding of changing perceptions on health, body image and beauty. For instance, notions of health, illness, identity, death or the body vary over time and across countries and cultures (Nettleton, 2013). The following section will specifically look into the use of medicines and its relation to changing concepts of beauty, health and illness within contemporary society.

2.3 Sociology of health: identity and medicalization

In recent decades, scholars have described how the concept of health is expanding and a growing range of activities, habits, commercial interests and consumer goods are related to health and healthy lifestyles. Nettleton (2013: 45) describes ‘a commercialization of health, in that people are constructed as health consumers who may consume healthy lifestyles’. The focus no longer lies on preventing life-threatening diseases, but is rather on consuming a healthy lifestyle and thus transfers the idea of health into a fashionable commodity. The medical profession, health promoters, pharmaceutical companies and media images are all intertwined in disseminating the legitimization of healthy lifestyles (*ibid.*).

In line with the fourth notion of identity, within the commercialization of health and the consumer culture, health is increasingly conceptualized in terms of body maintenance (Nettleton, 2013: 93; Crawford, 2006). Within the consumer culture, looking good, feeling good and being healthy have become interlinked because the body is seen as a reflection of the inner self. The body has become a site of pleasure and at the same time a representation of happiness and success: ‘to look good is to feel good’ (Nettleton, 2013: 45; Hansen & Easthope, 2007). This is exemplified in the media, where images of slim and fit bodies, smiling models, superstars and happy celebrities represent the good life (Featherstone, 2010). Featherstone (2010) describes how a commercial and cosmetic interest in the body has emerged in which the cosmetic and fitness industries are flourishing in promoting a fit and slim body (Nettleton, 2013: 95). Shilling (2003) sees the body *as a project*, as an unfinished venture dedicated to keeping the body young, healthy and fit as part of the individual self and personal identity. Indeed, the body thus has become a central component of establishing and forming personal and group identities (Peterson, 2007).

Beside attempts to cause one’s to look physically healthy, young and fit, the use of lifestyle medicines also expands the range of ways one might maximize the ability to pursue perfection on a range of other dimensions (McVeigh et

al., 2012; Kraska, Bussard & Brent, 2010). Consumer culture is related to the ideal beauty, to perfection and to pursuit of increased happiness. The category 'human enhancement drugs' includes not only drugs that affect beauty, but also those that claim to improve cognitive abilities, social capabilities or sexual competence (McVeigh et al., 2012). Katz and Marshall (2003) highlight how media and marketing discourses increasingly portray older people as independent, sexy and 'ageless' seniors, and seek to stimulate these potential customers to take control of their own sexual wellbeing. Within consumer culture, the search for bodily perfection and stimulating human enhancement is ever increasing and encouraged, as the body has been converted into an object that can be modified, altered, re-engineered and perfected (Kraska et al., 2010) in every imaginable way (McVeigh et al., 2012). The use of lifestyle medicines should thus be situated within the creation of a perfect appearance, increased happiness and identity forming. And hereby, body appearance may become even more important than body health (Nettleton, 2013: 45). For example, body building can be part of a health-promoting lifestyle, even as it promotes the use of potentially unhealthy products such as steroids (Nettleton, 2013; Kraska et al., 2010). The same applies to cases of plastic surgery, where the consumers demand life-threatening operations during their quest to look younger. Illicit medicines often come into the picture; consumers may wittingly purchase effective but at the same time hazardous medicines for losing weight or increasing muscle mass (Venhuis et al., 2011; Venhuis & de Kaste, 2012; McVeigh et al., 2012). In Chapter 5 of this thesis, I show why an important group of consumers of illicit medicines consumes the pills and products for recreational, hedonistic or enhancing purposes.

The consumption of plastic surgery, clothing and all kinds of products, liquids, gels, pills and devices is increasingly popular among those who strive to develop or maintain a perfect body, to remain 'healthy', or to look and feel young. For example, body building, cosmetic surgery, teeth bleaching or the use of slimming pills or lifestyle medicines that treat baldness are all examples of how people are stimulated to increasingly control and influence their physical appearance and the image it projects. Health promotion companies, marketing dialogues and pharmaceutical organizations use language to motivate consumers to take responsibility for their own mental, social and sexual wellbeing (Katz & Marshall, 2003: 4), while stressing that citizens have an obligation to live healthy and responsible lives; guilt and anxiety are invoked when these behavioral demands are not met (Lupton, 2012: 33). At the same time, with the rise of the Internet, patients and consumers are able to gather all sorts of medical information as well as use self-diagnosis tests and online platforms, all of which can be refined through discussions with co-sufferers. The increased availability of medical information has transformed the lay patient into a potentially well-informed expert patient who is able to manage their own consumption of health related products. These possibilities have diminished the gap between the experienced and well-educated doctor and the patient (Lupton, 2012: 132; Fox

et al., 2005). In this sense, the internet may democratize health care practices in a way that stimulates users not only to consume medical information but also to purchase medicines themselves, again often online (Fox et al., 2005).

Fifth, these sociological changes go hand in hand with medical science that offers increasing means to alter the boundaries of physical bodies and strive to perfection. This is particularly related to the medicalization of society that displays an expanded medical framework to define social, physical and mental conditions. Medicalization transforms perceptions of health and lifestyle into demand for pharmaceuticals. The term ‘medicalization’ is used to describe situations where a problem is defined ‘in medical terms, using medical language to describe the problem, adopting a medical framework to understand a problem, or using a medical intervention to treat it’ (Conrad, 1992). Thus, medicalization refers to the social construction and redefinition of aspects of normal life within a medical framework (Nettleton, 2013), and especially to the use of medicines to treat lifestyle conditions that demarcate the boundaries of a field of medical treatment on the borderline between sickness and health (Gilbert et al., 2000). A lifestyle wish becomes a health problem only when a biomedical cause or a medical treatment for the ‘problem’ can be identified (Gilbert et al., 2000). Such identifications are becoming increasingly common, which enables the forces of medicalization to shape the demand for licit and illicit lifestyle medicines. In addition, De Swaan (1979) refers to the phenomenon that people are being influenced by medicalization and acquaint themselves with a medical approach, something what he refers to as ‘proto-professionalism’.

Medicalization does not proceed at a uniform pace throughout the world. The medical profession, which typically is regulated at the national level, is seen as an important driver in the formulation of medical frameworks and prescription of medical treatment. Because of their knowledge and experience, health professionals are often granted the authority to define conditions as medical problems, and some argue that they are using this authority to broaden the definitions of ‘medicine’ and ‘medical treatment’. Critics argue that health professionals are not the only drivers of medicalization; rather, pharmaceutical and biotechnology industries are increasingly effective at ‘shaping and disseminating medical knowledge’ (Nettleton, 2013: 26; Conrad & Barker, 2010). Gilbert et al. (2000) go so far as to suggest that health issues are of secondary importance in the process of medicalization: the choice for development of types of medicines is often determined by the profitability of the sale instead of the direct health need. Lexchin (2001) concurs, arguing that as more time, money and energy are spent on the development of lucrative lifestyle medicines, less is available for research that might lead to less profitable treatments for life-threatening diseases. The way in which pharmaceutical companies expand the needs and wants of patients while providing medical treatment, is also referred to as ‘disease mongering’ or ‘selling sickness’ (Gilbert et al., 2000). The high demand for lifestyle medicines thus needs to be situated within the context of

changing notions of beauty, and health, and influences of the pharmaceutical and biotechnological industries.

2.4 The meso level: organized crime, social embeddedness and the structure of illicit markets

On a macro level, various interacting forces of globalization, consumer culture and identity thus all help to situate the illicit market for lifestyle medicines. Apart from the macro forces that shape the nature of (online) illicit markets, such markets have been studied and theorized abundantly on the meso level. In terms of structure, criminological research on illicit markets focuses mainly on organized crime components, that is, the functioning and structure of organized crime groups (Gounev, 2011). Although a wide variety of definitions on organized crime exists,⁵ generally there is consensus that organized crime can be defined “as a continuing criminal enterprise that rationally works to profit from illicit activities that are often in great public demand. Its continuing existence is maintained through the use of force, threats, monopoly control, and/or corruption of public officials” (Albanese, 2010: 4). Involvement in illicit markets activities is a significant element of almost all definitions of organized crime (Paoli, 2002: 55). Despite the wealth of studies on organized crime, the concept remains a highly debated and ambiguous topic (Siegel, 2008). For example, Passas (1995) argues that an indication of organized crime could be the degree of organization, while others focus on the internal systems of rules of conduct (Siegel, 2008; Gambetta, 2009). In criminological research, various theoretical models⁶ are applied to the understanding of organized crime, including the *illegal enterprise model* in which illegal activities are expected to be quite similar to legal activities and that illegal actors and enterprises operate in similar ways in legal markets (e.g. Reuter, 1983; Van Duyne, 1993). In Chapter 7 of this thesis I show how some of these images do not stem with findings of this study.

In recent years, it has been suggested that the online opportunities and the low risks and penalties, have stimulated organized crime groups to get involved in this particular market. The supply of illicit pharmaceuticals has thus often been positioned in the context of old-school organized crime, including insinuations that large hierarchical organizations drive the production, distribution and sale of illicit pharmaceuticals (UNICRI, 2012; Attaran et al., 2011; Bate, 2012). In these instances, the organized crime groups involved in the pharmaceutical trade are represented as mafia-like structures with a high degree of organization

5 See, for example, the definitions used by Galeotti (2009), Hagan (2010), Abadinsky (2010), Fijnaut et al. (1998), UNODC art 2.

6 See, for example, Paoli (2014) and Von Lampe (2016) for an overview of the theoretical approaches that are used in criminological analyses of organized crime

and a monopoly control over the illicit pharmaceutical market (IRACM, 2013; Attaran et al., 2011).

Criminological studies on both organized crime and illicit markets often explore the extent to which organized crime groups are involved in the supply of the illicit goods and products (Von Lampe, 2015). Yet, whereas scholars once believed that organized crime groups had a near monopoly over the supply of illegal goods and services, this image of a high degree of market organization, regulation and control has been tarnished in the face of evidence to the contrary (Von Lampe, 2015; Reuter, 1983). As Paoli (2002) observes, there is a paradox to characterizations of organized crime as both large-scale organizations as well as primarily involved in the supply of illicit goods when, in fact, the supply of illicit goods and products is primarily *not* conducted by large organizations (Paoli, 2002: 52). The idea of the existence of hierarchical and structured organized crime groups dominating illegal markets has been challenged, largely successfully, by a notion of smaller crime groups with a horizontal structure. For example, Reuter (1983) describes the groups that are operating within the market for heroin as ‘disorganized crime’. These criminal groups do not operate as one structured group, but rather as loose and dynamic groups built of criminal relations, as smaller groups and enterprises have more success in operating. This is related to different obstacles that actors may face in illegal markets, such as the need for discretion (otherwise facing charges), the absence of reliable legal redress in case of broken agreements or the lack of external financial markets (Reuter, 1983). Although history is replete with evidence of large criminal groups and some are still in existence, such as the Italian Cosa Nostra, generally the structure and the mutual relationships within a market are constantly subject to change, are volatile and flexible: regularly actors either participate or leave the business, relationships change constantly and thus new connections are formed (Paoli, 2002; 2003). The notion of the disorganized structure of illicit markets is found in other studies as well (e.g. Adler, 1993; van Duyne, 1996; Paoli, 2002; Zaitch, 2002; Antonopoulos, 2008). In-depth ethnographic research on Colombian market actors in the transnational cocaine trade reveal the involvement of small, flexible and informal firms and groups, thus challenging the existence and certainly the relevance of large and organized Colombian cartels (Zaitch, 2002). Similarly, the illegal market for cigarettes is characterized by low density groups, individual actors and basic structured enterprises (Von Lampe, 2003). Within the drug trade, one could speak of simple co-offending rather than sophisticated criminal organizations (Morselli, 2009: 158).

Whereas the organization of illicit pharmaceuticals is generally positioned in the context of large transnational organized crime groups, in several illicit markets (e.g. drugs) and semi-legitimate markets (e.g. diamonds, wildlife, steroids) a variety of individual actors, groups and networks seem to be involved. In this thesis I will show that a whole continuum exists from the one-man business on the one end to vertically integrated corporations with hundreds of members on

the other (see also Von Lampe, 2015; Gounev, 2011). Therefore, presenting the groups involved solely as organized crime groups does not coincide with the broad variety of actors, networks and groups. Instead, the empirical starting point is the existence of a transnational chain, from production till consumption, in which there is, in one way or another, some form of cooperation, structure and organization. In an idealized pipeline model, the trade can be analyzed from the level of production, to the meso level of middlemen and micro level of retailers (e.g. Siegel, 2009).

In social network theory, this continuum of organizational activities can be translated in terms of flexible social networks: it allows for the incorporation of all levels of social relations and criminal cooperation. Bruinsma & Bernasco (2004) observed three types of illegal transnational markets through the prism of organized crime and criminal networks. They claim that different aspects of social networks must be analyzed, including the actors, relationships between actors, characteristics of the network structure, the position that a person occupies in the network structure and relationships between networks (Bruinsma & Bernasco, 2004). Morselli (2009) supports this process, arguing that while the social network approach has been criticized for the possibility of including everyone in a social (criminal) network, it nonetheless offers an analytical tool that is sufficiently robust to incorporate various actors into a flexible and evolving structure, in which new nodes and relationships being formed and older ones vanish.

An integral part of social network theory is the social embeddedness of organized crime. Specificities about the social ties and social interactions are crucial to understand the social networks and structure of actors operating within illegal markets and other illicit activities. An influential essay from economic sociologist Marc Granovetter (1985) depicts on this concept of embeddedness, where he claims that economic transactions are conducted in networks of trust and social relations. This notion has been applied to organized crime research, too. Actors operating in illicit business face several obstacles, such as the absence of formal contracts, legal apparatus, financial markets, etc. To overcome these, trust is a highly important mechanism through which agreements are formed and transactions are completed. Paoli claims that trust increases the more transactions have taken place between two parties (Paoli, 2002). In addition, factors such as geographical distance, ethnicity, education and age affect processes related to the formation of trust and social ties. The more people have daily activities in common, the more likely people are to trust each other (Kleemans, 2014). Initial perceptions of trustworthiness of actors can be based for example on reputation, kinship or ethnicity (Von Lampe & Johansen, 2004). In organized crime and other forms of illicit economic activities, friends, acquaintances, families and ethnic relations fill this role. Trust relationships are vital between suppliers and dealers on different levels, as well as between sellers and consumers. The way in which both consumers and suppliers of illicit medicines interact and build trust relations both in person and

through online communication, will be further outlined in this study, primarily in Chapter 5 and 6.

Market characteristics and structure of the supply vary considerably across illicit markets. The type of illicit product traded offers some explanatory power for this variation. For example, cocaine markets are typically sites of higher levels of violence than are marijuana markets (Von Lampe, 2015: 268). This can be related to competition between actors or smaller networks, but is as well related to the type of illegality of the product, the inherent risks, and social relations. Von Lampe demonstrates that high levels of violence are more likely to occur in localized settings where physical markets exist on designated physical spaces (Von Lampe, 2015: 271). At the same time, when risks in certain semi-legitimate markets are low, market actors tend to form bonds more easily, which in turn creates volatile and loose structures, which then shape the extent and intensity of criminal cooperation (Von Lampe, 2003). This has been supported by Van Dijck (2007), who describes the cigarettes market as open and with a low threshold to entry, because the risk of being caught is low, the punishment for being caught is not considered to be heavy, moral threshold is low and the profits are high. These factors enable a broad range of participants to operate within the illicit cigarettes market (Van Dijck, 2007). Van Duyne (2003) conducted research on the cigarettes trade by analyzing case files. He argues that the offenders of this market do not resemble the common and stereotypical notion of juvenile and young offenders committing crime, but are rather men of an advanced age who operate through non-violent means (Van Duyne, 2003). The same occurs in the European drug market, where especially on the intermediate and lower level, dealers and suppliers operate individually and have no further contact with persons in the underworld (Paoli, 2000). Whereas the trade in illicit medicines concerns a product that can be sold legally as well as illegally, it is thus likely that there are different levels of trust, violence and trust relations exist in this market.

Therefore, different types of illicit markets should be identified. Beckett and Wehinger (2013) provide a categorization for the analysis of illicit markets. The categories of illegal markets they propose are: 1) *illegality due to the outlawing of the production of specific goods or services*. In this category, the exchange of products of which the production itself is illegal, such as illegal drugs or human trafficking; 2) *illegality of the market exchange of an otherwise legal product*. The goods or services are legal but the exchange on markets is outlawed, such as the illegal trade in organs; 3) *illegality due to theft or forgery*. In this category, the goods or services are licit but are marketed on the basis of fraudulent information, such as fencing stolen products, counterfeit clothes or counterfeit pharmaceuticals. The market for stolen products does not necessarily need to be a distinct market, but can also intertwine with the legal market; 4) *illegality due to the violation of regulatory stipulations in the production or distribution process*. This category covers legal goods and services, which can become illicit at specific points along the production or distribution chain. Examples

are tax evasion of cigarettes, illicit generic pharmaceuticals or illicitly traded species under the Convention on International Trade in Endangered Species (CITES) (Beckert & Wehinger, 2013). Indeed, products that are illegal in itself (the possession is illegal) may bring along different forms of risks, trust and social ties than the trade in semi-legal goods and services and may thus lead to different structures, organization of the market and interface between the legal and illegal market. Applied to this categorization, the market for illicit lifestyle pharmaceuticals falls under the third and fourth category, as there exists a legitimate market for pharmaceuticals while the stolen, counterfeited or trade in illicit generics can transform the products into illicit ones. As stated by Beckert & Wehinger (2013) the first and second types of illicit markets are usually distinct illicit markets, while the third and fourth type are rather intertwined with or relying on the legitimate market. The latter causing the illicit market to become less visible (Beckert & Wehinger, 2013: 10). Similar to findings on the doping trade (Paoli & Donati, 2014: 18), the market for illicit medicines refers to a semi-legitimate market where “in some contexts, the products, including their supply are legal, and in others they are not”. Another important aspect is that actors involved in the supply of illicit products that are also sold on the legal market, are competing with other actors in the illicit market but also with suppliers on the legal market (Gounev, 2011). Although the delineation of Beckert & Wehinger (2013) does not provide explanatory power for the organization and dynamics of the illicit trade, its conceptual framework will be applied to the trade in illicit medicines.

2.5 The micro level: dealers, entrepreneurs and consumers

In the preceding sections of this chapter, macro and meso levels of illicit markets for pharmaceuticals have been outlined. However, often it is impossible to separate market levels, as market actors may be involved in different levels of the market and they are shaped by various broader social and cultural factors (Potter, 2009). In this final section, the retail level of the market will be delineated within those broader contexts. Cultural context, subcultural values, symbols and meaning are particularly relevant to an understanding of actors who operate on the retail level (e.g. Sandberg, 2012; Coomber & Moyle, 2014; Van de Ven, 2016). Sandberg (2012) among others argues that the cultural contours of markets are relevant for the dynamics and structure of the illicit trade. For example, the norms, values, beliefs and rules that are appropriate to a specific cultural setting are crucial factors for understanding the structure of a market and behaviour of the suppliers involved (Van de Ven, 2016).

To understand the motivations and actions of retailers on an individual level, an important distinction can be made between *open* and *closed* markets (May & Hough, 2004). As described in the previous part is the type of illicit market and the products that are traded there, associated with the organization and structure, but it is also related to the interaction between actors on an individual level. In

this sense, open illicit markets can be described as markets that are relatively open to consumers, with few barriers to access. Buyers and sellers know where to find each other quite easily (May & Hough, 2004). For example, research on Eastern European itinerant groups shows that local markets are used for the trade in all sorts of legal, semi-legal and illegal goods (Siegel, 2013). In closed markets, more risks are involved, which causes market actors to cooperate only when they have an established and solid trust relationship with one another. In the case of illicit markets, there has to be a balance between openness and ease buyers and sellers finding each other, on the one hand, and protection and reducing the risk of arrest by state-sanctioned authorities on the other. In short, markets seek a balance between access and security. The extent to which an illegal market is open or closed depends on the risks posed by police and law enforcement, and this risk is not static (May & Hough, 2004).

When research is limited to a specific subset of the drug market, as in this study, different types of suppliers can be outlined. Potter (2009) argues how on the lower level of drug markets, the demand and supply are often intertwined and a distinction between ‘real dealers’ and ‘user-dealers’ or ‘social suppliers’ can be analytically valuable. While economic gain is an important motive for the first group, the latter can be considered as drug supply for noncommercial purposes, primarily to non-strangers (Potter, 2009). Similarly, Coomber and Moyle (2014) refer to ‘minimal commercial dealers’ for whom economic gain is not the main motive for market entry, but aspects of market culture are still relevant, because such people provide substances, for a price, to friends and acquaintances (Coomber et al., 2015; Kraska et al., 2010; Van de Ven & Mulrooney, 2016) while market-oriented dealers refer to suppliers that have no prior connection to the market culture (Van de Ven & Mulrooney, 2016). To date, the motivations of retailers in the illicit pharmaceutical market have not been studied. This study, which seeks to link and understanding of different types of dealers, their motivations and their cultural contexts to an explanation of their actions, thus fills this gap in the criminology literature. In Chapter 6, these concepts are lined to findings on the retail suppliers of the illicit medicines market.

Moreover, market actors may have varying values and beliefs about what is socially acceptable or not, about what should or should not be legal. For example, Moore (1978) shows the development of semi-autonomous social fields which are associated with their own regulations and informal norms and values that do not necessarily match implemented laws and regulation. According to Griffiths (1986) may ‘regulation by a semi-autonomous social field be regarded as ‘more or less “legal” according to the degree to which it is differentiated from the rest of the activities in the field and delegated to specialized functionaries’. Opinions of market actors do not necessarily match laws and regulations that are actually implemented and thus influence market dynamics and structure. Therefore, a distinction can be made between what people understand to be *legal* (as written in laws and regulations) or what people understand to be *legitimate* (specified by their beliefs and values) (Webb, Tihanyi, Ireland &

Sirmon, 2009: 492). When the legal and legitimate ideas do not correspond, one can speak of an informal economy in which illegal yet legitimate actions occur. Webb et al. continue by arguing that some entrepreneurial activities that happen in the informal economy still match the norms and values of larger groups in society, for example in the case of trader tourism or music and film piracy. This type of behaviour is placed at the boundaries between the formal and informal, the legal and the illegal (ibid.: 493). This notion is particularly relevant within the market for illicit medicines, as the traded goods inherently lie on the border of what is legal and illegal, and perceptions of which side of this border the goods lie influences the perceptions, ideas and motives of all involved market actors.

Related to the various types of dealers that are distinguished in drug markets, the entrepreneurial model may look at the individual level or smaller groups of actors. Within economic sociology, entrepreneurs are described as individuals able to find and exploit new opportunities, which arise when situational conditions allow an entrepreneur to create value through developing new means and ends (Casson, 1982). In legal markets, entrepreneurs usually uphold a 'heroic' or pioneering status (Williams & Nadin, 2010) and may either operate individually or in form of collective arrangement (Webb et al., 2009). In general, entrepreneurship is seen as a driver behind economic growth and innovation, as people take risks and are creative in finding new opportunities. Market culture within the informal economy varies markedly from its legal counterpart. *Informal entrepreneurs* operating in this sphere are not defined as heroic but rather often understood as members of marginalized populations who conduct their work out of necessity, or more as voluntary entrants who exploit their opportunities in the informal market out of choice (Williams & Nadin, 2010). Furthermore, a *criminal entrepreneur* can be described as a person who operates a new enterprise or venture and assumes some accountability for inherent risks (Gottschalk, 2010: 299). Gottschalk states that criminal entrepreneurs exploit new market opportunities, which create new economic value because of newly created or increased demand for goods and services in illegal markets. He claims that 'entering an illegal market as an entrepreneur is based on the assumption that there are competitive imperfections reflecting changes in technology, demand or other factors that individuals or groups in an economy attempt to exploit' (Gottschalk, 2010: 299). The current study focuses in particular on the motives of suppliers, barriers to enter the illicit market and the methods and tactics of entrepreneurs.

In addition, in the online world, geographical and moral boundaries are more easily passed and this has created a whole range of new opportunities. There are fewer entry barriers to online illicit markets and other informal/illicit activities (Dobson, Sukumar & Tipi, 2015). Donson, Sukumar & Tipi (2015) outline how technological skills in 'cyberspace' can result in the creation of vast online opportunities. They use the term 'institutional entrepreneurship' to define entrepreneurs who build new networks and virtual spaces, for example

the Silk Road. In the online world, physical boundaries as well as national and international regulations are easily circumvented (Dobson, Sukumar & Tipi, 2015). Digital entrepreneurs are able to find innovative ways to create and exploit existing gaps and grey areas. For example, entrepreneurs with the technical skill to adjust to the speed and fluidity of the virtual world have limitless access to grey areas where they are hardly visible to the general public. Scholars claim that this happens in the offline world, too, but the ease and speed of worldwide connectivity, the stability of encrypted identities and the invisibility from enforcement agencies are all related specifically to the characteristics of the internet (Dobson, Sukumar & Tipi, 2015). The ease of entry into informal online activities is particularly relevant for the illicit pharmaceutical market, as it is suggested that the trade expanded precisely because of endless internet opportunities. Hence, one can identify and analyze a wide range of online activities that lie at the moral and regulatory borderline of what is legal, illegal, socially accepted or not. Indeed, whether these activities should be regarded as social entrepreneurial, informal or illicit remains open for debate and further blurs the boundaries.

Technological tools can thus ‘democratize’ illicit activities (Levi, 2001). The ease with which actors can get in contact with others and involved in illicit activities has been augmented by the internet. This applies to the supply of illicit pharmaceuticals too, where individual actors and illicit or informal entrepreneurs can easily get involved. With at times limited technological knowledge, it is already possible to trade, buy and sell legal, semi-legal or illicit products worldwide. In criminological literature, this is often referred to as the dichotomy between online and traditional illegal markets (Hayward, 2012; Hall & Antonopoulos, 2016). In traditional markets, actors operate face-to-face, while anonymity is an important characteristic of online markets. Yet, although the internet has brought an important shift in the occurrence of the ‘real-world’ interaction, illicit markets constantly adapt to new technological improvements (Hayward, 2012). For example, the use of mobile phones transformed drug retail markets in the mid-1990s, highly improved contact between actors and provided greater flexibility to meet and alter delivery systems (May & Hough, 2004: 554). Although the internet has implications for the operation and control of illicit markets, online illicit markets cannot be separated from traditional markets, but are rather in the same line of markets that are constantly subject to technological, social, legal and cultural change (Hayward, 2012).

Finally, the demand-side macro- and meso-level theories discussed above are also associated with micro-level behaviour. For example, concepts of self and identity, and Goffman’s notions of identity and dramaturgy, can be applied to consumers of lifestyle medicines on the micro level. Identities are shaped by macro, meso and micro forces, and can thus influence behaviour on various levels. As earlier mentioned, Giddens (1991) outlines the dialectical interaction between late-modern institutions on a macro level and the self and identity-formation on a micro level. Also, consumer culture, changing notions

of beauty and medicine, and the wish to maximize one's human capabilities are all aspects that influence consumer activities on a micro level. According to Goffman (1959), behaviour and actions are shaped by the dramatic interaction between actor and audience, and delineates 'front' and 'back' stage regions of interaction, where front stage behaviour is public and the performance is rather fixed, while back stage behaviour is more private. Although Goffman's concepts mainly focus on face-to-face interaction, various scholars have emphasized how his work can be applied to digital communication (Cetina, 2009; Sugiura, 2013; Murthy, 2012). For example, Sugiura (2013) highlights how a distinction can be made between front stage blogs and forums in which consumers of medicines can publicly interact with other digital users, while back stage websites are only accessible for a limited public. Through back stage web forums and the use of pseudonyms, internet users may rely on anonymity. Yet, in an online environment, the privateness and publicness of spaces becomes blurry (Sugiura, 2013). Finally, through online communication, consumers may feel less stigmatized by their surroundings, for example when purchasing 'embarrassing' medicines. In the current thesis, the various interacting concepts that explain the ideas, perceptions and behaviour of individual market actors on both the demand and supply side are key in the analysis of this study, situating the activities and ideas in the context of subcultural values, beliefs on the legitimacy of the traded goods, online entrepreneurial opportunities as well as online communities and identities.

2.6 Conclusion

As markets are formed within a cultural, social, economic and political context, the analysis of this study is situated on a macro, meso and micro level among those disciplines. First, a conceptual framework of economic sociology is adopted that focuses on the type of product traded as well as on the social and cultural contours of the market. Therefore, on a macro level, the illicit market for pharmaceuticals is situated in a globalized, late-modern culture, with a specific emphasis on consumerism and identity, and incorporating sociological notions on beauty, health and illness, the focus on perfection and drivers of medicalization. On a meso level, the structure and organization of illicit markets in criminological research is theorized and compared, with a specific focus on the social embeddedness of organized crime, networks and online entrepreneurs that are all important in the supply of illicit pharmaceuticals. On a micro level, various types of dealers and retailers are discussed and Goffman's concept of performance is further outlined. The behavior of suppliers and consumers involved are situated in the context of online entrepreneurial activities, cultural values and beliefs. These macro, meso and micro levels will be used as a framework for the further analysis of the illicit pharmaceutical market, with a dialectic relation between various levels and disciplines.

Methodological issues: researching the illicit market for lifestyle medicines

Having outlined the theoretical foundation, I now turn to the methodological assumptions and research methods employed in this study. First, I present the research design and justify the selection of the five chosen research methods. Second, I elaborate on the specific methods used to obtain my data for this study: i) a literature study, ii) interviews with consumers, suppliers and experts; iii) an analysis of official data; iv) an online analysis of websites and v) a survey of consumers. As each data source employs its own methodological principles and these vary significantly, I also discuss the method, access and sampling used with each source. Finally, I focus on ethical considerations and methods of data analysis, as well as on the strengths and weaknesses of the data overall.

3.1 A mixed method approach within cultural criminology

With a few exceptions (Di Nicola et al., 2015; Hall & Antonopoulos, 2016) findings on the demand and supply of the illicit pharmaceutical market in Europe are primarily based on official, statistical or non-academic research (e.g. IRACM, 2013; Interpol, 2014b). Although these quantitative studies on illicit markets have offered new insights into a relatively understudied phenomenon, they can hardly offer an understanding of the market actors involved, while a reliable picture of the scope of such hidden markets is almost impossible to estimate (Thoumi, 2005). To grasp a full and rich criminological understanding of an illicit market, it is therefore important to retrieve in-depth information about the cultural context and social dynamics between different actors in the market (Paoli, 2000; Zaitch, 2002; Dwyer & Moore, 2010).

In order to understand the dynamic interplay among actors operating, competing and developing trust relations, as well as how the illicit market is structured, a cultural criminological approach is particularly valuable. As described in the theoretical framework, this school of thought explores the many ways in which cultural dynamics intertwine with the practices of crime and crime control in contemporary society (Ferrell et al., 2008). By means of ethnographic research methods and a focus on the knowledge and perspective of the subjects under study (an emic approach), the meaning of criminal and deviant behavior is situated in broader social, cultural and anthropological contexts in order to understand the meaning and representations of deviancy (Ferrell et al., 2008). A

qualitative cultural criminological approach to illicit markets therefore provides the opportunity to gain a thorough understanding of how market actors operate, interact, give meaning to their activities and situate this in a social, cultural and even economic context that influences the way illicit markets are structured in late-modern culture. By means of a qualitative research approach, micro-level interactions will be situated in a broader societal, social and cultural context and this will deepen the empirical as well as the theoretical understanding of the illicit medicines market. This study thus first and foremost builds on qualitative data retrieved from interviews with suppliers, consumers and other experts in the field, and an analysis of important websites.

While qualitative sources provide rich data on the activities, methods and motivations of market actors, implications drawn from them might emphasize idiosyncrasies within the small sample of respondents, rather than reflect general social trends. In order to offset that potential weakness, this research is based on a mixed method approach that includes both qualitative and quantitative research methods. A mixed method research process involves the collection of both numeric as well as textual information (Creswell, 2003), and relies on the notion that the combination of qualitative and quantitative research methods results in a better understanding than either approach can offer on its own (Creswell & Clark, 2011). This methodological approach is often criticized for being too soft or too positivistic; there is a general preference for the focus on qualitative or quantitative methods (Maruna, 2010). This trend can be seen in the work of cultural criminologists. Some scholars balk at using official numbers, statistics, police files or surveys as these are claimed to lack in-depth information regarding why and how criminal and deviant behavior occurs (Young, 2004; 2011; Ferrell, 2001; 2013). Alternatively, more positive normative criminologists regard qualitative research methods as non-random and subject to biased interpretation and therefore unreliable (Worrall, 2000; Cawthorne, 2001).

Especially in topics that involve a population that is difficult to reach, combining a variety of approaches, methods and tactics results in reliable and rich datasets (Maruna, 2010) that situate qualitative micro-level data within the larger sociocultural context as understood through quantitative analysis (Creswell & Clark, 2011), which is key to providing a cultural criminological analysis of a social phenomenon. Therefore, the best of both worlds are combined in this thesis: the triangulation of qualitative and quantitative sources strengthens the data and findings of each on its own. Quantitative data on seizures and consumers in the Netherlands suggest overall trends of the types of medicines consumed, conservative estimates on the size of the market as well as general motives and ideas of consumers. At the same time, interviews present rich insights into the motivations, ideas and activities of actors in the retail and distribution level, and analysis of court cases can shed light upon wholesale trade.

Generally, the use of various qualitative and quantitative research methods results in different sorts of information. Quantitative research through the adoption of surveys and regression models are generally perceived as tools that can obtain 'objective' information, with valid and replaceable results, similar to natural sciences (Ferrell, 2009; Maruna, 2010). On the other hand, the interactionist approach, often used in qualitative research, hinges on the belief that reality is constructed by people's experience of it. Interactionists therefore adopt a contextualized methodology that focuses on the point of view of respondents (Ferrell, 2009; Maruna, 2010). Although it has been suggested that these two opposite epistemological stances are incommensurable, this does not mean the different types of research tools cannot be combined in the same research (Morgan, 2007). For example, symbolic interactionists may use quantitative research methods, while positivists can include qualitative tools to gain information (Maruna, 2010). Likewise, in the current study, an interactionist approach is adopted with the inclusion of both qualitative and quantitative research methods. While the methods may be different, the epistemological stance is the same: quantitative research tools are not employed to provide objective facts but, like qualitative data, are considered to follow from subjective interpretations of respondents. Hereby, theoretical and conceptual approaches from an interdisciplinary field of research are adopted to test and retest my data, in order to combine data and theory.

The research questions of this work will thus be examined by adopting a mixed qualitative-quantitative approach. The main research question is:

How are actors involved in the illicit medicines trade and how is the illicit market structured?

Sub-questions include: i) why is there a demand for illicit lifestyle medicines? This sub-question focuses on the demand side, which will primarily be studied through literature, interviews and the online analysis; ii) what are the characteristics, motives and preferences of the consumers? This sub-question also concerns the demand side and will be studied through a large survey, interviews, online analysis and literature; iii) what are the characteristics, preferences and modus operandi of suppliers involved? The aim of this question is to understand the activities, motivations and interactions of both the consumers and suppliers, and data will be obtained through literature, interviews and the survey study; iv) how do consumers and suppliers interact and build trust in an online environment? Their interaction and relationship is studied through online analysis, case files and interviews; and v) what is the nature of the trade and how is the illicit market organized? The goal of this sub-question is to analyze how the supply side of the market is structured, what kind of networks and interactions are taking place. This will be examined through conducting interviews, case file analyses and virtual ethnography.

The research questions and associated methods are applied to a micro-, meso- and macro-level analysis of the illicit pharmaceutical market. An overview of the different data sources is presented in Table 3.1.

Table 3.1 Overview of different data sources

	Research method	Specifics	Amount	Total
1.	Interviews	Suppliers	32	81 interviews
		Consumers	10	
		Experts	39	
2.	Online analysis	Websites consumers	6	17 websites
		Websites supply	11	
3.	Case files	OM	14	69 case files
		IGZ	49	
		FIOD	6	
4a.	Prevalence survey	ED medicines	232	432 respondents
		Weight loss	200	
4b.	Main survey	ED products	88	153 respondents
		Weight loss	70	

Note: some of the respondents from the survey study reported that they purchased both ED medicines and weight loss medication. Therefore, the total amount of respondents from the two survey studies sum to less than the respondents per medicines type.

Especially in qualitative research, reflexivity is important, as the interaction with respondents is key but also highly flexible. In the following paragraphs, I will examine and reflect on the various methods that were employed to obtain the data for this research. Additional information on the different data sources can be found in Appendices I-VI.

3.2 Literature review

A literature review was performed at the start of the research in order to gain a thorough understanding of the available knowledge, theoretical foundations and empirical insights in the illicit market in lifestyle medicines. Scientific literature, official reports and popular media related to illicit markets, cultural criminology, counterfeit medicines, risks, drug and steroids markets, were analyzed. Academic literature was search by means of several databases, such as Google Scholar and EBSCO. At the beginning of 2014, the first round of literature review was finished. After that period, the focus lied on obtaining other data sources, which are being outlined in the following sections. After finishing fieldwork, a second literature search was performed in order to update the findings with new scientific and official materials.

3.3 Interviews

A first qualitative source of data for this research is the people who were interviewed. Respondents can provide in-depth information that cannot be inferred, or much less retrieved, from official and statistical data. Interviews with market actors involved in the pharmaceutical market offer not only information on what happens, but also on why things happen and how. The respondent as the *knowledgeable agent* can provide in-depth information about their behavior, thoughts or ideas (Beyens & Tournel, 2010: 203). Without aiming to obtain objective information from a positivistic view, but aiming rather to follow the perspective of the respondent, interviews are a perfect tool for understanding how market actors make sense of their behavior.

In total, 81 semi-structured interviews were conducted with a wide variety of respondents between January 2014 and May 2015. Out of the 81 respondents, 25 interviews took place in the Netherlands with suppliers who operated on various levels of the supply chain: suppliers for internet businesses, middlemen, offline retailers and drop shippers. The majority of supplier respondents were male; throughout this research, only four female suppliers have been spoken to. The age of the suppliers ranged from 21 to 67 years old. In addition, 10 interviews were conducted with consumers that have purchased and used illicit pharmaceuticals. Hereby a gender division occurred: all five consumers of erectile dysfunction medicines were male, while three of the five consumers of weight loss drugs were female. Eight consumers were younger than 40, only two consumers older, and ages ranged from 18 to 58. A further 22 interviews were conducted with officials, including general practitioners, customs officials, representatives of health organizations, employees of pharmaceutical companies, documentary makers and researchers (Appendix I contains a comprehensive overview of the conducted interviews). In addition to one extended interview with each person – the typical interview lasted 1,5 hours, I spoke informally with many other respondents. These include customers that visited shops or markets that I visited, colleagues of respondents involved in the trade or side conversations during occasional public meetings.

The purpose of the interviews with consumers and suppliers was to learn more about their behavior, ideas and motives for being involved in the trade or use of unlicensed medicines. More specifically, the interviews focused on the activities, the ideas of the suppliers and consumers, as well as on how they made sense of the market, their interaction with other market actors, trust relations and the social organization of the trade. Once again, the aim here was not necessarily to acquire ‘objective’ information on how they operated and conducted their business. Instead, the focus was on the lived experience of the actors operating within the illicit market, which eventually resulted in gaining information on their own personal ideas and motivations, as well as details on operations. Additionally, interviews with health enforcement officers and other ‘experts’ sought to gain background information on specific law

enforcement cases and general trends in confiscation types and sizes, as well as on developments in online markets or examined medicines. In these instances, the focus was not on the lived experiences and ideas of consumers and suppliers, but merely as a technique for cross-checking information obtained from the literature, case files and interviews, and to gain new insights into the general trends in the market.

3.3.1 Sampling and access

Gaining initial access to law enforcement and other officials in the Netherlands was straightforward. Overall, after explaining the purpose of my research over the phone or email, most of the respondents agreed to be interviewed. Generally, these respondents said they would be able to speak openly about their knowledge of the trade, and were willing to contribute to what some referred to as an important study. However, I was aware that the interests of certain respondents conflicted with the interests of certain others. In a couple of instances, my questions touched upon sensitive or open cases, but respondents were usually not allowed to comment about ongoing cases, or provide personal and sensitive information on other cases. For example, one respondent asked while the voice recorder was on the table: “do you want an official answer with the recorder on or do you want an honest answer after switching it off?” In those cases, I switched off my recorder and took notes immediately after the conversation. Furthermore, some of the law enforcers expressed their interest in my research and claimed to be willing to participate, but remained reluctant to provide anything more than common knowledge. However, by and large, the interviews with officials and experts went rather smoothly.

While trade in illicit medicines does not fall among the most serious offenses of the penal code, suppliers inherently try to hide their business from law enforcement. In order to find suppliers willing to be interviewed, I used several techniques to reach this hidden population.

First, I gained access through respondents of my previous research for my master’s thesis. During my fieldwork in 2011, I had established a trust relationship with six suppliers and I could directly rely on five of these when I continued the fieldwork for my dissertation (Koenraadt, 2012). Three of these initial connections agreed to bring me into contact with other suppliers or consumers in the Netherlands, which was a good starting point. Subsequently, a snowball method was applied. This method implies that those respondents identified as suitable respondents and willing to participate were asked for help to identify other possible respondents. Snowball sampling helps to increase the sample size in research on hidden populations (Beyens & Tournel, 2010: 104; Davies, Francis & Jupp, 2011: 169).

Second, I established a range of new contacts and trust relations with respondents during the course of the fieldwork. When I entered the field, I regularly visited places in the Netherlands where illicit medicines might be

sold: open markets, sex shops, vitamin shops, and more. I also went to parties and searched online for suitable settings. This enabled me to map out areas with a high potential to recruit respondents, a method referred to as ‘target sampling’ (Watters & Biernacki, 1989). When I visited a location for the first time, I usually avoided discussion of illicit medicines. Instead, I tried to engage in general conversations about the consumption of particular medicines. For example, in the case of a Dutch sex shop, I first asked whether the vendor was selling Viagra and, after an affirmative response, I started with questions about the popularity and the type of people consuming. After hesitant probes by these suppliers in order to confirm my role as a researcher instead of a law enforcer, conversations with the suppliers were overall informal and at times entertaining. Once there was trust, it was important to gradually ask questions on the illicit trade, even though in some shops it was openly sold and the suppliers did not seem to hide their business too much.

Thirdly, during the virtual analysis, contact was made with suppliers of illicit medicines by means of the telephone or e-mail address provided online. Most of the suppliers I met through my previous research and during the first stages of the target sampling on physical locations, could be classified as ‘social suppliers’ (Potter, 2009) and were usually uninvolved in the online trade in medicines. So, in order to gain a more diversified sample of respondents, I decided to recruit online suppliers. Because these suppliers do not necessarily belong to a network of suppliers and were most likely not to be found through further target and snowball sampling, I focused on websites in the Dutch language that were seemingly involved in the illicit supply of medicines. However, whereas I met most social suppliers through the snowball method or I could introduce myself in shops where I could gradually present the purpose of my research to slowly gain trust, establishing virtual contact usually occurs without direct face-to-face interaction and thus requires a different approach (Salmons, 2009). Contacting online suppliers by email was fruitless, likely because the recipient had no tools to assess the reliability of my intention. On the phone, however, I managed to contact and interview, in a later stage, five online suppliers. Hereby I applied the same tactic as in shops and markets, by first outlining my interest in the general consumption of certain medicines, without asking too many questions about the supply. When there was more trust I could focus my questions on the supply. Gradually revealing the purpose of my calling, and slowly enquiring about more sensitive information, turned out to be keys to convincing online suppliers of the genuine purpose of my research.

The most important hesitation of suppliers lay in their suspicion I would somehow reveal them to law enforcers, despite their anonymity. However, I learned that I am able to present myself as a harmless researcher who is solely interested in hearing anything about their customers, personal situation and/or business. Even by phone, contacting online suppliers based on the provided telephone number, I was at times able to credibly present myself as someone safe to talk to. Through multiple interactions over time, discussing a wide

variety of topics, often not related to the trade, it was possible to build trust relations with the majority of the interviewed suppliers (see the following section 3.2.2). Obviously, anonymity was always assured to respondents and they were able to quit interviews whenever they wanted.

Accessing consumers who would openly talk about the use of lifestyle medicines also demanded time and trust-building. I mainly contacted customers through the snowball method or online, and in some cases through their suppliers. For example, one supplier sent an email with a description of my research to his clients, asking if they would be willing to be interviewed for an academic study. In many cases, however, consumers were not easily convinced to cooperate. The subject of lifestyle medicines is a sensitive topic that people do not talk about easily and openly. This is especially true in cases of sexual dysfunction (Gott & Hincliff, 2003). Yet, while the primary focus of this research was on the suppliers, ten interviews were conducted with consumers.

3.3.2 *Trust and gender issues*

The interviews took place in cities throughout the Netherlands, mostly in the work environment of the respondents or in public places such as restaurants or bars, or over the phone. In general, the interviews were guided by a logically structured topic list made in advance. The semi-structured interview allows the interviewer to follow the logic and thought of the respondent, while the topic list offers the easy opportunity to guide the conversation back to subjects of interest (May, 2011: 135; Beyens & Tournel, 2010: 207). This specific type of interviewing was a particularly useful way to learn about the respondents, their role in the market, ideas and their surprisingly diverse backgrounds. Usually, I could not foresee the respondents' network and experience in the trade, while respondents varied widely in how open and willing they were to talk about their businesses. Out of the 81 interviews, 74 were recorded with a voice recorder and transcribed at a later stage. In some situations, I took notes because it was not possible to record the full interview. During informal conversations, use of a voice recorder proved to be distracting; I often preferred to take notes that were subsequently transcribed. All information was made anonymous, which included pseudonyms for respondents and omitting references to geographical location.

The interview with the goal to obtain personal information about the experience, perspective, ideas and behavior of respondents, demands the willingness of the respondent to share this information (Beyens & Tournel, 2010: 216). An important aspect of gaining trust and knowledge is the interaction between the interviewer and the respondent. For example, Mazzei and O'Brien (2009) argue that in order to build trust and establish rapport with respondents, it is important to determine the researcher's key attributes and to understand the scripts and expectations of a setting. Hence I spoke informally with most of the respondents several times prior to the formal interview and, during the

interviews, I consciously presented myself in a way that would maintain a level of trust and create an atmosphere that would put the respondents at ease and thus be willing to discuss openly those aspects of their lives that they generally try to hide from law enforcement. A number of separate strategies were employed to serve this goal and, indeed, my approach to respondents varied. For example, in shops where medicines were sold under the counter, I had to introduce myself more carefully and in a less open manner, as compared with respondents who I encountered during night life.

The first stage of the official interviews mainly involved a historic narrative and background information about the respondents. These steps let the participants get used to me as an interviewer and to the interview setting, by talking about topics they were fully familiar and comfortable with (Rubin & Rubin, 2012). After the initial stage, most of the interviews with suppliers focused on the market in general, followed by a broad variety of topics, including the types of medicines, preferences from respondents, and ideas about their business. Interviews with consumers primarily focused on drug use in general, consumption in their specific environment, and their own understanding of ideas related to their own consumption and motivations to consume. Throughout the interviews, off-topics were frequently discussed, ranging from music to politics, which often lightened the interview's tone. The structure of the interviews varied widely. While gaining initial access to respondents was the most crucial, during the interviews it remained important to continuously maintain a relationship in which the respondent was comfortable about revealing precarious information. This was especially true of consumers; perhaps related to the lower risk faced by suppliers involved in the market, I was able to retrieve valuable, personal and insightful information from members of this group. Some of the respondents said they wanted to help me with this research project, and others enjoyed the time I took to listen to their stories. One respondent exclaimed, "I don't know why I tell you all these things, but I just trust you actually. And it is fun to talk about it for once."

Most suppliers operated alone or within small online groups, which made it difficult to get engaged in a more ethnographic research setting in which daily interaction with the suppliers could take place. In the end, most of these interviews were conducted outside of their work setting. However, even though an ethnographic approach would be suitable for diving into and understanding the lived experiences and daily practices of the respondents, I retrieved highly valuable information directly that could not have been obtained through other means. Overall, I established good relationships over time and my respondents were willing to cooperate, were open about themselves and at times even were proud to show and tell insights of their business and market activities. In other instances, however, I felt that respondents hid certain practices, gave elusive answers or even lied about things. For example, one supplier explained he was only dealing in medicines and would never do anything with other illegal drugs. During our third conversation, however, he referred to his involvement

in the ecstasy business. The same applied to suppliers in shops: especially at the beginning of our collaborative relationship, many were not honest about their business. In those instances, I did not immediately confront the respondent with the contrasting information, but rather took notice of it and sought clarification at a later stage. These practices were also present in interviews with consumers. For instance, one man initially assured me that he used erectile dysfunction medicines only once, yet, several conversations later, it turned out that he was using and buying the medicines frequently. As other scholars have observed (e.g., Siegel, 2009: 7), I found that even stories that changed or topics that were lied about or seemed to be unreliable revealed important information on shame, embarrassment and identity, as well as on competitors and rivals.

It has been widely acknowledged that the interviewer's own demographic characteristics influence the interpersonal dynamics of the interview context (e.g. Broom, Hand & Tovey, 2009). It is therefore important to acknowledge and reflect on the potential influence of the characteristics of both the interviewer and the respondent, such as age, gender, race, and language (May, 2011). In the current research, gender may have been an especially important factor as most interviews were held with men, at times on sensitive sexual topics (Williams & Heikes, 1993). As a female researcher, it was important to obtain the trust and willingness of the male respondents in order to talk about their use of these medicines. In some cases, male respondents might have felt embarrassed while talking about topics related to sexual behavior or sexual dysfunction (Gott & Hincliff, 2003). For example, three rather young consumers kept repeating that their consumption of erectile dysfunction medicines was not on medical grounds, but only for hedonistic purposes. However, over the course of the fieldwork period, I learned how to respond to these types of interactions; talking in the same language as the respondent turned out to be a key to creating a relaxed and open atmosphere for the exchange of information. In a couple of cases, the interview took place over the phone, which was with hindsight also a good way to talk about topics respondents might find embarrassing (I also learned that Stugers & Hanrahan, 2004, agree). Two consumers that I had already spoken to in person were re-interviewed by phone. In addition, three suppliers that I contacted throughout their online website, without prior introduction, preferred to be interviewed by phone. I spoke many times with these suppliers, and each interview lasted between 30–90 minutes.

In sum, during fieldwork in the Netherlands, I maintained contact with my respondents over an extended period of time, was able to cross-check information and could witness some of the stories slightly changing over time. When I no longer received any new information from my respondents, the data saturation point was reached.

3.3.3 *Fieldwork in China*

Besides fieldwork in the Netherlands, I conducted interviews for seven weeks in China to unravel dynamics of the trade in an important country of origin. Both China and India are generally assumed to be prime source countries for counterfeit and other illicit medicines. Although I considered conducting fieldwork in India as well, I rejected the idea due to time constraints and safety concerns.

