



**UNODC**

United Nations Office on Drugs and Crime

**AOTP  
UPDATE**

**VOLUME 4**

Understanding  
**heroin manufacture**  
in Europe from 2013 to 2020



## About the Afghan Opiate Trade Project

The opiates produced in Afghanistan continue to pose a threat to public health, governance and security in South-West Asia and beyond at global level. Trafficked to almost every continent worldwide, income from opiates in Afghanistan amounted to some \$1.8-\$2.7 billion in 2021 and was worth between 6 and 11 per cent of Afghanistan's GDP<sup>1</sup>, exceeding the value of the country's officially recorded licit exports of goods and services. To address the need for systematic monitoring, comprehensive and consolidated analytical information about the multidimensional threat of the global illicit trade in Afghan opiates, the UNODC Afghan Opiate Trade Project (AOTP) was established in 2008. The project has produced a number of regional and global threat assessment reports and collaborates extensively with numerous national and regional policy making bodies and law enforcement agencies to provide the international community with a better understanding of the threat posed by the opiates produced in Afghanistan.

## About the AOTP Update

The AOTP Update series is designed to provide brief, regular reporting on emerging patterns and trends of the global situation pertaining to Afghan opiates. Given the speed at which changes in the illicit opiate markets occur, it is important to have a simple sustainable mechanism for regular information sharing.

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### Disclaimer

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<sup>1</sup> UNODC, *Research Brief*, Drug Situation in Afghanistan - Latest Findings and Emerging Threats, November 2021, page 3 and 7.

# Understanding heroin manufacture in Europe from 2013 to 2020

Most of the heroin trafficked to, and seized in, Europe (as well as in Central Asia/Transcaucasia and Africa) is of Afghan origin.<sup>1</sup> Heroin is supplied to Europe from Afghanistan along four main trafficking routes of which the Balkan route is believed to be by far the most dominant route.<sup>2</sup> Globally, Afghanistan is the largest producer of heroin, followed by Myanmar and Mexico.<sup>3</sup> Despite heroin being trafficked to Europe from Afghanistan, recent evidence confirms that heroin manufacture is also occurring within Europe. Data shows that heroin laboratories have been discovered in a number of European countries and while heroin seizures are on the rise in the region, locally manufactured heroin is also being trafficked to various countries within Europe and outside the region.

This recent development in Europe raises a number of questions. For instance, what drives heroin manufacture in Europe? On what scale are laboratories producing and processing heroin in Europe? By which process is heroin being manufactured in the region, and from where are precursor chemicals being supplied? Is heroin being manufactured in Europe to supply local markets or others outside the region? This report seeks to address these questions.

Following an analysis on the extent of heroin manufacture in Europe, this report explores processes of heroin manufacture, the sourcing of morphine and opium, and the drivers for manufacture within the region.

## What is the extent of heroin manufacture in Europe?

The manufacture of heroin is a process, starting with the transformation of opium into morphine and then the transformation of morphine into heroin, i.e. the actual heroin manufacture as such. These processes can – and often do – take place in different countries.

Data show that whilst heroin has been largely manufactured in Afghanistan, it is also being manufactured in Europe and a number of other regions worldwide. Globally, the largest number of heroin laboratories were reported to have been dismantled in Afghanistan, totalling 112 laboratories<sup>4</sup> between 2013 to 2014.<sup>5</sup> Between 2013 and 2019 Malaysia dismantled 67 heroin laboratories, Greece 42 laboratories, Mexico 39 and China 27 laboratories.<sup>6</sup> Over the same time-span, some heroin laboratories were also reported to have been dismantled by other countries in Western and Central Europe, and South-Eastern Europe, as well as East and South-East Asia, Southern Asia, Australia and New Zealand, South America, and North America (see map 1 for an overview of dismantled heroin laboratories worldwide).

1 UNODC, *World Drug Report 2021*.

2 The Balkan route leads from Afghanistan via Iran (the Islamic Republic of), to Turkey and across the Balkans to Western and Central Europe. Excluding seizures made in Afghanistan, countries along the Balkan route accounted for 50 per cent of the total global quantities of heroin and morphine seized in 2019. UNODC, *World Drug Report 2021*, Booklet 3, page 95.

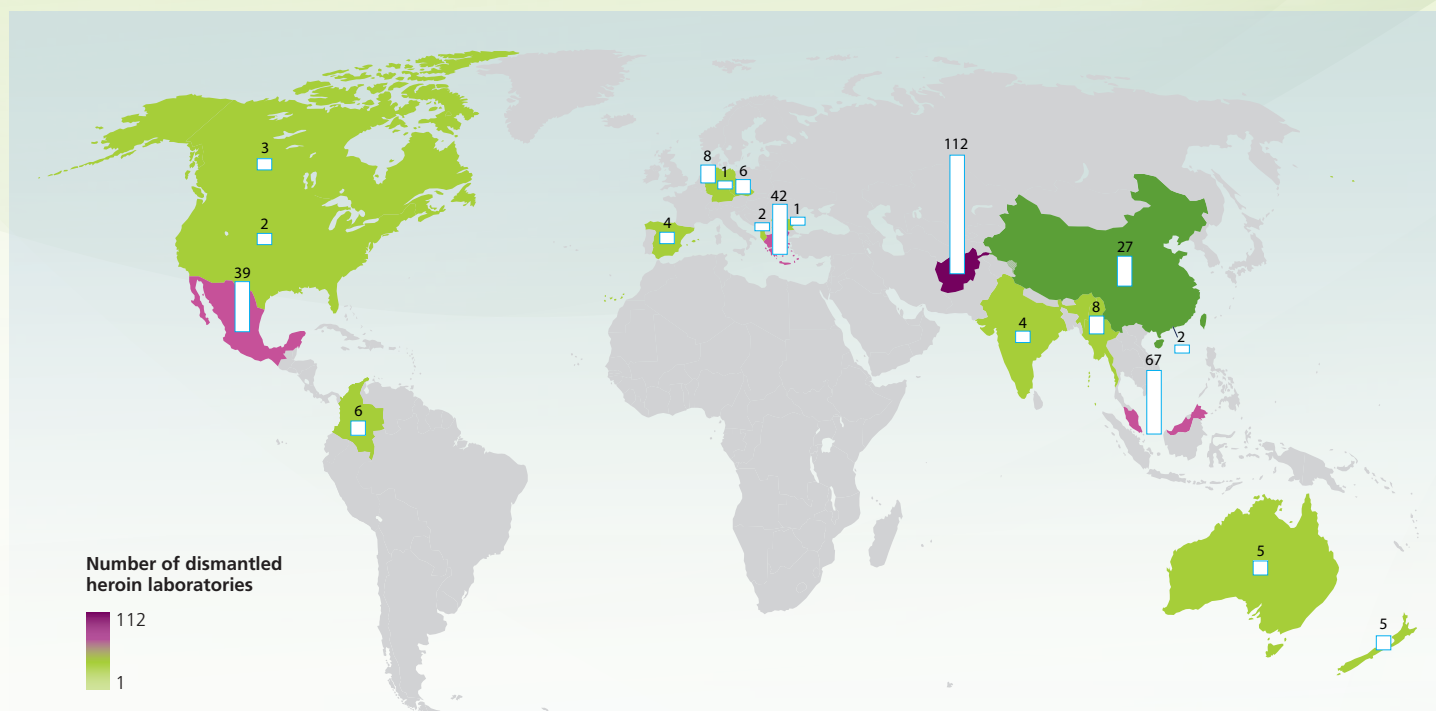
3 Whereas Mexico and Myanmar supply heroin to neighbouring countries and subregions, Afghanistan is a more global supplier; UNODC, *World Drug Report 2021*, Booklet 3, page 108.

