

Swedish National Threat Assessment on fentanyl analogues and other synthetic opioids

National Operations Department



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Summary

The fentanyl epidemic has been affecting Sweden since 2015. Since April 2015, 369 individuals have died¹, most of them men in the ages 25–38. The youngest victim is a three-year-old girl. This development has prompted a special effort against the phenomenon at the Intelligence Division of the National Operations Department of the Swedish Police Authority (the NOA Intelligence Division) and is also what prompts the need for this national picture.

Even if the prevalence of fentanyl analogues and the number of users are marginal, the situation is assessed to be the most serious development to date in the Swedish drug market. It is estimated that one in ten users die as a result of intoxication, and in October 2017, a higher number of individuals died of fentanyl toxicity than in road traffic. In addition, the fentanyl group (including the analogues) has surpassed heroin as the most lethal substance. Fentanyl analogues are generally extremely potent (up to 4 000 times as potent as pure heroin) and pose a danger also to individuals other than the users. Handling fentanyl analogues or brief exposure to the substances may pose a life-threatening danger to other individuals in proximity to the user.

The prevalence of fentanyl analogues in Sweden is, to a large extent, dependent on international developments. Like other new (novel) psychoactive substances (NPS), including synthetic opioids, fentanyl analogues are produced in powder form in China and are distributed to Europe. They are ordered in

powder form directly from the supplier by Swedish actors and are put on the market through Swedish web sites and subsequently distributed through Post Nord, the national postal service. This is how the postal packages containing drugs reach the end customer. In the majority of cases, the substances are taken at home, in solitude. In most cases, the substances have been produced legally, as they have not been classified as narcotic substances in the producer country. They are typically unregulated according to Swedish legislation when introduced into the Swedish drug market. Once a substance has been classified, the producers make minor changes to the structure to obtain a new chemical compound which can then be sold legally. This presents a challenge to law enforcement authorities. In many countries there is no relevant/adapted legal basis and when the drug legislation is not applicable, an alternative legislation is required in order to restrict trade.

In Sweden, the sale of fentanyl analogues takes place almost exclusively on the internet. The most frequent type of marketing consists of nasal spray bottles, which risks attracting new opioid users. The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA)² notes that fentanyl and other types of synthetic opioids have the potential of becoming attractive commodities for organised crime in Europe in the same way as in North America. Thousands of intoxicating doses can be manufactured out of small amounts of fentanyl, which makes it easier to conceal smuggling and avoid detection as compared to traditional drugs such as heroin. There is to date no evidence of street-level drug-trade in fentanyl in Sweden or of heroin mixed with fentanyl.

¹ Data from the National Board of Forensic Medicine refer to the time period 2015 – March 2018. These figures refer to the number of post-mortem cases where fentanyl and fentanyl analogues have been determined, alone or in combination with other substances, to be the cause of death. Taking into account only the fentanyl analogues, the number of deaths is 212.

² EMCDDA (European Monitoring Centre for Drugs and Drug Addiction).

There is, however, a certain likelihood that the drug-trade will take on this same aspect in Sweden as well. There has also been an extensive increase in illegal trade in narcotics for medical use in Sweden. If the user group using various types of opioids increases, there is a risk that the demand for fentanyl and its analogues will increase as well. What is particularly alarming is the development involving counterfeit pharmaceutical products containing fentanyl analogues. Users who think they are using e.g. benzodiazepine (tranquilliser) are in fact taking substances which may pose an immediate danger to life and health.

Drug-trade actors supplying fentanyl analogues in Sweden are currently few in number. The profits are substantial and business is conducted systematically within a legal structure where the substances are marketed as research chemicals. So far, the trade has been made up mainly of a domestic market involving Swedish actors, but a likely development would be a shift in trade flows where trade takes place in international market places. The limited number of Swedish vendors means that a small number of actors are behind a very large number of deaths. Currently, there is an ongoing legal case where the offence "aggravated involuntary manslaughter" is being

examined for the first time in Sweden. The outcome of a district court was a conviction for eight counts of aggravated manslaughter. The decision of the higher court will have a bearing on future forms of trade in fentanyl analogues in Sweden. Overall, experience show that the measures taken to date have contributed to limiting the availability of the substances. The police see opportunities to further limit the trade. However, there are no legal instruments with which to take measures against the trade in the often lethal fentanyl analogues. The report, therefore, makes a number of recommendations directed at the Ministry of Justice related to legislative changes or to the need for revised interpretations of existing legislation.