Xu, Laidler and Lee (2013) outline two main obstacles for criminology researchers in China. First, crime data is highly sensitive and seeking such data can be politically laden. As a result, western scholars typically must rely on documentary and archival research sources. Second, in order to conduct research, personal ties are key in China, which is otherwise characterized by heavy collectivism and perhaps a tendency to give politically correct answers. In addition, the unwillingness of public officials to disclose information and the challenge of generalizing findings regarding a country with 34 provinces may result in difficulties for conducting meaningful research in China (Zhang, Massner & Lu, 2007; Shen, Antonopoulos & Von Lampe, 2010). However, in recent years, criminological research is becoming more accepted, and I gleaned valuable data from informal conversations and formal interviews with a variety of respondents, complemented with open sources such as media articles and accessible court cases. The goal of this fieldwork was not to obtain representative information on the situation of counterfeit medicines in China, but rather to understand the cultural, social and economic context of a country where an important part of the world's illicit and counterfeit medicines originates. As very little criminological research exists on the situation of counterfeit medicines in China, this combination of methods provided a first possibility to gain insights into this phenomenon.

Between October 21 and December 10, 2014, I visited Beijing, Shanghai, Guangzhou, Hong Kong, Shenzhen and Chouzhou.⁷ Most of the data that I gathered in China came from interviews with law enforcement, doctors and researchers and traders. Before my fieldwork, I contacted a wide variety of potential respondents and interpreters and had a couple of meetings fixed upon my arrival. Besides, I visited markets, shops and shopping malls, conducted interviews with respondents and held informal conversations with others. However, because I do not speak Mandarin or Cantonese, I cooperated with interpreters. These interpreters turned out to have a key role in finding new respondents as well; they were important gatekeepers, who assisted me in my efforts to contact a wide variety of respondents by phone or online. In some instances, respondents were contacted through a friend of a friend of a friend of my interpreter. In other instances, we contacted law enforcers, researchers

⁷ See a report on my fieldwork experience in China in the newsletter of the Doctorate in Cultural and Global Criminology, November 2015

or illicit suppliers online or by phone (applying the same technique as outlined in section 1.2.1). In total, 24 respondents were interviewed in China, including 17 officials and 7 suppliers.

The interpreters' support with cultural interpretation and trust building was often just as important as their linguistic translation work. *Guanxi*, that is, social ties and connections in China, is crucial for anybody who seeks information on sensitive topics and to convince respondents to participate. *Guanxi* can be described as the informal networks and reciprocal relationships of trust and is culturally embedded in Chinese society (Peng, Duysters, & Sadowski, 2016). As a foreigner, respondents were more suspicious and could perceive me as an intruder who would criticize the Chinese way of doing things. In cases where respondents could speak English, it turned out to work well when the interpreter translated some parts of the introduction into Chinese to increase trust. As a very much foreign-looking traveller, respondents seemed to feel more at ease when a local helped to introduce us and my research objectives. In addition, I brought gifts from the Netherlands and gave them to informants before starting the interview. These did not have economic value; they were intended, and received, as a sign of openness and respect. Cooperating with an interpreter and an important emphasis on building trust with respondents yielded deeper insights. Yet, at times we were to conduct unobtrusive research by visiting markets and talking informally with respondents.

Conducting research in a country where you do not speak the language requires a degree of dependency on the interpreter. They were central players in the iterative process through which the interviews were translated. Subtle meanings can be overlooked during the interview itself, as cultural interpretations are embedded in language and the translator must make guesses about what was 'important' (Kapborg & Berterö, 2002). Therefore, upon my return from China, I transcribed the translated English parts of the recorded interviews. After that, the interpreters would listen to the recording and add pieces that had been lost in translation. Communication with the interpreters on these final stages of transcription was conducted through email and Skype. Some of the interpreters also assisted in translating relevant media articles and case files that are accessible online. They specifically focused on cultural expressions and explained these terms in English.

Table 3.2 Overview of the number of interviews conducted in the Netherlands and China

	The Netherlands	China	Total
Suppliers	25	7	32
Consumers	10	-	10
Officials	22	17	39
Total	57	24	81

3.4 Online research methods

The Internet serves two important functions in the illicit pharmaceutical market. First, it is an important instrument for the *supply* of the medicines. At both the global and individual levels, the Internet is recognized as a significant medium through which illicit medicines are distributed (e.g. Di Nicola et al., 2015; Interpol, 2014b; IRACM, 2013). On all levels of the supply chain, medicines are traded by manufacturers, trading companies, middlemen, retailers, etc. Indeed, online markets redefine the relationships between suppliers, users and enforcers (Brennan, Kanayama & Pope, 2013). Secondly, the Internet has become an important tool for patients and non-patients to search for *medical information*. Increasingly, people use the Internet for self-help, to exchange experiences and concerns and to seek information about symptoms and diseases (Nettleton, 2013). Online platforms and chat groups are increasingly used by people with the same conditions or concerns to discuss their problems, exchange medical information and provide emotional support. In discussing the use of 'shameful' medicines, the Internet offers the ability to discuss very personal concerns whilst retaining anonymity (Nettleton, 2013; Lupton, 2012). For this research, an analysis of multiple websites has been conducted in order to retrieve information about how the Internet is used for the supply and sale of the medicines as well as information on the perception and ideas of the consumers. In total, 11 vending websites and 6 websites on the consumption of pharmaceuticals have been analyzed. First of all, websites where consumers are able to purchase medicines without a doctor's prescription were analyzed with the guidance of a checklist to keep track of variations in online features. As a wealth of websites selling medicines exists, it was not possible to include all websites involved. Rather, I selected eleven websites that were often referred to in interviews or on discussion platforms. These websites were all hosted in the Netherlands and language used was Dutch. The types of websites that were analyzed include online pharmacies (OPs), specific vending sites, e-commerce websites and advertisements and social media websites. Based on the literature review and interviews, these types of medicines were most often referred to. In recent years, the use of the deep web has been acknowledged as an important tool for the supply of illegal drugs and increasingly of illicit pharmaceuticals as well (Interpol, 2014b; EMCDDA, 2016; Van Hout & Bingham, 2013; Aldridge & Décary-Héту, 2016). However, the deep web was not incorporated in the current research, as it is suggested that lifestyle drugs are primarily traded throughout the surface web, easily accessible by general search engines (EMCDDA, 2016). While the sample of 11 supply-side websites is by no means adequate to generate robust conclusions regarding online trade in illicit medicines, the virtual analysis nonetheless provided hints about both specific details and general trends that could be further explored during subsequent interviews and case file analysis.

Yet, online markets are constantly changing, with an ebb and flow of websites, blogs, advertisements and forums. The minute that one website or route is blocked, new online trading points arise. This high degree of internet fluidity can only be understood with the use of flexible research methods (Hine, 2000). Screening the internet for a short period of time can bring valuable information, but results from the same screening method might be utterly different the next day. It therefore becomes important to conduct online studies over a longer period of time. During my four-month fieldwork period, between May 2014 and September 2014, I used a topic list to analyze selected websites and discussion platforms on a regular basis. Topics included the types of medicines offered, types of advertisements, offered prices, visuals, language used, medical information presented, shipping methods, the use of trademarks and payment methods (see Appendix II). This provided valuable information on the websites that cater to this market. For example, during interviews with suppliers, some referred to the characteristics of their website and how they sought to make it attractive to customers. By analyzing these websites, I could link my own observations with the ideas and motives as described by the suppliers. Beyond the descriptive analysis of these features, I occasionally interacted with the suppliers via their website contact options, for example asking some questions about the medicines in order to analyze their responses. In addition, five online suppliers were eventually interviewed.⁸ Yet, in most instances anonymity raises an extra barrier to establishing trust relations between researcher and respondent when interaction takes place online, and I also observed the websites covertly. After that period, I kept visiting these websites on a regular basis until August 2015, to see if there were major changes in the setup and operation of these online suppliers. By this means, I was able to control for short-term ‘blips’ in websites that might be misrepresentative of internet dynamics more generally and over a longer period of time.

Second, a selection was made of the six most important discussion platforms that are used to exchange medical information in the Netherlands, including *medischforum.nl* and *drugsforum.nl*. Especially in the case of practices that are widely constructed as being shameful, forbidden or deviant, such as the use of illicit drugs and erectile dysfunction products, people can find it difficult to talk about their experiences face-to-face, yet they are willing to share their ideas and experiences, anonymously and openly, with people they understand to be their peers on online platforms. Virtual environments provide the opportunity to communicate with others without their identity being revealed (Eysenbach & Til, 2001) and can be regarded as a valuable source of information that is otherwise difficult to obtain. As some of the websites generate an overwhelming volume of discussions, a further selection was made based on relevance of discussions and messages. On the designated websites and discussion groups,

8 See section 3.2.1 on access to interview respondents

an analysis was conducted with the use of a checklist to retrieve information about the motives, reasons and ideas of the consumers surrounding the use of (illicit) lifestyle medicines.

In the beginning phase of the online analysis, I operated covertly and did not announce myself as a researcher. With this method I obtained a first impression of the consumers, the topics and experiences. After that initial stage, I participated in several conversations on discussion platforms in which I identified myself as a researcher, and posted several invitations to participate in a discussion, survey or interview. However, online participants in discussion platforms do not always appreciate being included in a study. The reactions were diverse, including some that were very negative, aggressive and even threatening. For example, some online participants made it clear in private messages that they did not appreciate the recruitment on these platforms. Within a virtual environment, building up a relationship with respondents can be challenging as trust seems to be even more fragile in a disembodied, anonymous and textual setting (Orgad, 2005). My experience mirrored that of Sanders (2005): potential respondents did not easily trust my claim to be an online researcher, and time was required to establish a trustworthy online image. In addition, presenting myself as a researcher proved to be problematic in its own right, and Eysenbach & Till's (2001) warning is consistent with my experience: overt researchers in discussion platforms can be perceived as intruders who may damage the online community. Despite these challenges, discussions evolved and I managed eventually to speak to two consumers.

Additionally, an important challenge of online research is related to the validity of online data. How can a researcher evaluate what is real and what is fake, what is close to a real identity or what is the opposite? In a virtual environment, everything can be constructed and images and texts can be abused. Internet users can adopt any name, gender and background and, therefore, the authenticity of online data should be questioned (Hine, 2000). Some scholars claim, however, that an online identity is a continuation of one's offline identity (Kennedy, 2006). Markham (2005) also challenges the notion that face-to-face contact should be viewed as the standard of a trustworthy source of information. As the internet grows in people's daily lives, she urges scholars to re-evaluate their approach to the question of authenticity of virtual information. While the information provided on discussion platforms may not always be valid, the content of the discussions turns out to be valuable and often unique.

3.5 Use of official data

3.5.1 Analysis of court cases

The first source based on official data used for this research includes judicial and police files related to the sale and trade of illicit medicines. Analyses using this source can be used to illustrate broader trends and general inclinations –

findings that provide a context into which rich, in-depth data obtained through interviews and the virtual analysis can be placed. A content analysis of criminal case files can therefore provide additional insights on the universe of wholesalers or traffickers, at least as understood by law enforcement officials. In addition, data on the number of arrested persons and volume of confiscated medicines by customs officials can provide further insights into the social organization of the trade, market relations and types of traded medicines. However, it should be noted that this secondary data reflects only the seized pharmaceuticals and arrested participants, while an unknown number of products and market actors remains left out. Furthermore, the value secondary data within case files is dependent on the quality of information added by law enforcement officials. Such information relies on the interpretation of third persons with complex motives and hence these files do not always reveal the actual or whole stories, ideas and behavior of the respondents (Davies et al., 2011: 101).

In order to analyze the police or criminal record files of arrested dealers and traffickers, official permission from the Ministry of Justice was requested and received in 2013 for the inspection of court cases between 2007 and 2014. Because the content of cases related to the supply of illicit medicines varies widely in terms of scale, profits and links to other offences, investigations on the illicit pharmaceutical trade are conducted by diverse institutions in the Netherlands, including: i) the Health Care Inspectorate (*Inspectie voor de Gezondheidszorg*, IGZ); ii) the Public Prosecution Service (*Openbaar Ministerie*, OM) and iii) the Fiscal Information and Investigation Service (*Fiscale Inlichtingen- en Opsporingsdienst*, FIOD). In total, 69 cases have been analyzed at the three governmental institutions. Cases were included when they i) involved the supply of illicit medicines, and ii) enough information was provided on the involved market actors, the social organization of the trade or other forms of cooperation.

Especially because investigations and information on illicit pharmaceuticals are widely spread over several institutions, it was a time-consuming task to figure out information was available, and where. First, the Ministry of Health includes a division on the detection of illicit and counterfeit medicines that are usually involved in cases that threaten public health. Until 2014, this division independently conducted investigations, while after 2014 most of these activities were taken over by the police and the number of the division's own investigations declined drastically. For present purposes, the most valuable information to be gleaned from Health Inspectorate cases is on the types of medicines traded and where in the Netherlands they had been found. After excluding cases of limited value, 49 Health Inspectorate cases were analyzed. Second, 14 Public Prosecution Service (OM) investigations have been analyzed. The police department is usually involved in cases of large quantities and when there is a link with other forms of crime, such as the trade in illegal (non-medicinal) drugs or corruption. I first searched for relevant cases on the online database rechtspraak.nl. However, not all court cases are published

online, so I then traced back cases through media articles and asked employees at the public prosecutor's office to help find relevant cases. Third, the Fiscal Information and Investigation Service (FIOD) conducts investigations related to IP infringements and counterfeit medicines. A total of 14 extensive investigations were made available, of which 6 relevant cases were selected for further analysis. These cases primarily involve the production, supply and sale of erectile dysfunction medicines and pain killers.

Most of the files were only accessible at the institution where the files are kept, and were analyzed on location. In my analysis, all suspects and offenders mentioned in the court cases are referred to anonymously or pseudonymously. The volume and quality of information varied widely among the 69 selected case files, each of which contained some combination of charge reports, paper trails, interrogations, wiretapped conversations, or visual material. The analysis was done following the guidance of a checklist to retrieve data on various aspects, including the type of offense, the punishment, characteristics of the offender, other offences or involvement in criminal networks, the types of medicines traded, methods of supply, criminal cooperation, financial management and social organization of the trade (see Appendix III). Because authors of case files generally do not write with the needs of scholars in mind (Davies & Francis, 2011), I systematically classified and coded the various aspects referred to in the cases. Demographic variables could be quantified, while other information enhanced my qualitative dataset and generated insights into the operation of some networks. Overall, the case files provided highly relevant information on transnational cooperation between traders and middlemen, as well as modus operandi on the middle level of the supply.

3.5.2 Analysis of seizures

Additionally, seizure statistics from Dutch Customs have been analyzed to describe general trends in the types of medicines being confiscated in the Netherlands. These findings are presented in Chapter 4. Although confiscations are prone to selectivity of the customs checks, it was valuable to measure the types of medicines being confiscated and analyze the countries of origin, shipping and quantities of packages that are imported in the Netherlands. Therefore, beginning of 2015, three requests for access to confiscation data were sent to the Dutch Customs Laboratory. The first two requests were granted. The first dataset consists of analyses conducted during annual Pangea actions between 2010 and 2014. During Pangea, a coordinated week of Action organized by Interpol, countries worldwide participate to counteract the global illicit trade in pharmaceuticals by means of amplifying controls on incoming luggage, cargo and parcels (Interpol, 2014). Medicines, food supplements and medical products of suspicious quality or legality are brought to the Dutch Customs Laboratory for further analyses and result in a systematic dataset of illicit medicines that have been found during one coordinated week. An anonymized version of this

dataset was received from the customs laboratory in September 2015. The second request yielded data from the customs laboratory on all medicines analyzed between 2009 and 2014. This dataset includes all medicines that had been sent for further analyses to the laboratory, and primarily includes medicines whose external appearance is insufficient for an assessment regarding their legal status. The data was received from the customs laboratory as well in August 2015. The third application, which requested data on the overall medicines that are being confiscated, was declined by customs. This dataset includes information on the general confiscations of medicines by customs officials in the Netherlands. After several meetings and discussions at Dutch Customs, it was firmly communicated that this final dataset was not feasible for research purposes, because ‘the way of registration was too diverse.’ I was denied the opportunity to evaluate the quality of this dataset myself.

Datasets were received and re-coded in Excel files and converted into SPSS to perform the statistical analyses. In the two obtained datasets, information was registered on the specific types of medicines that were confiscated over the span of four or five years. A wide range of variables was registered; for the purpose of this study, the following are most important: name, country of origin, country of shipping, active pharmaceutical ingredients, quantity. In addition, (brand) names of the products were re-coded into 22 general medicine categories, including: erectile dysfunction medicines, weight loss medicines, steroids, pain medication, anti-inflammatory medicines, antiviral medication, antidepressants, sedatives, and so on.

3.6 Survey study

In critical and qualitative cultural criminological research, surveys are generally considered to produce unreliable and insufficient information (Young, 2004; 2011; Ferrell, 2001; 2013). Indeed, the richness of survey research is limited, especially for a researcher who is intent on gaining a comprehensive sociocultural understanding of a criminological phenomenon. However, surveys should not be neglected even in cultural criminological research, as they have the potential to strengthen findings of the qualitative data. Comparing and triangulating qualitative sources with survey statistics can reinforce or generate skepticism regarding qualitative datasets. In order to gain further insights into the motives, ideas and experiences of consumers who purchase licit and illicit medicines online, a large-scale survey has been conducted.

In the years 2009 and 2012, Intomart GfK, a research agency, published reports on the online purchase of pharmaceuticals, commissioned by the Dutch Ministry of Health. During several meetings at the Ministry of Health, discussions were held over the need for new survey data on the prevalence, methods and ideas of purchasing medicines online from a user perspective. As I already had plans to conduct a survey for my study, I was commissioned by the Ministry of Health in 2014 to conduct a follow-up study and collaborate with

the Ministry on setting up the survey. The Ministry provided funding to make use of the respondents Intomart Gfk's work for conducting my own survey and, in return, I wrote a report that was useful for the Ministry (Koenraadt & De Haan, 2016). The focus of this survey was on the consumers of 12 categories of medicines that are regularly purchased online and are primarily presented in Chapter 4.

To select of the respondents for the main questionnaire, four screening questions were posed to the complete respondent panel that Intomart provided. In total, 56,700 respondents answered questions on whether they i) ever purchased medicines on the internet or elsewhere outside the legitimate supply chain; ii) which medicines they purchased; iii) whether a doctor's prescription was needed to purchase their medicines and; iv) if they used a prescription to purchase prescription medicines (see Appendix IV). 1,800 respondents reported that they had purchased prescription medicines on the internet and/or outside the legitimate supply without using a prescription, and were therefor candidates for further evaluation. The pool for the main study was narrowed to 447 customers who purchased illicit prescription medicines online and 381 consumers who bought medicines outside the supply chain through other sources. A total of 88 consumers of erectile dysfunction products and 70 customers of weight loss medicines participated in the online survey, which was conducted between April 17-30, 2015.

The survey was split into several sections based on different themes, such as purchasing behavior, satisfaction, motivation and risk perception. Multiple choice questions were posed to measure methods and motivations of respondents who purchased medicines online, while scales were used to obtain information on risk assessment and the need for information. Questions were formulated with care to minimize the risk of the respondent feeling threatened. Although the primary focus was on illicit medicines, the words *illicit* or *illegal* were omitted. Open and closed, sensitive and non-sensitive, long and short questions were deliberately interspersed with one another (Davies et al., 2011: 147-49). Different types of questions were included, such as dichotomous questions, multiple choice questions and rank order scaling (see Koenraadt & De Haan, 2016). In the analysis phase, results were re-coded into variables. To analyze information on the motives and behavior of consumers, descriptive statistical techniques were applied. Percentages were measured and different groups have been compared. Data from the main study provided information on overall ideas, motives, perceptions of risk and information needs of the participants. These finding informed the semi-structured interview schema used in conversations with suppliers, consumers and enforcement officials.

In the main survey, screening questions were repeated as an extra control to ensure that respondents were placed in the correct category. It turned out that a small proportion of the respondents did not give the same answer as they did during the screening test. Possibly this is due to the fact that respondents are not always aware of which medicines require a prescription or the inquiry was not

clear enough, which resulted in the selection of a broader sample. Therefore, although the initial purpose was to select only buyers of illicit pharmaceuticals (prescription medicines without using a prescription), it turned out that several selected respondents had bought non-prescription medicines. It is not possible to determine the legality of non-prescription medicines. However, the fact that included a broader sample than intended did not have a negative impact on the survey, as the specific medicines were known and superfluous respondents could be filtered out. Respondents were divided among buyers of prescription medicines and buyers of non-prescription medicines.

Table 3.3 Overview of respondents in prevalence and main survey studies

	Through internet	Through other sources	Total
Prevalence study			
Respondents all weight loss drugs	1,397 (200)	765 (170)	1,808 (315)
Respondents all erectile dysfunction drugs	723 (232)	418 (156)	921 (321)
Respondents all medicines	5,165 (828)	6,968 (1206)	10,444 (1699)
Main study			
Respondents weight loss drugs	70	17	77
Respondents erectile dysfunction drugs	88	18	106
Respondents all medicines	367	403	770

Note: A total of 50,848 respondents participated in the prevalence study, of which 10,444 respondents reported that they purchased any type of medicines online or outside the legal supply chain. The amount of respondents that purchased any medicine online or outside the legal supply chain is presented before the parentheses. Numbers between parentheses refer to the amount of respondents that purchased *illicit* medicines.

After the main survey study, it was decided to repeat the screening study in order to increase the reliability of data on the prevalence of purchasing (illicit) medicines online. In August 2015, 50,848 respondents participated in the second screening test.

In the repeated prevalence study, four questions were asked of respondents: i) what types of medicines were purchased on the internet; ii) what types of medicines were purchased through unlicensed sources outside the internet; iii) were the medicines purchased with a doctor's prescription; and iv) are the medicines available with a prescription at an official Dutch pharmacy (see Appendix V). As a result, it was possible to make a general distinction between the online purchases of illicit medicines (that is, prescription medicines purchased without a prescription and medicines not available in the Netherlands) and seemingly legitimate medicines (obtained with a prescription, or over-the-counter medicine).

The panel of 50,848 respondents did not portray a fully representative sample (mean age: 53.6, st. dev. 14.6; 47% male, 53% female) of the Dutch population. However, demographic information (gender, age, region, education) on all respondents was made available and compared with the general demographics of the Dutch population. Therefore, with the use of inverse probability weights of 50,848 respondents, representative estimates were made of the prevalence and profile of Dutch adult consumers who purchase medicines online. By means of this analysis, as well as the first endeavor to distinguish between the purchase of legal and illegal medicines, this study provides an original estimate of the prevalence and types of medicines purchased online. Data from both surveys have been analyzed through the software programs SPSS, version 22, and Stata, version 14. Table 3.3 presents an overview of the categories of respondents.

3.7 Ethical concerns

Ethical decisions are not only concerned with what is good for the research, the researcher or the sponsors, but also what is good for the participants and the function of the research in society (May, 2011: 61). For this study, Utrecht University's Faculty of Law, Economics and Government granted ethical approval, and during the research, ethical decisions have been made along several dimensions. First, respondents who cooperated in an interview were always informed about the object of the research and asked permission to cooperate, in order to give their informed consent. They were informed about the research aims and methods, its demands and risks, as well as of the possibility to quit the interview at any moment and the option to only answer questions they preferred (Israel & Hay, 2011). Usually, information was provided verbally and verbal informed consent was given. As outlined, however, it was sometimes necessary to little by little reveal the real purpose of an interview and my research in order to gain access, and respondents became fully informed at a later stage.

Second, anonymity and confidentiality was assured to all respondents. The majority of interviews was recorded and transcribed, but full names were never written down or pseudonyms were used. The same applies to data retrieved from the media or the case reports. The anonymity of these respondents was protected with all means to ensure that they were not traceable. During one interview, a law enforcement officer tried to persuade me to report suppliers if they were involved in large-scale trade in pharmaceuticals: "If some of the respondents that you talk to confess their involvement in a business that poses very serious health risks to users, for example, if the medicines are very dangerous, it would be highly preferable if you can inform us about these suppliers so that we can stop them." This resulted in an interesting conversation, where I stated that I have assured my respondents' anonymity. In criminological research, the do-no-harm principle refers to the idea that no harm may be posed to respondents. Scholars have highlighted conflicted

interests of working with respondents active in crime on the one hand and law enforcers on the other (Bovenkerk, 1998). However, I managed to be clear to both groups of participants, and informed everyone that confidentiality and anonymity stand at the ethical foundation of my research. In addition, safety issues were taken into account. As a criminology researcher, safety issues can occur during fieldwork encounters (e.g. Williams et al., 1992). Usually, when potential respondents seemed to be getting hostile, I did not push further and respected their decision not to participate. In addition, both in the Netherlands and China I took precautions that would prevent respondents from tracking me down. For instance, I did not use my own mobile phone and opened a separate email address without the inclusion of my last name. During interviews, I usually informed people in my environment on the near location where the next interview would be held. In the end, I encountered no dangerous situation. Not in the Netherlands, nor in China.

Survey participants had all given informed consent as being part of a research panel. However, suspects and offenders in the criminal case files did not give informed consent, as access to their data was provided by the Ministry of Justice. However, at times I obtained highly personal information, for example, contents of wiretapped phone calls or text messages. I only noted relevant information during the analysis of the case files that I conducted on location; I never wrote down any actual names of the suspects or offenders. Although I was planning to use nicknames in my manuscript, I was aware that having my hard disk lost or stolen with actual names on it, risked serious consequences. Especially in times when data leaks and hacks are reported frequently, it is important to write down nicknames only.

A third ethical consideration is related to conducting research online. Of course, several ethical considerations apply equally to qualitative research in an on- or offline environment (Walter, 2002). How to present oneself as a researcher, whether or not to be obtrusive and how to leave the field are challenges during traditional qualitative research that are equally present in virtual ethnography (Hine, 2015). However, there are some aspects that need to be considered with care in using the internet as a method of research. For example, the internet hosts an immense dataset of values, statements and texts from people all around the world. In discussions, comments or online blogs, people share their ideas with their peers. However, the borders between what is private and what is public may become blurred. Depending on active or passive online research, users participating in an online discussion platform are not always aware of the fact that their answers and comments are used for research (Eysenbach & Till, 2001). The use of quotes is common in writing on qualitative and ethnographic research but needs to be done with caution when using online comments (Hine, 2015). This entails the responsibility to check whether respondents can be traced back through their online comments, the possibility to ask permission for using quotes, a reflection on the sensitivity of comments and a consideration of which information to publicize. Although users appear to be anonymous, their online

and sometimes public comments may be recognized by their peers or traced back through other websites (Fielding, Lee & Blank, 2008). Therefore, the online data I gathered was always handled with care, traceability was analyzed and, where it seemed even remotely possible that a respondent could be traced, the direct quotation has been excluded from this study, and I have taken full responsibility to protect online respondents and to guarantee their complete anonymity.

3.8 Limitations and triangulation

Although the research has attempted to obtain both qualitative and quantitative data, and to present findings on both vertical and horizontal levels, the research design has faced various limitations, primarily in terms of validity and reliability. These limitations mostly lie in the strength and weaknesses of the separate research methods. For example, reliability refers to the degree in which the same findings will be obtained after repetition, also called measurement consistency or stability (Maxfield & Babbie, 2010: 136). Reliability can be divided into internal and external reliability, in which the former refers to the notion whether different researchers would come to the same conclusions based on the same retrieved data. External reliability denotes the degree to which replication of the research with new data will lead to the same conclusions (Decorte & Zaitch, 2010: 131-133). However, as the research findings largely rely on qualitative data, the representativeness and generalization of the findings is limited. The researcher's understanding of contextual circumstances is highly dependent on the data that can be obtained, and the quality of this data is sometimes suspect. Therefore, in this study I make few general claims regarding data gleaned from interviews and the online analysis. In addition, although quantitative methods are included, these data are equally prone to challenges of generalizability. For example, while the second prevalence study contains a unique and large-scale sample of respondents, it should be noted here that all respondents were part of a research panel. While with the use of inverse probability weights a representative selection was aimed for, selection bias might have been present. In addition, selecting solely illicit medicines has brought various methodological problems, as respondents do not always know whether or not the medicines they purchase require a prescription, and counterfeit medicines and adulterated food supplements are often purchased without the consent of the buyer.

Furthermore, the validity of the research stands for the degree to which the results resemble a just representation of reality and the extent to which the propositions are trustworthy (Davies et al., 2011). A distinction has to be made between different types of validity in which the internal validity looks at the relationship between variables or also the trustworthiness and credibility of the propositions and interpretations (Decorte & Zaitch, 2010: 128; Tashakkori & Teddlie, 1998: 68). External validity looks at the generalizability or trans-

ferability of the results, and focuses on the conclusions that are drawn during or after the analysis (Tashakkori & Teddlie, 1998). Personal and subjective data from different types of methods in the current research cannot be used to make simple general claims about the objective truth. For example, interviews are highly responsive to the interaction between the researcher and respondent, which at times may have resulted in invalid information on the market or activities. As noted, effects of social desirability from respondents may have occurred, as respondents seemed not always completely honest, especially at earlier meetings; yet, their changing stories provided valuable data on shame and trust. Besides, confiscations and the content of case files are fully dependent on the law enforcers in their ability to report information, while information from offenders in interrogations is usually associated with a low internal validity. However, it is the researcher's task to recognize general trends, distinguish among behaviors or ideas and to construct different categories in order to retrieve information for a higher level of analysis (Decorte & Zaitch, 2010: 229). Also, because the research design has incorporated different sorts of data sources, triangulation of the data can further increase the validity and reliability of the findings.

Triangulation of data or methods means to explore a phenomenon from different points of view or methods, in order to obtain a more substantive image of the research subjects and to increase validity (Davidson & Layder, 1994: 53). As the proposed methodology contains quantitative and qualitative as well as primary and secondary data, this provides the opportunity to compare data from different methods, to distinguish trends and patterns, to seek out contradictory findings and to expand the reach of the respondents (Maruna, 2010). For example, especially data that I obtained through my interviews at times contradicted the findings of survey data. Whereas my respondents claimed to have certain tactics for assessing the quality of medicines, these methods were not necessarily found in the survey. The same applied to the demographic variables of my interview sample and the demographic distribution of the survey respondents. Broadly speaking, the triangulation of the data was mostly confirming, strengthening the findings, while at times contradicting findings forced me to search for better clarification and new explanations.

3.9 Data analysis

At the start of the research, trade in illicit pharmaceuticals had received little academic attention, although some preliminary hypotheses had been formulated. During my research period, new studies on the illicit medicines market were published (e.g. Lavorgna, 2014; Hall & Antonopoulos, 2016). Therefore, during this research, both an inductive and deductive approach was applied. Whereas induction refers to studies where theory emerges from the data, and deduction to studies in which prior theories are tested, in practice, most studies use aspects of both approaches (Thomas, 2006).

The different data sources have resulted in a wealth of information. First, almost all of the 81 interviews were recorded and later transcribed verbatim. While the use of my recorder was not appropriate in some instances, I was still able to register all valuable information during these conversations, which diminishes the risk of losing information on small details or nuances (Noaks & Wincup, 2004). Beyond the transcripts, I documented informal conversations as well as observations, on the settings for example. Second, information from the online analysis was constantly written down during the four months of online fieldwork. This resulted in an elaborate document of observations along the topics of the checklist. Third, analysis of the case files was conducted at their archival locations in the Netherlands. All potential relevant information was written down, while the majority of information present in most of the case files was identified as irrelevant and ignored. The result is a wealth of textual and visual material, documented from the 69 case files.

Generally, in a grounded theory approach, different stages can be identified in the development of a theory, such as developing categories as they emerge from the data, attempting to saturate the categories with appropriate cases, and placing these categories into more general analytical frameworks (Silverman, 2013). To some extent, I used this approach while conducting fieldwork and analyzing the data. Information from my three sources was coded with the use of Nvivo, a software program, which allowed for open coding in which I could identify and cluster pieces of information into significant themes and concepts. These themes and concepts were used to generate some preliminary hypotheses that could be used to focus further data collection (Strauss & Gorbin, 1990; Thomas, 2006). After the first phase of data analysis, preliminary findings and concepts were tested in the rest of the data or searched for during subsequent data collection (Creswell, 2012). In this way, the topic list was thus meliorated during the data collection. At the same time, coding took place along some preexisting theoretical and conceptual lines, as well as based on studies published during the fieldwork and analysis periods. As such, the relation between data and theory in this study mirrored Layder's 'adaptive theory' in which existing social theory is combined with theory that is generated from the empirical data (Layder, 1998).

The analysis of the quantitative data was conducted differently. Information from Dutch Customs was delivered in excel sheets and transferred into SPSS program, while the survey data was received from market agency Intomart arrived in SPSS format. In the datasets regarding confiscations, specific medicine types were registered and re-coded into variables consistent with standard medicine categories. Survey data was similarly re-coded into groups of demographic variables, making it feasible to perform statistical analyses and compare groups. The analyses of both datasets primarily involve descriptive statistics, while the demographic variables were also subjected to tests were that measure the differences between age categories and gender.

Trends, prevalence and types of illicit medicines traded in the Netherlands⁹

As outlined in previous chapters, in the last decade, the internet has become a highly popular medium to sell and purchase all sorts of legal, semi-legal and illegal medical substances (EMCDDA, 2016; Cohen, Collins, Darkes & Gwartney, 2007). No longer are people limited to their local dealers, as the internet makes a wide variety of global goods and services available with just a couple of mouse clicks. Indeed, the internet has revolutionized all aspects of drugs and medicines markets, including methods, dynamics and ease of access (EMCDDA, 2016). A contextual framework of the types of medicines sold, traded and consumed in the Netherlands, as well as general overview of its consumers, will enable a deeper discussion of the motivations, ideas and preferences of consumers purchasing medicines through illicit or unofficial sources. Yet, no research is available on the illicit medicines trade in the Netherlands specifically, nor on the types of medicines that are purchased online by Dutch consumers.

Therefore, before providing in-depth information from the actual suppliers and consumers involved, this chapter presents a first look at quantitative data related to the illicit medicine environment in the Netherlands. This data is then critically analyzed, as is the available literature on illicit medicines in other countries. Despite unavoidable methodological shortcomings associated with the quantitative data – that is, my own survey study and reports of customs confiscations – both offer preliminary insights into the trends and types of illicit medicines that are traded and purchased in the Netherlands.

This chapter begins by analyzing records of Dutch Customs seizures in order to identify the types of illicit medicines that are most often consumed in the Netherlands. These findings will be compared with results of the survey study conducted for this dissertation. Therefore, in the second part of this chapter, I identify the prevalence of illicit medicines consumption in the Netherlands, the

9 Parts of this chapter are published in Koenraadt, R.M. & van de Ven, K. (2017). The Internet and lifestyle drugs: An analysis of demographic characteristics, methods, and motives of online purchasers of illicit lifestyle drugs in the Netherlands. *Drugs: Education, Prevention & Policy*. doi: 10.1080/09687637.2017.1369936, and in Koenraadt, R.M. & de Haan, M. (2016). De aankoop van geneesmiddelen via internet. Een onderzoek naar het koopgedrag, de motieven, risicoperceptie en informatiebehoefte van online kopers van geneesmiddelen. Utrecht: Willem Pompe Instituut.

demographic characteristics of consumers, the general methods used to obtain illicit medicines and customer satisfaction rates, also based on the survey data. Hence, in all, this chapter provides a quantitative overview of the state of the art on illicit medicine consumption as well as a profile of the consumers, and thus sets the stage for the next chapter's in-depth, theoretical analysis of the demand and motives of consumers.

4.1 Registered consumption of medicines in the Netherlands

While limited information is available on the consumption of illicit medicines, the sale of medicines through the official supply chain is extensively documented. With regard to officially registered consumption of medicines, a total of 4.1 billion euros were spent on pharmaceutical care in the Netherlands in 2014, which indicates a rise of 1% in terms of cost compared to 2013. In addition, the volume of pharmaceuticals consumed rose by 2.9%, compared with 2013. Based on the population growth and ageing population, a rise of 2.0% was foreseen (SFK, 2015a). The next year, money spent on medicines, rose by another 3.3%, to 4.3 billion euros (SFK, 2016). Again, this growth can partly be ascribed to a population that is getting older. In January 2015, 17.8% of the Dutch population was aged over 65 (SFK, 2015a). The use of generic prescription medication has also increased in recent years: in 2014, more than 70% of the prescription medicines sold by pharmacies were generic medicines. The most often used medicine in the Netherlands is Diclofenac, a non-steroidal anti-inflammatory drug, with 1.34 million users in 2014, followed by Simvastatin, a lipid-lowering drug (1.2 million users) and Omeprazole, used to treat symptoms of excess stomach acid (1.12 million users). Table 4.1 summarizes the 10 medicines with the most users in the Netherlands.

Table 4.1 Medicines most often purchased in the Netherlands

Name medicine	Pharmaceutical application	Consumption in 2014 (in million users)
Diclofenac	Nonsteroidal anti-inflammatory	1.34
Simvastatine	Lipid-lowering	1.16
Omeprazol	Symptoms of excess stomach acid	1.12
Metoprolol	E.g. angina pectoris	1.11
Amoxicilline	Antibiotic	1.09
Indifferente dermatica	Skin, e.g. eczema	1.00
Macrogol combinaties	Constipation	0.97
Salbutamol	Treatment of bronchospasm	0.86
Acetylsalicylic acid	Pain, fever, inflammation	0.81
Nitrofurantoïne	Antibiotic	0.75

Source: Stichting Farmaceutische Kengetalen (SFK), 2015a.

Note: this information concerns the purchases via the legal supply chain

Although most prescription medicines in the Netherlands are covered by health insurance, some are excluded; patients who choose to consume these medicines must pay the full price. In 2014, a total of 170 million euros was spent by patients on medicines that are not included in health care coverage. Highest on the list, as shown on Table 4.2, are (hormonal) contraceptives, sleeping pills and sedatives, ADHD medication and erectile dysfunction medicines.

Table 4.2 Overview of the most consumed medicine types that are not covered by national health insurance

Type of medicine	Total expenses in 2013 (million euros)	Total expenses in 2014 (million euros)
Local and hormonal contraceptives	65.8	57.2
Sleeping medicines and sedatives	48.2	50.8
ADHD medication	27.5	24.5
Erectile dysfunction medicines	19.5	17.3
Antacids	18.4	16.0
Anti-malaria medication	10.0	8.4
Smoking cessation medication	9.1	6.6
Combination paracetamol/codeine	6.6	5.3
Haemorrhoid creme	0.7	2.7
Medicines to treat baldness	2.8	2.5

Source: Stichting Farmaceutische Kengetallen (SFK), 2015a.

Note: this information concerns the purchases via the legal supply chain

4.2 General patterns of illicit medicines in the Netherlands

Whereas the patterns of consumption of legal medicines obtained within the official supply chain can be analyzed in great detail, little knowledge exists on the prevalence and types of medicines that are consumed outside these legitimate supply chains. The implementation of the EU Directive 62/2011 is intended to protect against infiltration into the regular supply chain and, overall, illicit medicines have hardly infiltrated the legal pharmaceutical supply chain in the Netherlands (VWS, 2016; IGZ, 2015). In Europe, the illicit medicines trade primarily takes place through unofficial sources outside the legal supply chain (Di Nicola et al., 2015).

In recent years, several reports have attempted to estimate the prevalence and types of medicines purchased online in various European countries. For example, using a web survey conducted in seven European countries Di Nicola et al. (2015) report that 16% of the 874 online recruited respondents have purchased medicines by means of the Internet at least once in their life. This result is similar to findings from a Sanofi study of 5,010 European citizens, in which 18% of the respondents reported making at least one medicine purchase online. In the Netherlands, two Intomart GfK studies show that an estimated 3% (in 2009) and 13% (in 2012) purchased medicines online. These studies

demonstrate an increasing tendency to purchase medicines online. As a result, it is more important than ever for researchers to lay bare the risks inherent in buying and consuming illicit medicines. However, their research designs generally do not differentiate between regular or illicit medicines. Legal internet sales of pharmaceuticals have increased as well (Donaldson, 2008; Fittler, Bosze & Botz, 2013), so these estimates do not speak directly to the prevalence of *illicit* medicines bought online. In addition, illicit medicines are purchased not only through the internet, but also appear to be sold and traded through dealers, friends or family as well as under the counter in shops (see also Koenraadt, 2012; Van de Ven, 2016; Antonopoulos & Hall, 2016).

In order to provide a general overview of medicines that are traded in the Netherlands, in this study, data have been obtained from various sources, including customs confiscations in the Netherlands and a large-scale survey study. I will first analyze data on customs confiscations by referring to the Pangea dataset, which includes the annual seizures by Dutch Customs officials during Pangea actions in the Netherlands.¹⁰ By means of this dataset it is possible to provide some first detailed insights on the types of medicines traded. The Pangea dataset describes the types of illicit medicines confiscated in the Netherlands during one week in six subsequent years, 2010-2015. All types of medicines that were seized at customs checkpoints during those specific six weeks have been identified, including those whose attributes were ambiguous to customs officials who then sent samples to their laboratory for further analysis. In addition to insights on the types of medicines being imported, Pangea data also provide information on the country of shipping or origin.

Yet, based on the Pangea data, no representative estimates can be made on the illicit medicines being traded in the Netherlands, as, first of all, the number of samples represents customs activity during one intensive week. Inferences regarding total medicines use are necessarily very tentative, as are inferences regarding the volume of drugs that would be seized if Dutch customs engaged in Pangea-level intensity every week of the year. Secondly, this dataset only includes those medicines that are actually confiscated at the Dutch custom checkpoints. This means that medicines being produced in the Netherlands, being produced within the Schengen area,¹¹ or those that enter the Netherlands through a Schengen country, are not included, leaving a potentially dark number invisible. Nevertheless, the Pangea dataset shows a first insight in the sorts and types of illicit medicines being imported into and traded within the Netherlands.

10 Pangea refers to a yearly international week of Action operated by Interpol, during which countries worldwide provide extra controls and chemical analyses on the imported medicines, and structurally register all seizures (Interpol, 2014).

11 The Schengen Area represents an area of 26 European countries in which free movement of people and goods takes place. The first Schengen Agreement was signed in 1985, and the current agreement allows for free movement among 26 member states.

The dataset is comprised of data from 1,125 medicine samples, including 513 confiscated packages and a total of 222,405 doses. An analysis of these data shows that the types of medicines most often confiscated in the Netherlands are sexual enhancers (15.7%), followed by painkillers (12.1%), antibiotics (9.5%) and sedatives (6.1%). These findings represent the types of medicines most often confiscated, and do not refer to the confiscated amount of units or packages.¹² Table 4.3 presents the medicines that are most often confiscated.

Table 4.3 Confiscations during Pangea weeks 2010-2015

Pharmaceutical application	Number of samples	Percentage of all samples (%)
Sexual enhancers	176	15.7
Painkillers	136	12.1
Antibiotics	107	9.5
Sleep/sedatives	69	6.1
Anti-inflammatory	61	5.4
Weight loss	59	5.3
Skin	48	4.3
Antihistamine	33	2.9
Metabolic agents	30	2.7
Antidepressants	28	2.5
Doping/steroids	25	2.2
Other	353	31.4
Total	1125	100

Source: own analysis of customs data, Pangea 2010-2015¹³

While the Pangea seizures provide information on the overall medicines for one week per year, a second dataset analyzed for this study, from the customs laboratory, the Laboratory Information Management System (LIMS) dataset provides further insights into the illicit medicine supply chain during 2010-2015. The LIMS dataset reports on chemical analyses of confiscated medical products that were sent for further inspection all year round. While customs officials inspect packages of medicines every day and large quantities of counterfeit prescription medicines can be seized immediately, medical products whose content or medical claims are ambiguous are sent on to the custom laboratory.

From the 2,185 products that were analyzed between 2010 and 2015, a total of 262 medical products (12.0%) did not contain any active pharmaceutical ingredient (API). The rest of the products concerned primarily doping products (20.7%), weight loss medicines (15.6%) and sexual enhancers (12.4%). While

¹² In various packages, multiple types of medicines were carried

¹³ As described earlier, Pangea data offer few insights regarding the proportion of drugs that slip through their net; therefore, the percentages attached to each medicine type should be understood as tentative initial estimates of Dutch consumption.

this dataset is not based on all the medicines confiscated by customs officials, it is clear that primarily lifestyle medicines, such as doping products, weight loss medicines and sexual enhancers are regularly traded, including medicines presented as food supplements and herbal products. This coincides with increasing literature on *adulterated food supplements* that are being used for dietary purposes and sexual stimulation (Venhuis et al., 2011; Van Reeuwijk, 2014). Data from customs laboratory sample analyses are presented in Table 4.4.

Table 4.4 Confiscations analyzed at custom laboratory, 2010-2015

Pharmaceutical application	Number of samples	Percentage of samples (%)
Doping/steroids	453	20.7
Weight loss medicines	341	15.6
Sexual enhancers	271	12.4
Skin enhancers	136	6.2
Pain killers	117	5.4
Sedatives/sleep	89	4.1
Antibiotics	53	2.4
No API	262	12.0
Other	463	21.2
Total	2185	100

Source: own analysis of customs laboratory dataset LIMS, 2010-2015

Although findings from the customs Pangea actions and LIMS are not representative of all confiscations in the Netherlands, the results are similar to previously reported findings. As referred to earlier, lifestyle medicines and opioids are reportedly traded on a large scale through online sources (Lavorgna, 2014). This claim is supported by our analysis of global Pangea confiscations; erectile dysfunction medicines are the most-often traded medicines (Interpol, 2014a). If further corroboration is required, one might refer to the findings of a sewage study by the Dutch National Institute for Public Health and the Environment (RIVM), which suggests that at least 60% of the erectile dysfunction medicines consumed in the Netherlands are not obtained through Dutch pharmacies (Venhuis et al., 2014).

Painkillers, antibiotics, doping products and weight loss drugs are also commonly purchased through unofficial sources. Unsurprisingly, the medicines that are excluded from health insurance reimbursements make up the lion's share of the illicit market. As presented in Table 4.2 on page 69, contraceptives are on the top of the list of medicines that consumers spend their own money on, followed by sleeping medicines and sedatives, ADHD medication and erectile dysfunction medicines. These types of medicines are also found in abundance during Pangea weeks. Also, and as expected, medicines whose purchase is subsidized by the national health care system, when provided via the official supply chain, are confiscated less frequently by Dutch Customs.

The two datasets provide further insights on the origin for the majority of the seized packages and medicines. Table 4.5 shows the six most-often encountered countries of origin. The data indicate that India (46.2%/32.4%) and China (13.3%/22.9%) are by far the most important shipping countries. However, as these seizures occur only at the Dutch custom checkpoints, Pangea-based data provides no information on the extent of consumption of illicit medicines that are manufactured, distributed and sold entirely within Schengen borders.

Table 4.5 Source countries, based on Pangea confiscations, 2010-2015

Country of origin	Number of confiscated packages	Percentage of confiscated packages (%)	Number of samples	Percentage of samples (%)
India	237	46.2	364	32.4
China	68	13.3	258	22.9
Thailand	34	6.6	88	7.8
Ghana	25	4.9	62	5.5
Hong Kong	35	6.8	59	5.2
Other	114	21.8	294	25.9
Unknown	2	0.4	3	0.3
Total	513	100	1125	100

Source: own analysis of customs laboratory Pangea 2010-2015

While Pangea seizures are primarily sent from India and China, the confiscated medicines from the LIMS dataset, that is, those whose content was more ambiguous on initial inspection, largely originate from China (18.9%) and the USA (11.3%). While India remains an important source for counterfeit prescription medicines, the adulterated food supplements come primarily from China and USA. The source countries are presented in Table 4.6.

Table 4.6 Source countries of analyzed samples at custom laboratory 2010-2015

Country	Number of samples (N)	Percentage of samples (%)
China	364	18.9
USA	217	11.3
India	168	8.7
Hong Kong	164	8.5
Thailand	69	3.6
Ghana	21	1.1
Turkey	21	1.1
Other	179	9.4
Unknown	720	37.4
Total	1923	100

Source: own analysis of customs laboratory data

The two datasets indicate that India and China are by far the most important source countries for illicit pharmaceuticals, and China and the US are the important producers of lifestyle medicines, often presented as food supplements. These results are consistent with findings of most of the illicit pharmaceuticals originating in East-Asian countries, primarily India, China, Thailand and Pakistan (Interpol, 2014a; Di Nicola et al., 2015). Whereas illicit medicines come primarily from India and China, adulterated food supplements originate mainly in China and the USA (Venhuis et al., 2011).

It should be noted that the analysis of the Pangea confiscations cannot provide any reliable estimates on the number of packages or volume of medicines that had been confiscated, let alone intended for trade in the Netherlands. As only confiscations at the Dutch customs checkpoints are comprised, medicines being produced within the Netherlands or Schengen Area, are not included. Yet, even though these datasets are based on the analysis of samples, they provide some first indications for the types of medicines being traded in and imported into the Netherlands, which are similar to those in other studies.

4.3 Types of pills and products

While the various types of confiscated medicines have been presented in section 4.2, it is necessary to draw a distinction between different types of illicit medicines, each of which has its own manufacturing processes, content and health risks. As explained in Chapter 1, there is no international consensus regarding how to define ‘counterfeit’ or ‘illicit’ medicines, or even what terms should be used to describe which products (Clift, 2010; Wertheimer & Wang, 2012; Hall & Antonopoulos, 2016). Nonetheless, as understood and defined in Chapter 1, all sorts of counterfeit and adulterated medicines are indeed traded on the illicit market and, based on both confiscation data and prior scholarly reports, a broad variety of illicit medicines can thus be identified in the Netherlands. While it is not the goal of this study to present representative estimates on the various types of illicit medicines, one should understand that different types of illicit medicines, all associated with different health risks, are traded in the Netherlands.

As such, based on the chemical analyses of confiscated sexual enhancers outside the official distribution systems, RIVM identifies four types of illicit medicines: 1) counterfeit medicines; 2) illicit generics; 3) adulterated food supplements and 4) a residual group. Counterfeit medicines are copies or imitations of authentic, legally produced medicines. The counterfeit medicines are visually indistinguishable from authentic medicines, but are not produced within the legitimate supply chain and their chemical content is not always identical to the authentic product. In the Netherlands, common examples of illicit lifestyle medicines include counterfeit Viagra, Cialis or Orlistat, as well as over-the-counter or generic medicines. In the RIVM analysis, 17% of all illicit sexual enhancers that were seized in the Netherlands between 2007 and

2010 were classified as counterfeit medicines, which was lower than their proportion in 2005-2006 (Venhuis et al., 2011).

