



European Monitoring Centre
for Drugs and Drug Addiction

PERSPECTIVES ON DRUGS

Opioid trafficking routes from Asia to Europe

Imported heroin has historically been available in Europe in two forms, the most common being brown heroin (its chemical base form), originating mainly in Afghanistan and other countries in south-west Asia. Less common is white heroin (a salt form), which historically came from south-east Asia but is now also produced in Afghanistan and probably in neighbouring Iran and Pakistan. This region, sometimes referred to as the Golden Crescent, dominates production for the European market.

Although signs of a decrease in heroin use have been observed recently in some European countries with longer-established heroin use problems, there is also evidence of an increased diversity of opioids appearing on the market. There has also been a marked increase in opium production in Afghanistan, and there is evidence to suggest diversification of heroin and morphine production and innovation in trafficking methods and routes. In the light of these changes, which are impacting on European opioid markets, this analysis reviews the latest evidence on the multiple ways heroin is now trafficked to Europe.

The European heroin market

Many European countries have a long history of problem opioid use. Since the heroin 'epidemics' experienced in western European countries in the 1970s and 1980s, heroin has been the most common opioid on the European illicit drug market and people with heroin problems have dominated drug treatment services.

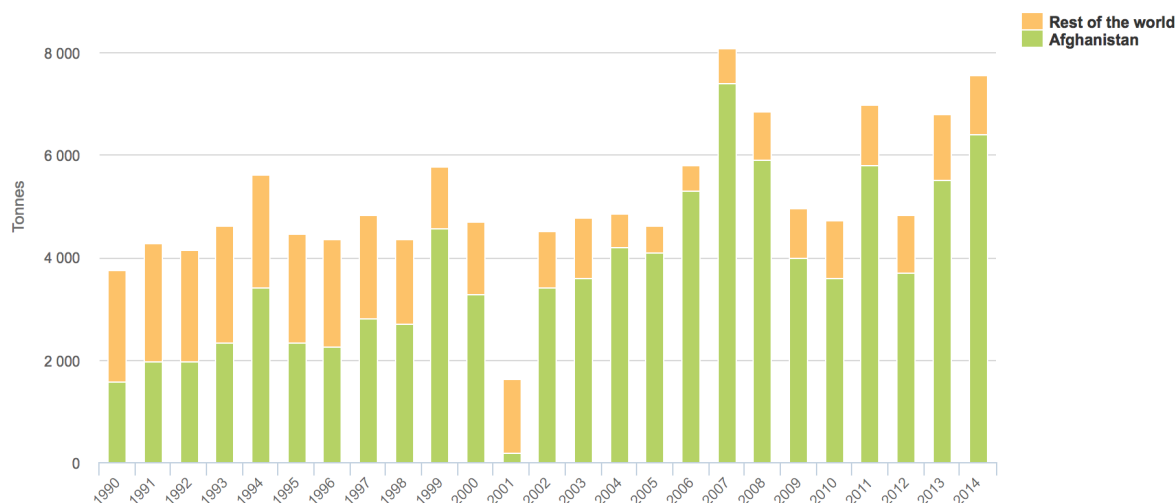
However, in 2010 and 2011 a number of countries' drug markets experienced a shortage of heroin from which few seem to have fully recovered. Alongside this there appears to have been a decline in heroin use in Europe in recent years, accompanied by a considerable decline in both the number of heroin seizures and the quantity seized from 2010 onwards. Trends for heroin prices and heroin supply offences in Europe have also been decreasing, although in the most recent data (2013) heroin purity shows an overall increase and some countries report the growing availability of the drug.

There is also evidence of a wider range of opioids being used and seized. In a number of countries opioids other than heroin,

Full edition of this article with interactive features available online at

emcdda.europa.eu/topics/pods/opioid-trafficking-routes



Figure 1: Estimated global illicit opium production and proportion originating in Afghanistan, 1990–2014.