The future development of fentanyl analogues in Sweden needs to be closely monitored and assessed in relation to a possible change of the legal situation, the ongoing targeted work and priorities of public authorities and to international developments. This police effort requires a high degree of international cooperation as the market for synthetic opioids, including fentanyl, tends to be growing in Europe. Clusters of deaths will be a recurring feature on the Swedish drug-market and will continue to present a challenge for the police and cooperating authorities.

Definitions

Below you will find the definitions of recurring concepts in the report:

Fentanyl is a potent analgesic substance which is contained in many pharmaceutical products in Sweden. Fentanyl was classified as a narcotic drug in Sweden in 1964. Fentanyl preparations are typically used in cases of chronic pain caused by e.g. cancer. The original fentanyl molecule is approximately 100 times more potent than morphine³.

Fentanyl analogues are substances which have been chemically developed from the original fentanyl molecule. Fentanyl, along with all other known and potential fentanyl analogues, belongs to the same group of substances. According to chemistry literature, the number of possible fentanyl analogues which can be produced is estimated to be approximately 1 400 in number. The potency and effect of these analogues vary from being 20 to 4 000 times more potent than that of pure heroin⁴.

New (novel) psychoactive substances (NPS) The term ‘new psychoactive substances’ refers to new substances that have not been classified (yet) and are likely to endanger the lives or health of persons and are used for the purpose of reaching some type of effect, or are likely to have addictive properties or euphoriant effects.⁵

Synthetic opioids Because of the risk of developing misuse of and addiction to opium, alternative synthetic (or semi-synthetic) substances, also known as ‘synthetic opioids’, have been developed. Synthetic opioids can be based on the structure of morphine, e.g. butorphanol. They can also be classified into three main categories: piperidine derivatives, which contain fentanyls; aralkylamine derivatives, including Tramadol; and cyclohexane derivatives, such as AH-7921 and U-47700. The aim of this pharmaceutical research was to produce pharmaceutical products having the same analgesic properties, but without the adverse effects.

3 Expert opinion regarding fentanyl 08.11.2018, senior physician/university lecturer Kai Knudsen, in case 5000-K125090-17.

4 European threat assessment regarding synthetic opioids, ongoing project EMCDDA. ommittee Directive, Klassificering av nya psykoaktiva substanser [Classification of new psychoactive substances] (Dir. (2015:102).

5 Committee Directive, Klassificering av nya psykoaktiva substanser [Classification of new psychoactive substances] (Dir. (2015:102).

Introduction

The background to this report is an identified need for establishing and disclosing the national situational picture and the knowledge acquired as to the prevalence and spread of fentanyl and its analogues in Sweden. The Swedish Police assess the situation to be particularly serious as the underlying sale of fentanyl analogues in Sweden has caused a significant number of deaths, prompting the Head of the Intelligence Division at the National Operations Department, Police Commissioner Linda H. Staaf, to commission this report (06.11.2017).

The serious development of recent years of often lethal fentanyl analogues on the Swedish drug market is, since April 2015, the motivating factor behind a special effort against the phenomenon in question at the NOA Intelligence Division. This effort was established with the purpose of contributing, through intelligence work, to preventing the prevalence and spread of these substances throughout the country. The work has focused exclusively on the marketing and sale conducted through open Swedish websites on the internet. The choice of focal points builds on knowledge acquired through active surveillance-oriented intelligence gathering on the internet.

Fentanyl analogues are marketed as legal alternatives to the traditional and original substance fentanyl, which was classified as a narcotic drug in Sweden in 1964. Fentanyl is a potent analgesic, an opioid, contained in several legal pharmaceutical products for the treatment of serious pain. The substance appears on a limited scale among drug abusers, but has, in relation to other substances on the market, a higher harmfulness. Based on a given amount of the substance, the effect of fentanyl is approximately 100 times more potent than that of morphine and approximately 50 times more potent than that of

heroin⁶. Fentanyl analogues vary in potency depending on the type, but exceed the potency of pure heroin⁷ with 20 to 4 000 times.

Even if the fentanyl analogues constitute a marginal feature on the Swedish drug market in relation to most other drugs, their increasing prevalence on the market has contributed significantly to a strong increase in the number of drug-related deaths in Sweden. This drug-related mortality rate caused by the substance group opioids, which includes fentanyl and its analogues, has increased also in other countries. In several of these cases, the situation is assessed as constituting a significant and alarming threat to society.

The main objective of the report is to provide a knowledge-based over-view of developments regarding fentanyl analogues in Sweden, as well as to present recommendations based on identified needs for measures. The report also aims to compile, at a comprehensive level, the measures taken by the NOA Intelligence Division in relation to the issues in question.