The second group of illicit medicines identified by Venhuis et al. (2011) concerns illicit generics. These medicines are legally produced in one country and then traded and illegitimately sold in other countries. Because of variations in IP-rights and infringement laws among different countries, legal asymmetries (Passas, 1999) create incentives for trading products from country to country. An apparent example is the trade in Kamagra, a sexual enhancer legally produced in India but not registered or licensed for sale in Europe (Hall & Antonopoulos, 2016). Kamagra was one of the medicines seized during Pangea raids. According to the RIVM chemical analysis, 68% of the seized samples concerned illicit generics (Venhuis et al., 2011). RIVM analysts suggest that the rise in illicit generics can be explained by patients placing great trust in these unlicensed medicines (Venhuis et al., 2011). Overall, health risks for illicit generics are less severe than those related to counterfeit medicines, because these generics are produced legitimately in at least one country (Venhuis et al., 2011).

A third group refers to adulterated food supplements. These products are becoming more popular, as prices fall, prescription requirements are relaxed, and people continue to believe that food supplements contain only natural or herbal substances (El Amrawy et al., 2016). Fully 20% of the medicines sent to the customs laboratory are doping products, sexual enhancers and weight loss drugs. However, especially for weight loss drugs and sexual enhancers, adulterated food supplements are frequently found with added active pharmaceutical ingredients, adulterants or contamination (ibid., 2016). While most illicit medicines are clearly labeled as containing pharmaceutical substances, this is not true of food supplements, which are primarily lifestyle medicines, and is especially untrue of food supplements that have been adulterated.

While adulterated food supplements could not be identified through survey questions, customs laboratory analysis, as recorded in the LIMS datasets, shows that primarily doping products, weight loss drugs and sexual enhancers are traded without a medical claim or without the pharmaceutical ingredients listed on the package. Similarly, based on the analysis of Venhuis et al., (2011), 13% of seized products labeled as 'sexual enhancers' were adulterated food supplements. Some of the adulterated food supplements contain analogues, which are drug substances similar to a registered drug substance, but usually different in potency, side-effects and toxicity. Venhuis et al. reported that the number of different analogues identified in illicit ED products increased from 4 in 2004 to more than 42 in 2010, and is likely to continue to grow. The authors suggested that available patent literature provides knowledge which enables chemical producers to manufacture experimental analogues. According to the authors, adulterated food supplements present the highest health risks, as consumers are not aware of what they have purchased. Products that do not fit into one of these three groups, including bulk powder, adulterated coffee or jelly, are placed into a residual Group Four.

Besides the four categories presented by the RIVM, the obtained datasets and findings from literature indicate the existence of other analytically valuable categories, including 5) unlicensed medicines, 6) diverted medicines and 7) stolen medicines. The only analytic distinction between unlicensed medicines and counterfeit medicines is that the former are sold under their own brand name. According to the confiscations, this primarily includes doping medicines, weight loss aids or sexual enhancers. For example, mainstream, legal producers sometimes manufacture additional steroids or sexual enhancers, which they then package and label for sale as generics. This strategy is illegal, but it does not necessarily involve counterfeiting an existing brand (regarding steroids, see e.g. Paoli & Donati, 2014; Van de Ven, 2016).

Two other types of illicit medicines, diverted and stolen ones, include products that cannot be identified through Pangea data, which report on confiscations at the external borders of the European Union and provide no information on illegal manufacture, distribution, trade or theft of products whose entire existence is within the EU. Diverted medicines are legally prescribed medicines that are transferred to consumers who do not have a prescription for them. Others define medicine diversion as the unlawful channeling of regulated medicines from legal sources to an illicit marketplace (Inciardi et al., 2007). This medicine class became apparent in the survey (see next section), where respondents reported they retrieved prescription medicines from friends who had purchased them on a doctor's prescription. Other scholars have identified the diversion of ADHD medication (Clemow & Walker, 2014) and pain killers (Rehm, 2013) as sources of rising public health concerns.

The stolen medicines are legally produced but then stolen (primarily from hospitals or trucks) and then sold illegally. While again this behavior cannot be inferred from the datasets, it is consistent with reports about other European countries, such as Italy, where medicine theft is increasingly registered (Di Giorgio, 2015). Both diverted and stolen medicines involve genuine pharmaceuticals whose effects are well understood by doctors, but not necessarily by the consumers who take them. The health risks thus generally center on nonmedical use and unsupervised consumption, rather than on the content of the products.

Based on the literature and confiscations, a wide variety of illicit medicines and a range of health risks can be identified. It is not the aim here to present comprehensive findings on the types of illicit medicines in the Netherlands, but to provide a classification based on the differences among them. Whereas consumers of adulterated food supplements are generally not even aware they are taking a medicine, other types of medicines that are produced outside the legitimate supply chain may contain substances that pose risks to its user's health. Stolen or diverted medicines, usually manufactured under GMP guidelines, are often taken outside the oversight of a health care practitioner. Table 4.7 presents an overview of the different types of illicit medicines found in the three datasets and literature.

Table 4.7 Types of illicit medicines and description

Type of illicit medicine	Description
Counterfeit medicines	An illegal copy or imitation of any authentic medicine (Venhuis et al., 2009)
Illicit generics	Unapproved medicines/illicit distribution of generics (Venhuis et al., 2011)
Adulterated food supplements	Illicit food supplements with active pharmaceutical ingredients (Venhuis et al., 2011)
Unlicensed medicines	Illicit production of medicines without using authentic brand names
Diverted medicines	Unlawful channeling of regulated medicines from legal sources to illicit marketplace (Inciardi et al., 2007)
Stolen medicines	Legitimate medicines stolen within supply chain (Di Giorgio, 2015)
Other	E.g., bulk powder, illicit coffee sachets (Venhuis et al., 2011)

4.4 Prevalence of illicit medicines consumption

Whereas the data from customs confiscations show general patterns of the illicit medicines trade in the Netherlands, these two datasets present only a small fraction of the medicines that are imported into the Netherlands, as Schengen borders are taken into account. Therefore, these estimates cannot provide reliable insights on the prevalence of the actual illicit medicine consumption, and make no differentiation between the purchase through on- or offline sources. Therefore, in order to analyze the types of medicines being consumed in the Netherlands and to provide an estimate on the consumption prevalence, it is relevant to triangulate the official data retrieved from the confiscations with survey data.

A third quantitative data source retrieved for this study entails data from the conducted prevalence study among a panel of 50,848 Dutch respondents.¹⁴ Four questions were posed to the full panel to determine which types of medicines were purchased online or outside the legitimate supply chain. It was possible to make a general distinction between the online purchases of illicit medicines (measured as prescription medicines purchased without a prescription and medicines not available in the Netherlands) and seemingly legitimate medicines (obtained on prescription, or over-the-counter medicine). In this study, ‘illicit medicines’ thus refers to substances that cannot be obtained in the Dutch supply chain or prescription medicines that are purchased without a doctor’s prescription. With the use of inverse probability weights, it was possible to control for age, gender, region and education, thus providing a representative panel for the Dutch adult population.

¹⁴ See paragraph 3.6 for methodological justification.

Out of the 50,848 respondents, a total of 5,165 said that they had ever purchased *some* type of medicine online prescription, over-the-counter, legal or illegal. Based on the prevalence study, this yields an estimate that 10.2% of the Dutch population has bought some type of medicine online, at least once in their lifetime. This estimate applies to the Dutch adult population, and more specifically to consumers aged 18-93. Columns 1 and 2 of Table 4.8 present the frequencies and percentages of consumers purchasing different types of medicines and lifestyle drugs online. Pain killers are the most common online purchases (31.8% of all online medical purchases), followed by weight-loss drugs (27.0%), sedatives and tranquilizers (14.2%), sexual enhancers (14.0%) and several other medicines.

A total of 2,655 respondents reports that they have purchased, via the internet, one or more lifestyle drug, including weight loss drugs, sexual enhancers, birth control, quit smoking medication and muscle drugs. Referring again to the prevalence study, this yields an estimate that 5.2% of the Dutch population has ever purchased lifestyle drugs online at least once.

Table 4.8 Types of medicines purchased online (n=5,165, n=828)

	All medicines purchased online		Illicit medicines purchased online	
	(1) n	(2) Percentage of all medicines purchased online (%)	(3) n	(4) Percentage of all illicit medicines purchased online (%)
Painkillers	1640	31.8	210	25.4
Weight loss drugs	1397	27.0	200	24.1
Sedatives and tranquilizers	733	14.2	157	18.9
Sexual enhancers	723	14.0	232	28.0
Birth control	669	13.0	87	10.5
Quit smoking medication	387	7.5	101	12.3
Muscle drugs	334	6.5	89	10.7
Antibiotics	319	6.2	100	12.1
Antidepressants	274	5.3	90	10.9
ADHD medicines	267	5.2	90	10.8
Antiviral medicines	265	5.1	90	10.9
Other	1612	31.2	220	26.6

Source: analysis of own survey data. Note that some of these respondents reported that they purchased more than one variety of medicine. Therefore, columns (1) and (3) sum to more than the n-number of respondents, and columns (2) and (4) sum to more than 100%. These aggregate sums are meaningless and are therefore not presented in the table itself.

Furthermore, out of the 50,848 respondents, a total of 828 mentioned they purchased prescription medicines without the use of a doctor's prescription or

purchased prescription pharmaceuticals not available in the Netherlands. These 828 respondents are included as purchasers of illicit medicines and inform our estimate that 1.6% of the Dutch adult population aged 18-93 has bought *illicit* medicines online at least once in their lives.

Our method yields baseline estimates. Consumers do not always know if they purchased from a legal or illegal supplier, and counterfeit medicines and adulterated food supplements are often consumed without the buyer knowing they are counterfeit, that they are adulterated, or that they are illegal (Siva, 2010; Venhuis et al., 2011; Jackson et al., 2010). In addition, related to methodological issues such as social desirability, it is possible that some respondents were unwilling to reveal their illicit medicine purchases. For all of these reasons, the estimates represent a first indication of people in the Netherlands who purchase illicit medicines online.

Sexual enhancers comprise the largest group of illicit medicines purchased online (28% of all consumers who have purchased illicit medicines have purchased sexual enhancers), followed by painkillers (25.4%), weight loss medicines (24.1%) and sedatives and tranquillizers (18.9%). All four types of medicines can be clustered in broader categories as either ‘lifestyle medicines’, including sexual enhancers and weight loss drugs, or as ‘(opioid) analgesics and psychotropic medicines’, including the pain killers and sedatives (Di Giorgio, 2011; Lavorgna, 2014). In total, 460 respondents purchased one or another type of illicit lifestyle drug online, including weight loss drugs, sexual enhancers, birth control, quit smoking medication and muscle drugs, resulting in an estimate that 0.9% of the Dutch population that has purchased illicit lifestyle drugs online. In Table 4.8, the different types of illicit medicines purchased online are presented.

In literature and media, counterfeit and illicit medicines are generally associated with the online trade and the ease with which online traders are able to mislead their users (IRACM, 2013; UNICRI, 2012; WHO, 2012). However, it appears that the physical trade in medicines continues to play an important role as well. For example, studies on the use of doping, ADHD medication, and other medicines suggest that users often obtain these medicines through friends or family (Van de Ven, 2016; Ganpat et al., 2009; Koenraadt, 2012; Antonopoulos & Hall, 2016). For this reason, prevalence study respondents were asked to indicate which types of medicines they have purchased or otherwise obtained i) outside the legitimate supply chain; and ii) outside online sources. Of the 50,848 respondents, 6,968 mentioned they had purchased or received medicine from friends, family, dealers or through physical sources outside the legal supply chain. This includes prescription, over-the-counter, legal and illegal medicines. Painkillers (73.5%) are by far the most important type of medicine that is obtained through other sources. Sedatives (15.0%) and weight loss drugs (12.1%) are also obtained through other sources.

Table 4.9 Types of medicine purchased offline ($n=6,968$, $n=1,206$)

	All medicines purchased offline		Illicit medicines purchased offline	
	(1) n	(2) Percentage of all medicines purchased offline (%)	(3) n	(4) Percentage of all illicit medicines purchased offline (%)
Painkillers	5119	73.5	573	47.5
Sedatives and tranquilizers	1045	15.0	319	26.5
Antibiotics	819	12.1	154	12.8
Weight loss drugs	765	11.0	170	14.1
Birth control	688	9.9	98	8.1
Sexual enhancers	418	6.0	156	12.9
Antidepressants	403	5.8	113	9.4
Quit smoking medication	395	5.7	107	8.9
Antiviral medicines	320	5.1	95	7.9
ADHD medicines	294	4.2	124	10.3
Muscle drugs	270	3.9	89	10.7
Other	1488	21.4	219	18.2

Source: analysis of own survey data. Note that some of these respondents reported that they purchased more than one variety of medicine. Therefore, columns (1) and (3) sum to more than the n-number of respondents, and columns (2) and (4) sum to more than 100%. These aggregate sums are meaningless and are therefore not presented in the table itself.

In addition, 1,206 of these 6,968 respondents reported that they had purchased illicit medicines from a physical source. Therefore, as 50,848 respondents participated in this survey, it is estimated that a 2.4% of the Dutch population has purchased illicit medicines through a physical source, such as family, friends or under the counter or by dealers. Illicit painkillers (47.5%) and sedatives (26.5%) are obtained most often through physical sources. After that, weight loss medicines (14.1%) and sexual enhancers (12.9%) are purchased most often outside the internet. Table 4.9 presents the different types of (illicit) medicines bought offline.

Combining prevalence study findings on illicit medicines traded through both online and physical sources, 1,699 out of the 50,848 respondents reported that they had purchased one or more types of illicit medicines. This yields an estimate that 3.3% of the Dutch population that has purchased illicit medicines at least one time, regardless whether this was obtained online or through a physical source. A combined total of the most commonly purchased medicines shows again that analgesics, psychotropics and lifestyles are again the most popular medicine groups.

The abovementioned data represent the findings based on the prevalence study's 50,848 respondents. However, as stated, one of the methodological

problems is that consumers are not always aware that some medicines that are easily available for purchase legally require a prescription (Siva, 2010; Venhuis et al., 2011; Jackson et al., 2010).¹⁵ As Walsh (2011) explains, the internet offers all sorts of legal, semi-legal and illegal medicines, but does not often advertise their legal status. Consumers might not know whether the (online) supplier is breaking the law. If a respondent had not realized that a counterfeit medicine or adulterated food supplement has been purchased, or that a prescription was required for purchase, they would naturally check the wrong box in the survey. A second kind of reporting error occurs, especially regarding offline purchases of painkillers, when consumers are under the impression that they bought a prescription medicine when in fact they did not. Customers have difficulty evaluating the genuineness of the medicines they take. Finally, it is possible that, despite layers of protection and clarification by the survey moderators that identities would not and could not be disclosed, some respondents chose consciously to mark the wrong boxes out of fear of prosecution. Hence, the presented estimates should thus be interpreted as a first indication of the prevalence of purchasing illicit medicines in the Netherlands.

All three databases based on the trade in the Netherlands show that two medicine categories are the most frequently purchased, traded and/or confiscated: lifestyle medicines (especially sexual enhancers and weight loss medicines) and (opioid) analgesics and psychotropic medicines (especially pain killers and sedatives). This supports other European research findings that list lifestyle medicines as the most widespread illicit medicines (Di Nicola et al., 2015; Hall & Antonopoulos, 2016). We find that illicit pain killers are widely purchased or otherwise obtained as well, although further research should study the types of pain killers that are being referred to. For example, in recent years the misuse of prescriptions has been reported more frequently, although the prevalence in Europe is estimated to be 4.5 times lower than in the United States (Scammell & Bo, 2016: 110). Contrary to earlier findings regarding online pharmaceuticals (Di Nicola et al., 2015; Lavorgna, 2014; Hall & Antonopoulos, 2016) our data does not support antidepressants as one of the most important categories.

There is increasing interest in the trade and consumption of illicit medicines and online sales are generally portrayed as the most important driver. However, the data show that the physical market should not be underestimated. In particular, illicit painkillers, sedatives and lifestyle medicines are obtained through physical sources outside the legal supply chain.

4.5 Profile of consumers in the Netherlands

In the preceding sections, different medicine categories and types of illicit medicines have been identified. However, to date, not much is known about

¹⁵ See chapter 3 for a broader elaboration on the methodological reflection

the consumers who purchase illicit medicines online or through other physical sources (Van Hout, 2014). In order to understand the trade, one must understand the consumers. By referring to demographic information reported by respondents of the prevalence survey, it is possible to draw a general demographic profile of online as well as offline purchasers of medicines.

Perhaps surprisingly, the data show no significant gender difference, overall, in online medicine customers, with 50.6% being male and 49.4% being female buyers. However, when differentiating between the types of medicines, men tend to purchase a broader variety of medicines online. Male buyers are much more likely than females to buy two lifestyle drugs, namely, sexual enhancers (85.6% male) and muscle-enhancing drugs (82.9% male), as well as antidepressants (77.3% male), and ADHD medication (77.2% male). Weight-loss drugs are the only substances more women reported they purchased than men (61.3% female).

Table 4.10 Distribution of medicines purchased online by the gender of buyers (n=5,165, n=828)

	Online buyers all medicines		Online buyers illicit medicines	
	(1) % Male	(2) % Female	(3) % Male	(4) % Female
Sexual enhancers	85.6	14.4	90.0	10.0*
Antiviral medicine	84.2	15.8	92.2	7.8
Muscle drugs	82.9	17.1	88.6	11.4
Antidepressants	77.3	22.7	88.9	11.1
ADHD medicine	77.2	22.8	92.2	7.8
Antibiotics	76.8	23.2	83.0	17.0
Quit smoking medication	69.3	30.7	82.4	17.6
Painkillers	56.2	43.8	71.4	28.6
Sedatives and tranquillizers	55.5	44.5	69.2	30.8
Birth control	49.0	51.0	78.2	21.8
Weight loss drugs	38.7	61.3	51.5	48.5
Other	52	48	65.5	34.5
Any medicine	50.6	49.4	64.1	35.9

Source: analysis of own survey data.

Interestingly, it appears that, overall, more men reported they purchased *illicit* medicines than women. The last row of columns 3 and 4 of Table 4.10 illustrate that 64% of the purchasers of illicit medicines are men and 36% are women. More male than female participants reported they purchased all types of illicit medicines online, except for weight-loss drugs. Illicit lifestyle drugs most often purchased by men are again sexual enhancers (90% male), muscle-enhancing drugs (88.6% male) and quit smoking medication (82.4% male). The only medicines that both women and men reported equally are sedatives and weight

loss medicines. The findings from the prevalence study coincide with findings that women generally report higher medical use rates, while undergraduate men report higher illicit use rates (McCabe, Teter & Boyd, 2006).

Table 4.11 reports on the gender of offline purchasers. As presented in columns 1 and 2 of Table 4.11, there is no significant gender difference in purchasing medicines online in general, with 54.6% being male and 45.4% being female buyers. With regards to the specific medicines types, applies that more men reported they purchased muscle drugs (80.2%), ADHD medication (83.0%) and sexual enhancers (82.1%) than female buyers. These findings are similar to the illicit medicines purchased through offline sources (see column 3 and 4 of Table 4.11).

Table 4.11 Distribution of medicines purchased offline by the gender of buyers (n=6,968, n=1206)

	Offline buyers all medicines (n=6,968)		Offline buyers unofficial medicines (n=1206)	
	(1) % Male	(2) % Female	(3) % Male	(4) % Female
Sexual enhancers	82.1	17.9	85.5	14.2
ADHD medicines	83.0	17.0	86.0	14.0
Muscle drugs	80.2	19.8	87.3	12.7
Antidepressants	81.0	19.0	85.8	14.2
Antiviral medicines	78.9	21.1	80.1	19.9
Quit smoking medication	76.3	23.7	81.4	18.6
Antibiotics	79.5	20.5	79.5	20.5
Birth control	76.4	23.6	76.4	23.6
Painkillers	57.9	42.1	57.9	42.1
Sedatives and tranquillizers	54.4	45.6	54.4	45.6
Weight loss drugs	62.6	27.4	62.6	37.4
Other	55.7	46.3	55.7	44.3
Total	54.6	45.4	56.3	43.7

Source: analysis of own survey data

Furthermore, Table 4.12 presents the mean age of the buyers per medicines class. The mean age of the online purchasers is 44.7 years of age (SD=15.4). On average, consumers purchasing online painkillers are among the oldest (44.3 years, SD=15.7) and consumers purchasing ADHD medicines are the youngest (32.4 years, SD=10.3). Interestingly, the mean age of all medicines is higher than the mean age per medicine category. This is related to the finding that younger consumers are more likely to purchase multiple types of medicines at the same time and are therefore counted multiple times for the separate medicine types. For the mean age of all medicines, the younger consumers are counted

only once, resulting in a higher mean age. This explains why the overall average age (44.7y/44.5y) is higher than the average age per medicine type. In addition, consumers purchasing illicit painkillers are again among the oldest (42.7 years, SD=16.4), followed by consumers of the lifestyle drugs sexual enhancers (42 years, SD=15.3), weight loss drugs (40.7 years, SD=14.7) and sedatives (39 years, SD=16.4).

In addition, the data show that the largest group of purchasers is between age 20 and 30 years old, with the prevalence slowly decreasing by age. Regardless of the inverse probability weights that are applied, it should be noted that the sample is comprised of adult respondents, and consumers under the age of 18 are not included.

Table 4.12 Mean age of purchasers of illicit medicines online (n=5,165, n=828)

	Age online buyers all medicine (years)	Age online buyers illicit medicine (years)
	Mean age (Standard deviation)	Mean age (Standard deviation)
Painkillers	44.3 (15.7)	42.4 (16.4)
Sedatives and tranquillizers	40.4 (15.7)	39.0 (15.0)
Weight loss drugs	39.1(13.5)	40.7 (14.7)
Antiviral medicines	36.3 (12.5)	31.7 (12.0)
Sexual enhancers	35.7 (13.3)	42.0 (15.3)
Antibiotics	35.3 (13.6)	34.2 (13.6)
Antidepressants	34.7 (12.7)	30.9 (10.0)
Quit smoking medication	34.6 (11.1)	36.6 (13.8)
Muscle drugs	34.0 (11.8)	31.5 (11.5)
Birth control	33.7 (10.2)	32.3 (10.8)
ADHD medicines	32.4 (10.3)	28.8 (7.7)
Other	42.8 (15.8)	44.3 (16.7)
Total	44.7 (15.4)	44.5 (15.5)

Source: analysis of own survey data

For consumers purchasing medicines through offline sources, similar patterns occur. The oldest consumers who purchase medicines through other sources are most likely to demand pain killers, followed by sedatives and sexual enhancers. The findings are presented in Table 4.13.

Table 4.13 Mean age of purchasers of illicit medicines offline (n=6,968, n=1,206)

	Age offline buyers all medicine (years)	Age offline buyers illicit medicine (years)
	Mean age (Standard deviation)	Mean age (Standard deviation)
Painkillers	47.2 (16.3)	47.8 (16.8)
Sedatives and tranquillizers	44.4 (16.6)	42.5 (15.1)
Weight loss drugs	43.0 (14.4)	36.5 (13.1)
Antiviral medicines	42.9 (15.4)	40.2 (15.6)
Sexual enhancers	42.6 (14.8)	39.0 (14.7)
Antibiotics	41.1 (15.4)	36.6 (14.5)
Antidepressants	39.2 (15.9)	32.1 (10.7)
Quit smoking medication	38.8 (14.8)	31.4 (10.9)
Muscle drugs	36.4 (15.3)	33.9 (11.9)
Birth control	33.3 (10.1)	30.4 (8.9)
ADHD medicines	32.6 (10.9)	28.5 (7.0)
Other	47.4 (16.7)	44.5 (17.5)
Total	46.5 (16.3)	45.1 (16.6)

Source: analysis of own survey data

In short, data from the survey study makes it possible to draw a general profile of consumers who purchase specific types of illicit medicines on- and offline. Consumers aged 20-30 are the most likely to purchase illicit medicines online, although differentiation exists among the specific types of medicines. The types of illicit medicines most often purchased by male consumers are muscle drugs, sexual enhancers, antiviral medicines, antidepressants and ADHD medication.

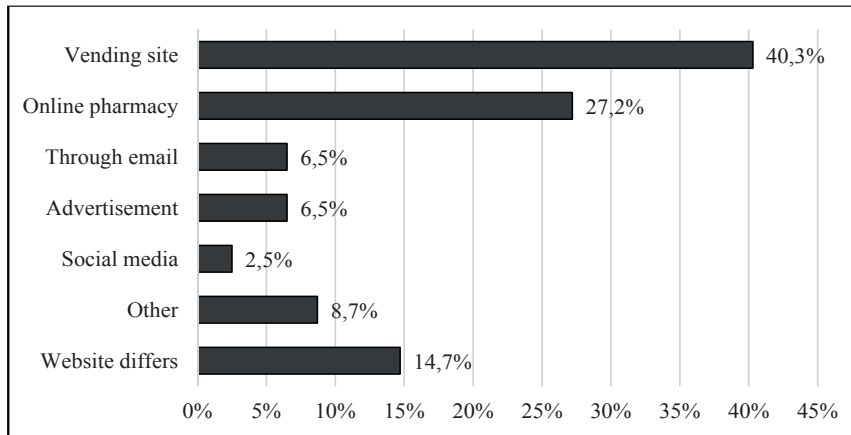
4.6 Purchasing illicit medicines in the Netherlands

Aside from demographic characteristics of users of illicit medicines in the Netherlands, data from the survey study provides insights into the overall methods and perceptions of its users. In order to measure these, the in-depth survey (n=770) study focused on the specific methods, ideas and motivations of respondents. In the literature on online drug markets, internet pharmacies are often regarded as the main source for both licit and illicit medicines (Di Nicola et al., 2015; Di Giorgio, 2011). However, some scholars have pointed out that there is a broad variety of websites that are used for obtaining information and purchasing medicines online (Di Nicola et al, 2015; Van de Ven, 2016; Hall & Antonopoulos, 2016).

Figure 4.1 presents the findings of the in-depth study, for which 367 respondents who reported online illicit medicine purchases, were selected. While the data confirm that online pharmacies are an important source to obtain illicit medicines, the data show that other vending websites (defined as specific websites or second-hand vending sites) are often deployed as well (40.3%).

Online pharmacies are used in 27.2% of the cases. In addition, while there are growing concerns that social media may play an active role in drug markets (EMCDDA, 2016), this research indicates that social media sites and apps are rarely used for buying illicit medicines (2.5%).

Figure 4.1 Type of website used for purchasing illicit medicines (n=367)



Source: analysis of own survey data

Furthermore, to acquire more insights in the type of websites used, respondents were asked about the location and language of the website used. Although the location of the warehouses associated with the website is not always known to the customer, the difference between Dutch and 'foreign websites' is the language or IP address used. Most online purchasers (n=367) report they primarily use websites that operate with the Netherlands '.nl' suffix (www.example.nl) or use Dutch language (67.3%), compared to 24.5% who purchased medicines on a foreign website. Differentiating per medicine category, foreign websites appear to be an important source to purchase sedatives and tranquillizers.

Interestingly, while the internet is often referred to as an unreliable source for obtaining medicines (UNICRI, 2012), and perhaps 50% of internet medicines are fake (WHO, 2012), consumers seem to be rather content with their purchases. Out of the 367 online purchasers, 215 respondents (67.3%) mention that they fully trust the website of purchase. Table 4.14 presents the overall satisfaction rates of consumers on the information provided, price and quality of the medicines purchased online. This does not refer to the medicine's actual quality, but to quality perceived by its consumers.

Table 4.14 Satisfaction with information, price and quality of medicine purchased online (n=367)

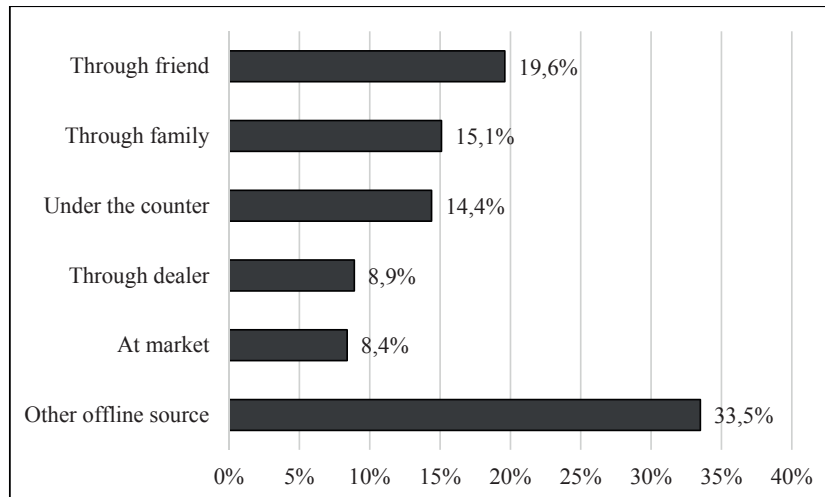
	Very satisfied (%)	Satisfied (%)	Neutral (%)	Unsatisfied (%)	Very unsatisfied (%)
Information	24.0	54.2	17.7	3.0	1.1
Price	29.4	45.0	17.7	6.0	1.9
Quality	30.8	49.6	12.8	4.1	2.7

Source: analysis of own survey data

In addition, around one-third (33.2%) of the online purchasers consistently visit the same website they visit for every purchase. Another 26.2% says they often use the same website, while 29.7% has no particular site and differ from time to time. Not only do many consumers return to the same website themselves, but many internet purchasers are willing to engage in a kind of marketing: 50.1% of the 367 internet buyers would recommend that potential illicit medicine customers make their purchases online, while 24.0% would not make such a recommendation, and 25.9% were neutral or uncertain.

Outside the online trade, 403 survey respondents said that they were consumers of illicit medicines, but retrieved their medicines from sources beyond the internet, legitimate shops, or registered pharmacies. These sources include medicines purchased through friends (20%), after which family (15%), under the counter (14%) and through a dealer (9%) follow. Preferred source varied, depending on which medicine type had been purchased. For example, illicit sedatives are more often purchased through dealers than other types of medicines. Figure 4.2 provides details on the purchased medicines combined.

Figure 4.2 Type of offline source used for purchasing illicit medicines (n=403)



Source: analysis of own survey data

In the case of illicit medicines purchased through sources outside the internet and also outside normal legal channels, consumers show similar satisfaction rates. More than two-thirds of respondents are satisfied or very satisfied with the information, price and quality of the medicines purchased from these sources, as shown in Table 4.15.

Table 4.15 Satisfaction with information, price and quality of medicine purchased offline (n=403)

	Very satisfied (%)	Satisfied (%)	Neutral (%)	Unsatisfied (%)	Very unsatisfied (%)
Information	30.3	52.9	15.4	1.0	0.5
Price	39.7	42.9	15.1	1.5	0.7
Quality	37.7	48.4	12.4	0.7	0.7

Source: analysis of own survey data

These buyers' perceptions of their sellers are strikingly similar to those of online buyers. More than one quarter of the purchasers of medicines through other sources (27.8%) always return to the same supplier, while another 34.2% usually return to the same source. 30.5% search for a supplier, without reference to earlier sites and purchases, each time they need medicine. The proportion of buyers who would recommend their source to others (54.6%) is also similar to online purchasers, as is the proportion who would not (20%).

4.7 Conclusion

This chapter provides findings on three quantitative datasets on the illicit medicines traded in the Netherlands and their consumers, thus providing some preliminary insights into the illicit medicine market in the Netherlands and setting the stage for the next chapter, which will analyze the underlying motivations and perceptions of consumers of illicit medicines. Four types of illicit medicines are the most popular: sexual enhancers, weight loss medicines, pain killers and sedatives. Among these, sexual enhancers and weight loss drugs can be clustered under the umbrella of lifestyle medicines, while pain killers and sedatives fall under the broad category of (opioid) analgesics and psychotropic medicines. Confiscated lifestyle medicines are largely associated with the medicines that are not covered by health insurance. The origins of these confiscated medicines are mainly associated with production facilities in India, China and the USA.

Based on the prevalence survey study, it is estimated that 3.3% of the Dutch population has purchased illicit medicines, including 1.6% who have purchased such medicines online and 2.4% who have tapped offline sources. Despite the inherent methodological limitations of our survey study, these estimates are a valuable first assessment on the prevalence of illicit medicines purchases in the Netherlands.

In addition, the data suggest a general consumer profile. Overall, more men than women reported they purchased any illicit medicine, except for weight loss drugs and sedatives. Furthermore, there is a lot of variety in age of the consumers. Consumers of ADHD medication are the youngest, while consumers of painkillers are among the oldest consumers. Both online and offline consumers can choose from a variety of sources to obtain illicit medication. Online purchase occurs not only through online pharmacies, but also via a broad range of vending websites. Outside the internet, most of the medicines are obtained through friends, family, dealers or under the counter. Despite national and international assessments that such products are unreliable, Dutch consumers themselves are rather satisfied with the information, prices and quality of the illicit medicines they purchased and more than 40% would recommend their source to other potential buyers.

Based on analyses of the quantitative data sources, this chapter is meant as a first contextual background chapter. In the following chapters, qualitative data will inform an analysis of underlying motives and market dynamics in greater depth. Yet, as the motives, modus operandi and dynamics vary considerably from one type of medicines to another, this study will zoom in on the illicit lifestyle medicines. Further, the primary focus will be on the demand and supply of illicit lifestyle medicines, in particular on erectile dysfunction medicines and weight loss drugs. In the next chapter, the demand for these medicines will be further analyzed, after which varying levels of the illicit supply chain will be examined Chapters 6, 7 and 8.

Chapter 5

Understanding the demand for (illicit) lifestyle medicines

The previous chapter demonstrated that lifestyle medicines such as weight loss drugs, sexual enhancers, muscle drugs or medicines to treat baldness comprise the single largest component of the illicit market for medicines in the Netherlands. This market segment has its own personality: customer and supplier motives, as well as methods and dynamics of the interaction between sellers and buyers, are distinct from those in such other substantial illicit market sectors as pain killers, sedatives and tranquillizers. For this reason, this dissertation narrows its focus to the lifestyle medicines sector, beginning in this chapter with an analysis of demand.

In recent years, public health officials are increasingly concerned by the growing online availability and use of illicit lifestyle medicines whose content is sometimes hazardous and whose supply stream eludes effective monitoring (Evans-Brown et al., 2012). Therefore, with an increase in the trade of all sorts of lifestyle drugs and medicines, and their similarities to other illicit drug markets, the current thesis particularly zooms in on two of the most popular types of medicines, sexual enhancers and weight loss drugs. With regard to the demand, consumers of illicit lifestyle medicines are on the one hand considered as deceived patients that have unwittingly purchased medicines through illegal or fake online pharmacies (IRACM, 2013; Jackson et al., 2010; Gaudiano et al., 2012). Yet, on the other hand, there is mounting literature available on the use of human enhancement drugs, whereby users deliberately purchase medicines on the illicit market for improving one's lifestyle and human attributes. As these users have no medical cause for the consumption, they are generally not able to obtain the medicines on a doctor's prescription.

However, theoretical and empirical insights on the users of illicit lifestyle medicines are scarce, and especially in-depth information from the users themselves is lacking. In this chapter, the focus lies on the motives and perceptions of these consumer groups, on how contradicting portrayals of the illicit medicine consumers coincide, and on risk management and social identity of the consumers. While it is not the aim to analyze the whole group of consumers in great detail, this chapter offers a preliminary insight into overall dynamics on the demand side that are imperative in order to understand the supply. Data from this chapter primarily stem from interviews with consumers and the online analysis, at times compared with findings from the survey study. This

chapter first offers a short discussion of past and present of the consumption of lifestyle medicines, in order to provide a sociomedical context of how erectile dysfunction medicines and weight loss medication have become so popular. After that, motives and ideas of purchasing illicit medicines are discussed, distinguishing between users that purchase medicines for financial or embarrassment reasons online and those users that turn to the illicit market for other reasons, primarily because they are not able to obtain the medicines through other means. The chapter concludes with outlining differences in the ideas on lifestyle medicine consumption and risk perception.

5.1 The past and present of lifestyle medication

The use of lifestyle drugs is not a new phenomenon. Driven by a timeless desire to be more beautiful, fitter, stronger or more intelligent, reports of people consuming a myriad of herbs, plants, pills or powders with the hope that these products would improve, cognitive, sexual or physical attributes, have been recorded throughout history (Evans-Brown et al., 2012). For example, doping has been used in sports since professional competitions were first held. Athletes who competed in ancient Greece's Olympic Games performed traditional rituals and consumed plant and animal extracts to increase human condition in order to become stronger than their competitors (Botre & Pavan, 2009; McVeigh et al., 2012). For ages, specific liquid drugs were consumed to look young again, while animal testicles were eaten for preferred improvement of strength and sexual competences. In India, texts written as early as the eighth century BC were found in which recipes for enhancing man's sexual performances included a mixture of specific powders, juices, perfumes and spices (Shah, 2002). Throughout history, a long tradition exists of consuming all sorts of drugs with the aim to exceed peoples own potential (Evans-Brown et al., 2012; McVeigh et al., 2012).

Whereas the search for lifestyle drugs and enhancing human attributes is thus nothing new, in recent years, various cultural and social drivers have been associated with the increased use of lifestyle medicines. Since the 1970s, images on health, healthy behavior and lifestyle have changed as there has been a move from the focus on acute and life-threatening diseases towards the focus on chronic, non-life-threatening conditions (Hansen & Easthope, 2007). Health has become a central focus in society and is more conceptualized in terms of body maintenance and healthy lifestyles. Hereby, in recent decades, people are increasingly stimulated by mass media and advertisements to take responsibility for their own life, health and body by enjoying a healthy lifestyle with healthy food, safe sex, the consumption of healthy products and regular exercise (Hansen & Easthope, 2007: 11; Nettleton, 2013).

In addition, as people are more concerned about their health and lifestyle, more aspects of everyday life become problematized (Hansen & Easthope, 2007: 56). This applies to conditions that are related to daily sex, sleeping and eating

patterns for which increasingly medication is consumed in order to provide quick measures for the symptoms: ‘a pill for every ill’ (Fox & Ward, 2008). Together with changing perceptions on health and lifestyle, forces of medicalization are transforming these perceptions on health and lifestyle into a demand for medicines. For example, various lifestyle illnesses were previously considered as minor problems, but have become treatable medical conditions, such as erectile dysfunction, baldness or obesity (Rahman et al., 2010). The extensive popularity of these medicines has resulted in debates on what constitutes a treatable medical problem, or what is considered as a simple lifestyle wish (Lexchin, 2001; Young, 2003). Fox and Ward (2008) argue how the pharmaceutical industry is increasingly able to focus on the individual and daily life of the consumer. On the one hand, they argue, there is a process of domestication of pharmaceutical consumption with pharmaceutical companies focusing on the sale of medicines by the internet with less interference of (real-life) doctors. On the other hand, they signal a pharmaceuticalization of everyday life in which medicines are increasingly important in the daily lives of consumers (Fox & Ward, 2008). In addition, Lexchin (2001) describes how shyness as a character trait is slowly changing towards an abnormal trait for which pharmaceutical companies claim to have the solution. Hence, ‘social phobia’ is presented as a condition for which medical treatment is increasingly appropriate.

5.1.1 The rise of erectile dysfunction medicines

The growing use of lifestyle medicines has been pre-eminently visible in the case of erectile dysfunction (ED) medicines and weight loss drugs. Nearly all ED medicines are marketed for treatment of male erectile dysfunction, which refers to the inability to attain or maintain an erection sufficient for satisfactory sexual performance (Doggrell, 2005). Until 1998, sexual dysfunction was generally attributed to and cured by treating the psychological, emotional, relational and social factors that are associated with the condition (Loe, 2004). In 1952, erectile dysfunction was referred to as a psychological condition in the Diagnostic and Statistical Manual of Mental Disorders (DSM) and was meant to be treated that way (Loe, 2004). In addition, pills, powders and herbs to enhance potency and to increase sexual pleasure included the use of Spanish Fly, ginseng roots, oysters, bull testicles, melted fat and rhino horn (Verhulst & Reynolds, 2009; Loe, 2004). Occasionally, treatment for erectile dysfunction in the twentieth century included vacuum devices, intracavernosal injections or surgery (Shah, 2002; Lycklama à Nijeholt, 2008).

Since the 1970s, a dramatic shift situated erectile dysfunction as a medical condition that should be addressed with medical treatment (Loe, 2004; Marshall, 2006). In 1998, the use of Viagra, a Pfizer pharmaceutical product, was approved by the Food and Drugs Administration (FDA). At that moment, Pfizer became the first major pharmaceutical company that marketed a medical solution to treat impotence. Allegedly, Viagra’s effective ingredient, Sildenafil,

was accidentally discovered during studies on cardiac conditions including angina. Whereas the trial subjects did not report improvement of their heart conditions, increased blood flow to the genital areas and improved erections were reported as common side effects (Loe, 2004). Within 18 months of Viagra's launch in the United States, more than 15.6 million prescriptions for Viagra were authorized (Keith, 2000).

Loe (2004) argues that a complex set of social and cultural changes shaped the immediate popularity of Viagra at the end of the twentieth century, including i) medical expansion; ii) scientific and technological innovation; iii) pharmaceutical deregulation and expansion; iv) cultural and demographic shifts in gender and aging and; v) increasing scientific and popular attention to sexuality and sexual dissatisfaction. For example, in the 1980s and prior to the availability of Viagra, academic and public discourse began to intensify its focus on physical causes of erectile dysfunction and gave less attention to social and psychological factors. In the 'age of Viagra', sexual problems were fully transformed into a professionally acknowledged medical ailment, which was beneficial for the patient and doctors, as well as pharmaceutical companies (Luciano, 2002). Marshall (2006) argues that 20th century sexual problems, which earlier had been approached as 'normal' changes in sexual capacities associated with bodily aging, now became pathologized as sexual dysfunctions worthy of medical treatment (Marshall, 2006). After Viagra was approved in 1998, Cialis was made available in 2003 and Levitra followed in 2007.

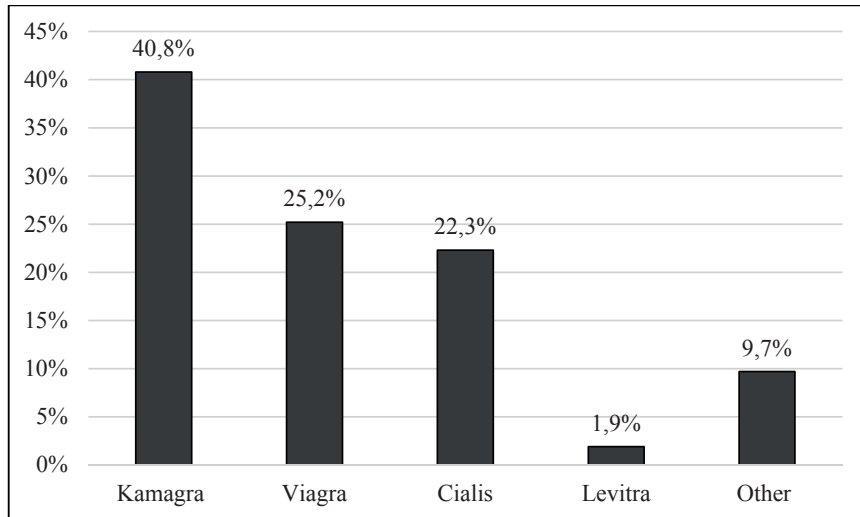
In recent years, various lifestyle medicines are thus widely available on both the legal and illegal market. With regards to ED medicines in the Netherlands, 306,000 sexual enhancers were officially prescribed in 2009, a number that was virtually unchanged in 2014, when 300,000 sexual enhancing substances were prescribed to about 120,000 men (SFK, 2015b). Some estimate that around 50% of the male population between 40 and 70 years of age may be suffering from sexual problems, with age being the most important variable associated with ED (Doggrell, 2005). However, the exact prevalence is unknown and difficult to measure.

At the same time, the consumption of illicit erectile dysfunction medicines seems to be even higher. For example, according to Venhuis et al. (2014), at least 60% of the consumed Sildenafil in the Netherlands, is not originally from a Dutch pharmacy. Confiscations such as Interpol's annual Pangea exercises demonstrate that ED medicines are among the most seized substances worldwide, and are thus widely considered as popularly traded items on the illicit market (Interpol, 2014a; Lavorgna, 2014; Di Nicola et al., 2015). Chapter 4 demonstrates that a wide variety of illicit ED pills and products are available, including counterfeits, illicit generics and adulterated food supplements. In addition, Chapter 4 presents the sociodemographic characteristics of consumers. The average age and gender variation of both online or offline purchasers separately are listed in Tables 4.10 to 4.13 in Chapter 4. Furthermore, based on a total of 321 respondents from the prevalence study that purchased illicit ED

medicines (through on- or offline sources),¹⁶ it appears that the majority is male (87.9%), with an average age of 41.6 (SD=15.5).

According to the conducted survey among 103 Dutch respondents that purchased sexual enhancers both on- or offline,¹⁷ the most popular medicines are Kamagra (41%) and Viagra (25%) (see Figure 5.1). This finding is consistent with the proportions of medicines confiscated by Dutch Customs (Venhuis et al., 2011), although the consumption of Kamagra is lower than the proportion found by the Dutch National Institute for Public Health and the Environment (RIVM). In their analysis of samples that could not be immediately identified by Customs agents, 68% of concerned illicit generics, primarily Kamagra (Venhuis et al., 2011). According to the RIVM, the rise in illicit generics can be explained by patients placing great trust in these unlicensed medicines (ibid.).

Figure 5.1 Types of illicit sexual enhancers purchased in the Netherlands (n=106) (%)



Source: Analysis of own survey data.

In addition, while the adulterated food supplements could not be identified through survey questions, the LIMS dataset shows that doping products (20,7%), weight loss drugs (15,6%) and sexual enhancers (12,4%) are the main products traded without a medical claim or without the pharmaceutical ingredients listed on the package. Based on the analysis of Venhuis et al., (2011), 13% of the seized

16 The prevalence survey study was based on a panel among 50,848 respondents (see section 3.6). In total, 1699 respondents reported they purchased illicit medicines online or offline, including 321 respondents that purchased illicit erectile dysfunction medicines

17 The main survey study was based on 770 selected respondents that purchased illicit medicines, including a total of 103 respondents that purchased illicit erectile dysfunction medicines online (n=88) and/or offline (n=18) (see section 3.6).

sexual enhancers concern adulterated food supplements. Some of the adulterated food supplements contain analogues, which are drug substances similar to a registered drug substance, but usually different in potency, side-effects and toxicity. It is suggested that available patent literature provides the knowledge chemical producers need to manufacture analogues (Venhuis et al., 2011). According to the authors, adulterated food supplements increase health risks, as consumers are not aware they purchased medicines while it often contains experimental drug substances of which side-effects are largely unknown (ibid.).

5.1.2 The rise of weight loss medication

With regard to weight loss drugs, similar changes in the acceptance of a medical solution have been seen. For example, obesity is generally being defined as having a body mass index (BMI) of over 30kg/m² (Eknoyan, 2006). In the last decade, the prevalence of this condition has more than tripled, which comes down to around 30% of the American and 25% of the UK population (Rodgers, Tschöp & Wilding, 2012). In the Netherlands, more than half of the adult population is considered to be overweight (defined as a BMI \geq 25kg/m²) and almost 14% of the adult population deals with obesity (Volksgezondheid en Zorg, 2015). Obesity has become an important public health concern as it is associated with a range of conditions such as diabetes mellitus. It is suggested that more than 80% of patients are unable to lose weight solely through dietary and lifestyle adaptations (James, et al., 2010).

However, in earlier times, having extra weight or being obese was seen not as a health threat, but as a sign of affluence and ideal beauty. From an evolutionary perspective, the bodily mechanism of storing fat as a food reserve in periods when food was scarce was beneficial for hunters and gatherers. The significance of storing fat is already visible in art pieces of the Stone Age period (25,000 BC), such as sculptures of obese women that are suggested to represent fertility, health and beauty (Eknoyan, 2006). Throughout early history, storing fat was understood as a way to survive periods of famine and associated with beauty and health (Eknoyan, 2006; Clark, 2015). However, at the end of the 19th century, perceptions on weight, and the image of a perfect body, gradually changed from obese or voluptuous bodies towards others ideals.

In the early twentieth century, it was still considered healthy to carry some ten to twenty extra kilos, even though mid-19th century doctors increasingly showed the negative impact of obesity on health and argued that excess fat should be viewed as a health problem (Eknoyan, 2006). Especially after the 1960s, ever more studies were conducted on obesity and weight loss, many of which showed that fat was directly linked to being unhealthy. In addition, obesity was more and more associated with low self-control, a lack of willpower, as well as physiological and psychological disorders (Puhl & Heuer, 2010; Eknoyan, 2006; Throsby, 2009; Crandall, 1994). At the same time, increasingly thin and skinny bodies were promoted as beauty ideals. As a result, the ideal of being thin, slim

and fit has become dominant in recent decades, with anorexia nervosa rising as the most extreme form of bodily control and being thin (Crossley, 2004). Critical scholars refer to a 'war on obesity', as health, slimness and bodily discipline have become interrelated and treated simultaneously, whereas obesity has become a representation of a lack of individual responsibility (Throsby, 2009). A wide variety of dietary, slimming, exercise and cosmetic body maintenance products are marketed and sold in order to help customers attain the appearance they dream of (Monaghan, 2001; Nettleton, 2012). With a huge demand for effective weight loss products, the slimming business has been transformed into a multibillion euro industry (e.g. Eknoyan, 2006; Throsby, 2009). Media and commercial interests generate and deepen this demand and promote their products as healthy, slimming and rejuvenating. Various industries offer dieting and fitness products in order to feed consumer desires for a fit body (Lupton, 2012: 39).

Around the 1950s and 1960s, the earliest pharmacological agents available for weight loss included amphetamine derivatives such as desoxyephedrine and phentermine, but because of concerns about cardiovascular risks and abuse of the medicines, consumption decreased in the 1970s (Rodgers et al., 2012). However, in the 1980s, phentermine and fenfluramine were especially popular in Europe and the US, as during that period the prevalence of obesity was largely increasing, while positive results were published on the effects of these weight loss drugs (Colman, 2005). Within a couple of years though, these drugs were eventually removed from the market because of severe side effects (Rodgers et al., 2012).