Source: UNODC (2007, 2008, 2012, 2014a 2014b, 2014c).

Note: Global production and share of Afghanistan in 2014 was estimated by the EMCDDA based on estimates published by UNODC (2014a, 2014b and 2014c).

such as methadone, buprenorphine or fentanyl, are reported by significant numbers of treatment clients (EMCDDA, 2015a). In 2013, alongside the crude opioid preparations such as 'kompot' traditionally used in parts of eastern Europe, a wide range of other opioids were seized by law enforcement agencies, including opium and the medicinal products morphine, methadone, buprenorphine, fentanyl and tramadol. In addition, 14 new synthetic opioids have been reported to the European Union (EU) Early Warning System since 2005.

The evolution of opium production in Afghanistan

Most of the heroin trafficked to Europe originates in Afghanistan, where significant cultivation of opium poppies takes place. The rise in opium poppy cultivation can be traced back to the 1980s, when conflict engulfed the country. By 1994 the United Nations Office on Drugs and Crime (UNODC) estimated that about a quarter of global illicit poppy cultivation took place in Afghanistan (71 410 hectares (ha) out of a total of 272 500 ha). Despite fluctuations from year to year, cultivation has increased to record levels; in 2014 cultivation in Afghanistan was estimated at about 224 000 ha, by far the largest in the world. Production of opium in Afghanistan is estimated at 6 400 tonnes, which is likely to represent more than 80 % of estimated global production, based on unconsolidated data from UNODC (2014a, 2014b, 2014c) (Figure 1).

In order to produce heroin from opium poppies, the latex from the seed capsules of the poppy is harvested and dried, resulting in opium. This is then dispersed in an aqueous solution of calcium hydroxide (slaked lime), and ammonium

chloride is added to adjust the alkalinity so that the morphine base is precipitated. The separated morphine base is then boiled with acetic anhydride and sodium carbonate, causing the diamorphine base (brown heroin) to separate. Brown heroin can be the end-product or it can be further refined into the hydrochloride salt (white heroin). In the past, it appears that most of the opium produced in Afghanistan was transformed into heroin and sent to Europe. However, production of morphine for export now appears to be increasing in the Golden Crescent (see 'The development of morphine production in Afghanistan, Pakistan and Iran').

How heroin gets to Europe: three main routes

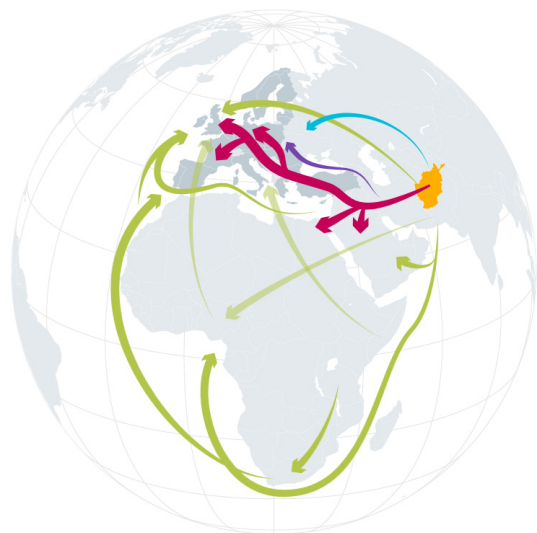
Historically, most of the heroin trafficked to Europe from Afghanistan came overland via what has become known as the Balkan route. Now, although the Balkan route probably remains the main heroin trafficking route into the EU, there is evidence of an increase in the diversity of routes and modes of transport being used.

The traditional Balkan route

A route linking Afghanistan to Iran then passing through Turkey represents the shortest distance and most direct land route to European consumer markets. This route has been used to traffic heroin into the EU since the 1980s or earlier, and is well established. Turkey is crucial to the Balkan route, owing to its extensive trade and travel links with Asia, the Middle East and Europe. According to Europol, Istanbul is a key location used by organised crime groups (OCGs) to arrange heroin transports with Turkish facilitators and store heroin for transport to the EU.