4 Officially reported data by Afghanistan through the ARQ show that 112 laboratories were dismantled in 2013 and 2014. Afghanistan has not officially reported of dismantled heroin laboratories to UNODC since 2014. However, publicly available data shows that international military forces in Afghanistan did destroy a number of heroin and methamphetamine laboratories in 2017 and 2018. Information provided by the Counter Narcotics Police of Afghanistan (CNPA) and Afghan special police units also shows that laboratories have been dismantled in Afghanistan after 2014.

5 UNODC, responses to the Annual Report Questionnaire.

6 Ibid.

MAP 1 Dismantled heroin laboratories reported to UNODC worldwide, 2013–2019



Source: UNODC, responses to the Annual Report Questionnaire. European Monitoring Centre for Drugs and Drug Addiction and Europol (2019), *EU Drug Markets Report 2019*, Publications Office of the European Union, Luxembourg.

*The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.*

## Methodological note

In contrast to the quantities of opium produced, which are estimated through the use of satellite imagery, confirmed by a “ground truthing” exercise and crop yield estimates, no such methods are available for the identification of the quantities and the origin of the clandestine manufacture of heroin. As such only a number of indirect indicators are available to understand the level of heroin manufacture in Europe.

Each of these indicators has shortcomings. In this study, they are therefore not – taken by itself- reflecting a fair picture of the importance heroin manufacture in a region. Combination of these indicators are used to get picture that is close to the reality.

Such methods to estimate the potential importance of Europe as a heroin manufacturing region, include:

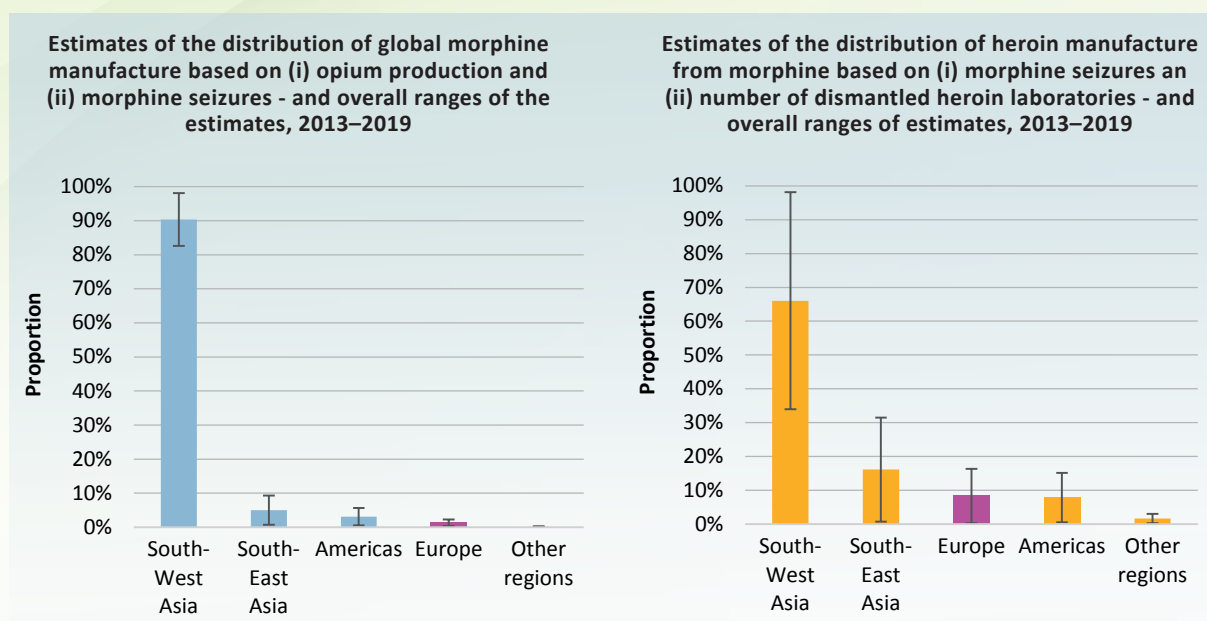
- (i) the importance of Europe in global opium seizures
- (ii) the importance of Europe in global morphine seizures
- (iii) the importance of European countries as reported “countries of origin” of heroin seized as compared to overall reports of such countries of origin
- (iv) the importance of Europe in the global number of dismantled heroin laboratories

These indicators are used in this study.

The data for opium, morphine, and heroin seizure as well as detected clandestine laboratories and facilities for drug packaging are collected from the annual report questionnaires filled in by Member States.

UNODC's World Drug Reports, other reports published by international and regional organizations and direct information received from Member States are used in this study.

**FIG. 1** Heroin can be manufactured across regions



Sources: Opium production estimates based on UNODC, *World Drug Report 2021* and estimates of morphine seizures based on UNODC, responses to the Annual Report Questionnaire.

Sources: Estimates based on UNODC, responses to the Annual Report Questionnaire.

## Heroin laboratories in Europe

Available indicators suggest that most heroin was manufactured in South-West Asia over the period 2013–2019, reflecting a strong concentration of global opium production in this subregion.<sup>7</sup> Based on reported seizures of morphine, data show that over the period 2013 to 2019 0.3 per cent of global quantities of morphine seized were reported by a total of 26 countries in Europe, led by Turkey (accounting for 51 per cent of all morphine seizures in Europe over the period 2013–2019) and Bulgaria (25 per cent). The analysis of dismantled heroin laboratories also indicates that some clandestine manufacture of heroin is taking place in Europe. European countries accounted with 54 laboratories officially reported to UNODC for 16 per cent of all reported heroin laboratories dismantled worldwide over the period 2013–2019. Such calculations suggest that South-West Asia may account for close to two thirds of the global total (range: 34 to 98 per cent over the period 2013–2019), followed by South-East Asia (range: 0.7 to 32 per cent), Europe (range: 0.3 to 16 per cent) and the Americas (0.5 to 15 per cent).<sup>8</sup> The actual amounts of heroin produced in Europe may probably be closer to the lower range as the number of

times Europe is mentioned as “countries of origin” and in “heroin laboratories dismantled” are likely to be inflated as compared to other regions. The heroin laboratories identified so-far in Europe have been rather small.

In Europe, a number of countries reported that they dismantled heroin laboratories between 2013 and 2020 (see figure 2). So far, Greece reportedly dismantled the largest number of heroin laboratories in the European region, annually reporting 3 to 9 laboratories to UNODC between 2013 and 2020.<sup>9</sup> (For a further analysis on Greece, see box on “Case study: Heroin manufacture in Greece”) Over the same period, 4 heroin laboratories were reportedly dismantled in both Spain and Czechia.<sup>10</sup>

According to the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), the Netherlands and Bulgaria reported dismantled heroin laboratories for the first time in 2017.<sup>11</sup> While in Germany, police authorities first discovered a heroin

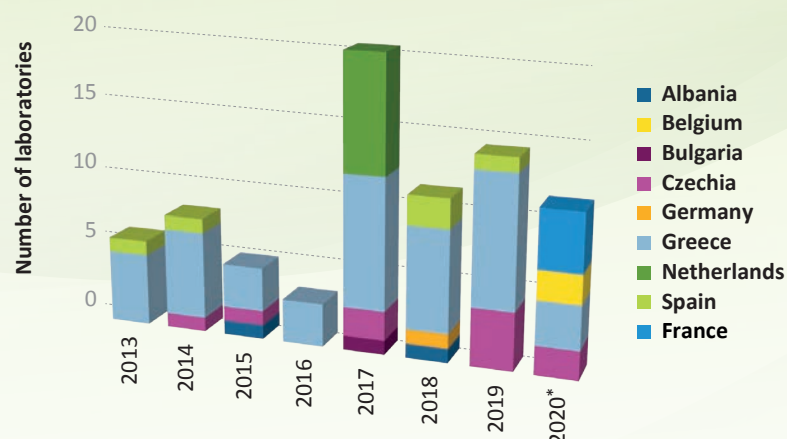
<sup>7</sup> UNODC, *World Drug Report 2021*, Booklet 3.