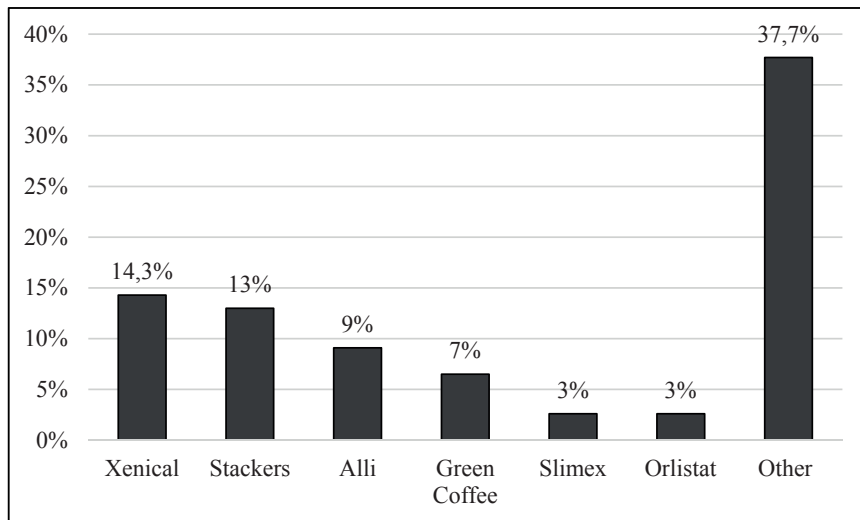
Until recent years, three types of weight loss drugs were approved in the European continent as oral medication for the treatment of obesity: Sibutramine (available as Meridia and Reductil), Rimonabant (sold as Acomplia) and Orlistat (available as Xenical and Alli) (Rodgers et al., 2012). Sibutramine was approved for weight loss or management for patients who were unable to lose weight through dieting and exercising alone. The pills provoke satiety (thus reducing food intake) and enhance energy levels (James et al., 2010). However, the prevalence of weight loss medicines sold on prescription has diminished in recent years, primarily due to the removal of substances Rimonabant and Sibutramine from the market as, like earlier products, their consumption was associated with severe side effects, including heart and vascular diseases and psychiatric disorders (Rodgers et al., 2012). In sum, in the past decades, a wide range of cultural, social and commercial drivers are associated with the increased medical treatment for erectile dysfunction problems and weight loss.

As a result, a new set of 21st century weight loss drugs and prescription pills has entered the market. At present, the only available prescription medicine for the treatment of obesity in the Netherlands is Orlistat, which was prescribed 25,000 times in 2011 (SFK, 2012). Contrary to Rimonabant and Sibutramine, Orlistat does not reduce appetite and enhance energy levels, but it reduces fat absorption. The side effects are therefore less severe (Rodgers et al., 2012).

However, although only a single prescription medicine is officially available, the weight loss industry has turned out to be a profitable business (Nettleton, 2012). The illicit market is filled with effective but unregistered weight loss drugs and adulterated food supplements (Venhuis et al., 2009). According to the in-depth survey study of 77 users of weight loss drugs,¹⁸ the most important products purchased today include Xenical (14%), Stackers (13%) and Alli (9%). In addition, at least 38% report they purchased other sorts of medicines that were not legally available in the Netherlands (see Figure 5.2).

The results coincide with findings in the literature on illicit weight loss drugs as primarily adulterated dietary supplements pose severe health risks. Consumers of these products are often unaware of which drug substance they are taking and how much of it, or they might not even be aware they are taking a drug substance and assume the product is a harmless supplement for extra weight loss (Venhuis et al., 2009).

Figure 5.2 Types of illicit weight loss medicines purchased in the Netherlands (n=77) (%)



Source: Analysis of own survey data

In addition to the survey, LIMS data show that weight loss drugs are often traded as adulterated food supplements, or in other forms such as powders and jellies. In general, the average age and gender variation of the consumers of licit and illicit weight loss medicines are analyzed based on the prevalence survey study and can be found in Tables 4.10 to 4.13 in Chapter 4. Overall, purchasers

¹⁸ The main survey study was based on 770 selected respondents that purchased illicit medicines, including a total of 77 respondents that purchased illicit weight loss drugs online (n=70) and/or offline (n=16) (see section 3.6).

of illicit weight loss medicines (both through on- and offline sources) have an average age of 41 years (SD=14.8), with 45.6% being female buyers and 54.4% being male.

Similar to general findings on illicit medicines in described Chapter 4, various online sources are used for the purchase of sexual enhancers and weight loss drugs. In addition, as outlined in Chapter 4 and grounded in the literature, consumers also purchase medicines outside the internet, through unofficial sources such as through friends, family or dealers (Koenraad, 2012; Van de Ven, 2016; Antonopoulos & Hall, 2016). A detailed analysis of website and offline sources will be presented in Chapter 6.

5.2 Convenient, anonymous and cheap

Based on the survey study, interviews and literature, various distinct motivations are identified in following paragraphs. How and why do users buy these medicines, online or offline, through sources outside the official distribution chain? In the current section, ease, anonymity and financial motivations are discussed as the first group of reasons for users to turn to the online sources or other points of sale outside the legal distribution chain. This primarily refers to medical consumers who both intentionally and unintentionally purchase illicit medicines. In the subsequent section, the focus shifts to recreational, or nonmedical, consumers, who overall intentionally purchase illicit medicines.

A first motive for consumers turning to the online market for medicines is ease and convenience. Respondents from the survey study most often referred to ease, convenience and home delivery as the most important reasons to purchase sexual enhancers (n=88) and weight loss medicines (n=70) through an online source (see Table 5.1). Many consumers also outlined these motives during my in-depth interviews as well. As earlier described, digital technologies have had an important influence on the consumption of medicines and medicalization of health care in general. Patients and consumers can easily look up all sorts of medical information online on symptoms and prevention as well as use self-diagnosis tests and online platforms for discussions with fellow patients (Nettleton, 2013). Indeed, the internet has become an integral part of health care, as patients and other medical consumers effortlessly access health care information, support, medicines and other medical supplements online (Lupton, 2012; Bessell et al., 2003).

Table 5.1 Motivations for purchasing sexual enhancers (n=88) and weight loss medicines (n=70) online

	Sexual enhancers (n=88) (%)	Weight loss drugs (n=70) (%)
Convenience	55	43
Lifestyle drugs are cheaper online	41	26
Home delivery	27	39
Do not want to discuss with doctor	24	8
Able to order after office hours	11	12
Advised by others	8	22
Not for sale in the Netherlands	6	17
Cannot receive prescription	6	5
Online lifestyle drugs are more effective	2	4
Other	7	5

Source: Analysis of own survey data

The increased availability of medical information online has transformed the lay patient into a well-informed expert patient who is able to diagnose and manage their own condition, including the purchase and consumption of health-related products (Lupton, 2012: 132; Fox, Ward & O'Rourke, 2005). Respondents primarily refer to the possibility to order at any given moment, outside office hours, ease and convenience of home delivery that provide an attractive opportunity to purchase medicines online. With just a couple of mouse clicks, all sorts of medicines can be accessed, compared and ordered, and sent by mail, circumventing waiting lines and office hours. For example, as various blog posts show, medical consumers prefer to purchase medicines online:

‘Now I don’t have to go to the doctor every month to get a prescription and two days later to the pharmacy. This is way easier and I would not prefer to have it differently anymore.’ (Online discussion post)¹⁹

The vast array of medical advice and information that can be accessed online has led to both positive and negative reactions, with some being concerned over the possibility of being misled by wrong information, while others emphasize the empowering potential of online medical information (Nettleton, 2013: 248; Nettleton & Hanlon, 2006).

A second motivator of customer behavior is price. Both the quantitative survey and in-depth interviews conducted for this dissertation yielded data that support the idea that financial considerations are among the primary reasons that customers turn to the internet or to other offline sources. Online sources in particular enable potential medical consumers to compare prices, content, and reviews, after which they may choose to purchase the cheapest available option

¹⁹ Accessed on September 14, 2016.

(Bessell et al., 2003). Financial reasons were also shown to be decisive factors in customer choices to purchase from offline, unofficial sources. For example, one online retailer that sells Kamagra tablets explains:

‘Of course, I have various clients who purchase here because it is much cheaper. It is five euro for a pill of good quality, which is much easier and quicker so why should people go to the doctor and pay ten times more. They know me, they know the price and they know that I will not fool them. So it does not even make sense to go to a doctor or pharmacy.’ (Interview NS18)

Compared to the prices of prescription ED medicines at government-monitored pharmacies, prices on the illicit market are often lower. Kamagra, an illicit generic, costs on average five euro per pill, while Viagra, with the same active ingredient, costs as much as ten euro, although cheaper authorized versions have become available. Before the expiry of Pfizer’s patent in the Netherlands in 2013, the price was even higher. Even in cases where medicines are not necessarily cheaper online, various consumers still refer to the financial motive as an explanation for their turn to the online environment. Such customers can compare prices online, which may result in purchasing illicit medicines online. In a study on unauthorized online pharmacies, consumers explained the fact that medicines were cheaper compared to local pharmacies as being due to less regulatory restrictions (Ivanitskaya et al., 2010).

As financial motivations are often referred to by respondents in the survey and interviews, this explains why the medicines traded on the illicit market primarily concern medicines that are not covered by health insurance. As outlined in Chapter 4, the most often consumed medicines in the Netherlands that are covered by health insurance, including Diclofenac and Simvastatin, are hardly visible in confiscations. On the contrary, medicines that users have to pay for themselves (that fall outside the health insurance coverage) are believed to be cheaper on the illicit market, both online and offline, than through the pharmacy.

Third, shame and embarrassment are important drivers for purchasing lifestyle medicines on the illicit market. Indeed, the features of shame and embarrassment are often referred to as stimulating forces to purchase medicines in a digital and anonymous online environment (Oirizio & Gelatti, 2010; Bessell et al., 2003). In a study of customers in eight European countries, it was found that thirty seven percent of the cases referred to the embarrassment of talking to a practitioner about their sexual dysfunction (Nicolosi et al., 2006). This coincides with findings that men are reluctant to seek medical care for sexual problems (Moreira et al., 2005; Gott, Galena, Hinchcliff & Elford, 2003). Sexual enhancers are the lifestyle medicines that are most directly associated with embarrassment and, based on our survey, 24% of the consumers of sexual enhancers reported that they purchased medicines online because they did not want to discuss their condition with a doctor (see Table 5.1 on page 100). With

sex being an important topic in contemporary society, people feel they may deviate from the idealized norm. Within a hegemonic patriarchal society that is obsessed by idealized sexuality, sexual dysfunction has become a taboo subject (Philaterou, 2004).

According to Sugiura (2013) consumers of medicines purchased online can be seen as a form of Goffman's backstage behavior: the online and anonymous medicine-ordering environment may remove some of the potential discomfort that can occur in face-to-face transactions (Sugiura, 2013; see also Goffman's classic 1959 study). To a certain extent, the data from this study supports this view. Consumers seem to uphold the idea that ordering medicines online is safe and anonymous, which is different from visiting a doctor and discussing the use of medicines face-to-face. For example, as a Kamagra dealer explained:

'One acquaintance told me he wanted to purchase Kamagra online, because he did not want his wife to know about it. She would be so disappointed, or at least that is what he thought, so he never tells her about it. He asked me if I could arrange it for him. If he does not want to receive a package at home, that means he seriously does want to hide it.' (Interview NS11)

Yet some respondents reported that the internet is not always their preferred option and they are just as likely to turn to sources outside the internet. As explained by a retailer that sells lifestyle medicines under the counter in a sex shop:

'Well, I don't know, I think some of them [*clients who purchase ED medicines*] could go to a doctor for a prescription, but you don't talk about that. Here [*in the sex shop*] everything is just easy going, I will not ask any questions and I talk about sex very easily, nothing is too weird or too strange for me. Everyone is free to buy and do whatever they want, if people like to have pills because they can't get it up, they just come to me and I have pills for that. If I was a man of over my 70s, I think I would prefer that too, instead of a weird doctor sitting in his white coat staring at me, asking questions why I need medicines to have sex.' (Interview NS23)

This quote highlights that purchasing medicines through unofficial sources thus generally enables patients to avoid both the time and hassle of a doctor's appointment and the awkward face-to-face conversations that might be expected there (e.g. Philaterou, 2004; Gott et al., 2003). In these instances, consumers may turn to unofficial sources not solely because they want to order anonymously (online), but even more so to prevent a stigmatizing medical label in general. This might occur online but could also take place through other sources outside the official chain, where various retailers claim they provide a relaxed atmosphere for talking about sex, obesity or other lifestyle issue and generally try to make customers feel more comfortable while talking about such topics. It could be stated, therefore, that a medical setting – and

not the discussions themselves regarding sexual enhancers and other lifestyle medicines – is what makes customers uncomfortable. As with the use of alternative therapies for chronic diseases, retrieving medicines in a sex shop can be interpreted as a strategy for self-regulating one's treatment, thereby stepping away from a medical stigma (Foote-Ardah, 2003).

In recent years, a lot has been written about stigma on a wide range of mental and physical illnesses and conditions. These studies generally portray stigma as an internalization of deviancy from the standard, which may fill an individual with feelings of inferiority (Nettleton, 2013). Indeed, the condition of erectile dysfunction has specifically been linked with feelings of shame and stigma (Philaterou, 2004; Gott et al., 2003). On the other hand, scholars have argued that societal changes have reduced the level of stigma that ED patients face. For example, Green (2009) shows how societal, personal and organizational challenges can help to establish new narratives about the individual and diminished feelings of stigma. In western countries, there is more openness about sex and sexual behavior in general and ED in particular, even as, on the other hand, socially imposed images of masculinity and demands for perfection continue to contribute to feelings of shame and secrecy. How consumers deal with shame and secrecy within the illicit market will be further outlined in section 5.5.

Whereas convenience, financial concerns or avoiding embarrassment may stimulate consumers to purchase medicines through on- or offline sources, consumers that purchase medicines online do not always *deliberately* purchase through illicit sources online. Some consumers may be under the impression they are buying legal medicines, when in fact they are not. For example, Heinonen, Spink & Wilson (2014) argue that a distinction should be made between *deceptive* and *non-deceptive* counterfeit products. Thus, whereas deceived consumers are not aware of the fact they are purchasing fake or illicit products, the non-deceived consumers understand exactly what they are doing – although they might not have a clear understanding of how the risks of their choices should be evaluated. This distinction is highly visible in the entire illicit medicine market, but is sharpest among customers who buy via the internet.

Previous studies have emphasized the extent to which customers of illicit medicines have been deceived, especially by illegal online pharmacies (e.g. IRACM, 2013; Jackson et al., 2010; Di Giorgio, 2011; Gaudiano et al., 2012). Indeed, the quality of health information and medicines purchased online is rarely guaranteed and as such, consumers may experience difficulties in determining the genuineness of an online supplier and quality of its products.

Online interaction between health care practitioner and patient is different from face-to-face interaction, and the risk of misinformation is higher (Bessell et al., 2003). Several studies have shown that online pharmacies did not mention the risks of taking specific medicines, that limited medical information was listed or that inaccurate information was provided (Bessell et al., 2003; Wassink, Coumans & de Hon, 2010). In addition, online pharmacies may

provide prescription medicines without insisting that the customer present a prescription. Sometimes, an online questionnaire is used to give the customer the perception that the online pharmacy is engaging in a rigorous medical analysis as a substitute for a doctor's prescription (Orizio, et al. 2011). When purchasing medicines online, consumers are thus not always aware that they are being deceived (Orizio et al. 2011; Montoya & Jano, 2007). This was clear in my interviews as well. One respondent explained that, as he understands it, he is able to buy genuine medicines online, although these brands are not officially available in the Netherlands:

'But I only buy it from a real and official website. They even have a Netherlands chamber of commerce [KvK] number and a tax number, everything. They are located in (...) and have an official account number.' (Interview NC7)

With images of doctors in white coats, a professional presentation and fake diagnosis tests can create an impression that all the medicines offered by these sites are legal. Professional website designs that cover untrustworthy features and mimic reputable contribute to misleading consumers (Ivanitskaya et al., 2010). In addition, the vague origin of the website and the ease of presenting comforting images contribute to the blurring of the lines between licit and illicit medicines (Walsh, 2011). The widespread availability of all sorts of information and distribution channels on the surface web²⁰ challenge consumers who wish to determine the legitimacy of online pharmacies (Di Nicola et al., 2015; Lavorgna, 2014). In these instances, consumers and patients may be vulnerable to online deception.

Such concerns are not relevant to consumers who are aware they are purchasing medicines through unofficial routes (e.g. online, through dealers) and make their purchases anyway. These customers believe they understand the risks inherent in purchasing medicines outside official distribution chain, but these are outweighed by motivations such as convenience, finance or embarrassment. This group of consumers can be classified as non-deceived consumers of illicit medicines. Thus, it appears that the distinction between *deceived* and *non-deceived* consumers is especially important on the internet. Several online and interview respondents claimed that they did not know the medicines they purchased required a prescription or that they could not be sold legally in the Netherlands. Others were aware they purchased outside the legal supply chain:

20 The surface web is, contrary to the deep web, the part of the internet that is accessible to the general public via regular search engines

‘I prefer to search on the internet. As I said, my general practitioner is also my neighbor. So I will not ask him for any erectile dysfunction pills. [...] I heard various people talking about Kamagra.’ (Online discussion post)²¹

A fourth motivation might also come into play. For example, some users may deliberately purchase their medicines through unofficial sources as a political and proactive critique of the high prices and big business sentiment that characterizes the pharmaceutical industry. With the image of pharmaceutical companies earning money and high prices for patented medicines, some interview respondents highlighted their discontent with the high price of Viagra.

‘Why should we pay so much money to buy something that all these drug companies earn so much money on? Half of the world would like to use these medicines, so of course they will refer to this as being counterfeits and what else? But if you just want to use it for your own pleasure, why should we pay ten euro for it? I honestly don’t get it.’ (Interview NS14)

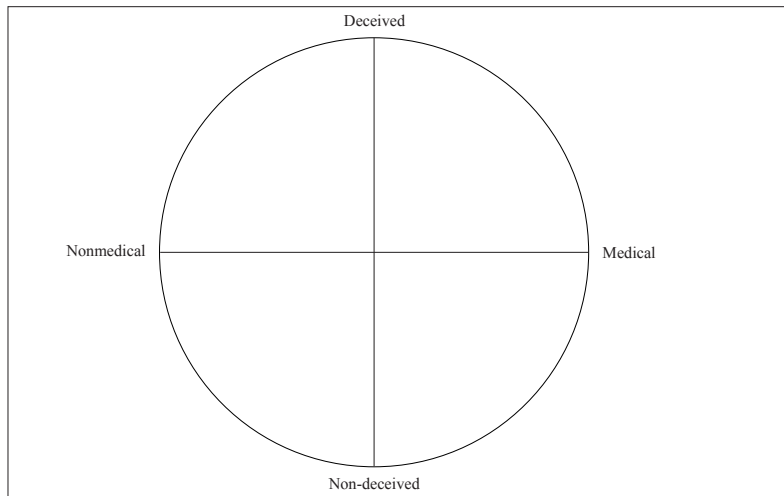
This quote resembles comments on discussion platforms in which patients and consumers express their dissatisfaction with high prices, especially of lifestyle pharmaceuticals, and the high profits within the pharmaceutical industry. In recent years, resistance and consumer discontent over big pharma have been growing, primarily in the United States (e.g. Greider, 2008). While this sentiment has been apparent in the blog posts and interviews, and has been reported by other authors (Rutter & Bryce, 2008; Hall & Antonopoulos, 2016), few of my interview respondents identified narratives such as these as their primary motive to purchase medicines from unofficial sources.

5.3 Nonmedical consumers

In addition to deceived and non-deceived customers, a distinction has to be made between medical and nonmedical motivations for the consumption of illicit medicines. Whereas medical users have a medical indication for the consumption and thus the potential for retrieving a doctor’s prescription, the same is not true of nonmedical users. As these users have generally no medical reasons for purchasing medicines, the illicit market is often their only option (see Figure 5.3).

21 Accessed on September 25, 2014.

Figure 5.3 Classification model of consumers of illicit medicines



Source: analysis of own data

Thus while financial, ease and embarrassment motives may be applicable to medical consumers, (who are using lifestyle medicines for medical reasons and/or are able to obtain a doctor's prescription) nonmedical motivations can also be important. Since the 1990s, research shows that young people in the US are especially prone to use prescription medicines for nonmedical purposes (Quintero, 2012). Primarily opioids, barbiturates and benzodiazepines are used for nonmedical purposes, such as for self-medication, socio-recreation, and addiction. Especially in the US, an opioids epidemic is ongoing and addiction to synthetic pain killers is increasing (UNODC, 2011:17; Manchikanti et al., 2012). While addiction seems to be the most important driver to use opioids, more recreational motives have been identified for other types of pharmaceuticals. This includes the use of Ritalin in order to get high, and Valium to feel happier and more relaxed and open in a social encounter (Quintero, 2009). Hereby, Quintero (2009) differentiates between nonmedical use for hedonistic purposes in pursuit of pleasure – that is, getting high – and nonmedical use for social purposes in social and leisure settings.

In a recent study it was estimated that 6% of European students take tranquillizers or sedatives without a prescription, while 4% of the same population use painkillers to get high (ESPAD, 2015). A Dutch study estimated that 20% of adolescents use ADHD medication such as Ritalin for nonmedical purposes, such as better concentration and study results, decrease of stress level, improved social behavior or feeling high (Pharmaceutisch Weekblad, 2015; Young, 2003). These latter medicines are particularly consumed for enhancement rather than curative purposes, and so are often referred to as human enhancement drugs (HEDs). In recent years, the pills, powders and capsules that are consumed to enhance human capabilities and improve one's lifestyle have been traded

online on a large scale (McVeigh et al., 2012; Evans-Brown et al., 2012). Human enhancement drugs can generally be divided into several categories, including pain killers, weight loss drugs, sexual enhancers, muscle drugs and cognitive enhancers (ibid).

Consumers as well as products can usefully be divided into analytic categories. Nonmedical consumers of lifestyle medicines include, for instance, bodybuilders who use steroids to increase muscle mass (Monaghan, 2001; Van de Ven, 2015; Paoli & Donati, 2014), students who use cognitive enhancers such as Ritalin for better study results (Mazanov et al., 2013), or consumers who take sexual enhancers (e.g., Viagra) to improve their night life (Intomart, 2009, 2012; Koenraadt, 2012; Koenraadt & de Haan, 2016). In most of these instances, users will not receive a doctor's prescription for these substances and consumers are destined to obtain their drug of choice from the illicit market.

Nonmedical and human enhancing purposes of illicit medicine consumption were found abundantly in this research. Almost all retailers confirmed the recreational use of the sexual enhancers by their consumers. An online supplier who delivers sexual enhancers to his clients, states:

'The clientele is very diverse I would say, really anything between 18 and 65 years. Although I think most of them are rather young, I think most of my clients are between 20 and 30. Some time ago I had a very young man who said he uses it all for fun, although he doesn't listen to the doses I recommend. [...] And some clients tell me they go to leather parties, or they have to maintain four girlfriends that all want to have their share. Or men that have an affair while their wife is not aware. It is just very diverse.' (Interview NS22)

These findings are consistent with findings in other studies of recreational consumption of sexual enhancers, in all sorts of recreational settings. For example, the recreational use of prescription medicines for sexual enhancement is reportedly used in combination with drugs or alcohol, primarily in night life settings (Bechara et al., 2010; Benschop, Nabben & Korf, 2011). Other studies have shown that curiosity and peer pressure contribute to decisions to use medical sexual enhancers (Apodaca & Moser, 2011; Musacchio, Hartrich & Garofalo, 2006; Peters et al., 2007). In these instances, the consumption is not necessarily in a socio-recreational setting but more for extra confidence, prestige, or experimentation, as highlighted by one respondent:

'I had met this girl a couple of weeks before and we were going on another date. My colleague told me about it [*Kamagra*] and you can have sex multiple times and it is heavier. It is not that I need it but it was fun to impress her, I think to show that I have a huge sex drive.' (Interview NC5)

Similarly, nonmedical consumption was identified for consumers of illicit weight loss medicines. For example, while prescriptions for weight loss medicines are

intended for people whose health is at risk if they do not lose weight, various respondents explain their use of these medicines not for medical but for lifestyle purposes. As one respondent highlights:

‘It is more something that I don’t want to worry about. I care about my body and I go to the gym often, but I like to have dinners with friends and family. When I take these [*weight loss pills*], I can just eat anything. I can take them before special dinners or in the weekends, so I can eat and have fun whatever I eat.’ (Interview NC7)

Other consumers take medicines to get extra energy, which is a side effect of the appetite/reducing medicines.

‘I have kids, a job, a household, I don’t have time to go to the gym often. I don’t take them too often, but when I take them it is definitely helping me. I have less appetite and more energy to do things. I can keep up with things for a longer time so it is just very easy to use.’ (Interview NC8)

The quotes above show that a significant group of illicit medicine consumers take medicines for no reason beyond enhancement, lifestyle or recreational purposes; the medical foundations for the drugs they take have no place in their decision making process. Overall, the patterns of nonmedical consumption found for the users of illicit sexual enhancers and weight loss drugs are similar to those found for other human enhancement drugs, such as Ritalin (McVeigh et al., 2012). In these instances, the medical purpose of drug consumption is irrelevant and so a prescription cannot be obtained, which automatically transfers the customers to the illicit market. Nonmedical consumers are well aware that they are using medicines for purposes that are beyond the scope supported by the Dutch medical establishment, and they know that official sources would refuse to sell to them, which generally puts these users in the group of non-deceived consumers. While medical consumers are able to purchase either licit or illicit medicines, and make their choice on the basis of motivations discussed in section 5.2, nonmedical consumers can only obtain their medicine of choice through illicit sources.

The increased consumption of illicit lifestyle medicines can thus be explained by the consumer culture, with an increasing focus on perfection, striving for better performance and enhancing human capabilities. Hereby, medicalization is not only visible for the consumption of legal medicines, but is also visible for daily enhancing purposes outside official consumption. Nonmedical users who prefer to take medicines in order to have a ‘quick fix’ fuel a large demand for illicit lifestyle medicines.

Indeed, the use of illicit lifestyle medicines can be regarded as a method for increasing one’s own potential. Yet, it should be noted that the pharmaceutical industry has played an important role in the rise and marketing processes of

lifestyle medicines. Stimulated by images of sexual and slim bodies in the media and advertisements, consumers strive to optimize their abilities by using illicit medicines for nonmedical reasons. The extent to which people who use lifestyle medicines can be classified as medical consumers remains open for debate (Flower, 2004; Young, 2003; Lexchin, 2001). In light of contemporary, medicalized consumer society, it should be no surprise that users are searching for the means to increase one's own physique and capabilities. In this search, they are making potentially risky choices that have an effect on their physical health. As such, their demand and the illicit market's response are reasonable subjects of debates regarding public health.

Whereas medicalization is defined as the process of the increased tendency to provide a medical framework, Abram de Swaan coined the term of 'proto-professionalizing', which he defines as the adaptive behavior of patients towards the medical profession. He specifically refers to the phenomenon of people being influenced by medicalization and acquainting themselves with a medical approach (De Swaan, 1979). In this regard, lifestyle medicines that have become increasingly popular within the realm of medicalization are increasingly demanded by lay people who want to decide their own medical consumption, based on their own understanding of how medical solutions might be appropriate for their lifestyle problems or conditions. Furthermore, these aspects should be viewed in light of consumer culture. Featherstone (2010) argues that, in consumer culture, the possibilities and benefits of such bodily transformations as plastic surgery or Botox treatments are constantly praised, and successful living and a successful appearance is thus presented as available for purchase. The same logic applies to the increased consumption of (illicit) lifestyle medicines that are taken for a wide range of nonmedical reasons, but primarily to promote the idea that individuals have both the right and ability to control their own bodies – an idea that is reinforced through advertising and other media outreach efforts.

This whole dynamic yields something of a paradox. Even as consumers who use the internet to purchase such illicit medicines as weight loss drugs, erectile dysfunction pills or cognitive enhancers are generally portrayed as patients who have been duped by fake online pharmacies, the markets are witnessing an increasingly high demand for illicit lifestyle medicines that are taken for nonmedical, human enhancing purposes. These customers might prefer not to acknowledge that increasing demand in the face of reports that demonstrate the uncertainty of the product is also characteristic of another market: that of illicit drugs that make no claims of medical necessity or even human enhancement as understood in the context of this chapter (Evans-Brown et al., 2012).

5.4 Perception of risk

In the previous sections, various motivations have been outlined, including those for medical and nonmedical, deceived and non-deceived consumers. However,

whereas the quality, safety, and efficacy of medicines is generally guaranteed throughout the comprehensively regulated and monitored pharmaceutical supply chain, such guarantees cannot be given in the illicit market. Whether medicines are purchased due to ease, for lower prices, embarrassment, or for recreational purposes, contrary to the general purchase of medicines, consumers need to have other methods to gain a level of confidence in both the product and the person who sells it to them.

In a general medical context, trust is important for a patient who has to believe that health care professionals direct all their knowledge to the task of serving the patient's best interest (Hall, Dugan, Zheng, & Mishra, 2001). Trust gives the medical relationship an intrinsic value, and it increases the patient's willingness to seek health care, to reveal sensitive information, to continue treatments and to follow medical recommendations (Hall, Camacho, Dugan, & Balkrishnan, 2002; Hall et al., 2001). However, a doctor-patient relationship based on the exchange of illicit medicines most likely is based on a different fundamental understanding. Indeed, a characteristic of the internet world is often the complete absence of direct contact between suppliers and consumers. This section will analyze the processes by which consumers and suppliers build trust-based relationships in an online environment, and how consumers manage the risks inherent in the platform.

Overall, my survey data show that consumers have generally high levels of trust in the websites they employ for purchasing medicines. As presented in Table 5.2, clear information about the vendor and medicines, a clear overview of available medicines, and reviews of others are the most important factors that buyers take into account when purchasing lifestyle medicines online.

Table 5.2 Reasons why buyers trust a website when purchasing medicines online (n=153)

	Sexual enhancers (n=88) (%)	Weight loss medicines (n=70) (%)
Clear information about vendor and medicine	42	43
Clear overview of available medicines	35	25
Reviews of others	26	44
Vendor's expertise	5	7
I know the vendor	6	3
Other	24	6

Source: Analysis of own survey data

Furthermore, some internet consumers claim they are able to evaluate the quality of the medicines they purchase. Based on the survey, it appears that 24% of these 153 consumers consider themselves very well capable of identifying the trustworthiness of the website and 18% well capable of estimating the quality of online purchased medicines. This was confirmed in interviews and

the online analysis. On discussion platforms, users share their experiences with the medicines they purchased:

‘Yesterday I took my first BSB pill, wow it works fabulous. I had a dry mouth and did not sleep very well, but for the rest no serious side effects. I am taking a pill every other day, as I assume it is better for your body. Otherwise you might get used to it. So this morning I did not take another one, but I am still not hungry. I have to force myself to eat, I lost 1.7 kg in 2 days already.’ (Online discussion post)²²

In addition, users advise each other to check for certain characteristics, such as a red stripe on the Kamagra package, in order to confirm the genuineness of the medicines. However, some cases already referred to, consumers are prone to error (UNICRI, 2012; IRACM, 2013; Attaran et al., 2011). For example, users imagine they can purchase genuine, government-monitored prescription medicines without a prescription, or they are convinced by well-produced trademarks. Anecdotes such of these explain why consumers of illicit medicines often are portrayed as deceived victims who cannot determine the quality of medicinal products. Hence, as a matter of public health policy, consumers should be warned of the health risks that accompany online and other illicit purchases.

Some respondents in both the survey and interviews acknowledged that the challenge of determining the quality of medicines contributed to their reluctance to purchase online medicines.

‘You never know who is behind the website and where the medicines are coming from. I would have no problems with buying something at a bol.com [*a widely respected web sales platform based in the Netherlands*], but that is not what I have seen so far.’ (Interview NC4)

However, on the contrary, non-deceived users are aware they are not purchasing through legitimate sources, and incorporate some form of risk. Regardless of the extent to which they are driven by convenience, financial motives or embarrassment, risks are also taken into account in various degrees. For example, as one consumer of weight loss medicines highlights:

‘It doesn’t say anything on the ingredients list, but I think it will contain at least some kind of active ingredients. Otherwise it wouldn’t work. I don’t know what it is, I just think it is worth it as it helps me. [...] I know that it comes from China. I don’t actually know where, but the language on the package is in Chinese as well. But it works for me, so it is ok I guess. Why would they suddenly sell bad medication?’ (Interview NC8)

22 Accessed on August 25, 2014.

Generally, neither deceived nor non-deceived consumers have a reliable technique for evaluating the quality, safety and efficacy of products sold on the illicit market (Evans-Brown, Kimergård & McVeigh, 2009; Decorte, 2001) and consumers need to estimate the quality based on other characteristics. As with other illegal drugs such as cocaine and ecstasy, quality in this context may refer to aspects such as reliability, purity, potency and predictability of effect (Bancroft & Reid, 2015). In online markets, a ‘quality check’ is usually based on asking a friend who has ordered via the same website, ‘trial and error’ practices, reviews by unknown others, or discussing the online sources on forums and social media platforms (i.e. Van Hout, 2014; Van de Ven, 2015). Similar to other illicit drug markets, consumers’ multiple tactics to determine the quality of the medicines might yield a wide range of beliefs regarding a medicine’s quality. For example, one consumer of various illicit lifestyle medicines responded:

‘I received some sort of Ritalin and Viagra from a friend, but after two times I did not want to ask my friend for more. Some time ago I read some news on the Global Drug Survey and one of the conclusions was that if you purchase drugs online it is even cheaper and of better quality. So I think chances are quite high that the quality is good.’ (Interview NC9)

Strategies to manage the risks of prescription pharmaceuticals (primarily pain killers and opioids) in a socio-recreational setting are often similar to the strategies employed to determine the quality of illegal drugs, alcohol or hallucinogens (Quintero, 2009). Similarly, recreational consumers of sexual enhancers often reported their ideas and strategies while reflecting on other illegal drugs, all consumed in a recreational context. As one respondent and an online discussion post highlight:

‘I already use it for around ten years, I think around eight times a year. I take it primarily when I go to these fetish parties. When you have taken ecstasy, having sex is not always physically possible anymore. Once a friend gave me a Kamagra pill to try, and at first I was a bit hesitant, but this usually happens when I try something new. When you take in combination with ecstasy it feels heavy in the beginning, but it is just important not to take too much on one evening.’ (Interview NC2)

However, what makes the market for pharmaceuticals different from the quality checks in illicit drug markets is the fact that medicines can be purchased either legitimately or illegitimately. In his research, Quintero found that nonmedical consumers of pharmaceuticals had a higher degree of trust in the consumption of medical pain killers than consumers of illicit drugs, because personal knowledge added to the perception that prescription drugs are known and safe substances (Quintero, 2009: 5). In this way, a form of medical trust seems to develop, as users own positive experience increased their confidence in other

sources that evaluated the quality and effect of pharmaceuticals. This was exemplified by respondents who claimed that medicines of low quality would be easily detected.

In addition, it has been stated that, although there are various similarities with illegal drugs, consumers of human enhancement products do not perceive themselves as ‘drug users’ (McVeigh et al., 2012). Unlike users of illicit drugs like cocaine, consumers of medicines and other drugs for enhancement purposes often believe that the products they consume are fundamentally not harmful (ibid.). This starting point leads them to apply less stringent risk management strategies, take higher risks or sidestep risk management entirely because they are unaware of potential risks. Various scholars, including Monaghan (2001), argue that the use of certain human enhancement drugs such as steroids can be seen as a ‘risky’ lifestyle. Bodybuilders who inject steroids in order to obtain more body mass take the riskiness of this health behavior and possible side effects for granted. In this sense, bodybuilding is an example of an ostensibly health-promoting lifestyle, even as report after report reinforces the message that steroid use induces health-damaging effects. An analogous environment can be found in the plastic surgeon’s operating theater, where consumers willingly subject themselves to life-threatening operations, while perhaps ignoring or minimizing their perception of the risks they face, in their quest to look younger (Nettleton, 2013).

These diverging health practices have been found in the current research as well. I found that many consumers of lifestyle medicines are actively searching for medicines or specific ingredients that are not legally available, as they believe this strategy offers effective treatments, while neglecting the risk of ingesting unknown and potentially risky substances. For example, on some discussion platforms, consumers exchange information on where to obtain banned but effective medicines. This was experienced by a Dutch health officer who wanted to inform consumers about the health risks of consuming online medicines:

‘Recently we had cases of weight loss medicines that were sold online, but contained very dangerous ingredients, really very severe. So we posted a message on our website with the warning about the content: please do not buy these medicines because they are harmful. During a later study, we saw several forum posts where people were asking where they could buy these hazardous weight loss drugs. Because apparently the substance is very effective. But that was obviously not the intention of our message, we were aiming to warn people, not give them ideas to purchase illegal medication.’ (Interview NR10)

This quote highlights the risks consumers are prepared to take in an environment where enhancing their body’s attributes appearance has become more important than having a healthy body (Nettleton, 2013: 45). While these risk-taking behaviors have already been acknowledged for hedonistic purposes and

theorized in the context of a risk society that seeks escape from daily life, health risks are equally actively ignored for enhancing purposes (see also McVeigh et al., 2012). Different types of lifestyle medicines have been prohibited because of their dangerous substitute ingredients, yet their consumers continue to be willing to take these risks. Featherstone (2010) argues that in consumer culture, the focus lies on adventure, pleasure and living beyond conventions, all of which may promote the use of dangerous substances on the promise of attaining perfection, however this is understood by the consumer. For this reason, body appearance may be even more important to the consumer than body health, as people choose to engage in potentially unhealthy operations, or use hazardous medicines or food supplements (Nettleton, 2013: 45; Kraska et al., 2010). The wish to transform one's body in order to increase one's own capabilities, despite the risks one must undertake, should thus be understood in light of consumer culture. The previous quote also illustrates the idea that it is important to understand more about consumer motivations and develop an understanding of how to craft effective health-promoting messages. Messages that focus on the availability of dangerous but effective substances not only fail to prevent people from purchasing these medicines online, but may also actively stimulate others.

Therefore, grounded on the available data and literature, a continuum can be identified where on the one hand consumers are prone to risks and are unwittingly consuming medicines as deceived consumers and, on the other, the non-deceived consumers who take risks into consideration for the wanted effects, while members of an in-between group of users take illicit drugs medically or recreationally while being at least partially aware of the associated risks.

5.5 Shame and secrecy in a culture of perfection

As the illicit medicines market takes place primarily outside the official distribution and retail chain, the previous parts have shown various overlaps with that of illicit drug markets and its users having similar characteristics to illicit drug users. However, it is suggested that users of steroids or other human enhancement drugs not perceive themselves as 'drug users' (McVeigh et al., 2012). To understand the social identity of these users, both the deceived and non-deceived consumers, in the current section, I particularly zoom in on respondents' perceptions and ideas about their own consumption of illicit lifestyle medicines.

Several nonmedical respondents in this study mentioned that, primarily within subcultural settings that are small and recreational, the consumption of illicit lifestyle medicines or other types of medicines for nonmedical purposes is becoming normalized. Whereas medicines are consumed in combination with other drugs to enhance sexual experiences, or Ritalin is used to get high, their consumption is accepted within the small social, subcultural and/or recreational setting. This is similar to findings on the consumption of steroids in a subcultural setting. Whereas the consumption of steroids is demonized outside

the bodybuilding culture, within the gym and in presence of other bodybuilders, the consumption is widely accepted and normalized (e.g. Monaghan, 2001). The current study shows that the supply and use of illicit lifestyle medicines are sometimes highly accepted and openly acknowledged. For example, several respondents noted the open use of erectile dysfunction medicines in fetish parties or gay clubs:

‘It is just very common to use it during these kinky parties, I have no problems with it at all. Everyone is using it at these venues. When you have taken ecstasy it is difficult to have sex, so it is just very common knowledge, people take it and no one is looking surprised or anything. [...] I don’t see much shame with the use of it, to be honest. Most of the people I know take it during these parties, although I know one couple that is using it at home as well.’ (Interview NC2)

Consumers also refer to the use of ADHD medication, weight loss drugs or other lifestyle medicines that are openly consumed within a small group of friends. However, contrary to the shared subcultural values in certain recreational settings such as sex clubs, most respondents referred rather to a private use of the lifestyle medicines, even when for nonmedical and/or recreational use. While some products are generally accepted as appropriate for recreational consumption, this does not apply to all consumption of weight loss and sexual enhancer drugs. For example, as outlined by a consumer of illicit weight loss drugs:

‘I do talk about it with some friends, it is not a secret or anything. So when someone asks about it, I just tell them I use it sometimes. But I actually also see it as something private. It is just helping me to stop eating, although it is not the official way. Everyone has its own way of dealing with this, which is something personal for me.’ (Interview NC8)

Similarly, in the case of non-medical use of ED medicines, one respondent, who uses recreational as well as lifestyle drugs, explains:

‘Well, I am very open about everything, I talk a lot about sex and drugs. I use a large variety of drugs, ranging from ecstasy to GHB to hallucinogens. But I think in general I am a bit more cautious with telling my friends and school mates about this [*using sexual and cognitive enhancers*]. I don’t know why, maybe it is because it feels like it is not my own achievement, as it rather feels like cheating or like using doping.’ (Interview NC9)

These quotes highlight the idea that some consumers are more open about their illicit drug use with others in their close environment than they are about their use of medical substances. In recent decades, recreational drug use has been normalized and rationalized as a way to escape daily life, and self-medication has been presented as a response to the stress and strains of daily life (Aldridge,

Measham & Williams, 2013: 201-202). So whereas the recreational consumption of drugs such as ecstasy and the recreational use of pharmaceuticals often occurs in social settings – for leisure, to get high and to have fun – most illicit lifestyle medicines are consumed in attempts to meet standards of bodily, cognitive or sexual perfection. Within consumer culture, physical health is sometimes less important, than surface attractiveness, and the construction has taken a moral dimension by linking the body strongly with self-discipline and control (Lupton, 2012). People who use medical interventions in an attempt to relieve themselves from these moral obligations are easily criticized by others as ‘cheaters’ (Throsby, 2009: 204; Baggini, 2006). In this respect, consumers of illicit lifestyle medicines merely strive to obtain socially imposed standards, as they aim to hide some forms of imperfection or evidence of cheating. Therefore, users who consume illicit lifestyle drugs, both for medical or nonmedical purposes, often prefer to consume discretely. As explained by one consumer:

‘If I would ask a dealer, I would like to ask for Viagra personally or I would only ask friends that I know a little better and know how they would react. When they ever used Viagra for fun themselves, for example. Otherwise you might receive weird reactions. Yes, it’s actually strange why it is more difficult for men to ask for Viagra than to ask for other drugs, but I guess it has to do with the fact you want to perform as a man. [...] I think as a man in his twenties, or as a man in general, you rather want to be known as someone who uses ecstasy, not as someone using Viagra.’ (Interview NC4)

Whereas the consumption of illicit drugs for social and/or recreational purposes is something that consumers may be rather open about with peers, this does not always apply for enhancing purposes. Thus, while embarrassment might be a reason why some medical users turn to the internet or illicit sources, other consumers show forms of embarrassment and feel like cheaters if they do not conform to sexual and bodily standards without external assistance. In that respect, consumers of lifestyle medicines show different ideas and perceptions towards consumption than illegal drug users do. Various respondents stated that they are more open about drug use than medicine use, which distinguishes the retail trade (which will be outlined in the next chapter) from the use of recreational illicit drugs.

For example, respondents often wanted to emphasize that their use of sexual enhancers was merely recreational and by all means not for medical purposes. While it is generally inappropriate to cast consumers of illicit weight loss drugs and sexual enhancers as members of a single homogenous group, both self-identified recreational and medical users showed more difficulties in acknowledging their medical use of these products than their use of recreational drugs. Whereas drugs or medicines for recreational purposes are accepted as a way to escape daily life, enhancement drugs tend rather to be consumed

privately. To some extent, such consumption is kept secret to hide imperfection or to avoid accusations of cheating.

As outlined in the theoretical chapter, Giddens has described the dialectic relation between late modern macro-institutions and the self on a micro-level in which the self has become something that should be intervened in, because people are constantly evaluating the level of success or failure (Giddens, 1991; Young, 2007). Similarly, Featherstone (2010) argues that in popular consumer culture, self-help and potential body transformations are constantly advertised. With this focus on perfection, and idealized sexuality and fitness images in the media, users may want to hide their sexual or physical failure that is evidenced by their perception that they need to take medical measures in order to achieve their physical goals. But while these potential transformations are increasingly available, it becomes clear that people often prefer to hide the additional measures they take, pretending instead that their physical transformation occurred naturally. The use of lifestyle medicines is something that on the one hand people are more open about, but on the other hand, the race to achieve socially projected standards is competitive. Consumers want to avoid the shame of public acknowledgement of failure.

5.6 Conclusion

While some research has been conducted on the structure and tactics of the supply side of illicit medicines, still little knowledge exists on the demand side, most notably regarding the first-hand perspectives of the consumers themselves. In the western world, consumers of illicit medicines are primarily associated with the sale of counterfeit medicines through unauthorized online pharmacies, but this study has outlined a broad range of consumers of illicit lifestyle medicines. Consumers are generally stimulated to purchase online through convenience, financial considerations, shame or embarrassment. In some of these instances, buyers can be deceived by illegal or fake online pharmacies, while in other instances, they are aware that they are purchasing medicines on the illicit market. It is therefore important to distinguish between deceived and non-deceived consumers of illicit medicines, as well as between medical and nonmedical consumers. It has generally been understood that people increasingly consume all sorts of pills, products and powders to attain idealized beauty and body goals (McVeigh et al. 2012). Non-medical and non-deceived consumers of lifestyle medicines primarily purchase their medicines on the illicit market as they have no possibility to obtain a prescription for their preferred medicines.

In addition, consumers often incorporate the risks and they use similar techniques for evaluating medicine quality as have been recorded in research on illicit drug consumers. Therefore, consumers of illicit medicines can be placed on a continuum, with consumers who are completely deceived by online pharmacies on one end and those who fully incorporate health risks in their search and purchase of lifestyle drugs on the other. Furthermore, as

more products become openly available in supermarkets, advertisements increase in volume and sophistication and the idea that medical assistance with bodily modification is an acceptable aspect of 21st century life, the purchase of lifestyle medicines is becoming more normalized. However, the data also show that nonmedical consumption can be a rather private event. Overall, the use of lifestyle drugs is less normalized than that of recreational illicit drugs. Policymakers must understand that a sociocultural context which demands enhanced bodily and sexual capabilities also intensifies embarrassment among those who cannot meet those standards on their own. Feelings and perceptions of failure are experienced and they influence the dynamics and methods of retail distribution. The demand side is thus important to understand in order to comprehend the dynamics of the supply side. Some of the features of the consumers that have dominated the present discussion will be further outlined in the next chapters, as they are placed in an analytic relationship with the suppliers.

Chapter 6

Retail level of the market: buyers, sellers and trust²³

In the previous chapter, the socio-historical and cultural context of the demand was presented. In the current chapter, the focus changes to the supply side of the market and, in the three subsequent chapters, I will analyze the dynamics and structure of the retail, the distribution and the manufacturing levels of the market for illicit medicines in the Netherlands. To understand the nature of the illicit market and the dynamics taking place within it, it is particularly important to have in-depth information from suppliers involved in this trade. As such, the current chapter provides ethnographic details of the retail level of the supply side, and particularly zooms in on how suppliers enter the market, what motivates them, what are their expectations, how they interact with one another and with customers, how online trust relations evolve, and how the online and offline distribution is blurrier than previous studies have suggested.

In order to do this, I first describe some of the socio-demographic characteristics of the suppliers involved, after which I shift focus to the various online distribution channels. Next, I describe and analyze interaction online, interaction face-to-face and the interfaces between these two channels. Throughout the chapter, I show how trust and risk are dealt with in an online and semi-legitimate environment, and demonstrate how suppliers aim to establish other forms of medical trust in the absence of an official medical context. The analysis exemplifies how cultural criminology and economic sociology meet in an attempt to unravel the illicit market for pharmaceuticals.

6.1 Socio-demographic characteristics of suppliers

6.1.1 Gender

In the market for lifestyle medicines, the use of sexual enhancers is linked to gender-specific consumption. Erectile dysfunction (ED) medicines are considered to be more consumed by men. My data (n=321, 87.9% male vs. 12.1%

23 Parts of this chapter are published in Van de Ven & Koenraadt (2017). Online image and performance drug (IPED) markets in the Netherlands and Belgium: Exploring the relationship between buyer and seller. *International Journal of Drug Policy*. doi: 10.1016/j.drugpo.2017.09.004.

female; see also Evans-Brown et al., 2012), support this expectation. The same cannot be said of weight loss medicines, which are consumed more or less equally by men and women (n=315, 54.4% male vs. 45.6% female; see also Evans-Brown et al., 2012). At the same time, research on the supply of various illicit drugs, such as steroids and marijuana, suggests that male consumers usually purchase these products from male suppliers, which directly relates gender of the illicit retail suppliers to the gender of their customers (Paoli & Donati, 2014; Van de Ven, 2016). In various drug markets, consumers and suppliers interact in the same gender-homogeneous subculture, which may help to explain gender-specific consumption to gender-specific suppliers.

In 69 Dutch court cases analyzed for this study, a total of 101 suppliers and otherwise involved market actors were identified. These actors filled roles that range from retail suppliers and middlemen to wholesalers and facilitators. The gender of 99 of these market actors was registered: 85% were registered male and 15% registered female (see Table 6.1 on page 122). These findings are similar to the distribution of the suppliers I interviewed: 21 out of the 25 interviews (84%) were with male suppliers. The women involved in the business were usually friends, family members or sexual partners of others involved in their businesses: for example, a mother ran an illicit business with her son, a girlfriend helped out her boyfriend by sending medicines by mail, a cousin acted as a stand-in for the main supplier (cases 32; 55; interview NS18). Analysis of court records yielded additional data about women's involvement in the medicines trade. In three cases, for instance, a married couple worked together in the business (cases 51; 65; 68) and in one case, an illicit medicine business was conducted solely by a woman. This concerned the trade in a female version of Viagra, thousands of which were sourced in Asia and then sold online and delivered in the Netherlands (case 2).

Contrary to markets where the gender of consumers and suppliers is directly related, no such clear correlation exists when it comes to illicit lifestyle medicines. The majority of the suppliers are male, regardless of the type of medicine. Not only weight loss medicines and sexual enhancers but also other illicit medicines are more frequently sold and traded by male suppliers. In criminological literature, female suppliers are said to be most active on the lower levels of drug markets (Maher & Hudson, 2007; Moloney, Hunt, & Joe-Laidler, 2015; Denton & O'Malley, 1999). The role of women in drug markets has been carefully observed during the last decade and, overall, drug markets remain gender-stratified and male-dominated. Some scholars argue that female suppliers operate in a more invisible manner in order to remain safe in a potentially violent drug trade (Hutton, 2005), and for good reason. It is suggested that female suppliers are more likely than men to become victims of violence from clients and rival suppliers (Moloney et al., 2015; Maher & Hudson, 2007).

Yet another explanation for male dominance on the supply side of this particular market is related to the fact that there is less intertwinement between consumers and suppliers in the so-called drug subculture. As shown in Chapter

5, the consumption of these medicines often takes place in a rather individual and private context, which leads to a different kind of relationship between consumer and supplier. Several suppliers and consumers affirmed this dynamic during the interviews, mentioning for example that male consumers might feel more comfortable discussing ED medicines with a male supplier (interviews NS13; NS16), which corroborates the finding that patients suffering sexual dysfunction prefer to talk to a same-sex practitioner (Gott et al., 2004). Yet, others claim that a good relationship between consumer and illicit supplier is primarily based on a relaxed atmosphere and openness. In these instances, an open atmosphere is more important than the gender of the supplier, as explained by one retailer:

‘Occasionally I have a stand-in who works for me when I am abroad or too busy. At the beginning I did all the work myself, but now my [*female*] cousin is helping me out. I did wonder if she would scare some of my clients, but the opposite is true. [...] I think it is more the way we talk about the Kamagra than whether the dealer is a man or woman. We just talk very open and easy about anything: sex, drugs, I don’t mind.’ (Interview NS18)

In sex shops where ED medicines are sold under the counter, consumers also seem to respond well to the openness of the suppliers, regardless of gender. As outlined in Chapter 5, consumers are able to talk about sex and sexual behavior with suppliers in sex shops without too much shame or secrecy. However, the dynamic might be different in an online environment, where there is no need for direct contact and identities can be concealed (Martin, 2014; Tzanetakis et al., 2015). Yet, although most suppliers are male, some online suppliers present themselves as being female. This might be related to the attempt to create a higher level of online trust, an aspect on which I will elaborate further on in this chapter.