Interactive map: trafficking routes

Balkan route **Southern route** **Northern route** **Caucasus route**



Interactive map illustrating main trafficking routes into Europe, available on the EMCDDA website: www.emcdda.europa.eu/topics/pods/opioid-trafficking-routes

From Turkey there are multiple possibilities to ship heroin either overland or by sea. Three branches of the Balkan route depart from Turkey and lead into western Europe:

- The southern branch runs through Greece, Albania and Italy, mostly by sea (ferries).
- The central branch runs through Bulgaria, the former Yugoslav Republic of Macedonia, Serbia, Montenegro, Bosnia and Herzegovina, Croatia and Slovenia to either Italy or Austria, primarily overland.
- The northern branch runs from Bulgaria and Romania to Hungary, Austria, the Czech Republic, Poland or Germany, primarily overland.

Some heroin is also trafficked from Turkey to Europe by air. An analysis of 120 cases involving Europe where heroin was trafficked by air showed Turkey as the most cited country of origin, followed by Pakistan and Kenya (UNODC, 2014a).

Since 2003 Turkey has become the country reporting the largest annual seizures of heroin to the EMCDDA, with a peak of 16 tonnes in 2009. In 2013 Turkey intercepted more than three times as much heroin as the entire EU, whereas in 2001 the quantity seized was only one-third of the amount confiscated in the EU. The size of individual heroin shipments sent along the Balkan route seems to have increased in recent years; large individual seizures have increased from a few dozen kilograms to over 100 kilograms nowadays. Since 2012 record-breaking heroin seizures have also occurred in other countries located on the Balkan route, including Austria, the Czech Republic, Germany and the Netherlands.

There are also a number of routes by which the heroin may reach Turkey. In recent years a branch of the Balkan route seems to have developed that passes through Iraq before entering Turkey, either directly or through Syria. However, it is probable that some of the heroin that enters Iraq is either destined for the domestic consumer market or is in transit to destinations in the Middle East and the Arabian Peninsula. It should be noted that Iraq is also used as a transit or destination country for shipments of acetic anhydride, a key chemical for the manufacturing of heroin (see below). For instance, a shipment of 2 200 litres of acetic anhydride from Spain to Iraq was stopped in July 2014 (INCB, 2015).

Another branch of the Balkan route goes through Iran, and possibly Central Asian countries such as Turkmenistan, by land or over the Caspian Sea, to the countries of the Caucasus (Armenia, Azerbaijan and Georgia) and then into Turkey by land or through the Black Sea. From Turkey the heroin may be transported west into the EU along one of the traditional branches of the Balkan route, or it may be shipped north on one of the ferries plying the Black Sea between Turkey and Ukraine or Moldova (see the comments on the Caucasus route, below).

The traditional method of transport on the Balkan route was to conceal heroin shipments in lorries, buses and cars. While these methods are still in use, a recent trend seems to be the use of shipping containers to hide heroin consignments. Heroin traffic by maritime containers to Europe is linked primarily with Pakistan and the Southern route (see below), but the increased use of containers, especially through Turkish ports, could help to explain the increase in very large heroin seizures in Turkey and elsewhere on the Balkan route.

While the Balkan route is best known for the trafficking of heroin to Europe, a so-called 'reverse' Balkan route operates where acetic anhydride is the outward-bound commodity, sometimes in exchange for heroin. Europol intelligence suggests that OCGs located at strategic points between Europe and Afghanistan are well rehearsed in facilitating large consignments of acetic anhydride. Mostly, this precursor is diverted out of the EU, despite stringent control mechanisms; OCGs use their own front companies or infiltrate existing businesses to order acetic anhydride from companies registered in the EU.