<sup>8</sup> UNODC, responses to the Annual Report Questionnaire.

<sup>9</sup> Ibid.

<sup>10</sup> UNODC, responses to the Annual Report Questionnaire; European Monitoring Centre for Drugs and Drug Addiction and Europol (2019) *EU Drug Markets Report 2019*. Publications Office of the European Union: Luxembourg.

<sup>11</sup> European Monitoring Centre for Drugs and Drug Addiction and Europol (2019) *EU Drug Markets Report 2019*. Publications Office of the European Union: Luxembourg.

**FIG. 2** Dismantled heroin laboratories and repackaging sites reported in Europe, 2013–2020

Source: UNODC, responses to the Annual Report Questionnaire; European Monitoring Centre for Drugs and Drug Addiction and Europol (2019) EU Drug Markets Report 2019. Publications Office of the European Union: Luxembourg; Meers, J. (2018), 'Albanian police arrest 27 in heroin trafficking crackdown', Organised Crime and Corruption Reporting Project (OCCRP)." 23 October. Available at <https://www.occrp.org/en/27-ccwatch/cc-watch-briefs/8789-albanianpolice-arrest-27-in-heroin-trafficking-crackdown>; Information received in direct communication with the Czech National Drug Headquarters, Criminal Police and Investigation Services, March 2021; Information received in communication with the Intelligence Center for Counter-Terrorism and Organized Crime (CITCO) of the Spanish Ministry of Interior, March 2021.

\* In 2020 Greece reported 3 heroin laboratories dismantled. Belgium also reported 2 repackaging sites and France 4 repackaging sites. Following changes to the ARQ in 2020, the 2020 figures are not directly comparable to 2013–2019.

laboratory in 2018.<sup>12</sup> Albania reported the first discovery of a heroin laboratory in 2015, and the Albanian State Police reported another in 2018.<sup>13</sup> In 2019, police authorities in Czechia also reportedly dismantled another four heroin laboratories<sup>14</sup>, and one was reported by Spain.<sup>15</sup> In 2020 Greece reported three heroin laboratories, Czechia two (1 kitchen laboratory and 1 small-scale laboratory) while France and Belgium reported 4 and 2 heroin repackaging centres as being dismantled.

Although heroin laboratories have been dismantled in a number of European countries, little is known about the nature and scale of these manufacturing operations. For instance, there is no information available on the nature and scale of heroin manufacturing facilities dismantled in Albania, Belgium,

Bulgaria, Germany, Greece and the Netherlands.<sup>16</sup> However, heroin laboratories dismantled in Spain in 2013 and 2014 were reportedly intended for manufacturing heroin at a small "kitchen" scale.<sup>17</sup> In Czechia, heroin laboratories discovered in the country were all of a small scale and police authorities suspect that these sites merely represent isolated cases of heroin manufactured from opium poppies or morphine extracted from pharmaceutical products for local use rather than being indicative of a larger trend.<sup>18</sup> In Germany and Czechia, authorities reported dismantled laboratories that are suspected to have been solely intended for the manufacture of heroin.<sup>19</sup>

12 UNODC, responses to the Annual Report Questionnaire.

13 UNODC, responses to the Annual Report Questionnaire; Meers, J. (2018), 'Albanian police arrest 27 in heroin trafficking crackdown', Organised Crime and Corruption Reporting Project (OCCRP)." 23 October. Available at <https://www.occrp.org/en/27-ccwatch/cc-watch-briefs/8789-albanianpolice-arrest-27-in-heroin-trafficking-crackdown>

14 Information received in direct communication with the Czech National Drug Headquarters, Criminal Police and Investigation Services, March 2021.

15 Information received in communication with the Intelligence Center for Counter-Terrorism and Organized Crime (CITCO) of the Spanish Ministry of Interior, March 2021.

16 UNODC, responses to the Annual Report Questionnaire; In "kitchen laboratories" only basic equipment and simple procedures are used. Typically, those operating in such laboratories have a limited or non-existent knowledge of chemistry and simply follow the instructions. Usually, there are no significant stores of precursors and the quantity of drugs or other substances manufactured is typically for personal use.

17 UNODC, responses to the Annual Report Questionnaire.

18 Information received in direct communication with the Czech National Drug Headquarters, Criminal Police and Investigation Services, March 2021.

19 Information received in direct communication with the Czech National Drug Headquarters, Criminal Police and Investigation Services, March 2021; Information received in direct communication with the German Federal Criminal Police Office (Bundeskriminalamt - BKA), March 2021.

## Case study: Heroin manufacture in Greece

During 2013–2020 Greece has reported the largest number of dismantled heroin laboratories in Europe, signifying the third largest number in the world after Afghanistan and Malaysia. It is interesting that most heroin laboratories dismantled in Greece over the years have been identified as “packaging” sites. This suggests that heroin is not solely manufactured in Greece but is also trafficked to the country where it is then cut and re-packaged before being sold to users. However, no further details have been reported to UNODC regarding the nature of “packaging” laboratories in Greece. It therefore remains unclear as to why several heroin laboratories in Greece have been employed in “packaging” operations over the years. It may be the case that other countries do not report heroin packaging sites as laboratories and that packaging of heroin from large wholesale amounts to smaller quantities also occurs in other European countries.



Source: UNODC, *Afghan Opiate Trade Project (AOTP)*.

Although “packaging” laboratories discovered in Greece might have supplied heroin that had been manufactured elsewhere, the exact origin of this heroin remains unknown. More generally, Greek authorities suspected heroin seized in the country to have been trafficked from Albania, Kenya, Turkey and Pakistan between 2013 and 2015. Further information on heroin trafficking to Greece are not available for later dates.

Is heroin “packaged” in Greece intended for local consumption and/or for the supply of drug markets in other countries? It is not known whether heroin supplied by laboratories in Greece was intended for domestic or international markets. However, overall, between 2013 and 2018, Greek authorities suspected that most of the heroin seized in the country to have been intended for the local market. Treatment data for Greece shows that heroin users account for the largest share of patients entering drug treatment.

Over the years, it has been reported to UNODC that heroin seized in Greece was intended for trafficking to other countries in Europe, such as Germany, Italy and Spain, as well as to Brazil. Between 2013 and 2016, heroin seizure data shows that heroin seized in Bulgaria, Italy and Romania was also suspected to have departed from Greece.

Source: UNODC, *responses to the Annual Report Questionnaire; EMCDDA (June 2019) Greece, Country Drug Report 2019*.