6.1.2 Age and criminal record

In most of the criminal cases analyzed, age and prior criminal offences of the suppliers were registered. The youngest supplier was 17 and the oldest 72, with a mean age of 41 years ($SD = 12.3$). This average age is rather high and is inconsistent with the expectations of developmental theories of crime and deviancy, in which offenders are theorized to start in adolescence and desist from crime in later stages of their life (Laub & Sampson, 2003; Moffitt, 1993). In the lifestyle medicines market, few suppliers had a criminal record during their adolescence but got involved in the illicit trade later in their lives. These results are consistent with those of other studies on semi-legitimate markets (e.g. Paoli & Donati, 2014; Van Duyn, 2003) and will be further elaborated on below. Table 6.1 presents the socio-demographic characteristics of the investigated suppliers involved in the illicit medicines trade.

Table 6.1 Gender and age of suppliers (all market levels) based on court cases (N=101)

Characteristics	Specifics	Percentage (%)
Gender	Male	85
	Female	15
Age	< 21	2
	21-30	24
	31-40	25
	41-50	30
	51-60	13
	60 >	6

Source: Own analysis of court cases

Most of the actors thus did not have a criminal record, but links to other offenses were found in some cases: i) supplying other counterfeits (mainly fashion); ii) supplying other illegal drugs (ecstasy, cocaine) or iii) forgery of documents (e.g. fake doctors). The existence of a criminal record was generally correlated with the scale of the medicines trade. Cases in which the trade of other illicit drugs was involved were related to high-end supply (e.g. case 53). Nevertheless, some suppliers with no criminal record were also prominently involved in large-scale and high-profit businesses (cases 12; 29; 55; 63).

6.1.3 Professions and legal businesses

Researching the professions of the suppliers yields important information on their involvement in the supply, the interface between the legitimate and illegitimate market and how suppliers form trust and business relations. Based on the court cases and interviews, several professions and related companies can be identified (see Table 6.2).

Table 6.2 Overview of main profession of suppliers involved in illicit medicines trade (N=101)

Company/profession	Percentage of cases (%)
Food supplements industry	24
Beauty and slimming industry	11
Sexual products industry	16
Import and export industry	13
Health care	13
Other	24

Source: Own analysis of court cases

First of all, suppliers are involved in a variety of retail sectors, including i) food supplements; ii) beauty slimming industry; iii) sex-related articles; iv) import and export. In these instances, the area of expertise of the legitimate company is

related to or can be used for the supply of illicit pharmaceuticals. For example, companies (often webshops) that focus on nutrition and food supplements sell a variety of food supplements. Although some products may only contain legal and natural ingredients, illicit medicines are promoted and sold through the same company. The same applies to websites and companies promoting slimming products. For example, one online supplier explains:

‘I have my whole business already for some years, and have all the required licenses. They will not find things easily, only if the police will order certain medicines and they make a check. Other than that, it is not so obvious exactly what medicines I do and do not sell.’ (Interview NS15)

In these instances, the company owner uses the company as a shield for his illicit business. In other cases, and interviews, the owners of the on- or offline companies were not aware that employees were involved in the illicit trade. A third recurring profession concerns people who are employed as suppliers of sex toys and other sexual products. For example, sex shop owners or wholesalers of sex-related articles were involved in the supply of all types of illicit sexual enhancers (cases 2; 37; 68; interviews NS18; NS23). In two cases, married couples had been investigated for the sale and distribution of counterfeit versions of Viagra, Cialis and Levitra. Each couple owned a company for trading sex toys and other paraphernalia, and both companies registered and operating as retailers and wholesalers in the sex articles industry (cases 65; 68). Fourthly, some companies involved in the import and export of licit medicines also provided the same services for illicit ones. These companies focus on a broad range of goods and products shipped worldwide and the legal components are used as shields for the supply of miscellaneous medicines or other illicit trade (case 29).

Next to the legitimate (entrepreneurial) companies and (online) shops, other professions can be distinguished, such as v) doctors, pharmacy students or suppliers otherwise employed in health care; and lastly a vi) residual group. Suppliers in the fifth group make use of their contacts in the health industry, or use the safeguard of health care to sell medicines to consumers. In case 61, for example, a man set up a company in the health care sector without having a license.

Between 2011 and 2014, a male supplier posed as a certified medical doctor. He conducted smaller surgeries himself, without having a medical license. For more complicated procedures, he travelled with several patients to China, where patients had to pay for various medical operations. In addition, the man was accused of prescribing counterfeit weight-loss medicines to his patients. During a house search, 13,680 counterfeit weight-loss capsules were found, 13,775 sachets of weight loss coffee, and 71,710 other illicit weight loss capsules. Shipping receipts were found that contained evidence of at least 620 kg of one type and 285 kg of another type of weight loss medicines sent from China to the Netherlands. (Case 61)

In this and other ways, market actors sometimes rely on the medical trust from the legitimate market to grow their own business in illicit medicines.

In other instances, medicines are stolen from hospitals or pharmacies (case 60). In the words of a respondent who deals in all kinds of illicit medicines and while employed as an independent nurse:

‘Of course it helps that I am employed as a nurse and I have many contacts everywhere in the medical world, I also used to work for a small pharmaceutical company. So I always know what I do and whom to sell to and who not.’ (Interview NS14)

Finally, a residual group includes a variety of professions that I came across in the court cases and interviews, such as a company for car reparations, mail delivery, a farmer, work in casino or pet shop owner. For example, a farmer who was dealing in Kamagra pills to gain some extra money or a pet shop owner who tried to finance his holidays by selling medicines under the counter to customers of his legitimate products. In these instances, suppliers do not necessarily use their legitimate profession for the laundering or ‘legitimizing’ the medicines, but they use contacts they establish through their legitimate profession.

On all levels, from small-scale retailers to intermediate to international wholesalers, suppliers often register their companies at the chamber of commerce (*Kamer van Koophandel*, KvK). The fact that suppliers have a legitimate company, or are employed by one, provides the opportunity to use ambiguity regarding the legitimacy of their business and to conceal illicit activities (Bowman, 2008; Kleemans & Van de Bunt, 2008; Passas, 2003). Occupations, work relations and work settings that can contribute to the formation of criminal activities, is also referred to as occupational embeddedness (Van de Bunt, Siegel & Zaitch, 2014). Suppliers on all levels often operate under the umbrella of a legitimate company, using it to expand their network and launder profits from the sale of illicit medicines. The blurred boundaries between legitimate, semi-legitimate and illegitimate markets are of great importance. How suppliers involved in different companies or occupations operate will be presented in more detail throughout this chapter.

6.2 Online retail of medicines

6.2.1 Typology of websites

With regard to illegal markets, the internet serves as an important tool for the exchange of information and illicit goods (Lucking-Reiley, 2000; Holt, 2012; Martin, 2014). Physical products are not exchanged online, but the internet serves as the platform where products are represented, a marketplace where information is exchanged, and a chamber where contacts and price agreements are concluded (Martin, 2014). Based on my data as well as existing literature,

several online distribution channels for the retail sale of illicit medicines can be identified.

A first apparent example of a grey online distribution channel is the sale through online pharmacies. The consumption of illicit and counterfeit medicines, and especially lifestyle drugs, is usually related to online illegal pharmacies (e.g. IRACM, 2013; Jackson et al., 2010; Di Giorgio, 2011; Gaudiano et al., 2012). In general, online purchasing is becoming more popular among medical patients. With the rise of the internet, patients and consumers are able to research symptoms and prevention, conduct self-diagnosis tests and discuss their findings and concerns with co-patients on online platforms (Nettleton, 2013). The proportion of medicines purchased online remains lower than that of books, clothes and electronics, yet the online proportion of medicines sales is increasing (Intomart, 2012; Koenraad, 2015).

Generally, the official online purchase of prescription medicines occurs through government-approved online pharmacies, where consumers can order highly subsidized over-the-counter (OTC) medicines relatively effortlessly, but need to provide their doctor's prescription for prescription medicines (Lavorgna, 2014). However, because it is so easy and inexpensive to set up a website that looks official, illicit suppliers can exploit the ambiguity and blur the boundaries between legal and illegal pharmacies. As such, a semi-legal, or grey online market exists where illegal drugs or counterfeit medicines are presented as genuine medicines promoted by official doctors (Walsh, 2011). With photos of doctors, official trademark signs and professional profiles, most customers are unable to detect the difference between legitimate and illegitimate pharmacies (see Chapter 5).

Di Giorgio (2011) distinguishes between three types of online pharmacies: *legal online pharmacies* that operate genuinely with the required licenses and are allowed to sell medicines online; *fake online pharmacies* that seem to sell medicines online but are used as a scam to retrieve money without selling actual products; and *illegal online pharmacies* that sell medicines without permission or required licenses (Di Giorgio, 2011). Usually, various types of medicines are presented and available for purchase, consumers are able to ask questions about their medical conditions and can pay electronically for their purchases. Online pharmacies generally use their homepage to advertise prescription medicines, offer low or discounted prices on medicines, often use testimonials and customer reviews, and promote discreet packaging. The homepage likely will not display a physical address, and often contains misspellings (Di Nicola et al., 2015). In addition, building and maintaining an online pharmacy requires a certain level of computer skills and suggests, therefore, a relatively high level of professionalism. In one court case, two family members built a total of 14 websites for their retail sale of illicit medicines. Although some of the websites were shut down, they continued to use the remaining sites. They hired a technician to update the websites so that they could devote their own time to running the business and selling directly to clients (case 63).

Yet, as presented in Table 6.3, the survey study shows that, besides the use of online pharmacies, also second-hand vending sites and specialist websites (referred to as vending websites) are utilized, in 47% of the purchased sexual enhancers and in 38% of the purchased weight loss drugs.

Table 6.3 Type of website or online source used for purchase

	Sexual enhancers (n=88) (%)	Weight loss drugs (n=70) (%)
Vending website	47	38
Internet pharmacy	22	17
Differs from time to time	12	18
Online advertisement	9	9
E-mail	8	9
Social media	2	4
Other	6	13

Source: Analysis own survey data

A second type of website focuses solely on specific medicines, such as Kamagra or Slimex. In other ways, such as use of professional-looking images, these websites are similar to online pharmacies. One of my respondents built a website for his weight loss medicine business. He sells five different types of weight loss treatment.

‘The thing is, with my online shops I do have a huge reach. If you have a physical shop, you might reach customers maybe in a 10, 20 or 30 kilometer range, but an online shop is considerably cheaper than advertising in a local newspaper and you can stretch out to more people. I have two websites now and that will become three in the near future. We have had some Facebook advertisements and promos, but that did not work at all. We are slowly getting a bit more, let’s say professional, and these websites cannot be built overnight. [...] I have a background in IT, so I have been building websites, programming and stuff. But for some specific matters I hire a programmer. With the payment, for example, I wanted that to be fixed well but there were 800 lines in. So in these cases I find it useful to work with a programmer who can fix those things easily.’ (Interview NS15)

These suppliers do not necessarily pretend to be doctors, but their webshop operates if all its medicines are legitimate. Official trademarks, payment systems and customer reviews are generally visible and intended to convince the customer of the legitimacy and quality of the products. As with online pharmacies, some degree of technological skill is required to build and maintain the websites, and they are usually operated by semi-professional or professional illicit retailers.

Third, illicit medicines are sold on Business to Business (B2B), Business to Customer (B2C) or Customer to Customer (C2C) websites. Marktplaats,

Ebay and Alibaba are examples of online platforms where people can purchase and sell all kinds of goods and services, and vendors advertise illicit and fake medical products. Websites selling products on a national level have existed for a longer time but, increasingly, transnational online trade is occurring as well. Transnational B2B websites connect manufacturers and trading companies with suppliers and importers worldwide, including semi-legitimate and illicit suppliers. These websites usually offer wholesale quantities of raw materials or finished pharmaceuticals (Koenraadt, 2015; Mackey, Aung & Liang, 2015). Pharmaceuticals are usually not advertised on these home pages, but with a simple search, buyers are able to order any kind of illicit pharmaceutical (Ottery & Zhu, 2014). Beckert's framework (2011) helps to explain why and how semi-legitimate medicines can be advertised more openly, compared to fully illegal products. This entails a mixture of legal, semi-legal and illegal products, possibly including second-hand products, that can benefit from being presented as legitimate.

Online platforms are used by suppliers ranging from patients who sell their leftover medication to organized networks of suppliers who advertise their online business on these platforms. In between, all sorts of suppliers hawk medicines in varying amounts and prices. One respondent explains:

'I currently sell medicines only through [*my B2C-website*]. I have three accounts: one for myself, one in my wife's name and one in my business partner's name. But these platforms are not what they used to be anymore. Many more businesses and corporations are active these days. Openly promoting medicines is becoming more difficult as well, but once an advertisement is running through and I extend it a couple of times, I usually hear nothing even though the ads can run for a considerable amount of time.' (Interview NS22)

For many suppliers, the B2C websites provide a useful online vehicle that they can employ to sell their medicines without the need for advanced technological skills or agreements with payment systems and official licenses and trademarks. Customers can pay in cash or transfer fund to a bank account, in exchange for medicines that can be sent by parcel post, picked up or delivered.

Suppliers using online pharmacies or other websites for sales often also promote their semi-legal business through these online platforms, which means that they use a multitude of websites to promote their medicines. Both small scaled and more professional suppliers use B2C or C2C websites for selling medicines. This highlights the lower entry barriers of the B2C websites, which enables illicit suppliers to get involved in the business. As such, the internet opens up space for illicit online entrepreneurs (Alridge & Décary-Hétu, 2016; Dobson, Sukumar, & Tipi, 2015; Treadwell, 2012). This is exemplified by sellers whose online presence is limited to advertising their leftover personal medicines on C2C websites. Such suppliers need not to have a high degree of technological skill, nor are they required to have the right (criminal)

connections. Rather, the market can be seen as rather open and with minimal entry barriers; the seller must only manage their own supply. Hence, internet platforms can be used to present and sell all kinds of ‘white, grey and black’ drugs, without being transparent about which drugs are which color (Walsh, 2011). Grey products may seem legitimate when restrictions and regulations for their sell seem to vanish.

Fourth, social media is increasingly recognized as a platform that retailers use to advertise and sell illicit medical products (Di Nicola et al., 2015; Hall & Antonopoulos, 2016). Vendors promote their products on Facebook, in the comments section under YouTube videos or on Twitter. In these ways, vendors can target their messages to consumers or other suppliers while being less visible to the general public. Temporary fake accounts enable vendors to come into contact with potential consumers by showing their products easily, but still rather anonymously (Di Nicola et al., 2015).

A fifth and final pharmaceutical trade sector within the internet universe involves cryptomarkets of the Deep Web. Although analysis of the medicines trade on these dark net platforms is beyond the scope of my interviews and survey research, some findings from the secondary literature can be reported. Cryptomarkets can be accessed by downloading software which, through secure communication lines, can encrypt the IP address of the computers used. Users pay for transactions with the digital currency bitcoin, which further ensures the anonymity of the users (Martin, 2014; Tzanetakis et al., 2015; Alridge, 2016). In short, cryptomarkets offer sophisticated and, by some accounts, particularly rigorous quality control, through review and escrow systems (Martin, 2014; Tzanetakis et al., 2015; Van Hout, 2014).

Based on the survey and as outlined in Table 6.3, retail sales seem to occur mostly through online pharmacies and (second-hand) vending sites, while trade through social media and cryptomarkets in the Netherlands seems to remain rather limited. This coincides other research, as cryptomarkets are not found to be popular for the low-end retailers and consumers (EMCDDA, 2016). Social media seems to be less popular as these sales cannot be anonymous without setting up fake accounts (interview NS15). In the case of illicit medicines, this high degree of anonymity and protection is less of a necessity, because online advertisements can profit from drawing links and inferences to legitimate markets on the surface web. However, high-end dealers worldwide might be using the Deep Web to a larger extent. For end-consumers, barriers to cryptomarket entry are usually unacceptably high, while these markets offer wholesale dealers a platform for trading in medicines that is both hidden and reliable (Hall & Antonopoulos, 2016).

6.2.2 Motives of suppliers

A dominant supplier motive is profit, and the internet provides various methods and opportunities for suppliers of medicines. As the digital environment is not

limited by national borders, it is difficult to regulate and enforce the online trade (Blackstone et al., 2014). Therefore, with a huge demand and the possibility of purchasing cheap medicines that can be resold for high prices, this market has become an attractive way to earn extra money while facing low risks and penalties (Blackstone et al., 2014; Dégardin et al., 2014; Bunker, 2007). This economic rationale is partly supported by online suppliers who repeatedly mentioned the high demand, the ease to enter the market and ways to earn extra money. Profits, in varying degrees of extra income, are an important motivator for suppliers who involved in the business.

Some suppliers' previous companies went bankrupt or suffered other financial losses, and are looking for a way to cover their expenses. For example, one court case deals with the illicit business of two family members and another involves a married couple, both on high levels in the distribution chain. Court records show that both sets of suppliers decided to get into this business because of previous bankruptcy and high debts (cases 63; 68). The couple in case 68 faced a personal 12,000-euro loss after their legitimate company went bankrupt. They started a new webshop, but its income was not sufficient. After this, they came into contact with a supplier of sexual enhancers.

The internet also provides an open and easy access platform for small entrepreneurs who are interested in selling illicit medicines. On second-hand vending websites or B2C sites, retailers can easily advertise and reach consumers:

'No, it is certainly not my full income. I am a farmer. I don't want to do any criminal things and get too much involved. That would be too risky for me and take too much time. However, it now gives me good extras. It covers my hobbies.' (Interview NS18)

Several suppliers (in both my interviews and court transcripts) claim that this market provides an opportunity for extra income without 'getting too much involved in an illegal business'. Especially in grey markets, the illicit nature of a trade can be contested as the status of products may be different from one day to the other, or may even depend on small geographical distances (Huebschle, 2016; Taylor, 2015). The fact that in some countries medicines may be produced, distributed or sold legitimately without licenses, thus blurs the boundaries between licit, grey and illicit trade flows.

A clear demarcation between what is legal and what is illegal is often absent, and some suppliers are uncertain as to whether or not they are involved in criminal acts or not. As Van Schendel and Itty (2005) describe, illegality reflects a form of meaning that is produced as an outcome of the effect of a criminalized object moving between political, cultural, social, and economic spaces. Some of their medicines are produced legally, but the sale or trade of these is prohibited. This confusion eventually leads to a whole web of legality and illegality, of grey and semi-legitimate products. Traders therefore employ the mechanisms of 'contested illegality' (Huebschle, 2016) as the legitimacy of

the rules and rule makers is contested, which (partly) legitimizes and motivates their involvement in the illicit market.

As the internet trade contaminates the supply of legal products with semi-legal and illegal ones, the status of a given product can even more easily be contested. Thereby, the internet attracts illicit online entrepreneurs who operate on the edge of licit and illicit activities. This can be regarded as a democratization of the illicit market. For example, one of my respondents claimed:

‘Well, I would say it is a grey area, but I try to operate as legally as possible. I do have an accountant working for me, for example, and I do pay taxes, but yeah it is all a bit vague. Many people say they would never start a business in the internet trade, but once you’re in it, everything is so simple.’ (Interview NS15)

The semi-legal nature of the illicit medicines market thus provides the opportunity for low-key traders to get involved, as they can neutralize their involvement and easily hide if the situation becomes uncomfortable for them. On the other hand, some suppliers profit on a large scale from the illicit trade. While they are aware of the illicit nature of their business, they can make use of the legitimate market, too. These suppliers seem to use a variety of detection-avoidance techniques, including anonymity, the use of affiliate and sub-affiliate networks, and the rerouting of payments through intermediaries (Hall & Antonopoulos, 2016).

As such, because a legitimate market for pharmaceuticals exists, suppliers are able to capitalize on the ambiguity of what is legitimate and what not by relying on the various legitimate markets in which they operate. For example, through online advertisements, suppliers blur the boundaries between legal, semi-legal and illegal pharmaceuticals. Occupational embeddedness is often visible and the legitimate arm of the business can serve as a way to launder the income from illicit activities and to expand social networks through legitimate work relations (Van de Bunt, Siegel & Zaitch, 2014). Suppliers can use their work settings and contacts to expand their businesses while remaining under the law enforcement radar.

This also refers to contesting the legitimacy of the rules and rule makers, as some suppliers are opposed to the strict regulation of the pharmaceutical industry. Ferrell et al. (2008) focus on transgressive behavior in relation to activism and political resistance. They claim that every transgressive act is a conscious act of rule-breaking, with a process of moral transcendence, an assessment of legitimacy and adequacy of an existent rule, and a conscious decision to break it, by means of neutralization techniques or conscious transgression (Ferrell et al., 2008: 266). Some suppliers refer to their own business as being a Robin Hood for their clients, by providing medicines would otherwise be too expensive or completely unavailable for patients in need. Various suppliers can thus easily neutralize their involvement in the trade. As

they see it, they are not engaged in ‘a real crime, or something like dealing illegal drugs’ (interview NS15).

6.3 Online trust: relationships between buyers and sellers on the internet

In online illicit markets, buyers and sellers normally contact one another exclusively via virtual communication, and often without any prior bonds or ties (Bancroft & Reid, 2015; Tzanetakis et al., 2015). As opposed to trust relations that exist in general doctor-patient relations, there is no official guarantee of either the seller’s discretion or the quality of the medicines sold in the illicit online market. Therefore, online communication is employed to find trustworthy sources. On the Deep Web, review systems are used to describe experiences with the products and suppliers. Especially in cryptomarkets, these systems help to establish some reference of trust in a fully anonymous environment. Cryptomarkets also employ feedback systems for customers who do business solely with anonymous identities (Bancroft & Reid, 2015; Tzanetakis et al., 2015; Aldridge & Décary-Héту, 2016). Hereby it is suggested that cryptomarket vendors adopt a rather professional approach and are dedicated to providing a quality service (Barratt, 2012; Van Hout & Bingham, 2013). However, such escrow systems are not available as such on the surface web, which results in other approaches to building trust relations and in a different assortment of dynamics between various suppliers and consumers.

In general, buyers have difficulty in assessing the credibility of online information. Hence, consumers deploy various cues they hope will help to measure the genuineness of the information they encounter online (Flanagin & Metzger, 2000; Wathen & Burkell, 2002). This is particularly true of people who wish to purchase illicit medicines through an online platform: the same anonymity that protects suppliers from law enforcement officials appears as a red flag to customers who are wary of fraudulent sellers and fake products (Wehinger, 2011). As a result, suppliers balance between revealing their identity and thus increasing chances to get caught, and concealing their identity and thus discouraging consumers who might be scared to buy fakes from frauds. Aspects that customers have the greatest difficulty evaluating are the ones most likely to be highlighted by suppliers. Photos of the medicines may not be accurate, trademarks may be falsified and licenses non-existent. As one supplier explains:

‘On the website, it is written that it [*the medicine*] is made in the USA. But I also want to be open about my sources, so when people ask me I honestly tell them it is from China. However, if people don’t ask me, they will not know. On the package is usually written that it is made in the USA and all the text in written in English too.’ (Interview NS15)

For suppliers on the surface web, an important method to gain trust is the word-of-mouth advertisement by consumers who tell each other about their experiences

with the supplier and the medicines. This method to establish trust is used in traditional markets, but happens in online markets as well (Treadwell, 2012). Sometimes, a customer simply must guess whether or not to trust a business whose website's images appear to be legitimate. As one consumer explains:

'Prior to the time that I had my regular [*supplier*], I actually had to make a guess whether to buy on that website or not. But you know, it was an official website, it looked very professional, and you would receive a normal invoice. After I ordered, I received maybe ten emails so that I could track my package. It was almost too much. I mean, it was good service but I don't need ten emails to check where my package is.' (Interview NC7)

This quote highlights how suppliers are trying to appear to be transparent in order to decrease the sense of risk that accompanies online anonymity. For retail suppliers, at least moderate trust levels are almost required in order to attract and keep their clientele, and they use several methods to develop trust. Images of doctors create a feeling of trustworthiness, a kind of medical/professional trust. In this sense, claiming a relationship with the legal market can be employed to increase the trust level. As outlined in Chapter 5, medicines are generally associated with rigorous quality control and, unlike drugs, an association with good quality products can easily be claimed. Several other strategies – including impressive-looking trademarks, plausible information on the origin of the medicines and the ability to track shipping progress – are all employed to convince and attract new consumers. Without the benefit of an existing trust relation between two parties, plausible 'knowledge' and apparent transparency offer putatively credible signals of trustworthiness (see also Gambetta, 2009).

In order to increase trust levels and to make their business even more attractive, suppliers use various marketing strategies. For example, several online retailers provide phone numbers in order to let customers communicate directly with suppliers. Sometimes customers call to arrange for pick-up or delivery of their medicines. As one retailer outlines:

'There is a lot of competition online. But I have provided a phone number on the website, so I sometimes talk to my customers. That is a sort of service I provide. Some of them want to purchase it now, and not within a couple of days by post. I even had clients coming over to purchase at 1:30 am.' (Interview NS21)

Others even show characteristics of a new doctor-patient relationship where consumers can pose their medical considerations. Several suppliers have explained the medical advice they give to their customers, which ranges from discussing side-effects to the dangers of consuming medicines in combination with drugs and alcohol. For example, as stated by one retailer:

‘Generally, I maintain good contact with my clients. I frequently receive all kinds of medical questions, like whether they can combine some pills with other medicines, in case of a disease or when they use other medicines for example. Some of the clients even keep me updated on their weight loss and inform me about their experiences.’ (Interview NS15)

However, the relationship does not mimic an official doctor-patient relation, because:

‘A real doctor would never approve its clients to take the medicines with drugs or without official prescription. I don’t care why or how they take it. I want them to be safe of course yeah but I am not their parent or anything. An employee in a liquor store will not tell his customers that this is already the fourth bottle of wine that week, that they are not allowed to drink anymore. Neither will I. I tell them, be careful, these are not just vitamin pills, but the rest is not of my business.’ (Interview NS22)

This highlights how the sale of illicit medicines blurs the boundaries between legitimate medicines in a medical context, recreational medicines and drugs. Unlike the legitimate supply chain, illicit medicines outside are not regulated and monitored. However, suppliers try to create an atmosphere of quality and trust, and thus present their medicines as products that are suitable for a whole range of consumers – not just medical consumers.

All the previously described extra services can be understood in light of marketing strategies intended to establish more contact and trust between suppliers and consumers. These marketing strategies have also been observed in other drug markets, and this ‘business like’ approach in selling medicines online corroborates the findings regarding other ‘physical’ drug markets (see for example Adler, 1993; van Duyne, 1996; Gottschalk, 2009).

Suppliers, on the one hand, are thus able to use links with the legitimate market to increase trust, because they are selling similar products, yet, on the other, they compete with the legitimate market and at times need to convince their customers that their less-expensive medicines are of the same quality. This is exemplified by one retailer:

‘I always say to my clients, why would you like to pay so much money for Viagra, while you can get Kamagra four of five times cheaper? Besides, you need to purchase Viagra through your doctor, because it has a lot of medical ingredients. If you have heart problems, it can become very dangerous. Kamagra contains much less of this, so it is healthier to use than using Viagra.’ (Interview NS22)

Beckert & Wehinger (2013) propose a categorization of illicit markets, with a difference between fully illegal markets in which production, sale and possession are prohibited, and the semi-legitimate markets of products that become illicit

as a result of theft, forgery or other regulatory stipulations (*ibid.*: 9). The semi-legitimate market is thus deeply intertwined and reliant on the legitimate market, which causes different forms as well as levels of trust relations between market actors. In the illicit medicines market, suppliers can thus rely on the legitimate markets, and profit from medical trust and the image of generally high quality legitimate medicines; these strategies are less apparent in fully illegal markets. In this sense, illicit suppliers become part of the legitimate market, as they both have to compete as well as engage with the legitimate market (Gounev, 2011).

Besides competing with the legitimate market, suppliers are competing with each other, as also happens in other illicit markets. One supplier suggests:

‘Well, the medicines we sell are a bit more expensive, but we can give the guarantee that the quality is good. Sometimes clients complain that it is too expensive, but the suppliers that are selling for much cheaper cannot provide medicines with the same quality that we are able to give.’ (Interview NS20)

This shows how suppliers use various methods in order to confront competition with other suppliers while maintaining their own price (Beckert & Wehinger, 2013). Within the realm of a semi-legitimate market, suppliers are able to rely on the legitimate medicines market, while at the same time they have to compete with that legitimate market. On top of that, they also have to compete with other illicit suppliers. This feature is different from fully illegal markets, where no legitimate option exists and illegal suppliers are competing only with other illegal suppliers (Gounev, 2011).

Furthermore, because trust serves a key role in illicit markets, negative feedback or reviews can be disastrous for the business. As one supplier explained:

‘That time, I lost many of my clients in Belgium, I had around 8 clients that bought more than 100 boxes a month. They sold it to their clients in Belgium. I tried to compensate for it, but I lost those clients, I only have two of the Belgium ones left. The others I just lost, even though I had very good contact with them and told them, listen there has been made a mistake. Of course I tried to settle the problems and I didn’t want them to be duped by my trust in my Asian supplier. But once they feel betrayed, it is very difficult. And I am now taking good care of the products, although it is just impossible to open every pill box and try it yourself.’ (Interview NS20)

Because trust is a key issue for selling medicines, the reputation of online suppliers is important. But for the quality of the product, retailers must depend on their suppliers, who not always maintain expected and agreed quality standards. Medicines are often sent from Asian countries, where wholesalers are no less prone to deceptive practices than are suppliers closer to home. Within illicit markets, it has been argued that the initial trustworthiness of actors is typically based on reputation, kinship or ethnicity (Von Lampe & Ole

Johansen, 2004), or on the social embeddedness of organized crime, which provides a fertile breeding ground for criminal cooperation (Van de Bunt, Siegel & Zaitch, 2014). Yet in an online environment, such prior bonds are not always present. Therefore, suppliers employ different and sometimes peculiar methods to gain confidence in the quality of their medicines:

‘I have a sort of test panel of 6 or 7, mostly women, to whom I can send new products. They will test the products for two weeks and write me a report of their experiences [...] No, I actually never met them in person. I do have their address and phone number. And, well, they know that at times I have new products so they sometimes ask me if I have something new. If so, they send me quite a detailed report of their experiences.’ (Interview NS15)

In both scholarly literature and the popular media, reference is often made to illicit medicines as products containing rat poison or other highly dangerous substances, which implies that suppliers may actively want to harm their customers (Interpol, 2014b). Some earlier estimates suggested that as much as 50–60% of online medicines were tainted (WHO, 2006). However, my analysis of illicit markets yields the conclusions that most online suppliers intend to supply quality products and take steps to ensure the quality of the medicines they sell. Satisfied consumers – fully 62% of survey respondents – generally return to their suppliers. Therefore, the distinction between illegal and fake online pharmacies as outlined by DiGioglio (2011) is broadly applicable to all types of websites offering medicines. On the one hand, are the suppliers that knowingly swindle their online customers by providing fake pharmaceuticals. However, as in other drug markets, this is usually a one-time loss, as consumers will not continue to purchase from suppliers they now identify as frauds (Decorte, 2001). Much more often, online suppliers try to offer a certain standard of quality that would motivate customers to return.

In sum, the internet has transformed illicit markets in many ways. First of all, the internet does seem to fill a facilitating role. That is, the online marketplace creates a widespread platform with an increased and even transnational reach. Secondly, the internet appears to alter the social organization of the suppliers. Analysis of the socio-demographic characteristics the motives of the online suppliers shows that their *entry* into the illicit market is expedited by the low entry barriers that characterize the online economy. My data indicates the important involvement of online entrepreneurs who do not portray themselves as being involved in criminal activities, but who found that easy online access to consumers and suppliers made a business enterprise possible. Moreover, although the internet is often portrayed as being awash in medicines that are barely effective and possibly dangerous, my data show that consumers and suppliers balance between maintaining anonymity and increasing trust. In order to diminish chances of deception, consumers employ several methods of risk minimization and suppliers who intend to sell medicines of good quality pursue

many tactics aimed at convincing potential consumers of their trustworthiness. The social organization of the supply chain behind the retail suppliers will be further analyzed in the next chapter.

6.4 Traditional (offline) distribution channels

Although the internet provides an important facilitating platform for the trade in illicit medicines, my empirical research data confirms that there is a lively trade in illicit medicines without or beyond online platforms. As described in the previous section, it turns out that, as the basis of illicit trading relations, trust relations can be difficult to establish in the anonymous online environment. As shown in Table 4.9 on page 80, it is estimated that 2.4% of the Dutch population purchased illicit medicines without internet facilitation, including 12.9% of sexual enhancers and 14.1% of weight loss medicines. Various respondents expressed their reluctance to purchase medicines online because they believed they faced a good chance of receiving low-quality products. Of these offline sales, analysis of our survey yields the inference that 33% of sexual enhancers are purchased through friends and another 33% through dealers, and 17% are being purchased through family. For weight loss drugs, as much as 48% are obtained through friends, 15% through dealers and 15% through family members (see Table 6.4).

Table 6.4 Sources outside the internet

	Sexual enhancers (n=18) (%)	Weight loss medicines (n=27) (%)
Through friends	33	48
Through dealer	33	15
Through family	17	15
Under the counter in shop	6	7
Other	11	15

Source: Analysis of own survey data

While these estimates do not include information on the origin of the medicines, are based on a small sample and therefore may not be a representative reflection of offline sales of medicines, the results show a robust correlation with data gathered from in-depth interviews and my online analysis of websites. The types of offline sources, along with the motives of retail sellers and the dynamics of their interaction with customers, will be outlined here.

First of all, vendors in local markets, sex shops, vitamin shops or head shops informally sell medicines under the counter or, when they believe they can make a plausible claim, more openly under the guise that their products are legitimate substances. This finding is similar to the distribution of new psychoactive substances (NPS) that are sold as quasi-legitimate products (Wilkins, 2014). Sex shops are an especially important venue for the sale of ED medicines.

Customers know that they can purchase sexual enhancers in sex shops, and proactively seek out these medicines. Under the counter medicine sales usually occur in rather small quantities, which highlights the boundaries between what is legitimate and what not. In these instances, a rather informal and underground economy reveals itself as including ‘economic activities that are outside of formal institutional boundaries (i.e., illegal) yet fall within informal institutional boundaries (i.e., legitimate)’ (Webb et al., 2009). In addition, these suppliers are nearly always motivated by the prospect of additional income, but they also might have a social motive for setting up a shop (see social supply in the following section). Hence, their explanations contribute to debates regarding what is, or ought to be, considered morally acceptable for society.

Other shops, such as pet shops or barber shops, also might offer illicit lifestyle medicines to their customers. The occupational embeddedness within these operations is visible in the traditional (offline) manner, as suppliers use their occupational relations and setting to sell their illicit medicines (Van de Bunt, Siegel & Zaitch, 2014). Hereby, the connections made through their occupation are beneficial for their illicit business, such as daily contact with clients in their physical shops. Through daily contact, mutual trust is developed and then harnessed to the goal of discreet trade in illicit medicines. Consumers understand that their participation is also unlawful and thus have their own motives to be discreet about the illicit business. One supplier who runs a barber shop and was very open about his involvement in the medicines trade preferred not to introduce me to his clients, as they might interpret the introduction as compromising their hard-built trust relationship (interview NS13).

Secondly, drug dealers are becoming an important source of illicit medicines. A wide range of medicines have become available next to the ‘traditional’ illegal drugs these dealers sell. For example, based on the online analysis and interviews, it appears that pain killers, sleeping pills and tranquilizers can be purchased through drug dealers. In addition, some of the sexual enhancers that are consumed at parties, in clubs or in bars are sold on the spot by dealers and used in combination with drugs or alcohol. Therefore, not only are dealers becoming bigger players in the medicines market, but their involvement is also changing the way medicines are used, that is, in combination with other illegal drugs (e.g. case 53; interview NR22). In these cases, social ties and client networks already exist and the change focuses on the expanded variety of legal and illegal drugs that can be purchased from a single dealer.

The third and most important distribution channel is trade through friends, acquaintances and family. This coincides with findings on adolescents: 80% of teens who consume ADHD medication because they believe it will lead to better study results get their supply from their ADHD-diagnosed friends (Ganpat et al., 2009). A similar story can be told about doping products such as steroids that are sold in gyms (Van de Ven, 2016; Paoli & Donati, 2014). The primary motive that consumers and their direct suppliers gave for choosing this distribution channel was the higher level of trust:

‘Well, imagine, you know me and you know the internet. You know that if you buy from me it gives a good quality. Someone behind the internet would charge you 15 euro and if you buy from me it costs you 20 euro – of course, what will you do? You will buy from me as you know me already for years and not from someone you have no idea who it is, even though it would be cheaper.’ (Interview NS11)

Suppliers who sell to people in their close environment are generally referred to as ‘social suppliers’. Social suppliers can be distinguished from professional dealers because they provide illicit goods in small volumes and exclusively to friends and family (Coomber & Turnbull, 2007). These suppliers are not motivated primarily by economic incentives, but rather provide products non-commercially and on a small scale, within their informal networks and based on reciprocity, friendship or trust. Social suppliers blur the distinction between end-users and retail sellers, while acting as a buffer that protects their consumers from risks inherent to the ‘real’ illicit drug market (Coomber & Turnbull, 2007; Pearson, 2007; Taylor & Potter, 2013).

Social supply provides several advantages for both supplier and consumer. It can be beneficial for establishing social bonds and friendship, and it is more likely that consumers receive products of good quality (Taylor & Potter, 2013; Decorte, 2001). An important motive for social suppliers of cannabis, for example, is that they themselves can enjoy their good quality product even as they reap the social benefits of providing it to their friends and social environment (Hough et al., 2003). This dynamic is also observed among small scale suppliers of illicit medicines. Consumers claim that purchasing through friends or acquaintances is the most effective guarantee of a medicine’s quality, because the supplier can be held socially accountable if the product fails to satisfy (Decorte, 2010; Hough & Joseph Rowntree Foundation, 2003).

Social suppliers often do not consider themselves real dealers, nor are they seen in this way by their consumers (Evans-Brown et al., 2012). Real dealers are presumed to place the profit motive above all and to make a living from the business, and are rarely well-known to their consumers (e.g. Stevenson 2008; Jacinto, Duarte, Sales, & Murphy, 2008). For their part, social suppliers do not always perceive their own activities as unlawful and describe their business as helping friends. One such supplier explains:

‘I do that sometimes, but honestly mainly for fun. A good friend of mine is in this business and my other friends know that. They don’t want to order anything online, you know, they have no idea. But I just help them sometimes, without anything. I don’t want to get really into this business. I have too much stuff going on already.’ (Interview CS11)

‘I have several friends and some others that I know who use this, just for fun. But nobody likes to take the risks of buying something weird on the internet, I

guess. I just have an acquaintance that I know for a long time, and he sells just in small quantities that I sell among my friends.’ (Interview NS16)

However, these aspects can also be used as a way to neutralize the stigma that might otherwise be attached to their behavior and illicit activities, especially in some cases where ‘social dealers’ earn high profits (Potter, 2009). In general, there is a large variety in profits levels of social suppliers of medicines. Alongside fully non-commercial dealers, some social suppliers are gradually growing in the medicines business, up to the point where they might have crossed the line between ‘social supplier’ and ‘dealer’. As their businesses grow and the time – measured both in years and in hours per day – they invest in it increases, some suppliers focus more on the economic bottom line and less on the social benefits and pressures that led them to supply their friends in the first place. This method of entry has been referred to as ‘drifting into dealing’, as drug dealing can evolve through gradual steps of increasingly deviant behavior (Taylor & Potter, 2013).

In his discussion of retail drug distribution, Potter (2009) distinguishes between ‘user-dealers’, whose purchase of drugs for self-consumption becomes the supply available for their friends, and ‘social suppliers’ who sell drugs to members in their close environment but separate these sales from their own consumption. These different motives are supported by my data, and fall along a continuum of social motives and personal consumption. In some cases, self-consumption itself was a strategy for market entry, but some suppliers who began with genuinely social motives gradually become more influenced by economic incentives. Several social suppliers described this dynamic: after a period of personal consumption, they tried to find cheaper prices and better quality of medicines. If they succeeded, they became a small-scale provider for their social environment. Eventually, some even set up their own business in the illicit trade. One respondent, a 32-year-old male, first started by consuming weight loss products himself:

‘I used to be overweight. A friend of mine suggested I try this pill treatment for a couple of weeks, and it was effective. But I had to pay 40 euro and that was rather expensive for me. I decided to investigate other possibilities and eventually started to import. When I was doing this for some time, it started to grow and grow and it became more time-consuming. So then I brought in two of my friends and the three of us are now running it.’ (Interview NS15)

After he found new products, he sold these to friends and family members who also were interested using effective medical products to lose weight. The more he got involved in this social supply, the more he expanded his business, which eventually included an online webshop and two employees. He learned that there was a high demand for the medicines and that it was easy to make money after his experiences of using the products himself (interview NS15).

The consumption of sexual enhancers in order to prevent sexual disorders is at times related to feelings of shame and embarrassment (Irvine, 2009). An interesting aspect for the social suppliers of illicit medicines is thus their degree of discretion. As earlier described, trust between a doctor and patient is important for a successful medical treatment, because patient willingness to discuss sensitive topics helps to inform the doctor's diagnosis (Hall et al., 2001). In order to get potential customers into the shop, suppliers of sexual enhancers must develop even stronger trust relations with their customers than are built in other illicit markets. This relationship might be based on pre-existing friendships.

The required amount of discretion depends on the type of medicine. Certain pharmaceuticals are much more related to feelings of shame and embarrassment, while others such as cognitive enhancers are consumed much more openly (Evans-Brown et al., 2012). In the case of shameful products, a specific trust relationship is required, where discretion about the consumption should be guaranteed. Social suppliers are best positioned to offer such guarantees, although consumers of sexual enhancers may opt for more anonymous, or cheaper, sources, as explained in Chapter 5.

6.5 Blurring online and traditional markets

Although supply through online platforms and direct retail distribution through social suppliers have been treated separately in this chapter, it should be noted that, analytically, these online and offline sources often occur simultaneously. As described in Chapter 2, illicit markets can be broadly divided between open and closed markets (May and Hough, 2004). In open markets, buyers and sellers are usually not familiar with each other, there is no expectation of prior introduction to sellers and trading usually takes place in open or public spaces. In closed markets, buyers and sellers only do business after they have come to know and trust each other, and transactions take place in private settings (May and Hough, 2004).

The internet can be characterized as an open market, where buyers and sellers are able to find each other without the necessity of a previous introduction (Aldridge & Décary-Héту, 2016), while social suppliers show characteristics of a closed markets where trading takes place on the basis of prior trust or friendship (Tzanetakis et al., 2015; Zaitch, 2005). For both consumers and suppliers, primary benefits of the internet are associated with its high level of anonymity, low entry barriers, a wide reach to far-flung consumers and access to all sorts of medicines – as well as a higher risk for fraud, scams and law enforcement. On the contrary, users who choose to purchase medicines offline from friends or under the counter face higher levels of trust, decreased likelihood of deception and greater expectation of products of good quality; these benefits come at the cost of higher entry barriers and reduced levels of anonymity, which is unfavorable in case of products associated with shame.

The on- and offline sale thus highlights the dichotomy between low trust levels on the anonymous internet and high trust levels through socially

embedded relations. However, it turns out that neither suppliers nor consumers limit themselves to just online or just traditional markets. Rather, benefits of both the online and offline trade are used at the same time, which blurs the frontiers between online and offline markets. For example, several respondents have outlined how they use the internet as a first point of contact to reach consumers, after which they deliver the medicines in person. An online supplier explains:

‘Actually, I don’t do that much through the internet anymore. People can find us online, but there they will find our telephone number, they have to call us instead of ordering online. They can just pick it up or it can be delivered, so without an online exchange. This is partly because law enforcement has acted online too [...] I used to have an online webshop and I would send the medicines by post, but often I received these messages of people saying they did not receive the medicines. Well, the last thing I need is those things. So we thought, we will just leave the internet out of it.’ (Interview NS22)

Besides, with the internet being an integral part of daily life, online communication cannot be seen as fully separate from face-to-face interaction (McQuade, 2006). The most important benefit of the internet, its worldwide reach, can thus be used for initial communication, while afterwards direct contact can be made to increase levels of trust and diminish the risk of fraud. The opposite occurs as well, whereby social suppliers or retailers selling under the counter retrieve medicines from an online source, which they sell in-person to consumers. In this online-offline hybrid, end-consumers feel they have minimized the risks of fraud and deception because they trust and can hold their direct supplier accountable (Decorte, 2001). Thus, off- and online sale highly intertwines with suppliers who sell directly to consumers, expand their business by advertising online and may have their own online traders, while online suppliers increasingly provide an option for in-person pick-up or delivery. The latter can also be seen in light of gift-giving strategies (Gus, 2008) in order to create a higher level of trust with buyers and to promote their online business.

The oft-repeated claim that the internet is the only instrument through which the illicit medicines trade can flourish (Bate, 2012; Interpol, 2014b), does not square with findings of this research. Although the internet does provide many benefits for suppliers, it can be regarded as one of many tools that are deployed for improved transnational communication and augmented trading opportunities.

6.6 Conclusion

Through combining concepts from both criminology and economic sociology, including risk perception, quality assurance and trust relations, this chapter offers a nuanced analysis of the retail level of the illicit medicines trade. Special attention has been given to questions regarding how consumers and

suppliers use on- and offline distribution channels, form trust relations in the absence of a medical context, and how online suppliers use various marketing strategies that place them in a nuanced and multifaceted relationship with the legitimate market for medicines. In addition, offline supply through friends, dealers and under the counter in shops has been situated in the context of higher trust levels, risk avoidance and quality assurance.

Overall, the illicit medicines market can be characterized by continuously blurring boundaries between legitimate, semi-legitimate and illegitimate as well as on- and offline trade. At first, the majority of the respondents are employed in professions related to the medicines trade, which provides the opportunity to use the legitimacy of their main business venture to conceal their illicit activities. Besides, on all levels, actors can hide, justify and neutralize their behavior behind the idea of helping others, and not wanting to do anything illegal. In addition, whereas the sale of illicit medicines is generally associated with online pharmacies, the data show that a wide variety of websites are being employed by the suppliers, including separate vending and e-commerce sites that enable suppliers to reach more potential customers. Online distribution channels are characterized by low entry barriers. There is no requirement for advanced technological skills or previous (criminal) connections, while suppliers can justify their activities. Thus, the types of product traded in combination with the opportunities of the online sale, appears to democratize the involvement in the illicit market.

Whereas retail trade takes place through both online and offline sources, the blurred boundaries between what is real or fake are present in the interaction between users and consumers. Illegal drugs are primarily sold through dealers or acquaintances in the 'real' world, or through Deep Web sites that have their own specific methods of creating trust between market actors. Both of these sales environments exhibit trust-building potential that is largely absent on the surface web.

Generally, illicit medicines are openly advertised on the internet and suppliers try to reflect the high reputation of legitimate medicines onto their own products, even as they compete for sales with the legitimate medicines market. On top of that, suppliers have to compete with other illicit suppliers. Both consumers and suppliers apply various strategies of risk minimization in their efforts to find an acceptable balance between anonymity/deceit and trust/privacy. Online trust is increased through images intended to convey legitimate medical trust, and suppliers use various marketing techniques, such as delivery services, providing knowledge and transparency or extra medical information. While trust levels are higher among direct suppliers, some consumers opt for a higher degree of discretion and anonymity. Advantages and disadvantages of both on- and offline distribution channels are reflected in the interface between the two, as suppliers and consumers constantly collide between online and offline sales channels.

Chapter 7

Social organization of the market²⁴

In the previous chapter, the retail level has been analyzed, wherein the empirical data have shown how illicit lifestyle medicines are traded by online retailers as well as by social suppliers. As demonstrated, the retail market demands high levels of trust and discretion, which has an effect on the dynamics and methods of supply. In the current chapter, I analyze these dynamics as I move further up the supply chain and turn to the activities, methods and players active in import and distribution networks in the Netherlands and beyond. The central questions of this chapter are: how are medicines traded and imported into the Netherlands, what is the social organization of the market, and in what ways do insights generated by these discussions support or challenge existing models of organized crime, social networks and illicit markets?

Although this chapter primarily focuses on the wholesale and distribution level, it turns out that boundaries between market levels are not so distinct. I will show that there is a large sliding continuum that ranges from operating networks on one end to individual online entrepreneurs on the other. Along this continuum, several analytically distinct market chains can be identified. Networks run through various market levels: from the manufacturer to the trading company in Asian countries, to middlemen in European countries, to middlemen in the Netherlands, to resellers and retailers and finally to the end-customer. Actors at every level can add value and, in any case, demand a share of the proceeds, which results in higher retail prices. However, the internet facilitates direct contact between retail suppliers and manufacturers, which decreases the number of market levels, which can yield lower end-customer prices while concentrating profits in fewer hands. The varieties in the number of market levels, profit margins and volume of pharmaceuticals traded will be further outlined here. In order to do so, I will first analyze some general characteristics of the modus operandi and describe the profits and motives of the suppliers. Then, I will explore the social ties and relations between the suppliers in more detail. Lastly, I will analyze how trade in legal and illegal

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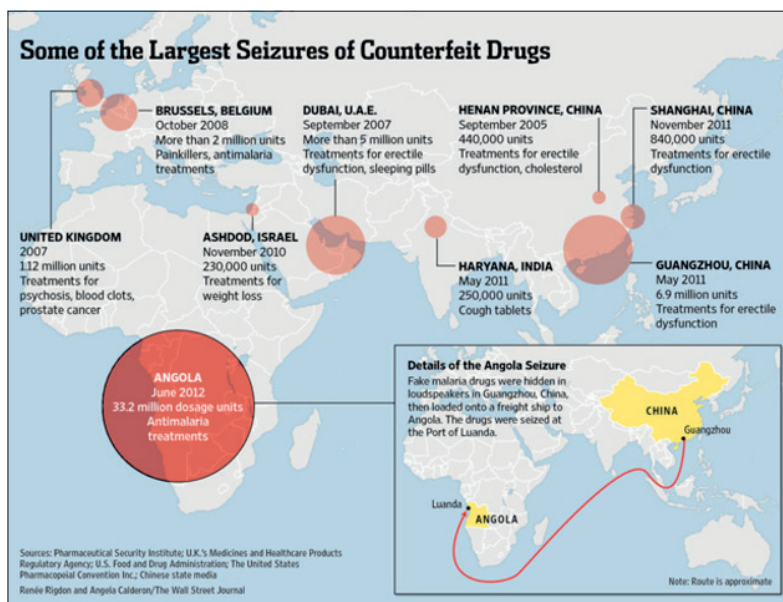
pharmaceuticals is intertwined, and will summarize an overall analysis of the structure of this illicit market.