The Southern route

In recent years large heroin consignments shipped from ports in Iran and Pakistan on the Gulf of Oman and the Persian Gulf, especially from a region of Baluchistan known as the Makran Coast, have attracted international attention. Some of this heroin is destined for Europe. This 'Southern route' to Europe entails several modes of transportation and trans-shipment points that may be combined in different ways.

Initially, heroin consignments depart Iranian and Pakistani container terminals and fishing ports on the Makran Coast either concealed in commercial containers placed on cargo ships or on local vessels known as dhows. Seizure data indicate that the weight of the individual heroin shipments trafficked can range from 20 to 500 kilograms, with consignments of about a tonne occasionally found. The heroin seems to be of relatively high purity, according to data released by the Combined Maritime Forces (CMF), a US-led multinational naval task force based in Bahrain. Searches carried out by the CMF between 2012 and March 2014 found 15 heroin consignments totalling 4.1 tonnes, including 1 tonne seized off the coast of Somalia in 2014. Other drugs such as cannabis resin and some synthetic drugs, particularly methamphetamine, are also trafficked along this route, but for the most part these are probably not destined for Europe (UNODC, 2014b, 2014d; CMF, 2014).

The heroin shipped in this way is destined for countries in the Arabian Peninsula and east Africa. Some may travel further north into the Red Sea as far as Egypt. A proportion of this heroin supplies local consumer markets in Africa and the Middle East, which appear to be growing (UNODC, 2014a). The heroin trade also seems to have destabilising effects in east Africa, with drug profits reportedly funding armed groups in the area. However, significant and reportedly growing amounts are trafficked onward to destinations including Europe. Heroin shipments may be broken down in smaller batches and sent by air to Europe directly or via southern and west Africa. Alternatively, some consignments are trafficked to South Africa, especially by sea but also by land (rail), before on-shipment to Europe.

Criminal organisations from several European countries, including the Netherlands, the United Kingdom and Ireland, have used South Africa as a departure and trans-shipment point for drug consignments for some time. Recently, Turkish traffickers have relocated to South Africa or travel to the region to broker the supply of heroin to the EU from Pakistan via southern Africa. Other criminal organisations active on the Southern route include west African, especially Nigerian, and east African OCGs, and criminal organisations from Pakistan.

Some heroin is trafficked in containers from the Makran Coast directly to Europe, or via the Arabian Peninsula and east, southern or west Africa, especially Nigeria. Seizure data suggest that ports in Belgium, the Netherlands and the United Kingdom are the main targets, although the drug may also be for distribution to neighbouring countries. Large amounts of heroin have been seized from maritime containers (and occasionally air freight) in these countries in recent years (UNODC, 2014d).

However, large maritime heroin shipments may also be destined for southern Europe; for example, a record-breaking consignment of 2 tonnes of heroin was seized near Athens in June 2014 (Hellenic Coast Guard, 2014).



The Southern route may also involve smaller amounts of heroin shipped by air couriers and freight, and postal parcels, from Pakistan directly to Europe, especially the United Kingdom. These may also travel via airports in west and east Africa. Heroin is trafficked by air and postal parcels between Pakistan and Nigeria, some of which is then shipped to Europe. Italy seems to be a significant destination for heroin shipped by air from east Africa, while France and Belgium have incoming air traffic mainly from other parts of Africa.

The Northern route

The heroin trafficked on the 'Northern route' is exported by land from Afghanistan's northern borders and is reported to be primarily destined for the very large consumer markets in Central Asia, Russia, Ukraine and Belarus. Most consignments cross from Afghanistan into Tajikistan and are then trafficked northwards through Kyrgyzstan or Uzbekistan to Kazakhstan before entering Russia. The fact that these four Central Asian countries and Russia rank among the top 20 countries seizing the largest quantities of heroin at world level confirms that significant quantities of the opiate are shipped along the Northern route (UNODC, 2014a). A small proportion of heroin shipped on the Northern route may eventually enter the EU's eastern borders in Poland and the Baltic countries. For instance, some heroin seized in Ukraine and Belarus in the last few years was reported as originating from Central Asia and intended for western European markets.