Given the limited information available on the scale of heroin laboratories dismantled in Europe, it is not possible to ascertain the quantity of heroin manufactured in the region on an annual basis nor the production rates for European heroin laboratories. With the exception of Spain and Czechia where heroin manufacture appears to be limited, few other countries in the region have reported on the scale of dismantled heroin manufacturing operations. A laboratory dismantled in a nursery in Bergschenghoek in the Netherlands, was found to have quantities of acetic anhydride that could potentially have produced hundreds of kilograms of heroin, although in practice, law enforcement officials assessed that this laboratory likely produced only tens of kilograms of heroin.<sup>20</sup> At a laboratory dismantled in Albania in

2018, 182.5 kg of heroin were found, but no information was available to determine over what period of time that quantity had been produced and if that heroin had been produced at the laboratory.<sup>21</sup> Police officials in Spain assessed that the laboratories that had been dismantled in 2013 and 2014 could have produced around 100 kg of heroin each, although the quantities of opiates and precursors seized at these dismantled laboratories was considerably less than that (see table 1).<sup>22</sup>

20 “Langdurige gevangenisstraffen voor productie heroïne in kwekerij Bergschenghoek.” 26<sup>th</sup> February 2019, Available at <https://www.rechtspraak.nl/Organisatie-en-contact/Organisatie/>

... [Rechtbanken/Rechtbank-Den-Haag/Nieuws/Paginas/Langdurige-gevangenisstraffen-productie-heroïne-Bergschenghoek.aspx](https://www.rechtspraak.nl/Organisatie-en-contact/Organisatie/)

21 Meers, J. (2018), ‘Albanian police arrest 27 in heroin trafficking crackdown’, Organised Crime and Corruption Reporting Project (OCCRP).” 23 October. Available at <https://www.occrp.org/en/27-ccwatch/cc-watch-briefs/8789-albanianpolice-arrest-27-in-heroin-trafficking-crackdown>

22 Information received in communication with the Intelligence Center for Counter-Terrorism and Organized Crime (CITCO) of the Spanish Ministry of Interior, March 2021.

**TABLE 1** Quantities of opiates and precursor chemicals seized at dismantled laboratories in Spain and arrests made in connection with these cases, 2013–2019

Year laboratories were dismantled	Quantities of opiates discovered	Quantities of precursors discovered	Nationalities of suspects arrested in connection with these cases
2013	11.9 kg of heroin; 18 kg of morphine	75 kg of calcium carbonate	Spain, Turkey, and Honduras
2014	8.5 kg of heroin; 27.3 kg of morphine	110 litres of acetic anhydride; 75 kg of sodium carbonate; 50 kg of calcium hydroxide	Syrian Arab Republic
2018	7.3 kg of heroin	4.8 kg of adulterants/ cutting agents	Spain, Italy, and Bulgaria
2018	6.6 kg of heroin	2.5 kg of acetic anhydride	Spain
2019	13.3 kg of heroin	n/a	Spain and Colombia

Source: Information received in communication with the Intelligence Center for Counter-Terrorism and Organized Crime (CITCO) of the Spanish Ministry of Interior, March 2021.

The present data on dismantled laboratories is therefore largely indicative of the geographic spread of heroin manufacture taking place in Europe, rather than being indicative of the quantities manufactured in the region.

### By which process is heroin being manufactured in Europe?

For a large part, heroin is manufactured in Europe from morphine using acetic anhydride. For instance, between 2014 and 2018, several laboratories reported to have been dismantled in Czechia, Greece and Germany were found to have been manufacturing heroin based on this method.<sup>23</sup> According to the EMCDDA, the same method was employed by laboratories recently discovered in Bulgaria and the Netherlands.<sup>24</sup> Moreover, the Spanish Intelligence Center for Counter-Terrorism and Organized Crime (CITCO) also reported that most dismantled heroin

laboratories in the country had manufactured heroin from morphine.<sup>25</sup>

In addition to heroin being manufactured from morphine, there are indications that heroin is also being manufactured in Europe with morphine extracted from pharmaceutical products. According to police authorities in Czechia, laboratories manufacturing heroin based on this method were discovered in 2014, 2015 and 2019, two of which involved tablets of Vendal retard (morphine hydrochloride), a pharmaceutical product available in some European countries.<sup>26</sup> The EMCDDA reports that another two heroin laboratories manufacturing heroin from morphine extracted from tablets of pharmaceutical products were discovered in 2017.<sup>27</sup> Thus, there are reports of different methods being employed to manufacture heroin in Europe (see figure 3).

23 EMCDDA and Europol (2019) *EU drug markets report: in-depth analysis*. Publications Office of the European Union, Luxembourg; Information received in direct communication with the German Federal Criminal Police Office (Bundeskriminalamt - BKA) and the Czech National Drug Headquarters, Criminal Police and Investigation Services, March 2021.

24 European Monitoring Centre for Drugs and Drug Addiction and Europol (2019) *EU Drug Markets Report 2019*. Publications Office of the European Union: Luxembourg; “Langdurige gevangenisstraffen voor productie heroïne in kwekerij Bergschenhoek.” 26<sup>th</sup> February 2019, Available at <https://www.rechtspraak.nl/Organisatie-en-contact/Organisatie/Rechtbanken/Rechtbank-Den-Haag/Nieuws/Paginas/Langdurige-gevangenisstraffen-productie-heroïne-Bergschenhoek.aspx>

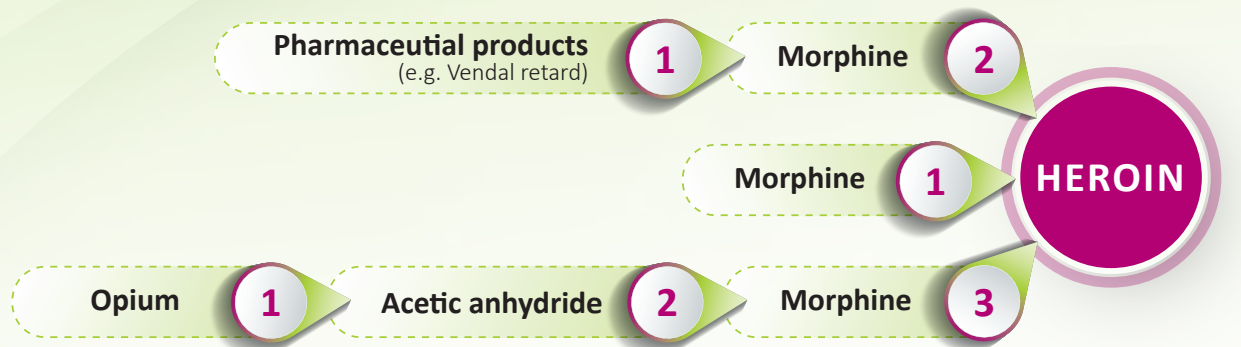
25 Information received in communication with the Intelligence Center for Counter-Terrorism and Organized Crime (CITCO) of the Spanish Ministry of Interior, March 2021.

26 Information received in direct communication with the Czech National Drug Headquarters, Criminal Police and Investigation Services, March 2021; EMCDDA and Europol (2016) *EU drug markets report: in-depth analysis*. Publications Office of the European Union, Luxembourg; Hrachovec, M., Franěk, L. and Kuchař, M. (2015). “Illicit heroin production from Vendal retard.” *Bulletin Národní protidrogová Centrála* 3: pp. 3–6.

27 European Monitoring Centre for Drugs and Drug Addiction and Europol (2019) *EU Drug Markets Report 2019*. Publications Office of the European Union: Luxembourg.



**FIG. 3** Methods used to manufacture heroin in Europe



Source: UNODC, Afghan Opiate Trade Project (AOTP).