7.1 Modus operandi

The majority of illicit medicines is produced in main manufacturing hubs in Asia, more specifically, in China, India, Hong Kong, Singapore and Thailand. This international character is particularly related to the global amplification of the legitimate pharmaceutical supply chain (Buckley & Gostin, 2013) and the intertwining of this chain, and individual actors within it, with international trade in illicit medicines.

Legitimate and illicit medicines are manufactured, notably in Asia, in response to growing worldwide demand (Aldhous, 2005; Interpol, 2014a; Hall & Antonopoulos, 2016; Dégardin et al., 2014; Di Nicola et al., 2015). From these manufacturing hubs, illicit medicines are traded through transit countries and end up in markets, shops and streets throughout the world. A combination of the expanding pharmaceutical industry, lack of effective enforcement, cheap production, and other factors seems to interconnect manufacturing countries as China and India with the demanding countries in the West (UNICRI, 2012; Lewis, 2009; UNODC, 2013). The mechanisms within the manufacturing level are discussed in detail in the next chapter by means of a case study on China.

Figure 7.1 Examples of global trade in illicit medicines



Source: IRACM, 2013

At least four methods are employed for the import of nearly all illicit pharmaceuticals into the Netherlands. First, large quantities of the pharmaceuticals are imported directly. Nearly 80% of international trade occurs through shipping, and ports such as the one in Rotterdam are important for trade in all kinds of legitimate, semi-legitimate and fully illegal products, including wildlife and weapons as well as drugs (Eski, 2011; Kostakos & Antonopoulos, 2010). Because worldwide trade is so vast, customs inspectors can control a small proportion of the products that arrive through ports or overland (Naim, 2006; Zaidi, 2007). Shipping containers are sufficiently large that traders can try to hide illicit medicines alongside legitimate products, which complicates the efforts of customs officials (interviews NR7; NR18; cases 5; 7; see also IRACM, 2013: 18). In one Dutch case, 60,000 blisters of illicit ED medicines had been concealed under thousands of flower bulbs and cigarettes in a container that had been shipped from the Philippines to the Netherlands (case 7). In another case, a container with 20,000 weight loss medicines was shipped from India to the Netherlands through a company primarily involved in Ayurvedic products (case 5). Yet, according to enforcement officers, the wholesale import from Asia directly to the Netherlands is not the most common (interviews NR7; NR9; NR16; NR18).

Figure 7.2 Confiscated Kamagra tablets in wholesale quantities



Source: case files Public Prosecutor

A second import method of large quantities involves containers that are shipped to transit countries in Europe before their ultimate arrival in the Netherlands. After arrival in a transit country, medicines complete their journey to the

Netherlands either by container or overland in trucks, cars, parcels or mail. Some important routes begin in Russia and the Baltic states before proceeding to the Netherlands via Germany or Belgium (interviews NR16; NR18). Other common routes begin in India and proceed to the UK (cases 1; 30; 42; 60; Hall & Antonopoulos, 2016) or sometimes to Hungary, Bulgaria or Romania before entering the Netherlands (case 24; 34; 43). One supplier explains:

‘He [*the Dutch wholesaler*] has a good source in Romania, he has very good connections over there and I know he is frequently in Romania. The Kamagra over there costs only one euro or even less, I assume because they get it directly, so they could get it much cheaper from Asia. [...] A contact person in Romania could make sure to send Kamagra pills to us. We usually receive it directly, they have someone driving, but occasionally I receive some things by mail.’ (Interview NS11)

An enforcement officer confirms:

‘What we see is that medicines are being sent from India to Bulgaria, where a corrupt customs officer is being paid. So it can easily enter Europe. After that entry point, it is loaded into trucks and brought to the Netherlands. Here it is repackaged and further sold.’ (Interview NR4)

In recent years, the wholesale import of illicit medicines is often seen in countries where officials may be more susceptible to bribery and where suppliers are able to use a broad range of legitimate safeguards (IRACM, 2013; UNODC, 2013). Countries with less strict external border controls are therefore used as entrance points to other European countries (e.g. Bruns, Miggelbrink, & Müller, 2011). The free trade agreement in the Schengen area allows for uncontrolled movement of goods between member states, so once the medicines have entered European soil, it is relatively easy to traffic them to their final destination.

In these cases, legal and other asymmetries are visible in the discrepancies among laws in jurisdictions, such as different regulations, import duties or enforcement of the pharmaceutical market. These criminogenic asymmetries are defined as ‘structural discrepancies, mismatches and inequalities in the realms of the economy, law, politics, and culture’ and may influence both the organization of illicit markets and the trading routes that are chosen (Passas, 1999: 402). Beyond the intensity of inspection, the prospect of lower import duties for the legitimate products and the level of corruption seem to play a part in the decision regarding which transit country is chosen (interviews NR4; NR15).

The examples presented above confirm what most observers already suspected: illicit medicines are trafficked to the EU and the Netherlands in large quantities. Importers and wholesalers in the Netherlands thereafter sell the medicines to a wide range of middlemen, resellers or end-retailers. In these instances, a relatively long and multi-level supply chain exists and a clear

division between market levels is visible, such as wholesalers who are solely involved in the wholesale shipment and do not shift to other roles (Natajara, 2000; Paoli & Donati, 2014). This was evident in several court cases and confirmed in my interviews with officials (e.g. cases 6; 7; 42; 43; 67; interviews NR14; NR18; NR21).

A third method for the import became more prominent after high-volume seizures demonstrated the increased risks of container shipping. To wit, regular mail and courier services are becoming increasingly common. Based on court cases and interviews, it appears that both larger-scale operations and smaller businesses and individual entrepreneurs in the Netherlands now prefer to receive illicit medicines in parcels and mail packages. For example, one court case deals with two family members who were involved in the large-scale trade of weight loss and sexual enhancement drugs until they were arrested in 2014:

‘At one customs location in the Netherlands, letters, packages and parcels with the same illicit medicines were reported repeatedly. Sexual enhancers and weight loss medicines were usually sent in packages of 3,000 pills and in total more than 109,000 pills have been seized. The business revolved around two male family members and one fellow suspect, who were running an online business since seven years. They were registered at the Chamber of Commerce, and founded at least 14 webshops. The websites were built by a webdesigner and buyers could pay through legitimate payment systems. The lifestyle medicines were mainly imported from China, India, Hong Kong and Singapore. They primarily communicated online with two manufacturing companies in China. The medicines or raw materials were sent to various post addresses (mother, friends, partner, post boxes) using a variety of (fake) names. Large amounts of medicines have been found in storage boxes, basements and other stashes.’ (Case 63)

In this example, suppliers made use of small packages that were sent in large quantities, all running as transnational flows of goods. Although small quantities were seized by customs several times, the medicines were imported, traded and sold on a large scale. For quite a while, customs officials were unaware that this case involved a high-volume operation because they could not make the connection among many apparently unrelated names and addresses. To an even greater extent than container shipping, the vast majority of mail parcels passes through customs without being inspected.

Several respondents confirm that their perception of stricter enforcement on imported medicines led them to change their modus operandi. This behavior also has been reported by others (e.g. Paoli & Donati, 2014; Van de Ven, 2016). Respondents observed that imports from Asia and the US were confiscated more often, in response to which they explored the possibility of using more neutral transit countries. In particular, the shift from import in large quantities towards smaller packages and parcels (although in high frequency and high total

volume) seems to be the result of the increased enforcement of other smuggling methods (interviews NR4; NR7; NR9; NR18). As one retailer explains:

‘Once it has entered Europe it is so easy to get it here. But the question is how. I have tried to order in larger quantities through Belgium and France as well, but the control there is even stricter than in the Netherlands these days. I now have to order in small quantities and I order everything separately: the pills, the blisters, the packages.’ (Interview NS20)

For the import of illicit medicines, a multiplicity of Business-to-Business (B2B) websites function as platforms for international traders in all kinds of goods and services. B2B websites can be employed to connect manufacturers and trading companies with suppliers and importers worldwide, but also serve as platforms to connect with semi-legitimate and illicit suppliers. These websites usually offer wholesale quantities of finished pharmaceuticals or raw materials (Koenraadt, 2015; Mackey, Aung, & Liang, 2015). In addition, smaller individual entrepreneurs and retailers rely on B2B platforms for expanding their business relations. These suppliers take the risk of getting caught or of importing low quality medicines, but are at the same time able to cut short the number of market levels, which offers the promise of higher profits (Martin, 2014).

A male respondent, 28 years old, is a case in point. He started an online company in weight loss medicines because of his own consumption of these medicines, and soon became a social supplier for people he knew well. When the substance Sibutramine was banned in 2007, the demand for suppliers of this effective but now-illicit medicine grew and he entered this market. At first, he ordered from middlemen in the Netherlands and other online suppliers. After two years, he established contact with distributors in China, thus removing several layers that had been a part of his old supply chain. He counted some of this extra income as profit, but also devoted resources to finding better quality medicines and negotiating for lower prices of stock acquisition. In his words:

‘At first I bought it from my source here but then I started looking for other sources that were way less expensive. In the beginning I paid 40 euro for 6 pills so I started to look for other options and finally found two main suppliers in China. I got to know them through the internet, but now we always talk over skype. [...] I have a good relationship with them, and one of them sort of helps with my business plan, really. He is keeping an eye on the products that are popular in China and elsewhere and keeps me informed about new medicines and weight loss measures [...] [Customs] control is getting stricter [...] Look, with couriers it is running fast, usually when I order [from my source in China] on Friday, I will receive it on Monday. Unless it gets caught by customs, and for that I don’t even receive notice. I know that it is probably seized when it takes so long.’ (Interview NS15)

This case highlights how the internet has facilitated direct trade between retailers and trading companies in Asia, which makes the necessity for wholesale import by criminal groups superfluous (see also Martin, 2014). This supplier uses two websites and recently has hired an employee through his legitimate business to help with his illicit weight loss business. He continues to handle the import of illicit medicines personally, as he has good contact with the distributor of the Chinese company.

Although he operates on a smaller scale than the retailer in the previous example, this supplier uses several names – of his brother, partner and family members – and receives imported medicines at three locations in the Netherlands. Interviews and court cases show that the use of different names and addresses is a common strategy (e.g. cases 27; 42; 43; 63). The frequency with which parcels and mail packages are received depends on the scale of the suppliers' businesses. In some cases, the occupants of the extra addresses are unaware of the content of the packages and parcels, as explained by one supplier:

'Since last year it certainly feels like I have to be a little more cautious. I lost quite a bit of money that year so I increase my chances by ordering in small quantities. I send it to my own or my partner's house, or if possible I can use more locations. Sometimes I send it to my parents too, but I told them I just have some packages, they do not know what they contain.' (Interview NS20)

Most shipping with this method occurs through such regular national and international courier and postal services as DHL, FedEx or PostNL. These delivery services include tracking codes that suppliers in the Netherlands can use to keep follow their parcels. Almost all suppliers I interviewed had experiences with their parcels being seized and destroyed by Dutch Customs. One trader in illicit weight loss medicines recounts:

'Recently, two orders have been destroyed at the customs, so I will not make profits on that. I will leave it now for a while and will work with the stock I still have. [...] in the beginning it went by container but that took a long time. Now it is by cargo and plane. But even smaller packages are being checked. The Chinese suggested to smaller packages because chances are higher they will go through. But, well, I also had parcels of 14 kilos and this just went through, so you never know.' (Interview NS15)

Medicines are imported in different forms: some are sent by mail with full packaging, others with only blister packaging and some without any packaging at all. In the latter case, packages and user's manuals are sent separately or printed in the Netherlands. Suppliers describe this method as an attempt to avoid attention from the customs agents (interviews NS15; NS20).

Although suppliers usually store and resell the medicines, dropshipping, a fourth method, does not require suppliers ever to physically possess the products (Taylor, 2015). Dropshipping refers to a trade process wherein products go directly from manufacturer to consumer (Grottel, 2015). Suppliers do not order products that are eventually sold to consumers, but instead, once suppliers receive an order from a customer, they send details to the manufacturer, who sends the medicines directly to the consumer. This method is especially popular for medicines that are licit in the exporting country while illicit in the countries into which they are exported (e.g. cases 29; 33; 34; 38; 48). Dropshipping effectively bypasses distributors and middlemen and blurs the boundaries between states and their drugs or pharmaceuticals laws, as a retailer can operate in a country where drugs that is being sold is illegal, without having the products physically in possession (Taylor, 2015).

After medicines have arrived in the Netherlands – either directly or via one or more transit countries – further distribution can involve other middlemen, resellers or end-customers. For all every method except dropshipping, suppliers have two basic options. On the one hand, they can make sure to have enough stock to satisfy the demands of their buyers. On the other, they can wait to make arrangements with their suppliers until after they have received orders (see also Zaitch, 2002). Some suppliers have storage capabilities and are able to hold their medicines for a longer period of time. The volume of pharmaceuticals stored varies widely and correlates with the degree of organization and scope of the business. One respondent explains:

‘Well, I have created a pretty large stash until the month February of this year. So for the time being I have enough, I have more than 2500 blisters of every product. So for now this is ok. Look, in the months February, March and April it is the period when madhouse starts, which will last until July or August and then it slowly decreases a bit [...] so yeah I had a buffer, but in the coming period I will need to focus on ordering new ones. In the last period I did not put so much effort in this, because I was doubting whether to make a new website. I do have a reservation for this, but I haven’t started with it.’ (Interview NS15)

Other cases confirm that large amounts of pharmaceuticals are stored in boxes, garage boxes or basements (cases 4; 24; 61; 63). One enforcement officer recalls a case in the Netherlands where millions of pills and bulk powder were found, as well as multiple cars, jewelry and cash (interview NR15). From these locations, the medicines are repackaged and addressed to consumers in the Netherlands or nearby countries. The distribution within the Netherlands occurs both through mail packages and parcels, as well as by car. One case reported in large quantities of medicines that had been transported by car or truck (case 67), but smaller quantities run through mail services as well (e.g. cases 24; 29; 30; 36; 50; 63).

Payments between market actors were made in a variety of ways. Some buyers and resellers arranged for an official bank account number that was used for the transaction and a reference was made to the products sold by the official companies (interviews NR7; NR14; NR15). In some cases, the payment referenced ‘loan’ or ‘furniture’ (interview NR12). In other instances, suppliers made a distinction between the size of the purchases. When a small amount of medicines was purchased, money could be transferred through bank accounts, but for higher quantities (more than 50 blisters) cash payments were demanded (case 68). One respondent explained that his suppliers and consumers are aware of the possibility being wiretapped, which causes them to refer abstractly to ‘gels,’ meaning Kamagra, in communications:

‘For a while we were mainly selling the Kamagra gel capsules, even more than the Kamagra pills. It became very popular during that time. So we started to call the Kamagra “gel”, that was just easier.’ (Interview NS18)

In other cases, the Viagra pills were referred to as toys, frogs or just K in order to prevent detection (cases 24; 42; 45; 68). This is also seen in other illicit markets, where code words are formulated in order to describe illegal drugs (Taylor, 2000: 343).

7.2 Motives of high-end suppliers

This research corroborates the findings of many other studies (eg., Dorn, Levi & King, 2005; Paoli & Donati, 2014; Van de Ven, 2016): while retail-level motives are often associated with the seller’s own consumption and social supply among friends and acquaintances, higher profits are important incentives for market actors on the import and distribution level. The ease of making high profits, while facing relatively low risks and staying away from ‘real crime’ provides an important motivator, as explained by one importer:

‘It is very easy money. I bought 10,000 fat burning pills, which costs me 200 euros. And I could sell it for 8000 euros. It is so common to use it. You can buy 100 grams of something that could make 100,000 tablets, you can get that in Asia for 200 euros.’ (Interview NS14)

Court records show that seizures of 50,000, 70,000 or even millions of euros in criminally obtained assets linked with illicit trade in medicines were common (interviews NR15; NR21; cases 52; 55; 63; 67). Yet, while some traders saw high profits, online individual entrepreneurs do not necessarily benefit extraordinarily from this business. Although some of them may import medicines directly, the scale of their business, and their profits, often remains limited. Most have neither time nor interest in getting more deeply engaged in the business.

Generally, prices per unit increase lower in the supply chain (Caulkins, 2007; Curtis & Wendel, 2000) As highlighted in Chapter 6, retail prices for Viagra vary between 5 and 10 euro per pill, but erectile dysfunction (ED) medicines such as Maxmen or Kamagra can be purchased directly from the manufacturer in China or India for as little as nine cents and weight loss medicines such as Slimex for 15 cents per pill (interviews NS13; NS15; cases 61; 63; 67). With cheap labor and inexpensive raw materials, there is a clear price asymmetry between the manufacturing and demanding countries (Bate, 2012). Generally, prices at each distribution level depend on the quantity and number of previous market levels, but also other factors such as scarcity, competition and other forces (see also Zaitch, 2002). As one Kamagra middleman puts it:

‘Around two years ago there had been a shortage because a couple of wholesale deliveries got seized. There was not enough Kamagra available at that time. But this was only for a short period of time, now we always have enough.’ (Interview NS20)

Another dealer adds:

‘Well, just before the summer break, two of the big guys got off of our line. That was a moment of panic, because they did all our orders. We had a lot of orders, but could not deliver. In the meantime, it has been taken over by someone else, but now we always make sure we have more than enough supply.’ (Interview NS22)

The risks that suppliers face in the distribution line are generally integrated into the price of the medicines (Kerr, Small, & Wood, 2005; Reuter, 2012). Overall, higher risks are associated with suppliers who tend to be driven by financial rather than by social motivations. Whereas on the retail level, the trade and sale of the medicines is often contested and Dutch courts often find in favor of alleged small-scale retailers, higher level trade is accompanied with a higher likelihood of getting caught and higher penalties if convicted. The dynamic of higher risks associated with more economically driven suppliers is seen in other markets as well (Dorn, Levi & King, 2005; Van de Ven, 2016).

Even though economic incentives seem to play a more prominent role at higher market levels, three further distinctions can be made. First, several suppliers have become involved in the trade because of previous debt. Because of bankruptcy or other reasons, the trade in illicit medicines offers an opportunity to gain more income. This motivation played a prominent role in two court cases (cases 63; 68). In one of these, a married couple decided to get into this business because of previous bankruptcy and high debts. They started a new online shop, but their income was not sufficient, so they came in contact with a supplier in sexual enhancers through the websites alibaba.com and china.com. The couple had bank accounts in the Netherlands, Belgium

and Spain, while consumers and resellers in the Netherlands could pay them in cash (case 68). In line with theories of strain and relative deprivation (Merton, 1938; Passas, 2000), these cases may show that, after suppliers fail to earn their preferred income, they may look for alternatives – which they find in the pharmaceutical market.

Second, similar to the retail level, addiction is also an important incentive at higher levels. Pharmaceuticals such as painkillers and tranquilizers are increasingly consumed, mostly by young adults (Tapscott & Schepis, 2013). Data on diversion of prescription medicines in the Netherlands is limited, but some court records point toward addiction to pharmaceuticals as a one of the motivations that led to involvement in the trade. For example, one supplier who traded in sexual enhancers and other medicines was addicted to medicines. The report continues:

‘The suspect was addicted to sleeping pills and tranquilizers, and his doctor did not want to prescribe any further medicines. He found a source in China where he could buy medicines his doctor refused to longer prescribe. In exchange for trading the medicines that were sent to his home, he could get medicines for own consumption for a cheaper price.’ (Case 52)

Several scholars have emphasized how drug users normalize their own consumption, which causes them to normalize their supply (Potter, 2009, Chatwin & Potter, 2014). Although a true addiction to medicines did not play the most important role in the majority of cases and interviews, it appears that the type of products traded and the sociocultural environment of suppliers can offer key information about the market behavior of suppliers. Addictive medicines are traded by users who need to fund their own consumption by supplying their drug of choice to others. Similar to findings on the retail level, these traders enter the market because of their own consumption, through which they come into contact with middlemen. Because of their involvement in the illicit medicines trade, these suppliers gained extra financial profits as they nurtured their own addiction.

Third, similar to consumers and retailers, suppliers on the import and distribution level also show forms of resistance (see also Ferrell et al., 2008) against the high profits made by the pharmaceutical industry. In certain cases, a motive of helping people is related to critique on the pharmaceutical industry. For example, one respondent asserted:

‘The law is strictly stupid. And pharmaceutical companies are screwing people’s lives. They are the ones that decide everything. They are marketing for the governments, they are acting in their own interest. But you know what? Everyone wants to be the company that produces Viagra. And just a part of it is coming now from China. Of course they have to spend money on research

and on finding the correct ingredients for patients, but this is too much. The raw materials are so cheap. They just make so much money.’ (Interview NS14)

This respondent shows that suppliers may get involved in this market as a form of resistance. Although he got involved in the trade because of economic incentives, his neutralization technique reveals a form of resistance. His involvement in the illicit medicines trade is expressed as a form of resistance against the pharmaceutical industry. He rises up against a pharmaceutical industry that rakes in monopoly profits on certain treatments despite low production costs, even as he seeks to profit from the business himself.

This form of resistance is again linked to the fact that suppliers operate within a semi-legitimate market: medicines can be sold legally in some places but not others. An understanding of how regulatory agencies and the traders in medicines interpret these disparities helps to explain the motives of the suppliers. While suppliers on both the retail and the distribution levels can make use of the legitimate supply chain for selling illicit medicines, the semi-legal status of medicines turns increasingly towards a fully illegal business on the distribution level alone. Suppliers here are well aware that they are involved in a hidden and forbidden market, face higher levels of risk and over all are driven by stronger economic motives than are suppliers on the retail level.

7.3 Market relations and online trust

Illicit trade in medicines in the Netherlands is characterized by a huge variety in business scale, profit margins and forms of cooperation among national and transnational suppliers. At one extreme, small individual entrepreneurs trade on a low level with friends and acquaintances, moving to middle levels and finally, at the other extreme, to the extended networks that make the highest profits. Market behavior at each point is based on market relations, but relationships at one point can be markedly different from those elsewhere.

Trust and culture lie at the foundation of illicit medicine trading relationships (Carrington, 2011; Morselli, 2009). The initial trustworthiness of actors can be assessed, for example, on the basis of reputation, kinship or ethnicity, and one can reasonably expect that, as more transactions are completed between actors in illicit market, the level of trust between them increases (Paoli, 2002; Von Lampe & Ole Johansen, 2004). Van de Bunt, Siegel and Zaitch (2014) outline how the social embeddedness of organized crime provides a fertile breeding ground for crime groups and criminal cooperation. They relate social embeddedness to the social relations and structure that are important to an understanding of opportunities and the formation of networks, but also to an understanding of the form criminal activities can take.

In the market for illicit medicines, different types of relationships, social ties, trust relations and networks can be identified. First, both respondents and court cases show family ties as important for the establishment of trustful trading

relations. In these instances, suppliers are working together with partners and other family members, and organize their business around these familial ties. One respondent mentioned how he uses addresses of several family members to receive post parcels because his family is what he trusts the most (interview NS15). Another respondent remarks:

‘At times, my cousin takes over the business when I am abroad. That is just convenient, because I know her and I trust her well. She knows how to deal with customers as well.’ (Interview NS18)

One court case featured a mother and her son, who were running a well-organized business. They received parcels from within and outside the Netherlands, dropshipped and ran a postal order company complete with label printers (case 55). In another, two brothers set up a wholesale business in weight loss and sexual enhancers (case 63). In other cases, married couples are seen as the primary accused (cases 51, 65, 68). Family ties are thus important factors on which market relations and trust levels can be and are based (Van de Bunt et al., 2014; von Lampe & Ole Johansen, 2004).

Second, ethnicity is important for further market relations outside the own family. In order to form trust, market actors of the same ethnicity seem to develop trust relationships more easily (Carrington, 2011; Kleemans, 2007; van de Bunt et al., 2014; Zaitch, 2002). This is reflected in the current market, wherein Dutch suppliers cooperate regularly with Dutch suppliers; similarly, the Kamagra trade from India is related to middlemen and suppliers from India (e.g. cases 5; 52). Having said this, one must also acknowledge the inter-ethnic cooperation that also permeates court records (cases 61; 62).

However, overall, the illicit pharmaceuticals market is characterized by loose networks, flexible cooperation and the involvement of individual entrepreneurs who can easily enter the market all by themselves. Family and ethnicity play important roles, but also a third broad category turns out to be essential: business-based trust relationships. More typically, retail suppliers in the Netherlands make their first contact with a middleman who is also in the Netherlands. After an initial success, retailers start to look for cheaper stock, often through the internet, with suppliers abroad. This was the case for a respondent (interview NS15) who gradually started his business in illicit lifestyle medicines, the approach is also visible in court records. These show how suppliers first bought illicit medicines and clothing through a retailer in the Netherlands, but later found cheaper versions on websites such as alibaba.com and china.com (cases 67; 68)

Especially because an important part of the trade occurs through online communication, through which traders in countries worldwide are able to make price agreements, the social embeddedness in these cases is not reflected by strong ethnic or family ties. In most cases, contact is made between trading companies in Asia and importers in the Netherlands through Business-to-

Business (B2B) websites. Therefore, on a transnational distribution level, actors do not necessarily know each other through kinship or even reputation or ethnicity. For all types of products, manufacturers advertise their contact details, information on the manufacturing processes, materials or packaging on their websites. However, the decision to trust an unknown person is a judgment call, and suppliers sometimes misjudge, as explained by various suppliers:

‘Recently I lost 2000 euro, which was a mistake. I sent the money to a company but never received anything. The company did not react at all but there was no institution where I could go to report that they did not send me the pharmaceuticals.’ (Interview NS15)

‘At first I ordered in small quantities, that is how I did it when I started, and I told them, ok you can send me 20 blisters. First just small proportions. And for that it was still quite some money I had to pay. But I received good stuff, nice packages, it looked slick. And then I said ok you can send me 100 blisters and at first there was a hassle about the price. But I paid and what I received was fake. It just did not work.’ (Interview NS20)

There is much criminological work about how market actors build trust when there is no original trust relationship. Diego Gambetta (2009: 66) outlines how criminal relations may evolve through widespread bonding strategies in which persons may reveal compromising information about themselves. Trust through business relations, developed via strategies such as test deals or trial periods are also common strategies, is important for the creation of criminal trust relations (Kleemans & Van de Bunt, 2008; Von Lampe, 2015). In online cryptomarkets, buyers do usually not know whom they interact with because of encrypted coding and anonymity (Van Hout & Bingham, 2014). Instead, these markets enable increased trust levels by the use of escrow payment systems and reviews. When a seller has positive reviews of multiple transactions, chances increase that this seller is benevolent (Tzanetakis et al., 2015). These methods primarily apply to the sale on the dark web; transnational sales on standard B2B platforms function along different dynamics.

Besides the stronger ties between actors based on kinship or ethnicity, occupational embeddedness (Van de Bunt et al., 2014) is highly important for the formation of trust in the online environment. Occupations, work relations and work settings that can contribute to the formation of organized crime activities all fall under the umbrella of the occupational embeddedness (Van de Bunt et al., 2014). As described in the beginning of this chapter, the majority of the suppliers, operating on- or offline, are linked to legitimate companies or organizations. This provides not only the opportunity for the illegitimate side of the business to maintain a low profile, but also resources that can be used to find customers and to increase trust. What we can see here is the way in which legitimate online marketplaces help to form illicit trade relations easily,

in part by creating an image of legitimacy and trustworthiness. As outlined in the Chapter 6 discussion of the retail level, medicine quality is important for suppliers who wish to retain their clientele, so suppliers look out for signs that they are being deceived. Several suppliers mentioned the trial and error method they apply. For example:

‘In our case it actually took years before we found a supplier that delivers what he promises, the right amount, the right quality. Because I have experienced that we just simply received different products than ordered, or not the exact quality.’ (Interview NS15)

While the online drug trade is generally characterized by low levels of violence (see Barratt et al., 2016), in some cases on higher market levels, there is some control and violence, especially when it concerns the quality and name of the market:

‘We are currently researching into this person, who is honestly ruining our business. He is only producing bad quality products; you can see it everywhere on his website too. But he is acting under different names. We do have an idea who it is, so we will get him.’ (Interview NS20)

Besides, although it takes time to invest in building a trust relationship online, importers usually rely on multiple sources. They think it is way too risky to get involved with just one supplier (interview NS24).

In sum, while some strong and preexisting ties exist between suppliers in the market, the internet facilitates transnational cooperation between suppliers worldwide who have no social ties or other socially embedded characteristics. In order to secure the quality and the genuineness of the suppliers and medicines, several tactics, are employed. In addition, the ease with which global cooperation takes place is also associated with the blurred boundaries between legal, semi-legal and illegal shades of the market, to which I will now turn.

7.4 Intertwinement of legal and illegal business

Another distinct characteristic of the supply on both import and distribution levels is that there are often hardly any demarcations between licit, grey or illicit flows, as suppliers often indeed fully operate within the global ‘legitimate’ supply chain on all market levels. In social sciences, worldwide illegal trade and illicit flows are often portrayed as highly distinct from legal trade and legal flows. Legal and illegal flows are presented as existing parallel to each other. Globalization is said to aggravate the transnational illegal trade that should be handled with extra technological surveillance and control (Taylor, 2015). This image is generally reinforced by the media, law enforcement and the pharmaceutical industry. However, especially in grey markets, the illicit

nature of the trade may be contested; the status of products may be different from one day to the next, or may even depend on small geographical distances (Huebschle, 2016; Taylor, 2015). The fact that in some countries, but not others, medicines may be produced, distributed or sold without licenses further blurs the boundaries between licit, grey and illicit trade and flows.

As earlier suggested, several criminologists have analyzed the intertwining of all sorts of legitimate, semi-legitimate and illegal actors on local, national and international levels (e.g. Passas, 2003; Tjihuis, 2006; Antonopoulos & Papanicloa, 2010; Bowman, 2008). The free movement of goods and persons within the EU, the opening of other legitimate free trade zones around the world, the increase of global flows and the expansion of legitimate transportation possibilities are all said to improve opportunities for traders operating in illicit markets (Aas, 2007; Naim, 2006; Transcrime, 2015). According to Passas (2003), transnational crimes can resemble two main types of interfaces: antithetical and symbiotic. Antithetical relationships occur when the illegal actor harms the legal ones, while in symbiotic relationships, both legal and illegal actor profit from the illegitimate business. In certain instances, one could argue that a more symbiotic relationship exists in this market, for example between corrupt officials and traders that enable goods to bypass customs. In other cases, people have a symbiotic relationship with themselves (cases 16; 60; 61). One of my respondents is employed as a nurse and, with the benefit of the medical knowledge and contacts he gained on the job, he has set up an illicit business for weight loss medicines (interview NS16). One court case deals with a doctor who has his own clinic and prescribed Chinese weight loss medicines to his patients (case 61). Besides, some suppliers are medical students at the university (case 60). An antithetical interface could be viewed in terms of the damage conducted by means of counterfeit medicines on the pharmaceutical industry. Specifically, counterfeit medicines may be harmful to pharmaceutical companies in terms of income loss as well as image damage.

Similar to the retail level, the blurred boundaries between the legitimate, grey and illegitimate trading flows are reflected clearly on the distribution level of the illicit medicines market. The interviews and cases described so far demonstrate behavior that is consistent with the way legitimate companies operate and legal transnational transactions are completed worldwide, even as the legal status of traded medicines may vary from one country to the next.

A more nuanced image would show that it is not solely or even primarily high end criminal organizations that are involved in the illicit business, but rather a broad range of legitimate and illegitimate actors who trade simultaneously in licit and illicit products. Van Schendel and Itty (2005) propose a further distinction between products that are illegal because they disregard the formal authority or regulations, and illicit products that are still socially acceptable by the participants of these transactions and flows (Van Schendel & Itty, 2005). This different perspective between what society perceives as licit and acceptable and what is legally accepted, is also referred to as the informal

economy (Webb et al., 2009). This is highly visible through the analysis of interrogations in court cases and is related to the supply in illicit medicines as ‘contested commodities’ (Radin, 1996). Suppliers, facilitators and other market actors can rely on ambiguities in the legal/illegal nexus (Huebschle, 2016). Respondents of this study can thus be regarded as ‘critical actors’ who may shift between legal and illegal shades of the market, while gaining protection from their own legal business or company (Morselli & Giguere, 2006; see also Hall, Koenraadt & Antonopoulos, 2017).

This results in the use of the legitimate and open infrastructure as an open illicit market, providing a grey trade in all sorts of semi-legitimate products and articles. The legitimate company, in whatever form, provides a safeguard for the suppliers that is visible on all levels of the market. Advertisements, money transfers or mail orders are made on behalf of the associated companies. This is also reflected in the role of legal businesses as facilitators. Traders that are using their company for medicines trade are usually doing business with other legitimate companies and colleagues as facilitators. Common examples include accountants who deal with the financial administration of the legitimate companies or IT experts who set up websites. Depending on the type of website employed, a webmaster may be required (Di Nicola et al., 2015). While technical knowledge is rarely required for the use of C2C and B2B, professional vending sites or online pharmacies involve a more sophisticated installation that is often outsourced to webmasters (Mackey et al., 2015). In addition to accountants and webmasters, printing offices and tablet compressing operators can function as facilitators for the repackaging process of medicines (case 40). One respondent explains:

‘We are working on our own medicine. We order the raw materials from the UK and have our own design for the packaging. I know a company with a pelletizer here that also produces medicines for the smaller companies. They are able to produce the products very quickly.’ (Interview NS12)

Facilitators may or may not be aware of the legitimacy of the businesses they assist. In some cases, facilitators are aware of the illicit nature of the businesses, but can operate under the protection of the legitimate company.

Illicit medicines can thus easily be sent through mail, delivered by regular courier services or hidden in parcels that run through customs. In the majority of cases, money is transferred through the national or international banking infrastructure, although sometimes Western Union or similar services are used. Some suppliers have multiple bank accounts, for example in Spain, Belgium or Hong Kong (cases 63; 68). Because of the transnational scope of the market, the complexity of worldwide money flows helps to hide extra income (Reuter, 2012; Sassen, 2002). The complexity of the global economy is also used when vending websites are registered, as suppliers host their websites in countries with less strict enforcement, such as Thailand, Hong Kong, Spain or Honduras

in order to prevent removal of the websites (e.g. cases 27; 67). According to one Dutch supplier:

‘The control is stricter and stricter. So my website is hosted outside Europe. Right now my website runs through India, so that they cannot get rid of mine. You see, the justice department is focusing on this topic now, so we are not running everything through the internet anymore. Customers can usually find us online, and then they will receive a telephone number.’ (Interview NS22)

This quote highlights tactics employed by suppliers in response to what they perceive to be stricter enforcement. Internet websites are hosted outside the Netherlands or Europe, while direct contact between market actors may consequently occur outside the online environment. The complex international structure helps suppliers to get in contact in the first place (Andreas, 2004). The payment methods through the regular banking structure are visible on the distribution level as well.

7.5 Market structure

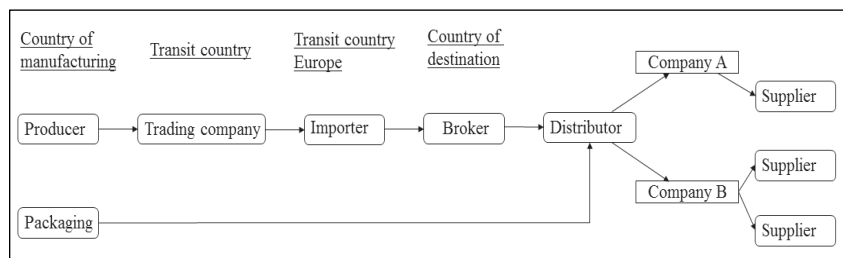
In the previous sections, data have shown that a large variety of *modi operandi*, social ties and legal, semi-legal and illegal cooperation between market actors are taking place. In studies on various illegal markets, there is a clear division of labor and market levels. Herein, different actors operate in distinct market levels of the cocaine, wildlife or diamond trade (e.g. Natarajan, 2010; Van Uhm, 2016; Zaitch, 2002). Every level in the distribution chain is filled by distinct actors with specific roles. For example, wholesalers in the cocaine trade are usually not involved in the retail sale of the drugs. Actors in different distribution levels seldom interfere and rarely are even aware of actors on other levels; they deal only with their own buyers and sellers (Paoli & Donati, 2014). In criminological and other academic research, as well as in official reports and the media, illicit markets seem only to become of interest once the supply is linked to organized crime groups. For a long time, organized crime groups were understood to be highly structured, hierarchical and well-organized groups that are involved in the supply of illegal commodities and services, acts of violence and extortion and infiltration of legitimate business or government (Albanese, 2010; Paoli, 2002). However, as illegal activities were observed occurring in ways that clearly did not fit the projected organized crime business model, that model has evolved into one that emphasizes the roles of smaller crime groups that are structured horizontally (Paoli, 2002; Zaitch, 2002; Morselli, 2009; Benson & Decker, 2010; Paoli & Donati, 2014).

Medicines are occasionally traded by large groups that have rather fixed roles and a long distribution chain, which causes higher prices. These suppliers are able to make large profits and provide small-scale suppliers with their preferred medicines. But in general, the market is highly unorganized.

Actors operating in the market shift from one role to another, and may even become the link between the manufacturer and the consumer, something that is highly unlikely in fully illegal markets (Paoli & Donati, 2014). These shifting roles and levels of distribution resemble the disorganization of the trade, the flexibility of the traders and roles. So, on the one hand these traders sell to consumers, while on the other they are in contact with high end suppliers on the manufacturing level. This is not consistent with findings in illegal drug markets, where wholesalers do usually not sell their products to end consumers because it is seen as too risky (e.g. Paoli & Donati, 2014). Although some large groups exist in the market for illicit medicines, in general, there is no evidence of monopoly capability or monopolizing behavior by groups or networks in the illicit market; instead, one finds highly flexible and loose social networks.

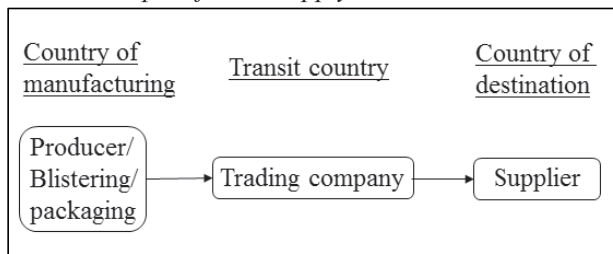
The cases described thus exemplify points on a continuum from organized networks, to medium and small groups, to individual entrepreneurs that are involved in the market for pharmaceuticals. On the one hand, there are networks that use multiple levels from manufacturer to consumer, through various middlemen and traders that fulfill specific roles. Wholesale import is related to the high-end suppliers that trade the products in large quantities. From these importers, the illicit pharmaceuticals may pass through different market levels (see Figure 7.3). Importers or distributors may actively seek new resellers which further increases the number of market levels (interviews NS15; NS16; NS20). On the other hand, there are highly unorganized schemes of smaller businesses and individual entrepreneurs that get pharmaceuticals directly from the manufacturer that thus skip various levels of the distribution chain (see Figure 7.4).

Figure 7.3 Example of extended supply chain



Source: analysis of own data

Figure 7.4 Example of short supply chain



Source: analysis of own data

Levi (2001) argues that the internet democratizes illicit supply, because more actors are able to get involved. Indeed, the internet plays an important role in international trade relations and provides the possibility of skipping distribution levels, while incorporating more risks in exchange for lower prices perhaps directly from manufacturers. Because wholesale suppliers are also changing their methods towards the import of medicines in smaller quantities, the same methods and tactics are employed by middlemen of all sizes, but in varying degrees and scale.

Although there are generally no large and hierarchical organized groups involved, and actors do often have flexible roles in the market, medicines are being trafficked and traded in large quantities. The industry appears to be highly organized and structured because it makes use of the legitimate market and infrastructure. Within the globalized market economy, worldwide trading opportunities are being used for all kinds of trading activities, including those that lie at the licit/illicit nexus (Taylor, 2015).

Market relations and trading bonds can be understood in terms of how behavior is embedded in social relations. According to Granovetter (1992) it is important to distinguish between relational embeddedness and structural embeddedness. Structural embeddedness refers to the institutional aspects of the network (van de Bunt et al., 2014). The fact that this market is highly unorganized, with flexible market roles, volatile market relations and even weak social ties, can be understood by looking at the structural embeddedness of how the national and international trading infrastructure is employed. For example, regarding the typical trade line, there are companies in Asia that may or may not have a license to produce medicines. From there, medicines are distributed to legitimate trading companies and distributors – often advertising for worldwide trading connections on legitimate online business platforms – while actors use well-known courier services, as well as regular mail services, and money transfers through regular bank accounts. Bate (2012) states that the criminal organizations involved in the pharmaceutical trade must be highly organized in order to dominate the distribution chain (IRACM, 2013: 28). However, although there are high profits to be made, the fact that the semi-legitimate products are fully traded through a legitimate and open supply chain,

provides opportunities for less organized groups and individual actors to get involved in the market. Existing infrastructure provides the opportunity for the suppliers to obtain diverse roles in the distribution chain, in certain cases even without the strong ties that are described as necessary in other illicit markets.

Furthermore, various respondents refer to the low entry barriers that characterize the trade in illicit medicines. May and Hough (2004) make a distinction between open and closed markets. In closed markets, actors only do business once they know and trust each other, while open markets are defined as being *prima facie* nondiscriminatory against buyers who have no prior introduction to the supplier. In open markets, actors need to balance between the advantage of access and the need for security (May & Hough, 2004: 550). Open markets are formed through spatial patterns of demand, such as neighborhoods with less strict police presence. The internet also provides an open market, but one without a spatial demarcation. Because there is no strict online enforcement, the ease of deception through a legitimate pharmacy, suppliers can easily enter the market and reach out to potential buyers.

As outlined in Chapter 2, according to several scholarly and official reports, the spread of global trade, free ports, export processing zones, air cargo and postal mail automatically creates trading opportunities for transnational illicit trade (Di Nicola et al., 2015; IRACM, 2013; Naim, 2000). Through free shipping ports and the proliferation of special economic zones (SEZs), transnational trafficking methods are facilitated within the legitimate global market economy (Transcrime, 2015; Naylor, 2004). Critical authors argue that the new technologies and trading opportunities are by no means a novel threat, and that it is not the fact that transnational trade has amplified, but rather that trading activities, their organization, methods, transport, laws, the intensity of enforcement, degree of societal acceptance, political attention and consumer demand have changed in recent decades (Andreas, 2011: 423). An image exists of augmented organized criminal groups that take advantage of the globalized communication and trading opportunities that create a parallel system besides, and a threat to, the legitimate world (Van Schendel & Itty, 2005, p. 2). But, as suggested in the previous paragraph, the dichotomy between what is legal and illegal, between 'the good and bad' in the transnational trade may be more blurred (Van Schendel & Itty, 2005, p. 4). The blurred boundaries between what is legal/semi-legal/illegal are also referred to as the informal or shadow economy (Nordstrom, 2007; Ferguson, 2006; Galemba, 2008). This is an unambiguous characteristic of the illicit market for pharmaceuticals as well.

The low degree of organization of the illicit medicines market underscores the need to go beyond the organized crime framework when analyzing this and similar markets. First of all, as this market illustrates, organized crime is not required and sometimes not helpful to the entry into an illicit market. By the media, law enforcement and the pharmaceutical industry, the production and trade in illicit medicines is generally believed to take a form of serious organized crime. Yet, in the current case, the data show that the market is

highly unorganized with small groups that bypass several market levels, but that does not mean the profits or scale of the market is low. Secondly, many of the concepts stemming from research on organized crime are relevant for the lower levels and smaller groups involved in illicit markets, too. The importance of social ties, work and structures in the operation of organized crime is highly applicable to the various networks, small groups as well as for individuals operating on the semi-legal or illegal shades of the market.

7.6 Conclusion

On the distribution level, a wide variety of tactics and methods are employed in order to import, trade and resell illicit medicines into or within the Netherlands. The relevance of economic incentives becomes more pronounced as the analytic focus shifts toward the higher levels of the illicit market. Suppliers on the distribution level face higher risks, while profits are generally higher than on the retail level of the market. Within the Netherlands, social embeddedness is seen between market actors, and strong ties may exist based on family or ethnic bonds. However, such relationships are often absent in the transnational online market. More important bonds are crafted among people who also work together in related, (semi-)legitimate businesses. In addition, through online platforms, suppliers expand their market reach and can enter the trade without existing social ties.

To understand the social organization of the trade, one must recall that many of the products under discussion can be purchased through the legitimate as well as the illegitimate market. On all levels, suppliers make use of legitimate infrastructure: the medicines are traded on behalf of legitimate companies and facilitated by regular banking systems and transportation methods. On the internet, the sale of medicines and supplements is widely spread and more openly advertised than is the case for other illicit drug markets. The legitimacy of the traded medicines purposely remains ambiguous.

All these factors make the trade in illicit medicines rather unorganized with shifting roles and highly flexible networks in the distribution chain. This is not to say there are no organized networks or larger groups involved, but the flexibility results in a highly disorganized structure of the market. On the one hand, there are indications that some networks operate on a large scale and involve pharmaceuticals that pass multiple market levels. On the other hand, individual online entrepreneurs can easily enter the market and independently build new transnational business relations. Because of the blurred boundaries between legal, semi-legal and illegal trade, the illicit market is open for all suppliers. It does not require the skills and resources of organized crime groups in order to function highly effectively. Therefore, contrary to the general image of organized crime groups being involved in this market, a wide continuum exists, in which social suppliers, online illicit entrepreneurs and user-dealers

on a low scale and professional suppliers and dealers on a large scale, are all in varying degrees of organization and profits, active in the illicit medicines trade.

Chapter 8

Manufacturing level: a case study on China

In the previous chapter, the import and distribution level of illicit lifestyle medicines were thoroughly analyzed, including the methods and medicines that enter the Netherlands and are traded throughout the country. In the current chapter, the manufacturing level will be discussed. Although small-scale production centers of illicit medicines are found in the Netherlands, large-scale production of legal, semi-legal and illegal medicines takes place in emerging industrial economies such as China, India, Thailand and Pakistan (UNODC, 2013). Additional manufacturing hubs are located in Latin-America, Russia or Europe (Dégardin et al., 2014; UNODC, 2013).

The available literature on illicit pharmaceuticals identifies China as the most important production country for counterfeit medicines (UNICRI, 2012; UNODC, 2013; Interpol, 2014a). Data from the Dutch Customs' annual Pangea confiscations confirm China's important role in manufacturing illicit medicines and raw materials that are consumed in the Netherlands (see also Interpol, 2014a; 2015a). Therefore, in this final empirical chapter, I analyze the manufacturing level of the illicit medicines trade by means of a case study, on China. To date, few details of China's illicit and counterfeit manufacturing processes, dynamics and methods have been made public, and fewer still have been analyzed from a criminological perspective. The information gap extends to the governmental level; little exchange of information occurs between law enforcement agencies in the Netherlands and China. In order to understand China's role within the illicit medicines trade, it is important to understand the mechanisms and the broader cultural, economic and social contexts that shape Chinese pharmaceutical production.

In this chapter, I analyze how the role of China in the illicit medicines trade is both associated with China's expanding role in the global pharmaceutical industry and culturally embedded in Chinese society. In order to do this, I will first outline findings on China's general role in the production of illicit medicines and its growing role in the legitimate global pharmaceutical industry. Second, I will focus on the economic and cultural meanings of counterfeit production in Chinese society, after which I will turn to the role of illicit medicines within China, with specific emphasis on the manufacturing and export processes.

8.1 China's role in the illicit medicines trade

Although overall trade and production are difficult to estimate, existing measurements point to China as the world's most important producer of counterfeit medicines, one of the main components of the illicit drug trade. The World Customs Organization estimates that, between 2008-2010, China was the departure point for nearly 60% of all counterfeit medicines (UNODC, 2013), which is in addition to medicines intended for Chinese domestic consumption.

Table 8.1 Overview of countries with most confiscated medicines in 2010

	Pro- duction	Distribution	Trans- port	Point of Sale	Theft	Unknown	Total
China	120	92	3	74	0	110	399
Brazil	2	50	74	36	1	0	163
United States	0	62	1	47	1	1	112
Colombia	7	30	10	4	0	3	54
India	28	3	1	22	0	0	54

Source: PSI Institute, 2011

As explained in Chapter 1, the illicit medicines universe includes not only counterfeit medicines but also medicines that are stolen, exported or imported without permission (notably generics), fake, or adulterated, including adulterated food supplements. India is the largest producer of both licit and illicit generics worldwide, and regarded as the primary source for illicit generics (Lakshmi, 2010), while it seems that China's role primarily involves the production of counterfeit medicines and adulterated food supplements.²⁵

In China, counterfeit medicines are not only produced for the international market, but consumed locally as well. In recent years, the overall quality of Chinese health care has improved slightly, with 5% of drugs available within the legitimate supply chain estimated to be counterfeit (Bate, 2012: 178). However, regardless of overall quality improvements, several scandals have contributed to a continuing distrust of the Chinese government's ability to ensure adequate food and medicine safety standards. For example, in 2008 it was found that infant formula with melamine affected more than 29,000 children, including at least 6 deaths (Xiu & Klein, 2010). Allegations and prosecutions related to bribery and corruption continued to cast a pall over large pharmaceutical companies (Neate & Monaghan, 2013) and, in 2016, illicit and low-quality

25 This role is not entirely clear, however, because, unlike the current work, previous scholars have used the word 'counterfeit' to cover a multitude of sins. Many of my respondents also seemed to use this word as a near-synonym for 'illegal.' Of necessity, my own language in this chapter is less precise than would be preferred. 'Counterfeit' surely includes products whose contents, packaging and trademarks are intended to closely imitate those of legitimate products. However, I acknowledge the possibility that, in this chapter, 'counterfeit' may also describe products that other chapters have labelled 'fake' or 'adulterated' medicines.

vaccines against diseases such as meningitis and rabies were found to be sold in dozens of provinces (Jordan, 2016).

These scandals, often referred to during interviews, underline existing problems in the fragmented supply chains of food and drug industries. One of my respondents, an international trader in all sorts of legal and semi-legal products, who had been living in China for four years, stated:

‘I know many Chinese that tell me not to purchase Chinese medicines, because the quality is low. You can use it if you have no other place to go. But if you just have an opportunity to purchase medicines somewhere else, it is much better and safer.’ (Interview CS7)

For obvious reasons, there are methodological difficulties that prevent reliable estimates on the production of illicit medicines. One is the disguised nature of counterfeit production (Rojek, 2016); another is the reluctance of companies or officials to exchange information (Cockburn et al., 2005; interview NR21). Furthermore, the source of pharmaceuticals seized in Europe is often difficult to establish with confidence. According to several informants, illicit pharmaceuticals that are manufactured in China are often listed as manufactured in the US or Europe. In June 2009, for example, 600,000 counterfeit malaria tablets were intercepted in Nigeria. These medicines had been manufactured in and shipped from China, but bore a ‘made in India’ label (Lewis, 2009).