| The fluidity of routes and modus operandi

This analysis shows that the so-called 'trafficking routes' are very flexible and fluid, as are the methods of transportation used. An example of this is the emergence of a possible new Caucasus route. On this route, opiates produced in the Golden Crescent are trafficked from Iran to Turkey via Armenia, Azerbaijan and Georgia. This route came to light due to three notable seizures in 2014, including 850 kilograms of heroin seized from a lorry in Armenia, the seizure of 2 500 litres of an unusual

Facts and figures

Heroin in Europe at a glance		
Problem opioid use ⁽¹⁾		Estimated number
		1.3 million
		Number (% of all drug admissions)
Drug treatment ⁽²⁾	All admissions in EU	135 000 (35 %)
	First admissions in EU	20 000 (14 %)
Drug-induced deaths ⁽³⁾ (all drugs)		Estimated number
		6 100
		Number (as % of offences for all drugs)
Drug law offences related to heroin	All offences	60 000 (5 %)
	Offences for drug use/possession for use	37 800 (4 %)
	Offences for drug supply	17 000 (9 %)
Seizures ⁽⁴⁾	Quantity (tonnes)	5.6 (19.1)
	Number	32 000 (39 000)
		Heroin base 'brown'
Mean retail price (EUR per gram)	Range (IQR) ⁽⁵⁾	25–158 (33–58)
Mean purity (%)	Range (IQR) ⁽⁵⁾	6–75 (13–23)

Notes:

All data refer to 2013.

(1) Estimate of the extent of problem opioid (mainly heroin) use within the EU and Norway.

(2) Information is available on about 436 000 drug users entering specialist treatment in Europe (the EU, Norway and Turkey). Treatment units' coverage may vary between countries.

(3) Opioids, alone or in combination with other drugs, are present in 8 out of 10 (79 %) reported drug-induced deaths (overdoses) in Europe.

(4) The 2013 figures should be considered as estimates; where 2013 data were not available, 2012 data were used in their place to calculate European totals. Data include all types of heroin seized except liquid heroin.

(5) IQR: interquartile range, or range of the middle half of the reported data.

Source: EMCDDA/Reitox national focal points, EMCDDA (2015b).

liquid mixture containing among other things 589 kilograms of heroin in Georgia and apparently destined for Moldova, and 70 kilograms of heroin seized in Azerbaijan. These cases suggest that the Caucasus are now being used to smuggle large amounts of opiates from Iran to Turkey via Georgia. This could be yet another branch of the Balkan route that is being used in order to avoid the heavily policed Iranian–Turkish border. However, it is possible that a proportion of the opiates trafficked through the Caucasus is intended to be smuggled on either

to the lucrative western European and Scandinavian markets, or to the large Russian market. From the Caucasus there are numerous possible links to these consumer markets by land or across the Black Sea. For example, either could have been the final destination of a consignment of 83 kilograms of heroin concealed in a lorry heading from Georgia to Latvia that was seized in March 2013 by Belarus customs at the border with Lithuania.

Conclusion: factors influencing trafficking routes

Trafficking routes connect drug production regions and drug consumer markets and may vary over time due to a series of factors. Three factors seem to be of particular importance. First, instability and armed conflict may push traffickers to avoid specific areas or countries and seek alternative routes if the conflict is such that the safety of drug consignments cannot be guaranteed. Conversely, however, areas of conflict may attract drug flows because they often imply a suspension of the rule of law and the emergence of local or regional powers (for example, 'warlords') whose control over strategic locations like ports and border crossing points may be 'rented out' to drug traffickers. Importantly, armed conflicts create a need for funds, especially in order to buy weapons, and trafficking drugs may become a source of finance for one or several of the factions. Finally, fighters often use drugs for stimulation or to stay awake for long periods of time, and in order to alleviate pain. One example of this is the ethnolinguistic area of Baluchistan, where instability results from a mix of factors including weak governance, the activities of armed groups including Islamic radicals and others, compounded by drug production and trafficking activities and law enforcement against them. Southern Afghanistan, where most of the opium/heroin is produced, is part of Baluchistan,

which also spreads into Pakistan and Iran, through which large amounts of opiates are trafficked. Similarly, in Africa there are many areas of instability or weak governance that organised crime can exploit for drug trafficking (Schuberth, 2014).