### ALBANIA: Police authorities dismantle heroin laboratory in Albania together with morphine suspected to have been trafficked from Turkey

On the 18th October 2018, the Albanian State Police reportedly discovered and dismantled a heroin laboratory and seized 182.5 kg of morphine. According to the National Police Chief, the morphine had been trafficked from Turkey via North Macedonia and Kosovo.

The heroin laboratory was dismantled as part of a larger police operation in which raids were conducted in 12 towns across the country targeting four organized criminal groups that were allegedly trafficking heroin to Germany. Overall, 27 people were detained in connection with the case, weapons were seized, and another three Albanian State Police officers were implicated and charged with abuse of office and assisting criminal organizations.

Source: Meers, J. (2018), "Albanian police arrest 27 in heroin trafficking crackdown", *Organised Crime and Corruption Reporting Project (OCCRP)*, 23 October. Available at <https://www.occrp.org/en/27-ccwatch/cc-watch-briefs/8789-albanianpolice-arrest-27-in-heroin-trafficking-crackdown>

### From where is morphine and opium used for manufacturing heroin in Europe being sourced?

Although the sources of morphine and opium used in the manufacture of heroin in Europe remain largely unknown, some information has been provided by authorities in Albania, Czechia and Germany. In 2018, the Albanian National Police discovered a heroin laboratory in Albania that had used morphine suspected to have been trafficked from Turkey (for more information see box on "Albania: Heroin manufacturing facility dismantled in Albania").<sup>28</sup>

In the Czech Republic, police authorities report that morphine used in heroin manufacture had been extracted from local opium poppies which are legally grown in the country for the food industry.<sup>29</sup> Overall, with the exception of reports from Albania and Czechia, most of the morphine employed in the manufacture of heroin in Europe is of unknown origin. The EMCDDA suspects that morphine used to manufacture heroin in Europe might have been sourced in morphine-producing countries in Asia, but so far there is no information available to support this conjecture.<sup>30</sup>

<sup>28</sup> Meers, J. (2018), "Albanian police arrest 27 in heroin trafficking crackdown", *Organised Crime and Corruption Reporting Project (OCCRP)*, 23 October. Available at <https://www.occrp.org/en/27-ccwatch/cc-watch-briefs/8789-albanianpolice-arrest-27-in-heroin-trafficking-crackdown>

<sup>29</sup> Information received in direct communication with the Czech National Drug Headquarters, Criminal Police and Investigation Services, March 2021.

<sup>30</sup> EMCDDA and Europol (2016) *EU drug markets report: indepth analysis*. Publications Office of the European Union, Luxembourg.

## GERMANY: Police discover 28 kg of heroin, ammonia from Germany, acetic anhydride from Czechia and sodium carbonate from the United Kingdom at a heroin laboratory in 2018

Investigations conducted by the Police of Bremen of a Turkish/Kurdish/Iranian criminal group suspected of heroin trafficking, culminated in the discovery of a heroin laboratory on the 11th September, 2018. A total of 13 premises were searched and 8 suspects were arrested in connection with the case. At the heroin laboratory, 27.9 kg of heroin were seized, as well as radiators, a stainless steel tank, 2 bottles of ammonia sourced from a German distributor, 46 bottles of acetic anhydride from a Czech distributor, and 3 bags of sodium carbonate from a producer in the United Kingdom. Information obtained from the court trial revealed that heroin had been manufactured at this laboratory using morphine that had been extracted from opium of unknown origin.

### Container filled with 18 kg of heroin seized at the heroin laboratory in Germany, 2018



Source: German Federal Criminal Police Office (Bundeskriminalamt - BKA).

Source: Information received in direct communication with the GER Bremen (GER = Gemeinsame Ermittlungsgruppe Rauschgift) as well as the German Federal Criminal Police Office (Bundeskriminalamt - BKA), March 2021.

In Germany, the opium, from which morphine had been extracted to manufacture heroin in a laboratory in 2018, was of unknown origin (for more information see box on the heroin laboratory discovered in Germany).<sup>31</sup>

Over the years, several European countries reported to have discovered and eradicated opium poppy crops. These countries include Belarus, Greece, the Republic of Moldova, the Russian Federation, Sweden and Ukraine.<sup>32</sup> Between 2013 and 2018, the quantities of opium seized in Europe have greatly fluctuated, with the largest amounts of almost 5 tons reported in 2015 and 4.5 tons in 2016 most of which were reportedly seized in France (see figure 4).<sup>33</sup> So far, no heroin laboratories have been discovered in France and the large amounts of opium seized in the country might have been due to some large bulk seizures.<sup>34</sup> Overall, the opium available in Europe could be used for heroin production or smoked by individual consumers. So far, there is not enough information available to reach a definite conclusion.

The quantities of morphine seizures reported in Europe have greatly increased since 2016, primarily due to 221 kg seized in Bulgaria in 2017 and 354 kg seized in Turkey in 2018 (see figure 5).<sup>35</sup> The large amount of morphine seized in Bulgaria in 2017 could be connected to the heroin laboratory reported to have been dismantled in the country in that same year. Given that Turkey has not reported to have dismantled any heroin laboratories, it is possible that the morphine seized in 2018 and in previous years might have been apprehended in transit. Situated along the Balkan route, Turkey has generally reported to have seized large amounts of opiates over the years. The 20 kg of morphine reported to have been seized in Spain in 2013, followed by 27 kg in 2014 is likely to be related to the heroin laboratories discovered in the country in those respective years.<sup>36</sup> Morphine seizures reported in other European countries between 2013 and 2018, do not suggest an evident connection with heroin manufacture.

Moreover, morphine seizures in Europe are significantly lower than those of heroin, indicating that the amounts of morphine available for manufacturing in the region are minimal and that most of the heroin trafficked across Europe was smuggled into the region from abroad rather than being locally

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31 Information received in direct communication with the German Federal Criminal Police Office (Bundeskriminalamt - BKA), March 2021.

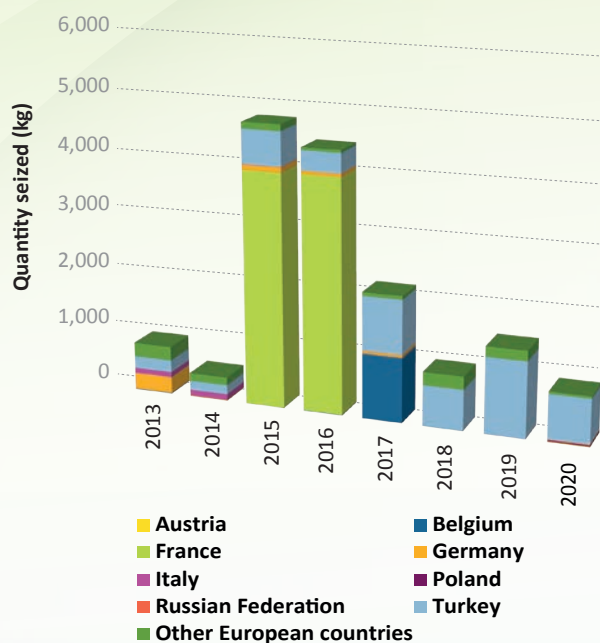
32 UNODC, responses to the Annual Report Questionnaire.