Furthermore, Hong Kong is an increasingly popular medical tourism hot spot for patients and customers throughout China (Ji, Li & King, 2015). While many of the medicines sold in Hong Kong are listed as being produced in the US or Europe, it is not unlikely that many of these medicines are actually produced in China. During my visit to Hong Kong, I encountered a multitude of stores with all sorts of pharmaceuticals labeled as made in the United States (see Figure 8.1). According to several respondents, these products attract customers with the image of being of western quality. Respondents described them as ‘counterfeit’, but since these products do not seem to mimic established, registered products, they might be better understood as fake (without active ingredients) or illicit (produced, marketed and sold without legal authorization). According to several respondents, these products are not necessarily counterfeit, but attract customers with the image of being of western quality.

Figure 8.1 Shop selling medicines with made in US logos, Hong Kong



Photo: Rosa Koenraadt. Hong Kong, November 2014

These findings coincide with Bate's (2012) indications that Chinese manufacturers produce pharmaceuticals that carry a 'made in India' label. Because China's comparative advantage in the manufacturing industry is based on its low-cost materials and labor, as well as access to high-volume markets – especially for counterfeits – the label 'made in China' symbolizes products of low quality (Yang, 2011: 38).

The government's China Food and Drugs Agency (CFDA), the body that regulates and controls registration, inspection, sale, research and advertising for all drugs, medical devices, food and cosmetics (Pacific Bridge Medicine, 2011: 11), has taken specific actions to tackle the problem of counterfeit medicines and other goods in general. In summer 2012, more than 1900 suspects working at 1100 drug manufacturing locations across the country were arrested and more than 180 million dollars in counterfeit medicines seized (Buckley & Gostin, 2013). In 2007, the former head of the CFDA was even executed for taking bribes in exchange for approving pharmaceuticals of low and hazardous quality (UNODC, 2013). Some large pharmaceutical companies actively investigate and facilitate prosecutions of their own employees, but these actions are rarely reported publicly and smaller companies do not have the resources to emulate these actions (Cockburn et al., 2005; Newton et al., 2008).

Despite the size of the industry and the scope of the harms that are known, little knowledge exists on the actors, processes and networks involved in Chinese production of illicit medicines. Cultural and language barriers exacerbate difficulties even for enforcement officers who wish to exchange information (interviews NR14; NR15; NR18: NR21). During my fieldwork in China, I managed to talk in person with representatives of trading companies, researchers and illicit retailers. However, I was not able to visit even one

factory where the production of illicit medicines took place. Although I asked my informants about the possibilities for a visit, it appeared that even customers generally have to deal with the trading companies (or middlemen) and are rarely able to visit a factory before a clear relationship has been established. Something similar was experienced by Roger Bate, who identified lack of transparency and government intimidation as reasons he had not been able to visit a Chinese pharmaceutical manufacturer (Bate, 2012: 183). Nonetheless, as a result of my in-person interviews with traders and lower-level suppliers, as well as the manufacturers that I spoke to online or on the phone, enabled me to get an understanding of these hidden processes. Before turning to the actual processes, I will outline China's role in the global pharmaceutical industry in general and the counterfeit industry in particular.

8.2 The emerging pharmaceutical industry in China

From production processes to packaging, repackaging, distribution and sale, a multitude of companies and countries may share responsibility for (and profits from) a single medicine tablet within the increasingly global and complex pharmaceutical supply chain (Halabi, 2015: 53). Increasingly the manufacturing component of these processes is taking place in China. Since its economic reform in 1978, China has experienced rapid economic growth, accompanied by a diminished role of the state and growing integration within the world economy (Boisot & Child, 1996). Transnational corporations have increasingly invested in the Chinese industries, resulting in export-oriented capital accumulation in the form of factories, machinery and communication systems (Hart-Lansberg & Burkett, 2006). China quickly emerged as a major export country with increasing trade volumes (Lardy, 1993).

Medicine manufacture is a part of this general trend, which includes changes in social and economic structures that affect the Chinese health care sector (Yu, Li, Shi, & Yu, 2010). The pharmaceutical industry changed from a centrally controlled market system to a market-oriented system, with ever greater numbers of domestic producers as well as western investors (Deloitte Network, 2011).

Health care epistemology in China can generally be divided between the western medicine and the traditional Chinese medicine (TCM), two diverging medical views that are often practiced simultaneously (Hesketh & Zhu, 1997). Chinese health care has a long and rich tradition based upon the beliefs and culture of TCM. One of its main principles is that health practitioners should not focus solely on the disease as defined by pathological changes but rather concentrate on the functional state of the patient as a whole (Jiang, 2005). Treatments include the use of herbal medicines, massage, exercise and acupuncture. Since the 1950s, however, western medicines and approaches increasingly made their entrance into the Chinese medical arena (Hesketh & Zhu, 1997). In recent years, the western medicine market has come to account for more than 70% of the Chinese pharmaceutical market (Export Victoria, 2010).

A further distinction can be made between western companies and domestic ones, wherein the domestic companies, unlike most of their western counterparts, invest in both western and traditional Chinese medicines. Generally, domestic companies thus focus on a broader variety of medicines (interview CR10). With global sales of \$105 billion in 2014, China's pharmaceutical industry became the second-largest in the world, behind the U.S. (Daemmrlich & Mohanty, 2014). Furthermore, the pharmaceutical industry in China grown by approximately 15% per year, leading to projections that it will overtake the United States by 2020 (Bate, 2012; Deloitte Network, 2011; Pacific Bridge Medical, 2014).

Unlike in the United States, the scale of China's pharmaceutical industry is reflected in its number of manufacturing companies: an estimated 5000 companies or more produce western medicines (Yu et al., 2010), and even more produce TCM (GBI, 2014). Around 85% of these are local manufacturers, and only 15% have foreign involvement. It appears that around 98% of companies that produce western medicines are generic manufacturers and the majority limit their production to preparations of medicines and not the active pharmaceutical ingredients (KPMG, 2011). These factories are legally obligated to comply with CFDA regulations. In addition, drug producers since 2008 are must to meet the safety and quality standards that are required for issuance of a 'Good Manufacturing Practice' (GMP) certificate (Pacific Bridge Medical, 2014). However, a distinction should be made between the pharmaceutical and chemical manufacturers. Whereas pharmaceutical companies are regulated by the CFDA and must comply with GMP, the same is not true of chemical companies, which produce a range of intermediary compounds and products that range from sweeteners and solvents to fertilizers (Bate, 2012).

The pharmaceutical industry in China is extensively fragmented (Yuanjia, Ung, Ying, & Yitao, 2007). Indeed, China's top three distributors combined had less than 20% of the overall market share in 2009; while in the U.S., the top three pharmaceutical commerce companies together controlled 96% of the market (Deloitte, 2011). Because most of the domestic companies are so small, they do not compete directly with western companies and instead focus primarily on generic medications (Pacific Bridge Medicine, 2014: 8). Most pharmaceutical firms are located in the southeastern region of the country, including Guangdong, Hainan and Fujian provinces, which is also where the majority of international businesses and manufacturing operations are located (Yuanjia, Ung, Ying & Yitao, 2007).

Despite its large scale, cheap production costs, and rapidly growing general economy, scholars have highlighted several challenges that face the existing pharmaceutical industry, including ineffective supervision by the CFDA, high pharmaceutical prices, distortion of price schedules and corruption. With reference to the latter, financial incentives play an important role, as most of the pharmaceutical companies and wholesale companies actively promote their products directly to hospitals and doctors (Yu et al., 2010: 11). Almost all of my respondents referred to these practices. One doctor outlines:

‘There is a lot of competition between western brands [*brands of western medicine*]. There has been a health reform, one topic of the health reform is to separate the hospitals and the pharmaceutical industry. Now doctors get profits and gifts for prescribing medicines from those companies and the outcome is clearly that there are way too many prescriptions and too much influence of the pharmaceutical industry.’ (Interview CR4)

Through gifts, sales commissions, or other indirect measures, representatives convince low-paid medical professionals to prescribe their pharmaceuticals (Hvistendahl, 2013; Yu et al., 2010). As salaries of doctors and health care practitioners are generally low, they are susceptible to financial benefits and bribery.

Furthermore, it has been stated that most Chinese pharmaceutical companies are domestically focused and small in scale, geographically dispersed, have redundant production processes and often outdated equipment (Yu et al., 2010, p. 11). Generally, pharmaceutical manufacturers are able to produce any medicine – as long as they are licensed. However, because of the complex registration process for new and more profitable drugs, as well as corruption, ample of opportunities exist for the production of counterfeit pharmaceuticals (Tang, Sun, Qu, & Chen, 2007). Competition between national and international companies, low-cost capitalism, and national regulations, are all incentives for drug manufacturers to produce at the lowest cost possible in order to maximize their profits (Burkitt, 2012).

8.3 Counterfeit industry in China

Another aspect that is important to understand the mechanisms of China’s role in the illicit medicines market concerns its counterfeit industry. In recent decades, counterfeit trade in products ranging from counterfeit shoes to electronics and from medical devices to car parts, has received increasing academic and international attention. Counterfeiting is generally associated with luxury brand items, but any manufactured product can be counterfeited (Wilson & Kinghorn, 2015). The multiplying trade in counterfeit goods is generally explained within the context of more efficient global supply chains, better design values, deregulation of borders, low-risk online sale, inadequate enforcement and accelerating consumer demand (Rojek, 2016: 2). Generally, the production of counterfeits takes advantage of relatively low production expenses and labor costs (WAITO, 2011). China continues to be considered the most prominent country for the production, export and consumption of counterfeits, with estimates that 10 to 20% of all goods produced therefrom are fake (Hung, 2003; UNODC, 2013; WAITO, 2011).

Especially in recent decades, the size and scope of China’s counterfeit production has expanded tremendously (Lin, 2011). Since the early 1990s, the role of China in the global production and consumption of counterfeits

became apparent. Estimates of the proportion of Chinese production that is counterfeit range between 67% (UNODC, 2013) and 80% (Jiang, 2014). Two anecdotes help to make the case. First, in July 2011, at the end of a nine-month enforcement operation, almost 13,000 factories producing counterfeits in China were closed (UNODC, 2013). Second, more than 80% of the confiscated counterfeit goods in the US are from China, as are more than 50% of the confiscations of counterfeits in Europe (Chaudhry & Zimmerman, 2009: 124). The scale of counterfeit trade is substantial. According to the Organisation for Economic Co-operation and Development (OECD), 2% of all international trade concerns counterfeit products, which suggests a flow of more than 24 billion dollars in counterfeit products from East Asia towards the US and Europe (UNODC, 2013).

Various factors have contributed to China's leading role in the counterfeit business. First of all, China's role in the global accumulation of capital is central to understanding counterfeit commerce. Rapid diffusion of production technologies across the country, weak enforcement and low production costs all enhanced the potential of counterfeit production in China (Hung, 2003). After the economic reforms, China rapidly played a central role in the global supply of low-cost facilities and a disciplined labor force. Before long, it also offered a huge consumer market. As the general export industry grew, still-cheaper counterfeits were exported as well (Chaudhry & Zimmerman, 2009; see also Rojek, 2016). By the turn of the century, China had become the global OEM (Original Equipment Manufacturer) production center, which refers to subcontracting of production processes to locations with access to cheap labor and materials (Hu, 2008). According to Hu, the production of cheap goods blurs the boundaries between authorized and unauthorized, genuine and fake, brand name and no name, and legality and illegality (*ibid.*). Opportunities for production as well as demand for counterfeit goods, including medicines, can thus be understood within the context of the relocation of the global manufacturing industry to China, low-cost capitalism and a high consumer demand.

Culture is also an important part of the explanation. Historically, counterfeiting has always existed and is culturally embedded within Chinese society. For example, while the value of art was rising in the Ming dynasty (1368-1644), it is suggested that only one in ten paintings was made by the artist to whom the work was attributed (Jiang, 2014). Far from being considered immoral, counterfeiting historically has been regarded as an honorable way to show respect to the ancestors. The existence of counterfeits was thus primarily regarded as enhancing the status of the original object, not harming it (Hung, 2003; Jiang, 2014). This mind-set still prevails, as one enforcement officer who works at the customs in Hong Kong explained:

'In Chinese culture, no such thing as property rights existed. In ancient China there was no protection of property rights. Nowadays more western concepts

make entrance in China, but still many people do not understand what property rights are.’ (Interview CR12)

These current perceptions are also associated with China’s history as a socialist country. During the Chinese socialist economic system, almost all products were provided by the State, while people were encouraged to share their developments with society (Jiang, 2014). This is why, between 1949 and 1982, no trademark laws existed in China (ibid.) Thus, besides economic factors, the cultural and historic values of counterfeiting, which remain embedded in Chinese society, are important aspects of the supply side of this industry.

Manufacturing hubs of counterfeit goods seem to be located in specific areas in China, specifically in Fujian and Guangdong provinces (Chow, 2003). Especially in Guangdong province, thousands of manufacturers produce counterfeits, usually for both the legitimate and the counterfeit market (Jiang, 2014). However, in recent years the main manufacturing hubs are gradually moving, primarily to suppress the manufacturing and labor costs and because of problems with air pollution cities with over-extended manufacturing sectors. One enforcement officer in Guangzhou explains:

‘Guangdong province has so many factories, where a lot of fakes are made. All the manufacturing companies from Hong Kong have moved there, too. It’s been called the factory of the world, everything you can think of is made there. Because of labor costs and pollution problems in big cities, the counterfeit factories are now slowly moving into the western parts of China as well.’ (Interview CR12)

Although China has stringent regulations against counterfeits, enforcement remains highly ineffective and the counterfeit trade continues to be an important source of income for individuals as well as government officials, especially in provincial areas. In these regions, enforcers may participate in revenue-sharing rather than tackle the counterfeit production they encounter (Chaudhry & Zimmerman, 2009; Shen, Antonopoulos, & Von Lampe, 2010). This general counterfeit dynamic is present in the pharmaceutical sector as well, as low wages for police and enforcement officers provide an important incentive to demand a share of the counterfeit business (Bate, 2012: 178). The combination of economic demand for cheap production, labor and material costs, high competition and low wages, stimulates manufacturers to produce at the lowest price, despite possibly lower quality. These processes are important factors for contextualizing the production of illicit medicines.

8.4 Producing illicit medicines

Previous sections outlined economic and cultural factors that contribute to China’s important role in the illicit medicines trade. In the following parts,

insights on the production of illicit medicines are outlined, and emphasis is placed on how and where these processes are taking place.

Because of China's expanding pharmaceutical industry, and demands associated with its membership of the World Trade Organization in December 2001, stricter regulatory processes of intellectual property rights and Good Manufacturing Procedures (GMP) were established. Government regulations varied between companies that focused on i) the development of new drugs; ii) production of active pharmaceutical ingredients (APIs); iii) generics; iv) over the counter products; and v) non-toxic components used by the rest of the supply chain (Bate, 2012). All of this refinement is in addition to the earlier distinction between pharmaceutical and chemical companies. Pharmaceutical companies, but not chemical producers, need to produce in accordance with GMP and are under control of the CFDA. Therefore, factories registered as chemical producers can manufacture and sell APIs without being subjected to CDFA controls and checks (Lee & Hirschler, 2012). This large proportion of semi-legitimate chemical pharmaceutical manufacturers is a distinctive feature of the Chinese pharmaceutical industry (Bate, 2012). A variety of large, medium and small-scale manufacturers operate, with diverging quality.

China's small and medium chemical and pharmaceutical companies are most closely associated with the production of illicit medicines. One middleman living in China referred to his business in herbal supplements and medicines told me:

'It usually occurs in the smaller factories; they have nothing to lose. It is generally the smaller factories, as they can disappear quickly. I once was at a factory where they had licenses and all, but they didn't want to do it for small money. Most of the big factories are established with a brand. When things get discovered it will ruin their reputation and business. But the smaller ones, sure they can do it, also for smaller quantities.' (Interview CS7)

Problems with capital investment and infrastructure are associated with low quality, especially for small and medium sized drug manufacturers (Buckley & Gostin, 2013: 141). Local drug companies may have difficulties in meeting GMP standards, despite their lower distribution costs (Buckley & Gostin, 2013). Furthermore, Chinese manufacturers continue to face bureaucratic hurdles. The procedures for obtaining manufacturing licenses can still take up to five or more years (interview CR10). Therefore, in practice, a lot of companies have a business plan that involves both manufacture and sale of chemicals or medicines within the legitimate supply chain, but have not been granted licenses for one or the other side of their operation. According to an enforcement officer:

'Companies have to apply for a license, which may take up to five years, and clinical trials may take between 3 and 5 years as well. It is highly profitable to manufacture medicines without having a correct license.' (Interview CR10)

Most of the factories that produce illicit synthetic drugs or pharmaceuticals operate during the day as legitimate manufacturers. In 2006, *The Lancet* describes a similar shift in Russia, where the production of illicit medicines from relatively small home manufacturers in bad economic condition has changed to the night shifts of legitimate pharmaceutical companies (Parfitt, 2006). Also, this is similar to the production of illicit synthetic drugs, such as new psychoactive substance (NPS) that mimic the same effects as, for example, cocaine, ecstasy or marihuana. These drugs are primarily manufactured in suburban regions around Chinese port cities, in legitimate laboratories without any inspection or enforcement (Campbell, 2013). Analogues can be found in adulterated food supplements that are linked to these same laboratories.

In order to emphasize the quality of the medicines, both legitimate and illegitimate chemical pharmaceutical companies prominently advertise their compliance with Good Manufacturing Practices (GMP). In addition to advertising with quality standards, many pharmaceutical companies offer to produce products in a way that is consistent with their wholesale customers' preferred design or brand, in conformance with ODM (Original Design Manufacturer) and OEM (Original Equipment Manufacturer) practices. Accordingly, within the textile, electronics and furniture industries, manufacturing companies provide the possibility of manufacturing branded products at relatively low cost. Once the factories have the machinery, capacity and design that satisfy OEM and ODM production standards, these resources can be redirected toward counterfeit production (Zonqhun, 2011; Olney, 2013). According to one middleman, this method is often used for producing illicit pharmaceutical products in China:

'Well, with some factories you can establish your own brand. You can bring your own sample and say it is your own brand. Some factories will ask for a certificate of proof, but for others it is no problem. Big established factories do usually not want to ruin their business, but I know some agents that can take the samples and make it in smaller factories in small villages.' (Interview CS7)

My online analysis confirmed this dynamic. I documented evidence of manufacturers advertising their willingness to provide ingredients, logos and packages as ordered by their clients, all in conformance with OEM standards. On business-to-business (B2B) websites, advertisements for pharmaceuticals are primarily placed by chemical or trading companies that serve as middlemen. Representatives of several companies told me that, depending on the quantity, their companies might offer the opportunity to provide medical products custom made to the buyer's specifications. One such company provided detailed information on their website on weight loss supplements. The products were portrayed as herbal food supplements without active pharmaceutical ingredients, but when I contacted the spokesperson, I was told that it was possible to negotiate about the ingredients and packaging:

‘We produce products with or without the API’s [active pharmaceutical ingredients]. It always depends on the client; we will just deliver the orders. In case clients order more than 2000, we can provide the package and boxes as well. [...] Some the clients have specific requests, but we can write anything that you want on the packages. We often hear that customers might be embarrassed so that is why we will put things on the ingredients list as requested.’ (Interview CS2)

In addition, trading companies seem to serve as a crucial link between the various stages of producing all sorts of illicit pharmaceuticals. As the production of illicit medicines generally involves many stages and companies, including the production of the API’s, mixture with recipients, packaging and repackaging, trading companies often organize and advertise the end product. They negotiate and then ensure provision of the quantities, ingredients, logos, packaging, and so on.

Figure 8.2 Various brands and types of sexual enhancers offered by a trading company in Guangzhou, China



Photo: Rosa Koenraadt. Guangzhou, December 2014

The illicit and counterfeit market is directly related to the globalized legitimate pharmaceutical industry, and responds to the same economic incentives. Because of the increased competition in the legitimate pharmaceutical industry, imported costs for materials and labor, several respondents highlight economic incentives of producers to persist with counterfeit production:

‘You may not even always blame the manufacturer. Some of the traders I know say to the manufacturer “I want to make more money, so reduce the quality.”’

Or “use the same ingredients but make more pills.” If the manufacturer does not agree, the traders will simply go to another one. No problem at all. They need to make a living, and once they get orders from the traders, they have to be willing to fill them.’ (Interview CS7)

In his analysis of food crime in China, Cheng (2011) uses the term ‘cheap capitalism’ to describe the cheap labor, cheap raw materials and degraded business morality in China’s food industry. With these features increasingly characterizing a globalized world, Cheng highlights how traders and producers are getting involved in a range of corporate crimes (Cheng, 2011: 254). Especially through unrestrained capitalism with increased competition of domestic and international corporations, workers produce more but earn less. In addition, because of a moral anomie, it is suggested that a lack of ethics exists within the Chinese industry (Cheng, 2011). A similar pattern is visible in the pharmaceutical industry. Bate (2012: 177) states that ‘there is an inevitable mismatch between the quality of drugs produced by the white-knuckle pace of development in China and what is demanded by the culture of extreme risk aversion in mature economies’. Similar to the counterfeit trade in other products in China, such as electronics and clothes, this illustrates how combining forces, such as the expanding pharmaceutical industry, increased competition, low wages and (cheap) capitalism contribute to the large scale of the production of illicit medicines.

Furthermore, as discussed, various problems exist with the enforcement of Chinese laws and regulations. For example, inspections sometimes take place at specially designed ‘showroom factories’, while medicines and chemicals are produced at another location (Lee & Hirschler, 2012). Also a majority of my respondents spoke of the willingness of corrupt officials to provide a license or pretend to have inspected the goods. This is seen in other counterfeit production operations as well (Chow, 2011; UNODC, 2013; Bate, 2012). This dynamic is said to be more active in provincial areas, where salaries are low and the production of counterfeit products provides for extra income for whole areas (Shen et al., 2010). As one informant explained:

‘You know, China is such a big country. And there is not much capacity for controlling all the small factories, there is just no money. And if things are getting caught, while the enforcer is earning so little money, it will be difficult to report. It is just difficult, China is so big and there is not much money.’ (Interview CR14)

While reciprocity in the form of economic incentives is something that is often referred to, the production of illicit medicines is perceived as an essential part of the income, and actors involved often do not consider their behavior to be corrupt. They are more likely to invoke the affirmative, culturally embedded concept of *guanxi*, which refers to connections and mutual trust relations within informal networks (Peng et al., 2016). The importance of *guanxi* is often

explained as an informal substitute for weak formal institutions (Li, 2007). Within business relations, both legitimate and illegitimate, *guanxi* denotes how informal and personal connections can help to achieve and organize things more easily. One enforcement officer explained:

‘The factories have no license; what they do is they pay money to the officials. In China you have to think from a different perspective, the business mode is different, concepts of law and order are different. What happens is you need a good *guanxi*, a good *guanxi* with government officials, otherwise you cannot do it.’ (Interview CR12)

Although having the right connections and trust relations are important within any global business relation, it is acknowledged that the culturally and socially embedded *guanxi* is an essential aspect within the production of illicit medicines in Chinese culture.

8.5 Exporting pills and powders

After the manufacturing phase is accomplished, the next level concerns distribution, which can be divided into two steps. Within the legitimate supply chain of pharmaceuticals in China, drug distributors create the link between the manufacturing agencies and customers, which generally involve wholesalers, retailers and hospitals, to manufacturers that operate as distributors (Yu et al., 2010: 11). In this context, primary distribution refers to the large wholesalers who are the link between the manufacturer and retail distributors or directly to pharmacies. Secondary distribution refers to the use of intermediary distributors that focus on specific pharmaceuticals and especially on reselling (Shah, 2004; UNICRI, 2012). With regard to the export of illicit medicines from China to Europe, an important role is played by the trading companies, as they provide the communication between manufacturers and international customers. One Chinese retailer, working in a supplements store in Shanghai and selling all sorts of weight loss medicines under the counter, explains:

‘A lot of Chinese don’t speak English, and this is also the case in a lot of the factories or even the factory owners. A lot of them were used to focusing on the domestic market, so for these [*export*] tasks they cooperate with the trading companies. They deal with the customer, but the factory is actually somewhere else. The trading companies arrange everything in between.’ (Interview CS4)

Trading companies that are licensed for the supply or sale of pharmaceuticals, herbals or for the export business in general can employ their legitimate business expertise and resources to trade in the parallel illicit market. The distribution level can be characterized as corporations that drift back and forth between their legitimate and illegitimate activities (see also Morselli & Giguere, 2006). Here

again, these actors thus constantly shift between legal, semi-legal and illegal areas of the trade and offer the production and distribution of pharmaceuticals to various types of customers.

Together with my interpreter, I contacted several companies that advertised on B2B (business-to-business) sites, and asked for additional information on their procedures and approaches to business. One of the companies that we contacted invited us to their office in southern China, just outside Guangzhou. The trading company office was located in a larger building; its entrance could not be seen from the street. It was run by a man and woman, who traded and exported counterfeit clothes as well as medicines. They cooperated with several nearby factories that produced pills, logos and packages for different companies. One of them stated:

‘We sell medicines and generally focus on the herbal ones, we mostly have Chinese herbal medicines. That is how we advertise it. But to make [the medicines] stronger, most customers want to add western ingredients, they can order that, too. It is not something you see at first sight on the website, but we can always discuss those things [...] When a customer orders more than 2000 boxes, they can make their own brand. With less it is not possible.’ (Interview CS1)

Overall, trading companies act as middlemen between clients and the factories, often with the factory operating in another province. Most trading companies are located in business hubs like Shanghai or Guangzhou, while the factory is located in Nanjing or another manufacturing hub (interviews CR71; CR14). They organize the production of the medicines, packages and logos.


Just as highlighted in previous chapters, e-commerce platforms play an important role for actors to find new business relations, sources and customers in the illicit pharmaceuticals market. China is home to some of the biggest and fastest growing e-commerce platforms worldwide (Zhang, Bian, & Zhu, 2013). Most of e-commerce for business transactions between manufacturers, wholesalers or retailers takes place on B2B websites, although the online platforms are increasingly used by customers as well, through B2C (business-to-customer) and C2C (customer-to-customer) platforms (Hu, Holt, Marques, & Camillo, 2014). When the B2B website Alibaba was launched in 2003, only a couple of traders were active online. By 2015, Alibaba was acknowledged as the largest online business market in the world (Hu et al., 2014). The B2B platforms are especially important for the export of illicit pharmaceuticals, as the companies that use them are listed and registered as legitimate companies and are easily reachable by suppliers and middlemen. Whereas there is generally no possibility to advertise openly in other illegal markets (see also Paoli, 2003), actors involved in the illicit pharmaceutical market, ranging from upscale wholesalers to individual entrepreneurs, can easily contact an illicit manufacturer’s spokesperson through these platforms. As mentioned by one

respondent, a wholesaler in illicit medicines in China that I spoke to over the phone:

‘We are selling to various countries mostly in Europe and the US, as well as Saudi Arabia, actually everywhere. [...]. Most of my customers I have never met. We talk by email or they order through our websites and we send them the medicines.’ (Interview CS5)

This coincides with the reports of several of my Dutch respondents (see Chapters 6 and 7), who outlined how they set up an own pharmaceutical brand, ingredients, logo and packages. One of these respondents contacted a middleman for manufacturers that provide the ODM and OEM practices online (interview NS15). This division of labor, within both legitimate and illegitimate supply chains, sees trading companies or middlemen operating as spokespeople for the customer, while the online infrastructure stimulates opportunities for exporting their chemicals or pharmaceuticals. Hence, the global online infrastructure used for the legitimate markets fuels easy contact between all sorts of legal, semi-legal and illegal traders worldwide.

Figure 8.3. Online still of company offering wholesale, dropshipping and OEM practices



Slimex [REDACTED]

FOB Price: US \$2 - 4 / Box
[Get Latest Price](#)

Min. Order: 100 Boxes

Port: Guangzhou, China

Production Capacity: 100,000 Boxes Per Month

Payment Terms: T/T, Western Union, Money Gram

[Contact Now](#)

Leave a message. Inquiry Basket Favorites

Request a custom order and have something just for you!

Send Customized Request

Basic Info.

Model NO.: [REDACTED]	Gender: Female
Side Effect: No	Usage: For Oral Administration
Pharmaceutical Technology: Natural Product Extraction	Efficacy: Weight Loss & Slimming
Service: Wholesale, Dropshipping, OEM	MOQ: 100 Boxes
Delivery Time: 3-6 Days After The Payment	Trademark: Slimex
Transport Package: Box	Specification: 30 capsules/box
Origin: Guangzhou	HS Code: [REDACTED]

Photo: Rosa Koenraad, September 2014

However, as outlined in the previous chapter, trust remains a crucial but at times difficult aspect to establish within an online environment full of fake photos, websites and identities. There are various examples of transnational traders and retailers who were not content with the quality of the chemical

products they ordered online via middlemen in China. As highlighted by one such middleman:

‘You have to come and show them what to do. I know many people having problems because they did not produce the right thing. Or people sending money but later the company disappeared. It happened so many times, so often people come here in China. When you establish this business relation, you can talk over the phone. But when they have something new, yeah they have to be here again.’ (Interview CS7)

Therefore, the internet plays a crucial role in establishing contact, despite the problematic trust relations that are often reported. This quote coincides with respondents in the Netherlands who are building a business relationship with manufacturers in East Asia.

In order to export illicit Chinese medicines, various smuggling routes exist, through which medicines can be moved through a wide variety of countries and organizations worldwide. For example, cases have been reported in which medicines were traded 30 times before reaching the end consumer (Lewis, 2009). Based on data from Pangea confiscations and interviews, it appears that the medicines are traded mostly from the large cities such as Beijing, Shanghai and Guangzhou, and trading companies have varying degrees of involvement with the routes and customs.

While some of the companies have an export license to ship food products or herbal supplements abroad, others bring in a company specialized in the distribution or an express company. At times the medicines are sent directly to their final destination by use of a single trade or transaction, such as through express service to Europe. In very small quantities but at a high frequency, medicines are shipped to worldwide destinations through air companies or express services. According to two illicit traders, ‘a good relationship’ between the trading company and express service often exists (interviews CS5; CS6). In other instances, the air companies are not aware of the content of the packages they ship. Here again, the mutually beneficial relationships between traders and the shippers, where the latter is deliberately involved, can yield profits for everyone. For example, an informant from a trading company in Guangzhou reported that:

‘We have very good contacts at the customs so we usually have no problems. When there is a problem, our boss shares the losses of the products with the client. Especially shipments to Europe may bring along difficulties with clearing the customs.’ (Interview CS5)

In addition to direct trade, an important share of the transnational distribution runs through transit countries from where it is further traded worldwide. For example, based on the interviews and Dutch case files, most high-volume

shipments from southern China is trafficked overland to Hong Kong, where it is traded throughout the rest of the world (interviews CR12; CR13; CS7; case 68). Even producers in cities such as Shanghai may trade their medicines first to Hong Kong. Hong Kong operates as a free-trade zone without checks, which makes it easy to export medicines anywhere. Free-trade zones are meant to stimulate the liberal economic trade systems and infrastructure by providing tax-and-tariff incentives, simplified customs procedures and reduced regulation (Ji, Li & King, 2015). According to one enforcement officer who works at Hong Kong Customs:

‘In Hong Kong, there is such a busy airport, every day there are thousands of flights departing and arriving here. It is easier to smuggle goods from Hong Kong because it will not draw attention from customs, as there are so many normal daily passengers. Also, the logistics at the port and airport in Hong Kong are better than in China.’ (Interview CR12)

Furthermore, the packages are generally listed as containing legitimate products, such as food supplements or herbals. According to one of my informants, their main supply was towards the Middle East or Hong Kong, after which it would be sent to the desired destination. For example, the free-trade zones in Dubai, United Arab Emirates, is used for illicit medicines as well as for other counterfeit products (UNODC, 2008). From the free-trade zones in Hong Kong or the Middle East, illicit medicines are exported globally. However, various respondents highlighted the logistical obstacles of exporting illicit medicines to Europe. With large shipments being used to traffic medicines to countries in Asia, the export to Western Europe increasingly occurs by air cargo and express. Larger quantities occur overland to Central-Europe, for example to Hungary. One respondent from the trading company in Guangzhou explained:

‘We have many years of experience with these products in many different countries. The US, UK and Hungary are our main markets. We have shipped to these countries now for years and have lost only one shipment. That time, the customer did not pick up his goods and the customs, so they checked and it got rid of. We usually suggest that people get a contact in Hungary. That makes it easier.’ (Interview CS5)

Just as the production of illicit medicines is associated with corrupt officials who turn a blind eye or provide licenses, the distribution of illicit medicines is based on having the right connections. Also with regard to exporting, several informants mentioned the importance of *guanxi* within the trade of illicit medicines:

‘It is all about the connections, that is how the medicines are leaving the country. It is just the connections. My friends always say that it is so helpful if you have

a family member, a classmate or friend that works at the police or something similar. So when you have a problem, you must know somebody who knows somebody. And that can help.’ (Interview CS7)

This quote further emphasizes the intertwining of legitimate and illegitimate markets through corruption on both the manufacturing and export levels. The same applies for the country of destination. According to several respondents, the counterfeit trade in pharmaceuticals between China and African countries is an important example how corruption is crucial in the transnational supply of illicit medicines (interviews CR14; CS12; see also Buckley & Gostin, 2013). Unsurprisingly, the European ports of entry for illicit medicines tend to be those countries with Europe’s highest corruption levels or weakest enforcement capacity. For example, similar to respondents in the Netherlands, Chinese respondents also referred to Hungary as an important point of entry.

8.6 Organization of the illicit pharmaceutical trade in China

The expanding and global scale of the production, export and trade in illicit medicines generally contributes to the prevailing rhetoric in the media that alleges the involvement of organized crime groups in this illicit market. Various reports assert that the manufacturing level of counterfeit pharmaceuticals in China is especially closely linked with organized crime groups (Bate, 2012; Interpol, 2014b; UNICRI, 2012; IRACM, 2013). For example, in his research on the production and nature of counterfeit pharmaceuticals in China, Roger Bate (2012) refers to ‘Chinese gangs that copy anything of value’ (2012: 197). An Interpol investigator describes Chinese groups involved in the counterfeit pharmaceutical business as ‘close-knit and hard to penetrate’ and proposes that ‘the scale of the production suggests a large investment by the criminals’ (McGivering, 2007). However, despite claims of a link between manufacturing illicit and counterfeit medicines and organized crime groups, in-depth information is lacking.

As outlined in the previous chapter, organized crime groups are generally no longer portrayed in scholarly literature as hierarchical organizations with a mafia-like structure. Instead, organized crime seems to operate within social and criminal networks, and their social embeddedness is an important element in the formation of organized criminal networks (Morselli, 2009; Van de Bunt et al., 2014). Similarly, there appear to be pre-existing relationships among the actors involved at various levels of production or distribution of illicit medicines in China. For example, in addition to the *China Daily* that reported in 2013 that family ties operate in the wholesale trade of illicit medicines (China Daily, 2013), my data also support the proposition that *occupational* embeddedness play an important role. Similar to the importers in the Netherlands, the occupation, work relations and work setting provide important opportunities for involvement in the trade.

Within China, the importance of business relations needs to be understood in the context of *guanxi*, with some scholars referring to the term ‘*guanxi* embeddedness’ (Huang, Chung, Tung & Lo, 2013). As referred to earlier, *guanxi* practice refers to ‘a series of social interactions involved in *guanxi* networks, like ‘the exchange of gifts, favors and banquets; the cultivation of personal relationships and networks of mutual dependence and the manufacturing of obligation and indebtedness’ (Yang 1994: 6; Wang, 2014). In China, *guanxi* does not only play an important role in business relations (Huang et al., 2013), it is also highly embedded in law enforcement and judicial processes (Wang, 2014). Besides, *guanxi* is closely related to and can facilitate corruption. Wang (2014) shows that *guanxi* has facilitated the purchase and sale of public offices in addition to other ways it enables locally based offenders to create mutually beneficial networks with government officials. *Guanxi* can center around family members or friends, but can also extend outwards (Silverstone, 2011) and can thus mirror other types of social embeddedness. Within the organization of actors and networks involved in the manufacturing and distribution processes on a local level, almost all respondents referred *guanxi* practices as providing a crucial element for enhancing trust and trading relations.

Furthermore, based on the available scholarly literature, media reports and data I collected in the field, the main production dynamic is centered in legitimate, typically small chemical pharmaceutical manufacturing companies that also produce counterfeit and other illicit medicines. Once produced, and with the assistance of a wide variety of trading and transport companies that facilitate communication between the factory and retailer, illicit medicines are smuggled to other parts of the world. Because production and distribution is widely dispersed, fragmented and unorganized, I am skeptical of claims that it is dominated by large organized crime networks. With increased information and communication technologies, and thousands of manufacturing companies producing a wide range of branded, generic, TCM (traditional Chinese medicine) products, a (semi-)legitimate infrastructure is in place on which retailers, middlemen, wholesalers or other traders can easily communicate and make business agreements.

In short, by means of the highly fragmented and expanding chemical and pharmaceutical industries, cheap labor and materials, corrupt officials and a large share of semi-legitimate companies, the dynamics of pharmaceutical trade and production thus runs primarily through grey market transactions. This implies that there is no prerequisite of large organized criminal networks that have to protect their business; the illicit market can rather be characterized as one that is shaped by open communication and advertisement techniques, informal agreements and disguised distribution. Although larger networks and groups of people in China have at times been identified as illicit producers (Caixiong, 2016), all the respondents in this research, both from inside and outside the illicit market, referred to the illicit pharmaceutical trade as primarily

run by registered small companies that participate in both the legitimate and illegitimate production of pharmaceuticals in China.

The presence of legitimate occupational actors is largely present in academic literature on organized crime and illegal drug markets. For example, several scholars have highlighted how organized crime actors and legitimate actors are integrated on a variety of levels (e.g. Passas, 2002; Nordstrom, 2007; Tjihuis, 2006), and the legitimate actors are interpreted to be merely facilitators or passive players. In addition, some have specifically argued that criminal and legitimate enterprises often possess the same skills, acumen and logistics capabilities. Hence, legitimate actors can also play an essential role in orchestrating criminal networks (Morselli & Giguere, 2006: 197).

This research makes clear that the global legitimate infrastructure provides ample opportunity for actors and traders on all levels to cooperate in a highly fragmented and loosely structured manner. This applies to both the distribution level, as described in Chapter 7, and the manufacturing level in China presented in the current chapter. The data highlight how global criminogenic asymmetries foster possibilities for criminal conduct and involvement in illicit markets (Passas, 2000). Manufacturers are stimulated to produce illicit medicines by means of cheap capitalist conditions, with low salaries and high corruption levels, while inequalities between producing developing countries and consuming developed countries, are ever increasing within the neoliberal trade system. Because China has retained aspects of its own business culture during its process of integration in the world economy, communication and trading mechanisms have also benefitted illicit traders.

The legitimate trading infrastructure and online market enable legitimate companies to operate easily within blurry areas of legal, semi-legal and illegal exchange. Grabosky (2009) outlines how, through global regulatory systems and neoliberalism, white collar crime may expand. Additionally, e-commerce provides an important method through which actors can register and license their companies and get involved in the trade. Findings of the current research highlight how the infrastructure of the illicit market can rely on various legitimate enterprises and organization in place. With a complex set of rules and regulations within the chemical, pharmaceutical, herbal and food industries, actors and companies are able to constantly shift between legitimate, semi-legitimate and illegitimate markets.

8.7 Conclusion

China's increased integration in the world economy has attracted more and more foreign investors and an even further expansion of several industries, including the pharmaceutical industry. Reinforcing factors, such as weak enforcement, sufficiently high corruption, low wages and increased competition, provide tools for manufacturers to produce the same medicines for all kinds of legal and illegal markets. In addition to the economic factors that contribute to

China's role in the manufacture of illicit medicines, this chapter also evaluated the cultural and social context that intertwines with these economic factors, including the cultural meaning of counterfeiting that makes China the leading country in the production and consumption of counterfeit goods. Similarly, *guanxi*, a use of informal connections that is culturally and socially embedded in Chinese society, is an important element in the dynamics of the industry that manufactures illicit medicines.

My analysis leads me to be skeptical of frequent claims in the literature that the production of counterfeit and illicit medicines is generally linked to organized gangs, syndicates or networks operating in China. Although findings from my research confirm the important role of China within the illicit medicines trade, they also show that a semi-legitimate infrastructure both for producing and exporting illicit medicines is in place and expanding. Further, China's illicit supply chain cannot be characterized as highly structured or organized, but rather runs mainly through small licensed and legitimate companies, whose online advertisements attract traders and retailers from around the globe. Within the global pharmaceutical industry, in which the production stages are increasingly outsourced to countries in East Asia, such as India and China, a parallel production market has evolved that runs through existing trading mechanisms. However, these mechanisms are dispersed and highly unorganized and, hence, highly unlikely to be run by large crime groups.

As mentioned, the production of illicit medicines is not limited to the manufacturing business in China; India is another important producer of both legitimate and illegitimate pharmaceuticals. However, especially in case of the counterfeit medicines and adulterated food supplements, China can be regarded as a leader in the illicit medicines production. With this chapter focusing on the manufacturing and export processes of the illicit medicines trade, the circle comes back to the demand and import levels that were described in Chapter 5, 6 and 7. Connecting local and global, this illicit market can be characterized as including actors, networks and organizations that constantly straddle the legitimate and illegitimate trade.

Chapter 9

Conclusion

In recent decades, the global trade in all sorts of illegal and counterfeit medicines has steadily gained academic and public attention. Whereas the literature emphasizes the considerable health risks that users of illicit medicines face, the supply side is generally characterized by low risks, high profits and a growing involvement of organized crime groups. Primarily because technological developments have facilitated endless online opportunities to sell and buy medicines, the trade in illicit medicines is believed to have been growing steadily during the last decade. However, regardless of the suggested large revenues of the business, the impact on health, and the online expansion of drug and medicine markets, the trade in illicit medicines has received limited criminological attention.

Whereas extensive research exists on all sorts of semi-legal and illegal goods and services, empirical and theoretical notions from a criminological point of view are scarce. In addition, the few available studies largely rely on statistical analyses, and on information from enforcement officers or other stakeholders who may have their own vested interests, and who are neither producers, traders, nor buyers of the products featured in this market. Yet, because this market involves a highly profitable industry and attracts a wide range of interests from all sorts of industries, companies, officials and stakeholders, it is important that policy debates regarding the market for illicit medicines are grounded by the analysis of carefully documented facts.

This study started with a rather exploratory aim: to analyze the market for illicit medicines in the Netherlands, including the role of the internet, and with specific focus on, but not limited to, lifestyle medicines. Both the demand and supply side were to be taken into account in order to understand how actors operate and what their preferences and motives are, and to analyze the structure of the market. In addition, manufacturing and distribution on a transnational scale were to be explored through a case study of China. The general research question of this thesis was:

How are actors involved in the illicit medicines trade and how is the illicit market structured?

Sub questions that have been analyzed in this study are:

1. Why is there a demand for illicit lifestyle medicines?
2. What are the characteristics, motives and preferences of the consumers?
3. What are the characteristics, perceptions and modus operandi of the suppliers involved?
4. How do consumers and suppliers interact in an online environment?
5. What is the nature of the trade and how is the market organized?

In order to address these questions, empirical data is obtained through a multi-method approach that includes qualitative and quantitative research methods. Whereas criminological research is often based on the one of the other research mechanism, this study is built on both quantitative data sets – including data from confiscations at Dutch Customs and a large-scale survey – and qualitative datasets drawn from interviews and online observations. It has been shown that, despite epistemologically different stances, a combination of different research methods and sources has the potential to increase the overall strength of the data. In this final chapter, I provide the most important general conclusions of this study and present my forward-looking research agenda.

9.1 Illicit medicines in the Netherlands

A first aim of this study was to understand the demand side of the illicit medicines market in the Netherlands and to explore the characteristics, motives and preferences of the consumers. To start with, the quantitative data provided insights in the prevalence and general characteristics of the consumers and buyers. Several conclusions can be drawn.

First, the quantitative datasets from this study show that, in line with literature, primarily two groups of illicit medicines are consumed in the Netherlands. A first group includes (opioid) analgesics and psychotropic medicines, a category comprised of pain killers, sedatives, tranquilizers and similar products. Whereas the consumption of pain killers has turned into an addiction epidemic in the United States, I found no signs of similar prevalence rates in the Netherlands. The second group concerns lifestyle medicines, such as erectile dysfunction medicines, weight loss medication, and steroids. Data on the Netherlands show that the confiscated medicines are largely associated with the medicines, most notably lifestyle medicines, that are not covered by health insurance. The origin of the illicit medicines can be traced mainly to production sites in India, China and the USA.

Second, illicit medicines in the Netherlands are generally purchased either online, through general vending websites, e-commerce and online pharmacies, or through such offline sources as through friends, family, dealers or under the counter in shops or markets. Whereas the use of pain killers has many similarities with the use of other types of illicit drugs, the consumption of lifestyle drugs includes characteristics that are more common in other types

of markets; these consumers primarily take the medicines as part of a quest for self-enhancement, rather than for hedonistic, social or addicting purposes. This intriguing distinction, and the paucity of information on it in the existing literature, led me to focus this study primarily on the demand and supply of lifestyle medicines.

Third, based on analysis of the prevalence survey study, I estimated that 1.6% of the Dutch population has purchased illicit medicines online at least one time, and that 2.4% of the population has purchased illicit medicines offline. While these estimates are prone to some methodological limitations, they can be regarded as a first assessment on the prevalence of purchasing illicit medicines in the Netherlands. In addition, this study has provided information on the overall profile of consumers. It is reported that, overall, men purchase more types of illicit medicines than women, except for two types of medicines: weight loss drugs and sedatives. Furthermore, there is more variation in the age of consumers than many scholars have imagined. Few will be surprised that consumers of ADHD medication are found to be among the youngest consumers, and consumers of painkillers are among the oldest.

Fourth, both online and offline consumers obtain their product of choice from one (or more) among a variety of sources. Online purchase occurs not only through online pharmacies, but also via a broad range of vending websites. Outside the internet, most medicines are obtained through friends, family, dealers or under the counter. Finally, and despite the reports of illicit medicine contamination that I am in no position to evaluate, it turns out that consumers are overall rather satisfied with the information, prices and quality of the illicit medicines they have purchased, and more than 40% of the participants would recommend that potential customers make their purchases through the same source.

9.2 Consumer culture and the pursuit of a perfect body

In order to further explore the demand side of the market, the qualitative data from this study provided more in-depth understandings on the characteristics, motives and preferences of the consumers in the Netherlands.

First, this study has unraveled the many important and intertwined motivations of consumers who turn to the illicit market for the medicines they want. First-time consumers are generally stimulated to purchase medicines online because of the platform's convenience, or in a response to their own financial considerations or feelings of shame or embarrassment. In line with Goffman's distinction between 'frontstage' and 'backstage' behavior, consumers online perceive more anonymity, safety and privacy when they discuss these medicines online. Once they decide to buy, their needs can be met by online pharmacies, separate vending websites and e-commerce platforms. The internet enables patients and potential consumers to interact and discuss medical conditions, treatments and the use of medicines. These transformations, together with the focus on health

and appearance, are all associated with the willingness to purchase medicines online. Offline sources for the retail sale of illicit medicines include the sale through friends, family, dealers and under the counter in shops.

Second, the data of this study have shown that it is important to make a distinction between deceived and non-deceived consumers of illicit medicines. Whereas deceived users are indeed not aware they are purchasing medicines through illicit sources, for example through online illegal or fake pharmacies, this does not apply for the non-deceived users. Members of the latter group have wittingly turned to illicit sources, and are to some extent aware of the associated risks. As increasingly outlined in the literature, the blurred boundaries between what is legal and illegal, real or unreal, genuine or fake, particularly regarding products ordered online, can be expected to lower customer interest – in comparison with a hypothetical world where accurate information was widely available.

Third, and in addition to deceived and non-deceived customers, a distinction is made between medical and nonmedical motivations for the consumption of illicit medicines. Whereas medical users have a medical indication for the consumption and thus the potential for retrieving a doctor's prescription, the same is not true of nonmedical users. The empirical data has shown that an important group of consumers turns to illicit sources primarily because they take medicines for recreational, hedonistic and/or enhancing purposes. As these users have generally no medical reasons for purchasing medicines, the illicit market is often their only option. The medical/nonmedical distinction also applies to other types of medicines, such as pain killers and antidepressants.

Fourth, important differences between users are found in risk perception and risk management. Overall, there is a large degree in trust in online websites as well as offline suppliers. The fact that the medicines are being sold both on the legal as well as the illegal market induces consumers more easily to perceive a form of medical trust, as they are often already familiar with the substances, the use and its effect, and the way they are promoted by legitimate online pharmacies. In addition, the group of users who primarily take lifestyle medicines for nonmedical enhancing purposes are willing to face health risks in order to achieve their lifestyle goals, such as losing weight or gaining muscles. Therefore, grounded on the data and literature, a continuum is identified wherein on the one end, deceived consumers unwittingly consume medicines that expose them to health risks. On the other end of the continuum, non-deceived consumers take illicit medicines for the desired effects despite at least some knowledge of the serious associated health risks. In between, a group exists of users who take illicit medicines for medical or recreational purposes, and take risks into account to some extent.

A final result of this study on the demand side is that the consumption of illicit lifestyle medicines is a highly individual matter, potentially purchased with great discretion on the part of both seller and buyer, and consumed in full privacy. This applies not only to users who consume the products for medical

reasons, but also to nonmedical consumers. Even as contemporary consumer society increasingly stimulates people to take personal responsibility for their own health and beauty, medical treatment can be perceived as a way of ‘cheating’, which makes some users want to hide its consumption. Hence, in this study the demand for all sorts of pills and products for lifestyle purposes and conditions, is positioned within contemporary consumer culture that emphasizes beauty and a slim and healthy-looking body. Socially induced pressure to have a perfect body has exacerbated the demand for medical treatments that promise quick fixes.

Lifestyle medicines can thus be purchased both on the legitimate as well as on the illegitimate market, can be consumed both for medical and nonmedical users, and are purchased by both deceived and non-deceived consumers, which makes the universe of consumers highly diverse. Public health officials should take this multiplicity of users when they craft their initiatives. In particular, specific messages should be focused on the discrete health issues that face particular groups of consumers, as well as the motivations of consumers in each group, to enhance the prospect of well-intended messages being understood and attended to.

9.3 Global and online trade

In addition to the analysis of the demand side and its consumers, the second aim of this study was to analyze the supply side. Research questions focused on exploring the characteristics, perceptions and modus operandi of suppliers involved, online interaction between consumers and suppliers, as well as on the nature and organization of the illicit market.