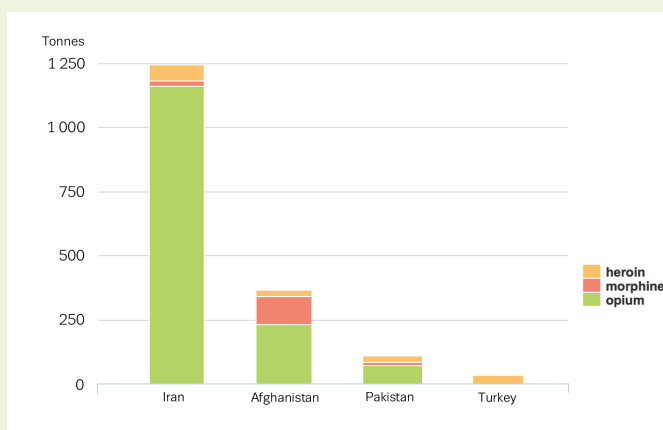
Second, changes in law enforcement activities and positioning, or the introduction of new equipment (e.g. scanners) or methodologies (e.g. searching all passengers and luggage on specific flights or vessels) may cause traffickers to alter their route or change their modus operandi if the seizure rate is too high for the profitability of the business. It is also important to note that changes in law enforcement positioning or methodologies may result in the 'discovery' of trafficking routes that may have been in existence for some time. Indeed, the identification of drug trafficking routes is heavily dependent on law enforcement actions, especially drug seizure cases in which the origin and the destination of the drugs can be identified.

Third, globalisation has facilitated rapid connection and transportation between drug production and drug consumer markets. Recent international developments in transport infrastructure, courier services and containerised shipping have offered a range of new opportunities to traffickers to conceal drug consignments while hampering the efforts of law enforcement to intercept them.

The development of morphine production in the Golden Crescent

Several tonnes of opium and illicit morphine have been seized every year in Afghanistan, Pakistan and Iran since the early 2000s (EMCDDA and Europol, 2013). In the years 2010 to 2012 some 111 tonnes of illicit morphine were seized in Afghanistan, 22 tonnes in Iran and 12 tonnes in Pakistan. During the same three years, seizures of opium totalled 231 tonnes in Afghanistan, 1 160 tonnes in Iran and 73 tonnes in Pakistan (see Figure 2).

Figure 2: Seizures of opium, illicit morphine and heroin in Afghanistan, Iran, Pakistan and Turkey, 2010–12.



Source: UNODC, 2014a.

This provides confirmation that a proportion of Afghanistan's opium crop is not processed into heroin in the country, and that there are markets for opium and morphine outside of Afghanistan. While fairly large quantities of opium are consumed as opium in Iran and Pakistan, where markets for the drug exist, it is probable that a proportion is used, together with morphine, in the manufacture of opiate products. A number of hypotheses may be put forward.

A proportion of the opium and morphine is used to manufacture heroin in Pakistan and Iran, and probably in other countries further afield, including European countries. For instance, two facilities processing morphine into heroin were dismantled in Spain in late 2013 and early 2014.

A proportion is used to licitly or illicitly manufacture medicinal products including injectable morphine and codeine-based cough syrups in Pakistan and Iran. It is likely that large amounts of these products are sold in these countries. For instance, there are large numbers of unregulated pharmacies and stores in Pakistan, where controlled drugs including morphine can be bought without a prescription (UNODC, 2013). These products may also be exported to neighbouring countries.

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