33 Ibid.

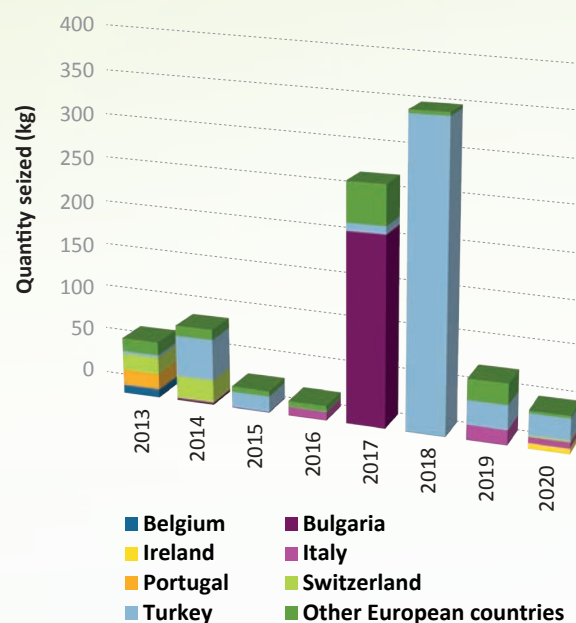
34 Ibid.

...  
35 Ibid.

36 Ibid.

**FIG. 4** Opium seizures reported in Europe, 2013–2020

Source: UNODC, responses to the Annual Report Questionnaire.

**FIG. 5** Morphine seizures reported in Europe, 2013–2020

Source: UNODC, responses to the Annual Report Questionnaire.

manufactured. Taking heroin and morphine seizures together, morphine seizures accounted for 0.6 per cent of this total over the period 2013–2019.<sup>37</sup> The proportion rose from 0.3 per cent in 2013 to 1.2 per cent in 2018 before declining to 0.2 per cent in 2019.<sup>38</sup>

### Who is involved in heroin production in Europe?

Based on court data and police information, there is some understanding of which organisations are involved in the manufacture of heroin in Europe. Based on open and official sources, those convicted in connection with dismantled laboratories in the Netherlands and Czechia were citizens of those respective countries.<sup>39</sup> In the case of a heroin laboratory concealed in a nursery in Bergschenghoek

in the Netherlands, the majority of the nine people arrested were part of the same family, suggesting a close-knit criminal organisation.<sup>40</sup> Conversely, those convicted in connection with laboratories dismantled in Spain were more diverse, including not only Spanish nationals, but nationals of Turkey, the Syrian Arab Republic, Italy, Bulgaria, Honduras and Colombia, while those convicted in connection to the heroin laboratory dismantled in Germany were part of a Turkish/Kurdish/Iranian crime network.<sup>41</sup>

### Analysing data on heroin seizures and trafficking routes in Europe

Recently, an increasing amount of heroin seizures have been reported in certain parts of Europe, rising to just over 30 tons in 2019 in South-Eastern Europe (including Turkey) (See figure 6).<sup>42</sup> None of the countries that reported having seized the largest amounts

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37 Ibid.

38 Ibid.

39 “Langdurige gevangenisstraffen voor productie heroïne in kwekerij Bergschenhoek.” 26<sup>th</sup> February 2019, Available at <https://www.rechtspraak.nl/Organisatie-en-contact/Organisatie/Rechtbanken/Rechtbank-Den-Haag/Nieuws/Paginas/Langdurige-gevangenisstraffen-productie-heroïne-Bergschenhoek.aspx>; Crimesite. “Verdachte overleeft sprong van derde etage.” 21st August 2017, Available at <https://www.crimesite.nl/verdachte-overleeft-sprong-derde-etage/>; Information received in direct communication with the Czech National Drug Headquarters, Criminal Police and Investigation Services, March 2021.

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40 “Langdurige gevangenisstraffen voor productie heroïne in kwekerij Bergschenhoek.” 26<sup>th</sup> February 2019, Available at <https://www.rechtspraak.nl/Organisatie-en-contact/Organisatie/Rechtbanken/Rechtbank-Den-Haag/Nieuws/Paginas/Langdurige-gevangenisstraffen-productie-heroïne-Bergschenhoek.aspx>

41 Information received in communication with the Intelligence Center for Counter-Terrorism and Organized Crime (CITCO) of the Spanish Ministry of Interior, March 2021; Information received in direct communication with the German Federal Criminal Police Office (*Bundeskriminalamt* - BKA).

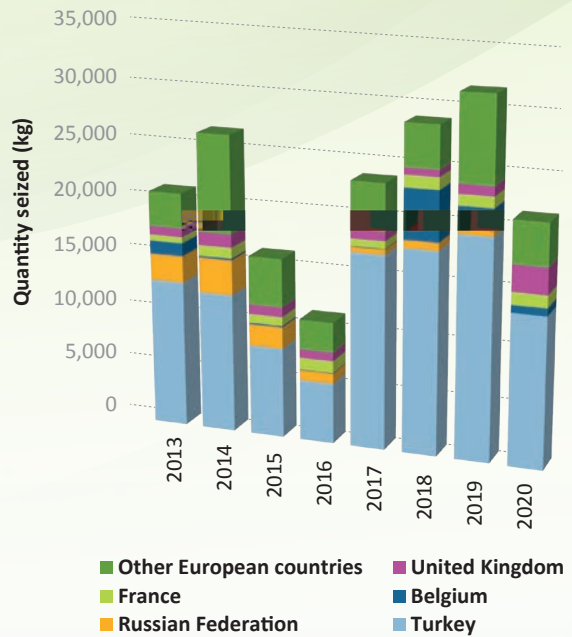
42 UNODC, responses to the Annual Report Questionnaire.

of heroin in Europe reportedly dismantled any heroin laboratories. Thus, the data does not suggest an evident connection between the recent rise in heroin seizures in Europe and heroin manufacture in the region. Furthermore, heroin manufacture taking place in certain European countries might not be of a large enough scale to significantly impact the amount of heroin seizures.

Trafficking data show that heroin suspected of having originated in Europe is being trafficked to other countries within the region and to countries worldwide. For instance, between 2013 and 2018, 11 European countries were reportedly the “origin” for heroin seized in countries across the world (see figure 7). Among these countries only Albania, Bulgaria, Germany and the Netherlands have reported the dismantling of heroin manufacture in their countries. Thus, when a country is identified as being the likely “origin” of a heroin seizure, it does not necessarily imply that the heroin had also been manufactured in that same country. The country of “origin” merely signifies the starting point of the heroin trafficking route which might incidentally also have been the same country in which the heroin had been manufactured.

For heroin seizures reported in countries worldwide, Turkey is the European country to have been identified as a possible country of “origin” the most frequent number of times. Put within a global context, after Afghanistan, “unspecified” countries, and

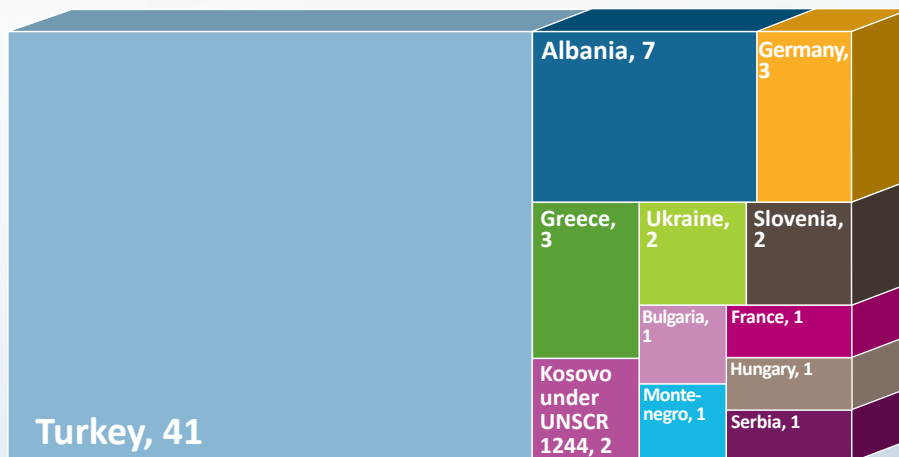
FIG. 6 Heroin seizures reported in Europe, 2013–2020



Source: UNODC, responses to the Annual Report Questionnaire.