6 <https://www.dea.gov/druginfo/fentanyl-faq.shtml>. EMCDDA too.

7 The most potent known fentanyl analogue/type is carfentanil, estimated to be 4 000 times as potent as morphine.

Aim

The aim of this report is to:

- ◆ Increase knowledge about the current issues relating to fentanyl analogues, issues that also have links to international phenomena
- ◆ Highlight obstacles and opportunities while taking into account current legislation
- ◆ Highlight issues linked to the various fields of responsibility and to the opportunities to take action that public authorities have at their disposal
- ◆ Make a synthesis of measures taken
- ◆ Assess the need for further measures
- ◆ Provide recommendations

Delimitations

The report focuses on describing the development of fentanyl analogues in Sweden from a law enforcement perspective. In addition, supplementary and brief descriptions are provided of the medicinal product fentanyl, classified as a narcotic drug, which constitutes the starting substance of the ongoing development of known and novel fentanyl analogues. Comprehensive descriptions of developments in the 'synthetic opioids market' are also provided in Sweden, and, to a certain degree, internationally.

History

Opium has been used for both medicinal and non-medicinal purposes for centuries in many regions throughout the world, due to its pain-relieving (analgesic) effects combined with the sensation of relaxation and euphoria. Because of the risk of developing an opiate abuse and addiction, synthetic opioids, semi or fully synthetic substances, were developed as an alternative. In this respect, the aim of medical research has been to produce medicines having the same analgesic properties as opium, but without the harmful effects. One of these synthetic opioids is fentanyl along with a number of fentanyl analogues.

Fentanyl and a number of related substances (analogues) were first produced and patented by the Belgian company Research Laboratory Dr. C. Janssen, 1959. After that point, around a dozen of fentanyl analogues have been synthesised and tested by researchers. Some have been put to great use in the field of human medicine/health care (fentanyl, alfentanil, sufentanil and remifentanil) as anaesthesia (narcosis) and pain-management, or in the field of veterinary medicine, e.g. to immobilise large animals (carfentanil, thiafentanil).

The discovery made in the 1970s of how medicines

containing synthetic opioids, including the group of fentanyls, function in the body led to the discovery of other new substances, such as AH-7921, U-47700 and MT-45, which were developed and patented by various pharmaceutical companies. However, none of these substances were later used in the field of medicine.

Between 1979 and 1988, more than 10 different fentanyl analogues, produced in illegal laboratories, were detected on the drug market in the United States. They were introduced into the market as heroin or “synthetic heroin” and caused more than 100 deaths, primarily in the state of California. Later on, in the middle of the 2000s, illegally manufactured fentanyl was sold as heroin or mixed with heroin, which caused an outbreak of overdoses, resulting in hundreds of deaths in the eastern parts of the United States. With the exception of Estonia, where 3-methylfentanyl and fentanyl were responsible for an epidemic of lethal intoxications during this time period, the substances described from the United States caused only limited problems in other places in Europe. In Sweden, during 1996–1997 and 2002–2004, an increased prevalence of fentanyl on the Swedish drug market was confirmed.

Current legislation

In addition to the legislation on drugs:

The Act (1999:42) on the Prohibition of Certain Goods Dangerous to Health was created in 1999. The aim of this act is to enable verification of substances that “because of their inherent properties, endanger the lives or health of persons and are used or can be assumed to be used for the purposes of reaching intoxication or other effects.” The Act is only applicable to goods that are not covered by the Swedish Narcotic Drugs Act or the Swedish Act on Prohibition of Certain Doping Substances and that have not been approved as medicinal products in the EU. The concept “goods dangerous to health” is a national concept having no international equivalent.

By using the Act on the Destruction of Certain Substances of Abuse Dangerous to Health (2011:11), the Public Health Agency of Sweden may initiate an investigation on its own initiative or, alternatively, through an opinion from the Swedish Prosecution Authority. This legislation makes it possible for the Police and Customs to dispose of/seize dangerous substances potentially leading to addiction, if they are about to be controlled under the legislation on goods dangerous to health. The Public Prosecutor may then take a decision on destruction.

Legal status

Fentanyl was classified as a narcotic drug in Sweden, in accordance with the Swedish drug legislation, in 1964. The substance is included as an active component in a number of approved and registered medicinal products and occurs to a limited extent as an abuse substance on the illegal market in Sweden.