First, analysis of primary research data has yielded an overview of the sociodemographic characteristics of the suppliers involved in the market. The vast majority of the analyzed suppliers in the Netherlands is male, average age is higher than in other illicit drug markets, and most of the suppliers do not have a criminal record. Trade in illicit medicines is sometimes associated with the supply of other counterfeit products, the trade in other illicit drugs, or corrupt or fraudulent behavior. In addition, most suppliers are involved in a company or organization directly involved in or linked with industries in food supplements, slimming, sex products, import and export or health care, which provides a first insight in the blurred boundaries between the legal and illegal markets for medicines.

Second, the overall illicit medicines market can be characterized by the continuously blurring boundaries between legitimate, semi-legitimate and illegitimate trade. The majority of respondents are employed through official professions related to the medicines trade, which provides the opportunity to use the ambiguity of the legitimacy of their products and to conceal illicit activities. On all levels, suppliers can use legitimate infrastructure, banking systems and advertisement techniques, and in addition can bolster the level of

customer trust in their operation by making reference to the legitimate market. Besides, actors can hide, justify and neutralize their behavior behind the idea of helping others, while not wanting to do anything illegal. Furthermore, the illicit medicines trade is characterized by low entry barriers, especially through online distribution channels. There is no requirement for advanced technological skills, nor are the right (criminal) connections needed, and suppliers can and do offer a wide range of practical and emotional justifications for their participation in activities they understand, at best, to be semi-legal. Thus, the semi-legal nature of the products traded, in combination with the opportunities inherent in the internet, appears to democratize the involvement in the illicit market, and influences the types of suppliers and consumers who trade and use them.

Third, data of this study have shown that online and offline sale and distribution is highly interwoven. Whether a retail trade takes place through online and offline sources, the issue of blurred boundaries between what is real or fake is always present in the interaction between users and consumers. While illegal drugs are primarily sold through dealers or acquaintances in the 'real' world, or through the deep web that have their own specific methods of creating trust between market actors, neither of these environments offers many insights regarding how buyers and sellers of illicit medicines communicate the level of quality they demand or offer. Consumers and suppliers use a myriad of on- and offline distribution channels for their illicit retail trade in lifestyle medicines, whereby online sales are associated with considerable anonymity but low trust levels. Online trust is increased through images intended to convey legitimate medical trust, and suppliers use various marketing techniques, such as delivery services, providing knowledge and transparency or extra medical information. Through these marketing techniques, online trust is created which makes the users more likely to purchase on these websites. Hereby, suppliers uphold different techniques to guarantee the quality and safety of the medicines they sale. Therefore, a distinction should be made between suppliers who intend to deliver low quality products and suppliers who appear to invest in customer relationships, provide good customer service and strive to deliver medicines of high standard.

Offline supply through friends, dealers and under the counter in shops has been situated in the context of insistence by some buyers and sellers alike on higher trust levels, lower risk and assured quality. As a result, my findings show, suppliers try to combine best of these worlds, as they generally do not limit themselves to just online or just traditional markets, but use each channel for specific aspects of current and future transactions. Both consumers and suppliers apply various strategies of risk minimization in their efforts to find an acceptable balance between anonymity, deceit, trust and privacy. Advantages and disadvantages of both on- and offline distribution channels are reflected in the interface between the two, as suppliers and consumers constantly shift between online and offline sales channels.

Fourth, on the distribution level, a wide variety of tactics and methods are employed in the import, trade and resale of illicit medicines into or within the Netherlands. Suppliers on higher levels of the illicit market are more often highly motivated by economic incentives than are suppliers on lower levels. Suppliers on the distribution level face higher risks, while profits are generally higher than on the retail level of the market. On all levels, suppliers of illegitimate medicines make use of the legitimate infrastructure: their medicines are generally traded throughout legitimate companies, payments are made through regular banking systems and products transported with use of conventional methods.

Fifth, the ability to purchase illicit medicines online through both legitimate as well as illegitimate sources has a tremendous impact on the social organization of the trade. Another broad continuum exists, on which social suppliers, online illicit entrepreneurs, small-scale user-dealers and large-scale professional suppliers and dealers on a large scale all are active in the illicit medicines trade, employ varying degrees of organization, and are rewarded with varying levels of profit. All of these characteristics combine to create the image of a market that is far different from the way this market is often portrayed in the media, by law enforcement and the pharmaceutical industry: one in which organized crime groups monopolize trade and operate on a large scale. To the contrary, data from this study suggest that traders and sellers who are involved in the market can be placed throughout a large continuum of which one end is reserved for the many, many individual entrepreneurs who do not have criminal or social ties, but rather become involved as independent operators in the import and sale of illicit medicines. The other end is reserved for groups and networks that cooperate on a transnational level through several market levels, including multiple importers, middlemen and retailers. The data have thus shown that large organized crime groups are not necessarily involved and, if they are, they face a lot of competition, because a wide variety of individual entrepreneurs who import themselves, to small networks of friends, and other loose networks have been shown to be involved in the supply of illicit medicines into as well as within the Netherlands.

A similar conclusion is found on the production level. Data obtained from the case study on China support the conclusion that, by means of a highly fragmented and expanding chemical- and pharmaceutical industry, cheap labor and materials, corrupt officials, and a large share of semi-legitimate companies, the makeup of the trade and production runs primarily through grey market transactions. Here again, there is no prerequisite of large organized criminal networks, partly because there are few fully illegitimate businesses to protect. The illicit market is rather characterized by rather open communication and advertisement techniques, informal agreements and disguised distribution, all of which blurs the boundaries between the legal, semi-legal and illegal segments of the market.

9.4 Final thoughts

The topic of pharmaceutical crime, and that of the illicit medicines market in particular, concerns a phenomenon that includes a wide variety of organizations, interests, industries, and profits. While this topic has gained increasing public attention, much more extensive, in-depth and objective knowledge on the actors involved is required in order to craft effective public health strategies for minimizing the adverse effects that sometimes result from the illegal activities discussed here. For example, consumers risk serious health consequences if the illicit medicines they consume are improperly manufactured, or if they take doses that are different from what a doctor would prescribe. Therefore, it is important to gain first and insights and not simply rely on statistics, in order to develop the substantiated and nuanced understanding of the dynamics, perceptions and motives of the actors involved in this market. These insights are needed by policymakers, especially because some in the pharmaceutical industry, as well as some health officers and other stakeholders, might have their own reasons to exaggerate health risks and allege the involvement of organized crime syndicates. Effective policies and regulations can be designed only when thorough empirical and theoretical insights lie at their foundation.

This study has shown that illicit medicine consumers range from medical to nonmedical and deceived to non-deceived. Whereas health care providers are concerned with protecting all users of illicit medicines, they should understand that non-deceived users act wittingly and willfully when they purchase medicines through unofficial sources, the public health consequences are real, and yet, they are unlikely to be persuaded by messages that deceived users might find meaningful. Therefore, effective public health strategies should distinguish between different types of consumers, and target unique messages to each customer type. It will remain important to inform users of potential risks of purchasing medicines through online or other sources outside the official supply chain. However, it should be acknowledged that messages some aimed to warn the public, can have the effect of inspiring others to search more actively for hazardous and illegal, but effective medicines.

While others have suggested that the market is highly organized, the data of this study have shown that both the ease of entering the market online and the semi-legitimate nature of the trade effectively reduce risk and have attracted a wide range of sellers and suppliers to this market. Some trading organizations are reasonably sophisticated and operate at a high volume, while others are individual entrepreneurs who sell illicit medicines in low quantities and mainly to friends. Because this market is associated with potentially serious health risks for its users as well as with low risks and high profits for suppliers, combined with competing interests from a large variety of stakeholders such as law enforcement and the pharmaceutical industry, it is important that extensive and accurate knowledge on the demand and supply exist for designing and implementing effective public health and law enforcement strategies.

While this study aimed to fill an important gap in criminological literature, there are manifold possibilities for further research on trade in illicit medicines and on pharmaceutical crime more broadly. Four lines of research that have been touched upon in this study demand a more thoroughgoing analysis. First, this study has largely focused on the social, cultural, political and economic aspects of the illicit medicines trade, but, apart from the limited suggestions just mentioned, policy implications have largely been neglected. Given the expected growth in all sorts of illicit medicines, it is important to anticipate the most likely effects of various health care strategies in our quest to see the most effective among them implemented. Various drug research scholars have argued harsh enforcement measures on the supply side have barely affected the demand for illicit medicines. Therefore, differences between various types of suppliers and types of consumers should be included in designing effective public health strategies. Further research can generate more precise recommendations regarding what kinds of strategies might be most effective for each supply- and demand-group.

Second, the current study lays an important foundation for further studies and discussions on whether some prescription medicines should be made available as over-the-counter medications. While classifying certain medications as prescription medicines is done in order to have medical supervision by a professional, in certain instances, the effect is that consumers will turn to the illicit market with even higher health risks than only the absence of a medical professional.

Third, with regard to online opportunities for all sorts of drugs and other illegal goods, more work is needed in order to understand the differences between the traders, users and dynamics on the deep web or the surface web. In response to users on the deep web who are presented with a wide variety of illegal goods and services and a need to evaluate them, effective quality checks that respect the platforms' fundamental commitment to anonymity have been established. On the surface web, however comparable checks are hardly present, which makes users highly prone to deception. While one group of users wittingly purchase illicit medicines, it is important to inform deceived users, in a way they can understand and respect, about potential fraud that can take place online. Whereas suppliers' tactics and methods may adapt and change over time, consumers that purchase online medicines should be aware of both the benefits and risks involved.

Fourth, in recent years, it has been shown that the use of certain illicit medicines is also related to prescription practices of the medical profession. For example, the prevalence of addiction to pain killers and other opioids shows diverse statistics in different countries. These relations between the legal and illegal medicines, between medical sociology and drug markets, demand further insights.

Fifth and finally, it has been suggested that people within the dominant consumer culture are increasingly stimulated to take responsibility for their

own health, body and wellbeing, including an increasing emphasis on the body's physical appearance. Given these socially motivated demands for personal perfection and the willingness to take risks in order to achieve these goals, further research should focus on the empirical and theoretical interfaces between risk taking, consumer culture and medicine. Without denigrating the importance of further study on the consumption of illicit recreational drugs, one may nonetheless insist that more knowledge is also needed on other types of illicit medicines, both on the demand and supply side. As such, this study on the illicit trade in lifestyle medicines should serve as an important stepping stone for further research into the broader area of pharmaceutical crime.

Summary

While the trade in illicit medicines is not a new phenomenon, it is suggested that the illicit medicines market has steadily grown in recent decades. Indeed, in recent years, all sorts of counterfeit and otherwise illicit medicines, ranging from antibiotics to weight loss drugs, and from antimalarial tablets to steroids, are traded and sold through both official and unofficial sources worldwide. The types of medicines that are illegally traded, the social organization of the market, and extent of the harm caused by these medicines all are subject to change and vary from country to country and from region to region. At the same time, the illicit medicines market is often associated with considerable health risks, high profits, low penalties and a growing degree of criminal organization. Nevertheless, regardless of a few exceptions, little criminological research has been conducted on the actual nature and dynamics of the supply and demand sides of the illicit pharmaceutical market.

The current thesis aims to fill this gap by providing in-depth empirical and theoretical insights on the on- and offline trade in illicit pharmaceuticals, and particularly lifestyle pharmaceuticals, to provide a better understanding of the nature, dynamics and activities taking place. More knowledge on this understudied topic will contribute to a better empirical and theoretical foundation for designing and implementing effective health care and drug policies. The current study presents cases both at the manufacturing level, in China, and at the trade level, in the Netherlands. The main focus lies on the structure, dynamics and activities of actors on both the demand and supply sides of the illicit medicines market in the Netherlands, and on the production and transnational distribution of illicit medicines in and from China. The central research question of this thesis is: *How are actors involved in the illicit medicines trade, and how is the illicit market structured?* Sub-questions include:

1. Why is there a demand for illicit lifestyle medicines?
2. What are the characteristics, motives and preferences of the consumers?
3. What are the characteristics, preferences and modus operandi of the suppliers involved?
4. How do consumers and suppliers build trust and interact in an online environment?
5. What is the nature of the trade and how is the market organized?

As markets are formed within cultural, social, economic and political contexts, the analysis of this study is situated on macro, meso and micro levels among those disciplines. First adopted is a conceptual framework of economic sociology that focuses on the type of product traded as well as on the social and cultural contours of the market. On a macro level, the illicit market for pharmaceuticals is situated in a globalized, late-modern culture; it specifically emphasizes consumerism and identity and incorporates sociological notions regarding beauty, health and illness, the focus being on perfection and drivers of medicalization. On a meso level, the structure and organization of illicit markets in criminological research is theorized and compared, with a specific focus on the social embeddedness of organized crime, networks and online entrepreneurs, all of which are important in the supply of illicit pharmaceuticals. On a micro level, various types of dealers and retailers are discussed and Goffman's concept of performance is further analyzed. The behavior of suppliers and consumers involved is situated in the context of online entrepreneurial activities, cultural values and beliefs. These macro, meso and micro levels are used as a framework for the analysis of the illicit pharmaceutical market. The combination allows for elucidating as well as profiting from dialectic relationships that exist among various levels and disciplines.

In order to understand the dynamic interplay among actors as they operate, compete and develop trust relations, as well as how the illicit market is structured, a mixed-method approach of both qualitative and quantitative data is adopted. First, a literature review was conducted among official documents, academic literature and media. Second, 81 semi-structured interviews were conducted with a wide variety of respondents in the Netherlands and China. In the Netherlands, 25 interviews were conducted with suppliers, 10 with consumers and 22 with officials such as doctors, researchers or customs officials. In China, 17 interviews were held with officials and 7 with suppliers. Interviews with suppliers and consumers primarily focused on their activities, perceptions, as well as on how they made sense of the market, their interaction with other market actors, trust relations and the social organization of the trade. Interviews with health enforcement officers and other officials sought to gain background information on specific law enforcement cases and general trends in confiscation types and sizes.

Third, an online analysis was conducted by means of an analysis of eleven vending websites and six discussion platforms that used to exchange (medical) information. By means of a checklist, information was retrieved on the provided information, displayed photos, medical information, use of trademarks, shipping methods, contact between consumers, and more. Fourth, official data has been used in two ways. 69 court cases at the Health Care Inspectorate, Public Prosecution Service and the Fiscal Information and Investigation Service have been analyzed. And, seizure statistics from Dutch Customs have been incorporated into a description of general trends in the types of medicines being confiscated in the Netherlands. Fifth and finally, a quantitative survey study

has been conducted by means of a prevalence study among 50,848 respondents and an in-depth study among 770 respondents. Triangulation among different sources made it possible to compare data, seek out contradictory findings and increase the overall validity of the data.

Based on the quantitative analysis, four types of illicit medicines have turned out to be the most popular in the Netherlands: sexual enhancers, weight loss medicines, pain killers and sedatives. The origins of these confiscated medicines are mainly associated with production facilities in India, China and the USA. Based on the prevalence survey study, it is estimated that 3.3% of the Dutch population has purchased illicit medicines at least once in their lifetime, including 1.6% who have purchased such medicines online and 2.4% who have tapped offline sources. Despite the inherent methodological limitations of our survey study, these estimates are a valuable first assessment on the prevalence of illicit medicines purchases in the Netherlands.

In addition, the quantitative data suggest a general consumer profile. Overall, more men than women reported they purchased any illicit medicine, except for weight loss drugs and sedatives. Furthermore, there is a lot of variety in age of the consumers. Consumers of ADHD medication are the youngest, while consumers of painkillers are among the oldest consumers. Both online and offline consumers can choose from a variety of sources to obtain illicit medication. Some online purchase occurs through online pharmacies, legal or otherwise, but even more occurs via a broad range of vending websites. Outside the internet, most of the medicines are obtained through friends, family, dealers or under the counter. Despite national and international assessments that such products are unreliable, Dutch consumers of illicit medicines report themselves to be rather satisfied with the information, prices and quality of the products they have purchased and most of the respondents would recommend their source to other potential buyers.

While some research has been conducted on the structure and tactics of the supply side of illicit medicines, details of the demand side continues largely to be a mystery to scholars and policy makers. Based on the retrieved data it is concluded that consumers are generally stimulated to purchase illicit medicines online through convenience, financial considerations, shame or embarrassment. In some of these instances, buyers can be deceived by illegal or fake online pharmacies, while in other instances, they are aware that they are purchasing medicines on the illicit market. It is therefore important to distinguish between deceived and non-deceived consumers of illicit medicines, as well as between medical and non-medical consumers. Non-medical and non-deceived consumers of lifestyle medicines purchase their medicines on the illicit market primarily because they have no possibility to obtain a prescription for their preferred medicines.

In addition, consumers often incorporate the associated risks and they use similar techniques for evaluating medicine quality as prior research shows illicit drug consumers use. Therefore, consumers of illicit lifestyle medicines

can be placed on a continuum, with consumers who are completely deceived by online pharmacies on one end and those who fully incorporate health risks in their search and purchase of lifestyle drugs on the other. In addition, data has shown that the use of lifestyle medicines is something that on the one hand people are more open about, but on the other hand, the race to achieve socially projected standards is competitive. Consumers want to avoid the shame of public acknowledgement of failure.

On the retail level of the market, the majority of the analyzed suppliers in the Netherlands are legally employed in professions somehow related to the medicines trade, which provides the opportunity to use the legitimacy of their main business venture to conceal their illicit activities. In addition, whereas the sale of illicit medicines on the internet is generally associated with online pharmacies, the data show that a wide variety of websites are being employed by the suppliers, including separate vending and e-commerce sites that enable suppliers to reach more potential customers. Furthermore, online distribution channels are characterized by low entry barriers. There is no requirement for advanced technological skills or previous (criminal) connections, while suppliers can justify their activities. Thus, the types of product traded in combination with the opportunities of the online sale, appears to democratize the involvement in the illicit market, and influences the types of suppliers and consumers who trade and use them.

Furthermore, data from this study have shown how online suppliers use various tactics to promote their products, such as giving information on sending the packages, providing information on the products and offering delivery services. Online trust is created through these marketing techniques, which makes the users more likely to make future purchases on these websites. In addition, suppliers employ several techniques to assure potential customers of the quality and safety of the medicines they sale. A distinction should be made between suppliers who intend to deliver low quality products and suppliers who appear to invest in customer relationships, provide good customer service and strive to deliver medicines of high standard. In addition, data has shown that online and offline distribution is highly interwoven. My findings show that online sales are associated with low trust levels but considerable anonymity, while offline sources are associated with socially embedded relations and overall high trust levels between users and suppliers. As a result, suppliers try to combine best of these worlds; they generally do not limit themselves to just online or just traditional markets, but rather use each channel for specific aspects of current and future transactions.

On the distribution level of the market, a wide variety of tactics and methods are employed in order to import, trade and resell illicit medicines into or within the Netherlands. While low-volume sellers are sometimes highly motivated by social relationships, the relevance of economic incentives becomes more pronounced as the analytic focus shifts toward the higher levels of the illicit market. Suppliers on the distribution level face higher risks, while profits are

generally higher than on the retail level of the market. Within the Netherlands, social embeddedness is seen between market actors, and strong ties may exist based on family or ethnic bonds. However, such relationships are often absent in the transnational online market. More important bonds are crafted among people who also work together in related, (semi-)legitimate businesses. In addition, online platforms enable suppliers to expand their market reach and enter the trade without pre-existing social ties.

Regarding the social organization of the trade, one aspect of the market revealed itself as decisive: many of the medicines under investigation can be purchased through the legitimate as well as the illegitimate market. On all levels, suppliers make use of legitimate infrastructure: the medicines are traded on behalf of legitimate companies and facilitated by regular banking systems and transportation methods. On the internet, the sale of medicines and supplements is widely spread and more openly advertised than is the case for other illicit drug markets. The legitimacy of the traded medicines purposely remains ambiguous.

All these factors make the trade in illicit medicines rather unorganized, with shifting roles and highly flexible networks in the distribution chain. This is not to say there are no organized networks or larger groups involved, but that flexibility results in a highly disorganized market structure. On the one hand, there are indications that some networks operate on a large scale and involve pharmaceuticals that pass multiple market levels. On the other hand, individual online entrepreneurs can easily enter the market and independently build new transnational business relations. Because of the blurred boundaries between legal, semi-legal and illegal trade, the illicit market is open for all suppliers. It does not require the skills and resources of organized crime groups in order to function highly effectively. Therefore, contrary to the general image of organized crime groups dominating this market, a wide continuum exists in which social suppliers, online illicit entrepreneurs, user-dealers on a low scale, and professional suppliers and dealers on a large scale are all, in varying degrees of organization and profits, active in the illicit medicines trade.

On the manufacturing level, China's increased integration in the world economy has attracted more and more foreign investors and an even further expansion of several industries, including the pharmaceutical industry. Reinforcing factors, such as weak enforcement, sufficiently high corruption, low wages and increased competition, provide tools for manufacturers to produce the same medicines for all kinds of legal and illegal markets. In addition, the cultural and social context that intertwines with these economic factors are important factors, including the cultural meaning of counterfeiting that makes China the leading country in the production and consumption of counterfeit goods. Similarly, *guanxi*, a use of informal connections that is culturally and socially embedded in Chinese society, is an important element in the dynamics of the industry that manufactures illicit medicines.

The data show that there is no prerequisite of organized gangs, syndicates or networks operating in China. Although findings from my research confirm China's important role within the illicit medicines trade, they also show that a semi-legitimate infrastructure both for producing and exporting illicit medicines is in place and expanding. China's illicit supply chain cannot be characterized as highly structured or organized, but rather runs mainly through small, licensed and legitimate companies whose online advertisements attract traders and retailers from around the globe. Within the global pharmaceutical industry, in which the production stages are increasingly outsourced to East Asian countries such as India and China, a parallel production market has evolved that runs through existing trading mechanisms. However, these mechanisms are dispersed and highly unorganized and, hence, highly unlikely to be run by large crime groups.

In conclusion, the illicit medicines market can be characterized by the blurring and shifting boundaries among online and offline markets, as well the legitimate, semi-legitimate and illegitimate trade. Consumers and suppliers engage in various forms of risk minimization in order to obtain an acceptable balance between anonymity, deceit, trust and privacy. In addition, the illicit medicines trade is characterized by low entry barriers, especially through online distribution channels. As such, the data from this study show that there is a large continuum of suppliers, traders and sellers that are involved in the market; highly organized crime groups are rarely present in the market for illicit medicines. While this topic has gained increasing public attention in recent years, it is important to continue to gain extensive, in-depth and objective knowledge on the actors involved, in order to craft effective public health strategies for minimizing the adverse effects. Effective policies and regulations can be designed only when thorough empirical and theoretical insights lie at their foundation.

Samenvatting

*De illegale geneesmiddelenhandel van binnenuit
Een analyse van de vraag- en aanbodzijde van de illegale lifestyle geneesmiddelenmarkt*

Hoewel de handel in illegale geneesmiddelen geen nieuw fenomeen betreft, wordt in de literatuur en media gesteld dat de markt voor illegale geneesmiddelen de laatste jaren steeds grotere vormen aanneemt. Een breed scala aan vervalste en illegale geneesmiddelen, variërend van antibiotica tot afslankmiddelen, en van antimalariapillen tot aan steroïden, wordt verhandeld en verkocht op zowel de legale als de illegale markt. De typen geneesmiddelen die verhandeld worden, de organisatie van de handel en de schade die wordt aangericht door deze medicijnen, zijn sterk aan verandering onderhevig en verschillend per land en regio. Tegelijkertijd wordt de handel in geneesmiddelen regelmatig geassocieerd met aanzienlijke gezondheidsrisico's, hoge winsten, lage straffen en een groeiende organisatie van de handel. Desondanks bestaat er, los van een aantal uitzonderingen, nog weinig criminologische kennis over de daadwerkelijke aard van de handel, en de vraag- en aanbodzijde van deze illegale markt.

Deze studie heeft daarom als doel diepgaande empirische en theoretische kennis te vergaren over de on- en offlinehandel in illegale geneesmiddelen, en specifiek de illegale lifestyle middelen, om een beter begrip van de aard, ontwikkelingen en activiteiten te verkrijgen. Meer kennis over deze weinig onderzochte handel zal bijdragen aan een verbeterd empirisch en theoretisch uitgangspunt om effectieve beleidsmaatregelen te ontwikkelen en implementeren. Het voorliggende onderzoek behandelt zaken zowel op het productieniveau, aan de hand van de situatie in China, als op het handelsniveau in Nederland. De belangrijkste aandachtspunten van deze studie zijn gericht op de structuur, de ontwikkelingen en de activiteiten van actoren op zowel de vraag- als de aanbodzijde van de markt in Nederland, en op de productie en transnationale handel van geneesmiddelen in China. De centrale onderzoeksvraag luidt: *Op welke manier zijn actoren betrokken bij de illegale handel in geneesmiddelen en hoe is de illegale markt georganiseerd?* Subvragen betreffen:

1. Waarom bestaat er vraag naar illegale lifestyle medicijnen?
2. Wat zijn de karakteristieken, motieven en voorkeuren van de gebruikers?

3. Wat zijn de karakteristieken, voorkeuren en de modus operandi van de betrokken handelaren?
4. Hoe gaan gebruikers en handelaren met elkaar om en hoe worden vertrouwensrelaties opgebouwd binnen een online omgeving?
5. Wat is de aard van de handel en hoe is de markt georganiseerd?

Aangezien markten gevormd worden binnen hun culturele, sociale en economische context, wordt de analyse van deze studie uitgevoerd aan de hand van de macro-, meso- en microniveaus van deze drie disciplines. Hierbij is ten eerste een conceptueel kader van de economische sociologie gebruikt waarbij de focus ligt op het type product dat verhandeld wordt, alsmede op de sociale en culturele contouren van de markt. Op het macroniveau is de illegale geneesmiddelenhandel geanalyseerd in de context van een geglobaliseerde, laat moderne cultuur, waarbij voornamelijk het belang van de consumptiemaatschappij, en identiteitsvorming benadrukt worden. Ook komen sociologische noties van gezondheid, schoonheid en ziekte aan de orde waarbij de focus ligt op het streven naar perfectie en op de toegenomen medicalisering.

Op het mesoniveau worden de structuur en de organisatie van de illegale handel vergeleken met bestaande criminologische studies naar andere illegale markten. Hierbij ligt de aandacht vooral op de sociale inbedding van georganiseerde misdaad, netwerken en online ondernemers. Deze actoren vervullen allen een belangrijke rol binnen de handel van illegale geneesmiddelen. Op het microniveau worden verschillende typen dealers en handelaren behandeld en wordt Goffmans concept van *performance* nader geanalyseerd. De macro-, meso- en microniveaus worden gebruikt als een kader voor de analyse van de illegale geneesmiddelenhandel.

Om te doorgronden hoe de actoren functioneren, met elkaar concurreren, vertrouwensrelaties aangaan en verder ontwikkelen, en hoe de illegale markt is georganiseerd, wordt in deze studie een combinatie van verschillende kwalitatieve en kwantitatieve onderzoeksmethoden gebruikt. Ten eerste is een literatuurstudie uitgevoerd aan de hand van officiële documenten, academische literatuur en media. Ten tweede zijn 81 interviews gehouden met een breed scala aan respondenten in Nederland en China. In Nederland zijn 25 interviews gehouden met handelaren, 10 met gebruikers en 25 interviews met functionarissen zoals artsen, onderzoekers en douanebeambten. In China zijn 17 interviews gehouden, waarvan 7 met handelaren en 17 met beambten. Interviews met handelaren en gebruikers richtten zich voornamelijk op de activiteiten en ideeën van respondenten, alsmede hun inzichten in de handel, de interactie met andere actoren, vertrouwensrelaties en de sociale organisatie van de handel. Interviews met functionarissen en overige respondenten betroffen voornamelijk nadere achtergrondinformatie bij specifieke rechtszaken en algemene trends bij de inbeslagnames.

Ten derde is een online analyse uitgevoerd aan de hand van elf verkoopsites die gebruikt worden voor de illegale verkoop van geneesmiddelen en zes

discussiefora die door gebruikers aangewend worden voor de uitwisseling van (medische) informatie. Door middel van een checklist is informatie verzameld over de weergegeven medische informatie, het weergegeven fotomateriaal, medisch advies, gebruik van keurmerken, de methoden van vervoer, het contact tussen gebruikers, en contact tussen handelaar en gebruiker. Ten vierde zijn op twee manieren officiële data gebruikt: 69 strafdossiers zijn geanalyseerd bij de Inspectie voor de Gezondheidszorg, het Openbaar Ministerie en de Fiscale Inlichtingen- en Opsporingsdienst. Ook zijn inbeslagnames van de Nederlandse douane gebruikt voor een beschrijving van algemene trends in de typen geneesmiddelen die zijn tegengehouden bij de Nederlandse grens. Ten vijfde is een kwantitatieve studie uitgevoerd door middel van een prevalentiestudie onder 50.848 respondenten en een dieptestudie onder 770 respondenten. Triangulatie van de verschillende onderzoeksmethoden heeft het mogelijk gemaakt de verkregen informatie te vergelijken, op zoek te gaan naar contrasterende bevindingen en heeft de algemene validiteit van dit onderzoek verhoogd.

Op basis van de kwantitatieve analyse is gebleken dat vier typen geneesmiddelen het meest verhandeld en gebruikt worden: erectiemiddelen, afslankmiddelen, pijnstillers en slaap- en kalmeringsmiddelen. De inbeslaggenomen geneesmiddelen zijn overwegend afkomstig uit productievoorzieningen in India, China en de Verenigde Staten. Op basis van de prevalentiestudie is geschat dat 3,3% van de Nederlandse populatie weleens een illegaal geneesmiddel heeft aangeschaft, waarvan 1,6% van de populatie dat deze geneesmiddelen online heeft gekocht, en 2,4% door middel van andere, offline, bronnen. Ondanks methodologische beperkingen die inherent zijn aan deze studie, dienen deze schattingen als een belangrijke eerste meting van de prevalenties van illegale geneesmiddelengebruik in Nederland.

Daarnaast is op basis van de kwantitatieve data een algemeen profiel van de gebruikers op te stellen. In het algemeen rapporteerden meer mannen dan vrouwen dat zij ooit een illegaal geneesmiddel hebben aangeschaft. Dit geldt voor alle typen geneesmiddelen afzonderlijk, behalve voor afslankmiddelen en slaap- en kalmeringsmiddelen. Er bestaat veel variatie in de leeftijd van de gebruikers: gebruikers van ADHD-medicatie behoren tot de jongere kopers, terwijl gebruikers van de pijnstillers tot de oudere kopers behoren. Sommige aankopen vinden plaats door middel van online drogisterijen, legaal of niet legaal, maar vaker vindt de online aankoop plaats door middel van andere typen websites, zoals tweedehandsverkoopsites. Buiten de verkoop via het internet worden de meeste illegale geneesmiddelen verhandeld via vrienden, familie, dealers of onder de toonbank in winkels. Ondanks nationale en internationale metingen dat illegale geneesmiddelen onbetrouwbaar zijn, rapporteren Nederlandse gebruikers dat zij over het algemeen tevreden zijn met de informatie, prijzen en kwaliteit van de illegale geneesmiddelen die zij hebben aangeschaft. Daarnaast geeft de meerderheid aan dat zij de verkooppunten zouden aanraden aan anderen.

Hoewel er enig onderzoek is uitgevoerd naar de handel van illegale geneesmiddelen, is er (in de literatuur) nog veel onbekend over de vraagzijde van de markt. Op basis van de verkregen data kan geconcludeerd worden dat gebruikers in het algemeen overgaan tot het aankopen van geneesmiddelen via het internet uit gemak, financiële overwegingen, gêne of schaamte. Bij de online aankoop is het daarbij mogelijk dat kopers worden misleid tot het kopen van illegale medicatie, bijvoorbeeld door vervalste online apothekers. In andere gevallen zijn gebruikers echter op de hoogte van het gegeven dat zij geneesmiddelen aanschaffen op de illegale markt. Het is daarom van belang een onderscheid te maken tussen gedupeerde en niet-gedupeerde gebruikers, alsook tussen medische en niet-medische gebruikers. Niet-medische en niet-gedupeerde gebruikers van lifestyle medicijnen kopen over het algemeen geneesmiddelen op de illegale markt omdat zij geen mogelijkheid hebben de gewenste medicatie op een andere manier te verkrijgen.

Daarnaast blijkt dat sommige gebruikers bewust risico's incalculeren wanneer zij geneesmiddelen willen aanschaffen via de illegale handel. Deze gebruikers blijken dezelfde manieren te gebruiken om de kwaliteit van geneesmiddelen te bepalen als zichtbaar is in bestaand onderzoek naar gebruikers van illegale drugs. Er is zodoende een continuüm vast te stellen van de gebruikers van illegale geneesmiddelen, met aan de ene kant gebruikers die geheel gedupeerd worden door toedoen van vervalste of illegale online apothekers, en aan de andere kant gebruikers die risico's incalculeren in hun zoektocht naar gewenste illegale geneesmiddelen. Tevens blijkt dat het gebruik van lifestyle medicijnen enerzijds meer plaatsvindt en geaccepteerd wordt, hoewel anderzijds de race om sociaal geprojecteerde normen te bereiken competitief is.

Op het niveau van de kleinhandel blijkt dat het merendeel van de geanalyseerde verkopers en handelaren in Nederland een legale baan heeft die op een of andere manier gerelateerd is aan de geneesmiddelenhandel. Zo is het mogelijk dat de legaliteit van deze baan de illegale activiteiten kan maskeren. Daarnaast wordt de online verkoop van illegale geneesmiddelen vaak direct geassocieerd met de verkoop via illegale online apothekers, maar uit de verkregen data blijkt dat medicijnen op een veel breder scala aan websites worden aangeboden, zoals aparte verkoopsites of tweedehandssites waarmee verkopers een breed bereik hebben. Deze online verkoopkanalen worden gekarakteriseerd door lage barrières om de handel te betreden. Het is niet noodzakelijk geavanceerde technologische vaardigheden of de juiste (criminele) connecties te bezitten, terwijl verkopers hun activiteiten gemakkelijk kunnen goedpraten. Het type product dat wordt verhandeld, in combinatie met de mogelijkheden die de online handel biedt, zorgt voor een democratisering van de illegale handel, en beïnvloedt het type handelaar en gebruiker dat bij deze handel betrokken is.

Data van deze studie laten zien hoe handelaren verschillende manieren hanteren om hun producten te promoten, zoals het geven van informatie over het versturen van de pakketjes, informatie over het gebruik van de producten of het aanbieden van leveringsmogelijkheden. Online vertrouwen wordt gecreëerd

door middel van deze marketingtechnieken, wat het meer waarschijnlijk maakt dat gebruikers ook in het vervolg overgaan tot de aankoop van geneesmiddelen via deze websites. Daarnaast blijken verkopers verschillende technieken te gebruiken om de kopers te overtuigen van de kwaliteit en veiligheid van de geneesmiddelen die zij online aanbieden. Het is daarom van belang een onderscheid te maken tussen enerzijds verkopers die geneesmiddelen van slechte kwaliteit aanbieden en anderzijds verkopers die investeren in klantenrelaties, die een goede service verlenen en ernaar streven medicijnen van goede kwaliteit te leveren. Verder laat deze studie zien dat een duidelijke verwevenheid bestaat tussen de online en offlinehandel. Zo wordt de online verkoop door respondenten geassocieerd met een verhoogde kans op misleiding, maar wel met hoge anonimiteit, terwijl de offline verkoop geassocieerd wordt met goede vertrouwensrelaties tussen handelaren en gebruikers. Verkopers lijken zodoende het beste van deze twee kanten te combineren: zij beperken zich niet tot alleen de online of alleen traditionele verkoopkanalen, maar zij maken gebruik van verschillende kanalen door elkaar heen.

Op het distributieniveau van de handel blijken verschillende tactieken en methoden gebruikt te worden voor de import, de handel en de doorverkoop van illegale geneesmiddelen in en door Nederland. Terwijl kleinschalige verkopers ook gemotiveerd kunnen zijn door de sociale relaties binnen de handel, blijken economische motieven een belangrijkere rol te vervullen in de hogere segmenten van de markt. Handelaren binnen de distributie krijgen te maken met hogere risico's terwijl de winsten hoger zijn dan op het niveau van de kleinhandel. In Nederland is de sociale inbedding terug te zien tussen actoren en sterke banden zijn zichtbaar tussen familie- en etnische banden. Dergelijke relaties zijn echter vaak afwezig binnen de transnationale online markt. Via het internet kunnen verkopers en handelaren gemakkelijk contact maken en handelsrelaties aangaan met mensen die in dezelfde (semi-)legale business werken. Online discussiefora bieden de mogelijkheid tot het gemakkelijk uitbreiden van het bereik en betrokken te raken bij de handel zonder de noodzaak al de juiste connecties te hebben.

Wat betreft de sociale organisatie van de handel speelt een belangrijke rol dat veel van de geneesmiddelen zowel op de legale als illegale markt verkocht kunnen worden. Op alle niveaus van de handel maken verkopers zodoende gebruik van de legale infrastructuur: medicijnen worden verhandeld uit naam van legale bedrijven en gefaciliteerd door middel van reguliere banken en methoden van transport. Op het internet is de verkoop van geneesmiddelen wijdverspreid en worden de producten meer openlijk geadverteerd dan te zien is andere geheel illegale drugsmarkten. De legaliteit van de geneesmiddelen blijft zodoende bewust ambigue.

Al deze factoren zorgen ervoor dat de illegale handel in geneesmiddelen als ongeorganiseerd geassocieerd kan worden, met veranderlijke rollen en zeer flexibele netwerken in de distributieketen. Dit wil niet zeggen dat er geen georganiseerde netwerken of grotere groepen betrokken zijn, maar dat de flexi-

biliteit over het algemeen resulteert in een ongeorganiseerde structuur van de markt. Enerzijds zijn er indicaties dat er enkele grotere netwerken opereren binnen deze handel, waarbij de geneesmiddelen verschillende marktniveaus passeren. Anderzijds kunnen ook individuele ondernemers en verkopers de handel gemakkelijk betreden en nieuwe transnationale handelscontacten opdoen. Door toedoen van de vage scheidslijnen tussen wat legaal, semilegaal en illegaal is, is de illegale handel open voor alle typen handelaren. Er bestaat geen noodzaak tot het hebben van vaardigheden en middelen van georganiseerde groepen om de handel op een effectieve manier te laten verlopen. In tegenstelling tot het algemene beeld van georganiseerde groepen die deze handel domineren, laat deze studie zien dat juist een zeer breed scala aan handelaren en verkopers betrokken is, van sociale verkopers en online ondernemers, tot professionele handelaren en dealers, die in verschillende gradaties en op verschillende niveaus in de keten actief zijn in de illegale geneesmiddelenhandel.

Op het niveau van de productie blijkt dat China door de toegenomen integratie binnen de wereldeconomie steeds meer buitenlandse investeerders weet aan te trekken waardoor verschillende Chinese industrieën, waaronder de farmaceutische, steeds meer aantrekken. Versterkende factoren zoals een zwakke handhaving, hoge mate van corruptie, lage lonen en toegenomen competitie bieden manieren voor producenten om geneesmiddelen te produceren voor alerhande legale en illegale handel. Ook de culturele en sociale context die verweven raakt met de economische factoren is van belang, zoals de culturele betekenis van vervalsing en China's leidende rol in de productie en consumptie in vervalste goederen. Daarnaast vervult *guanxi*, het gebruik van informele connecties dat cultureel en sociaal ingebed is in de Chinese samenleving, een belangrijke rol in het productieniveau van de illegale geneesmiddelen.

Deze studie laat zien dat er geen noodzakelijke betrokkenheid van georganiseerde groepen, syndicaten of netwerken hoeft te bestaan in China. Hoewel de bevindingen het belang van China in de productie van illegale geneesmiddelen onderstrepen, wordt duidelijk dat een semilegale infrastructuur bestaat bij de productie en export van illegale geneesmiddelen. De illegale handel in China kan zodoende niet gekenmerkt worden als zeer gestructureerd en georganiseerd, maar als een handel die voornamelijk door kleine, erkende en legale bedrijven loopt die door middel van online advertenties handelaren en verkopers van over de hele wereld aantrekken. Binnen de mondiale farmaceutische industrie, waarbij productie van geneesmiddelen steeds vaker wordt uitbesteed aan landen in Oost-Azië, zoals India en China, is een parallelle productiemarkt ontstaan die functioneert door middel van bestaande handelsmechanismen. Deze mechanismen verlopen wijdverspreid en zeer ongeorganiseerd en de betrokkenheid van georganiseerde groepen is daarbij zeker niet noodzakelijk.

Samengevat kan de illegale geneesmiddelenhandel gekenmerkt worden door vage en verschuivende scheidslijnen tussen online en offline markten, alsmede tussen de legale, semilegale en illegale handel. Gebruikers en verkopers zijn betrokken bij verschillende manieren in het verkleinen van de risico's

om zo een juiste balans te vinden tussen enerzijds de anonimiteit maar ook de misleiding die het internet biedt en anderzijds het vertrouwen maar ook het gebrek aan privacy via offline verkopers. De handel kan tevens gekarakteriseerd worden door de lage barrières om de handel te betreden, vooral door de online verkoopkanalen. De bevindingen van deze studie tonen zodoende aan dat er een groot continuüm bestaat van de betrokken handelaren en verkopers in deze handel. De monopoliepositie van georganiseerde groepen is zelden zichtbaar binnen deze handel. Hoewel het onderwerp van illegale geneesmiddelen de afgelopen jaren meer publieke en academische aandacht heeft ontvangen, blijft het van belang meer diepgaande en objectieve kennis te vergaren over de betrokken actoren en de handel om op die manier effectieve gezondheidsstrategieën te ontwikkelen en de risico's te beperken. Effectief beleid en regelgeving kunnen alleen ontwikkeld worden wanneer deze gestoeld zijn op beschikbare empirische en theoretische kennis.

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Appendix I

List of interviews

Table 1. Overview of interviewed officials in the Netherlands

Respondent	Description	Place interview	Date interview
NR1	Dutch official	Utrecht	January 2014
NR2	Dutch official	Utrecht	February 2014
NR3	Dutch official	Utrecht	February 2014
NR4	Dutch official	Utrecht	February 2014
NR5	Dutch official	Utrecht	March 2014
NR6	Dutch official	The Hague	March 2014
NR7	Dutch official	Rotterdam	April 2014
NR8	Dutch official	The Hague	April 2014
NR9	Dutch official	The Hague	April 2014
NR10	Dutch official	Utrecht	April 2014
NR11	Dutch official	Utrecht	June 2014
NR12	Dutch official	Amsterdam	June 2014
NR13	Researcher	Utrecht	July 2014
NR14	Dutch official	Utrecht	January 2015
NR15	Dutch official	Amsterdam	February 2015
NR16	Dutch official	Amsterdam	February 2015
NR17	Dutch official	Amsterdam	April 2015
NR18	Dutch official	Amsterdam	April 2015
NR19	Dutch official	Rotterdam	May 2015
NR20	Dutch official	The Hague	May 2015
NR21	Dutch official	The Hague	May 2015
NR22	Dutch official	Amsterdam	August 2015

Table 2. Overview of interviewed suppliers in the Netherlands

Respondent	Description	Date interview
NS1	Supplier ED	2012
NS2	Supplier ED	2012
NS3	Supplier ED	2012
NS4	Online supplier ED and WL	January 2014
NS5	Supplier ED	January 2014
NS6	Supplier ED	February 2014
NS7	Supplier WL	February 2014
NS8	Supplier ED	February 2014
NS9	Online supplier WL	March 2014
NS10	Supplier WL	March 2014
NS11	Supplier ED	March 2014
NS12	Supplier ED and WL	June 2014
NS13	Supplier ED	July 2014
NS14	Supplier ED and WL	July 2014
NS15	Online supplier WL	April 2015
NS16	Supplier ED and WL	May 2015
NS17	Online supplier ED	May 2015
NS18	Online supplier ED	May 2015
NS19	Online supplier WL	June 2015
NS20	Online suppliers ED	July 2015
NS21	Supplier ED	July 2015
NS22	Online suppliers ED	August 2015
NS23	Supplier ED	August 2015
NS24	Supplier ED and WL	August 2015
NS25	Supplier ED and WL	September 2015

Table 3. Overview of interviewed consumers in the Netherlands

Respondent	Description	Date interview
NC1	Consumer ED	2012
NC2	Consumer ED	2012
NC3	Consumer WL	March 2014
NC4	Consumer WL	March 2014
NC5	Consumer ED and WL	May 2014
NC6	Consumer ED	August 2014
NC7	Consumer ED	August 2014
NC8	Consumer WL	June 2015
NC9	Consumer ED and WL	August 2015
NC10	Consumer WL	August 2015

Table 4. Overview of interviewed officials in China and Hong Kong

Respondent	Description	Place interview	Date interview
CR1	Chinese official	Beijing	October 2014
CR2	Chinese official	Beijing	October 2014
CR3	Doctor	Beijing	October 2014
CR4	Doctor	Beijing	October 2014
CR5	Chinese official	Beijing	October 2014
CR6	Doctor	Beijing	October 2014
CR7	Researcher	Beijing	October 2014
CR8	Chinese official	Shanghai	November 2014
CR9	Chinese official	Shanghai	November 2014
CR10	Researcher	Shanghai	November 2014
CR11	Chinese official	Shanghai	November 2014
CR12	HK official	Hong Kong	November 2014
CR13	Researcher	Hong Kong	November 2014
CR14	Researcher	Guangzhou	November 2014
CR15	Chinese official	Guangzhou	November 2014
CR16	Chinese official	Guangzhou	December 2014
CR17	Doctor	Guangzhou	December 2014

Table 5. Overview of interviewed suppliers in China

Respondent	Description	Date interview
CS1	Supplier ED and WL	October 2014
CS2	Supplier ED	November 2014
CS3	Supplier ED	November 2014
CS4	Supplier WL	November 2014
CS5	Supplier ED	November 2014
CS6	Supplier ED and WL	November 2014
CS7	Supplier ED and WL	November 2014

Appendix II

Checklist websites

Medicines

- Types of medicines offered
- Other products for sale
- Information about products
- Medical information
- Prices

Website

- Overall description of advertisement
- Types of advertisement
- Language used
- Location website
- Use of trademarks
- Slogans
- Popularity of the website
- Links to other websites
- Photos in advertisement (doctors, users, products)
- Photos of products

Contact information

- How to contact
- Telephone nr provided
- Address
- Automatically order
- Method of payment (iDeal, Creditcard)
- Method of shipping
- Space for comments

Appendix III

Checklist court cases

General

Year of offense
Short summary of case

Trade

Types of medicines
Source of medicines
Trade in other drugs
Financial information
Licenses
Levels of sale
Off- and online distribution
Legal and illegal sale

Suppliers

Age of alleged offenders
Gender of alleged offenders
Occupation of alleged offenders
Criminal record
Motives
Information on offenders and other actors
Cooperation and roles
Types of traders

Result

Verdict
Sentence
Comments

Appendix IV

Questions first prevalence survey²⁶

1. Which of the medicines below did you ever purchase on the internet or elsewhere outside the legitimate supply chain (such as through friends, family, or markets)?

Painkillers
Muscle drugs
Antiviral medicines
ADHD medicines
Antibiotics
Weight loss drugs
Sexual enhancers
Sedatives and tranquilizers
Birth control
Quit smoking medication
Antidepressants
Other

**2. You have stated that you ever purchased the following medicine(s) on the internet or elsewhere outside the legitimate supply chain: [medicine(s)]
Did you purchase these medicines on a doctor's prescription?**

Yes, I had a doctor's prescription and used this for the purchase
No, there is no doctor's prescription needed to purchase this medicine
No, I did not have to show a doctor's prescription, but the medicine is only available on doctor's prescription.
I don't know

3. Did you ever consider purchasing the medicines below on the internet or elsewhere outside the legitimate supply chain?

Painkillers
Muscle drugs

²⁶ The survey study was conducted in Dutch language. Questions in this appendix concern translated questions.

Antiviral medicines
ADHD medicines
Antibiotics
Weight loss drugs
Sexual enhancers
Sedatives and tranquillizers
Birth control
Quit smoking medication
Antidepressants
Other

4. Through which channel did you ever purchase/considered to purchase medicines outside the legitimate supply chain?

On the internet

Through friends, family, markets or elsewhere outside the legitimate supply chain?

I never purchased/considered to purchase medicines through channels outside the legitimate supply chain.

Appendix V

Questions second prevalence study²⁷

1. Which of the medicines below did you ever purchase on the internet?

For example, through an online pharmacy, or second-hand vending website where you can order medicines online.

Painkillers
Muscle drugs
Antiviral medicines
ADHD medicines
Antibiotics
Weight loss drugs
Sexual enhancers
Sedatives and tranquillizers
Birth control
Quit smoking medication
Antidepressants
Other

2. Which of the medicines below did you ever purchase through other channels outside the legitimate supply chain?

We refer to channels such as through friends, family, or acquaintances or other methods to obtain medicines outside the legitimate supply chain.

We do not refer to regular channels, such as a pharmacy, or regular shop where you can purchase these medicines.

Painkillers
Muscle drugs
Antiviral medicines
ADHD medicines
Antibiotics
Weight loss drugs
Sexual enhancers
Sedatives and tranquillizers

²⁷ The survey study was conducted in Dutch language. Questions in this appendix concern translated questions.

Birth control
Quit smoking medication
Antidepressants
Other

3. Which of the medicines below did you ever consider purchasing on the internet?

For example, through an online pharmacy, or second-hand vending website where you can order medicines online.

Painkillers
Muscle drugs
Antiviral medicines
ADHD medicines
Antibiotics
Weight loss drugs
Sexual enhancers
Sedatives and tranquillizers
Birth control
Quit smoking medication
Antidepressants
Other

4. You stated that you ever purchased the following medicines on the internet or through other channels. Did you use a doctor's prescription for this?

Yes, I had a doctor's prescription and used this for the purchase
No, there is no doctor's prescription needed to purchase this medicine
No, I did not have to show a doctor's prescription, but the medicine is only available on doctor's prescription.
No, I did not have to show a doctor's prescription, the medicines are not available for sale in the Netherlands
I don't know

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Curriculum Vitae

Rosa Koenraadt (Amsterdam, 1985) obtained her bachelor degrees in Clinical Psychology and Clinical Neuropsychology (BA) at the University of Amsterdam. In 2012 she received her Master degree (MA) in Criminology at Utrecht University. Her master thesis was awarded second price for best master thesis by the Dutch Criminological Society in 2012. The thesis is published at Wolf Legal Publishers. From 2011 to 2013 Rosa worked as a researcher and teacher in Criminology at Utrecht University where she was involved in a research project on mobile banditism and has been teaching criminological courses. From 2013 to 2017 she conducted her PhD research within the Erasmus Mundus Doctorate in Cultural and Global Criminology (DCGC) program, affiliated with both Utrecht University and Eötvös Loránd University, Budapest. Rosa currently works as a lecturer and researcher in Criminology at Utrecht University's Willem Pompe Institute for Criminal Law and Criminology.

POMPE REEKS

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