Pakistan, Turkey was found to be the fourth most frequently identified country in the world suspected of being the “origin” for heroin, although as discussed above, this does not necessarily mean heroin was manufactured there.<sup>43</sup> However, there are no official

FIG. 7 Number of times European countries were identified as the suspected “origin” of heroin seized in countries worldwide, 2013–2019



Source: UNODC, responses to the Annual Report Questionnaire. Note: Data presented in this graph is based on the frequency of reports and not on heroin seizure quantities. Given that this data is incomplete, this graph does not present a ranking of countries.

<sup>43</sup> It is important to explain that when countries have been “unspecified”, these include reports of heroin seizures of which the country of origin cannot be identified. Thus, the origins for

## Understanding the diversity of opium-based products in Europe

Products such as “Braun” and “Kompot” have been available in certain European countries for a number of years. Nevertheless, it is important to provide an insight into the range of opiate products available in Europe. Since the 1980s, an opiate made from codeine and sold under the brand name “Braun” has been used and manufactured in Czechia. In Poland, there are also reports of a product known as “Kompot”, a heroin preparation which has been locally manufactured from poppy straw and several chemical reagents since the 1970s. According to Europol and the EMCDDA, “Kompot” produces effects similar to, but generally weaker than, heroin. It is a brownish liquid that is usually injected and contains varying concentrations of heroin, morphine, codeine and other opium alkaloids.

The reasons for the diverse range of opium-based products available on European drug markets remain unclear. It could be that certain products are cheaper to produce than heroin manufactured from morphine as these are mainly produced out of locally produced poppy plants in many parts of Eastern Europe. They are also easily available, and not dependent on some trafficking of heroin from Afghanistan. Moreover, it might be that some drug user groups prefer certain opium-based products over others. So far, there is not enough information available to support any of these theories.

*Sources: UNODC, responses to the Annual Report Questionnaire. EMCDDA and Europol (2016) EU drug markets report: indepth analysis. Publications Office of the European Union, Luxembourg. EMCDDA and Europol (2019) EU drug markets report: indepth analysis. Publications Office of the European Union, Luxembourg, p. 114. Wodowski, G. (2004), ‘Kompot. Polish heroin’, *Monar na bajzlu Special Edition Summer 2004*, pp. 24–25, MONAR, Warsaw. Hrachovec, M., Franěk, L. and Kuchař, M. (2015). ‘Illicit heroin production from Vendal retard.’ *Bulletin Národní Protidrogová Centrála* 3: pp. 3–6.*

reports of heroin laboratories having been discovered in Turkey over the years. According to media reports, equipment possibly used for heroin manufacture was discovered in Turkey in Sakarya in July 2017 and in Van in April 2018.<sup>44</sup>

### Why does small-scale heroin production take place in Europe?

The analysis so far demonstrates that small-scale heroin manufacture takes place in several European countries. But why is heroin being manufactured in Europe at all? There are some potential reasons for the emergence of heroin manufacture in Europe. However, given that information is limited, it is difficult to draw definite conclusions.

The wide-spread availability of precursor chemicals in Europe could be one key reason for small-scale heroin manufacture within the region. Large amounts of the

main heroin precursor chemical, acetic anhydride, are being diverted from licit domestic trade and distribution in Europe. According to the International Narcotics Control Board (INCB), the total amount of diverted acetic anhydride seized within the European Union (EU) significantly increased to 20,400 litres in 2017 and then declined to 17,400 litres in 2018.<sup>45</sup> In 2018 and 2019, the INCB found Poland to be the most frequently reported source country (or the last known country of departure) of acetic anhydride seized worldwide.<sup>46</sup> In those same years, Belgium, Czechia and the Netherlands, were also reported as key source countries of acetic anhydride seized worldwide.<sup>47</sup>

When acetic anhydride is diverted from licit trade in Europe, it is usually transported to countries in West Asia, including Afghanistan, Iran (Islamic Republic of) and Iraq.<sup>48</sup> However, the wide-spread trafficking of acetic anhydride in Europe might also facilitate small-scale heroin manufacture within the region.

... a large share of heroin seized worldwide remain unknown. This helps to qualify information on heroin trafficking.

44 CNNTurk (2018), ‘Van’da uyuşturucu imalathanesine operasyon: 5 gözaltı’, 5 April. Available at: <https://www.cnntrk.com/yurttan-haberler/van/vanda-uyusturucu-imalathanesineoperasyon-5-gozalti>; Karar (2017), ‘Sakarya’da uyuşturucu imalathanesine operasyon: 1 ton eroin ele geçirildi’, 26 July. Available at <http://www.karar.com/guncel-haberler/sakaryadauyusturucu-imalathanesine-operasyon-1-ton-eroin-elegcirildi-553528#%201/5>.

... 45 International Narcotics Control Board (February 2020) *Precursors and chemicals frequently used in the illicit manufacture of narcotic drugs and psychotropic substances 2019*.

46 International Narcotics Control Board (February 2020) *Precursors and chemicals frequently used in the illicit manufacture of narcotic drugs and psychotropic substances 2019*.

47 Ibid.

48 Ibid.

FIG. 8 Heroin preparations manufactured in Europe



Source: UNODC, Afghan Opiate Trade Project (AOTP).

Larger scale heroin production is unlikely, despite the proximity to significant quantities of acetic anhydride, possibly due to the difficulty of trafficking large quantities of opium or morphine to Europe undetected. So far, acetic anhydride has been employed for heroin manufacture at a number of dismantled heroin laboratories in Europe over the years.<sup>49</sup> According to the INCB, the increasing amounts of acetic anhydride that have been diverted in Europe might particularly explain the more recent emergence of heroin manufacture in the Netherlands, Bulgaria and Germany.<sup>50</sup> The EMCDDA also suspects that the availability of relatively cheap illicit acetic anhydride in Europe might make it very profitable for heroin to be manufactured in the region.<sup>51</sup> Although the

extensive and growing availability of acetic anhydride may certainly help to explain heroin manufacture in certain countries, there may also be other factors that have contributed to this development.

Another possible reason for the emergence of heroin manufacture in Europe might be for the purpose of providing a larger variety of opium-based products to local drug markets (see figure 8). For instance, some East European countries, such as Czechia, Estonia, Hungary, Latvia and Lithuania, have reported of heroin manufactured from poppies or "poppy straw".<sup>52</sup>

### Could the COVID-19 pandemic have an impact on heroin manufacture?

In Europe, the COVID-19 pandemic and various government restrictions that have been put in place to curb the pandemic have had a fundamental impact

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49 Information received in direct communication with the German Federal Criminal Police Office (*Bundeskriminalamt* - BKA) and the Czech National Drug Headquarters, Criminal Police and Investigation Services, March 2021; EMCDDA and Europol (2019) *EU drug markets report: indepth analysis*. Publications Office of the European Union, Luxembourg; European Monitoring Centre for Drugs and Drug Addiction and Europol (2019) *EU Drug Markets Report 2019*. Publications Office of the European Union: Luxembourg.

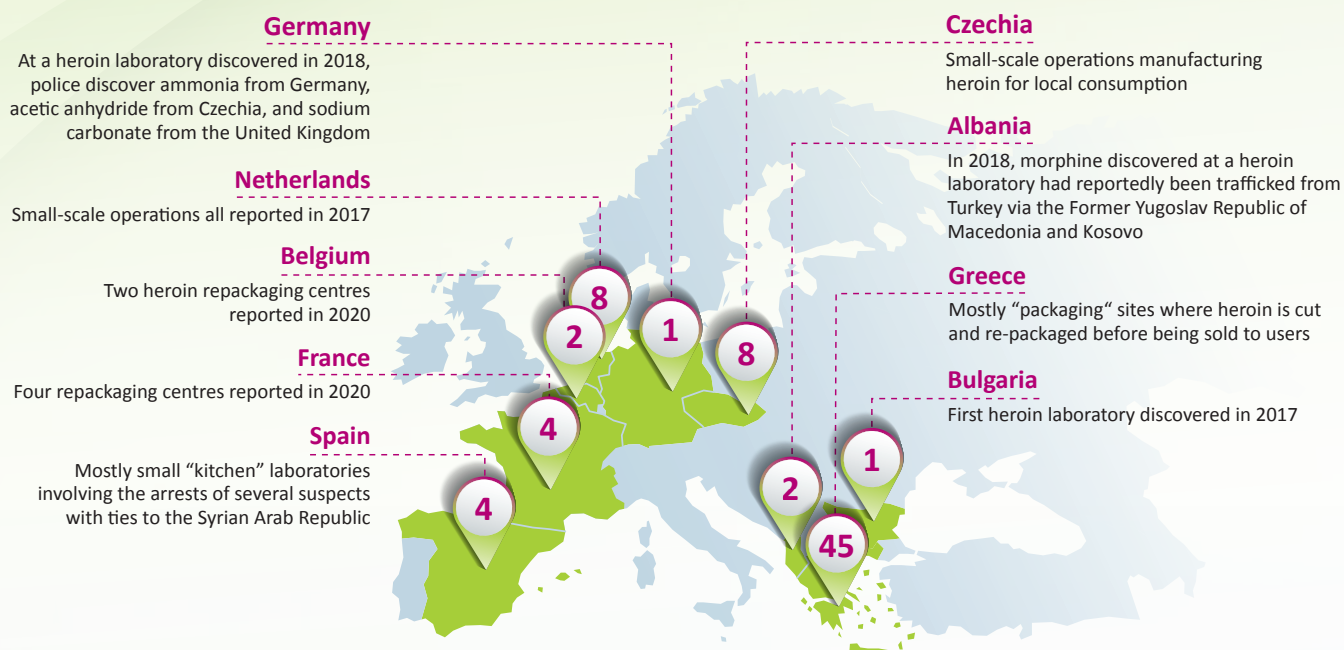
50 International Narcotics Control Board (February 2020) *Precursors and chemicals frequently used in the illicit manufacture of narcotic drugs and psychotropic substances 2019*.

51 European Monitoring Centre for Drugs and Drug Addiction and Europol (2019) *EU Drug Markets Report 2019*. Publications Office of the European Union: Luxembourg; EMCDDA and

...  
Europol (2019) *EU drug markets report: indepth analysis*. Publications Office of the European Union, Luxembourg.

52 Information received in direct communication with the Czech National Drug Headquarters, Criminal Police and Investigation Services, March 2021; EMCDDA and Europol (2016) *EU drug markets report: indepth analysis*. Publications Office of the European Union, Luxembourg; Hrachovec, M., Franěk, L. and Kuchař, M. (2015). "Illicit heroin production from Vendal retard." *Bulletin Národní protidrogová Centrála* 3: pp. 3–6.

**FIG. 9** Summary of heroin laboratories and repackaging sites reported in Europe, 2013–2020



Source: UNODC, responses to the Annual Report Questionnaire. European Monitoring Centre for Drugs and Drug Addiction and Europol (2019), *EU Drug Markets Report 2019*, Publications Office of the European Union, Luxembourg.

on every aspect of the economy and day-to-day life. This situation could affect heroin manufacture in Europe in various ways.

One hypothesis is that localised heroin manufacture in Europe might increase if the pandemic resulted in a lack of heroin supplied to the region from Afghanistan. Although heroin manufacture in Afghanistan does not appear to have been seriously impeded<sup>53</sup> and might only have culminated in a temporary shortage in 2020, the COVID-19 pandemic might have resulted in some difficulties in the supply of heroin to Europe.<sup>54</sup> For instance, according to the EMCDDA, experts from 5 European countries reported of a perceived decrease in the availability of heroin as a result of the introduction of COVID-19 restriction measures and experts of 6 European countries reported a decrease in the number of heroin importations.<sup>55</sup> At the retail level, there are no indications of major disruptions in the supply of heroin.<sup>56</sup> Drug traffick-

ers are being resourceful and have found innovative ways to maintain heroin operations in European countries.<sup>57</sup> Particularly, various forms of aerial drug distribution, including drone deliveries, might appear more frequently.<sup>58</sup>

While currently there are no indications that heroin manufacture in Europe will be significantly impacted by COVID-19, continuous monitoring and further research on this topic will be needed to identify any significant trends.

...  
53 Counter Narcotics Police of Afghanistan (August 2020) “Impact of COVID-19 on the drug situation in Afghanistan”.

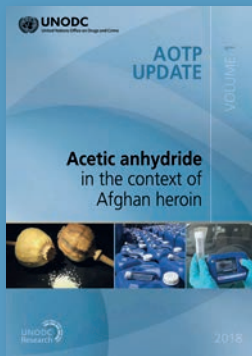
54 UNODC, *World Drug Report 2021*.

55 EMCDDA and Europol (May 2020) *EU Drug Markets Impact of COVID-19*. Publications Office of the European Union, Luxembourg.

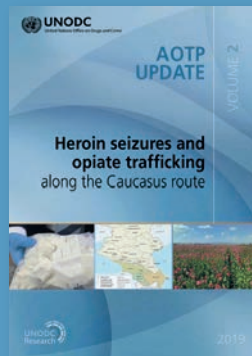
56 UNODC, *World Drug Report 2021*.

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57 Ibid.

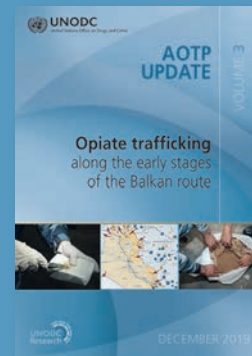
58 Ibid.



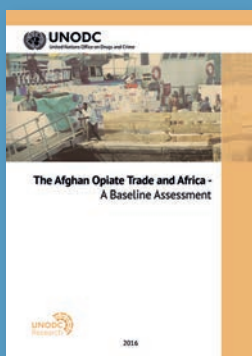
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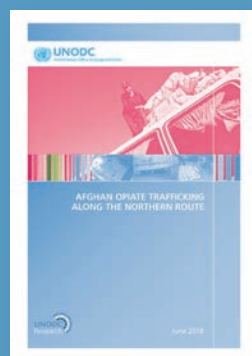
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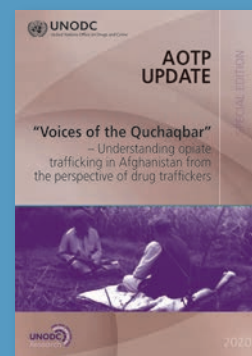
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Information on the Afghan Opiate Trade Project and its research products can be found via the internet at <https://www.unodc.org/unodc/en/data-and-analysis/aotp.html>.