When introduced into the Swedish drug market, the chemically-related fentanyl analogues are, in most cases, unregulated in accordance with the Swedish drug legislation and the Act on the Prohibition of Certain Goods Dangerous to Health. However, there are cases where preparations introduced into the market as unclassified substances in reality contain regulated substances. The sale of fentanyl analogues follows the same pattern as the other new psychoactive substances (NPS).⁸ This means that once they have been regulated as narcotic drugs, they generally tend to disappear from the internet sale sites and, as a consequence, from the market. However, when regularisations are carried out in accordance with the Act on the Prohibition of Certain Goods Dangerous to Health, sales sometimes still continue. The substances that have disappeared are typically replaced by a new one. Because the sale mainly focuses on unregulated substances only alternative legislation can be used as a means for restricting/counteracting the trade.

Classification

Unlike some other European countries, Sweden does not apply what is known as generic classifica-

tion (family classification of groups and substances). Under the Swedish control system, substances are examined and classified on an isolated/individual basis. Investigations are carried out by the Public Health Agency, which is in charge of monitoring and examining the need for classifying substances that do not consist of pharmaceutical products.⁹ The Swedish Medical Products Agency monitors and examines the need to classify as narcotic drugs substances or goods consisting of pharmaceutical products with potential medical applications. Following examinations, the Public Health Agency then submits the classification results to the Government for regulation decisions. The supporting documents contain information as to whether the regulations should be applied in accordance with the Swedish Narcotic Drugs Act¹⁰ or the Act on the Prohibition of Goods Dangerous to Health.

The conditions necessary for the Public Health Agency of Sweden to initiate investigations depend on the information available regarding the substance in question, which also affects the processing time. The decision to initiate an investigation is based on whether information of sufficiently high quality is available, and also on the substance being chemically identified/verified.¹¹ NADis (Network for the Current

⁸ Substances of abuse with the same or similar effects as traditional drugs, but which have not yet been classified as narcotics or goods dangerous to health and where some substances are classified as narcotics at a later stage.

⁹ The Public Health Agency has been mandated by the Government to monitor and examine the need to classify as narcotics substances or goods consisting of pharmaceutical products with potential medical applications. The Ordinance (2007:972) with instructions for the Swedish Medical Products Agency.

¹⁰ The classification of narcotics is regulated by the Narcotic Drugs Act (1968:64). The acts describe what is defined as a narcotic drug and what provisions apply.

¹¹ Information from desk officers at the Public Health Agency in December 2017.

Drug Situation in Sweden) functions as a support to the classification work of the Public Health Agency. NADis is a reference group for priority making in the production of supporting classification documents on proposals submitted to the Government by the Public Health Agency, and/or, to a certain extent, by the Swedish Medical Products Agency, regarding the regulation of new psychoactive substances.

In addition to the investigations carried out by the Public Health Agency regarding substances seized in Sweden, proposals concerning regulations may be made based on information on substances that have been seized in another EU country and that have been reported to the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) in Lisbon (EMCDDA). The EMCDDA coordinates European cooperation in the European Union in accordance with the Council decision 2005/387/RIF of 10 May 2005¹² on the information exchange, risk-assessment and control of new psychoactive substances. The cooperation within the European cooperation against new drugs is usually referred to as the Early Warning System on New Synthetic Drugs, EWS. If Europol and the EMCDDA consider that the information submitted by a Member State on a new psychoactive substance calls for the gathering of further information, Europol and the EMCDDA are required to write a joint report. This joint report is to be sent to the Council, EMEA and the Commission. If the Commission considers that further investigation is necessary, a risk assessment will be carried out by a scientific committee where the EMCDDA participates. Following the completion of the risk assessment, a report, the 'risk assessment report', will be elaborated by the scientific committee. Within six weeks from the date of receipt of the risk assessment report, the Commission is required to present to the Council an initiative to subject the new psychoactive substances to control measures.

12 http://eur-lex.europa.eu/legal-content/SV/ALL/?uri=uriserv:OJ.L_.2005.127.01.0032.01.SWE.

If the Council decides to submit a new psychoactive substance to control measures, Member States will endeavour to take, within one year from the date of the decision, the necessary measures in accordance with their national law.

The EU recently decided to implement an even more rapid process for regulating new psychoactive substances at EU level. Regulation (EU) 2017/2101 of the European Parliament and of the Council amending Regulation (EC) No 1920/2006 as regards information exchange on, and an early warning system and risk assessment procedure for, new psychoactive substances enters into force 23 November 2018.¹³

A substance previously regulated in Sweden as a substance dangerous to health can be reviewed and subsequently regulated as a narcotic drug instead. The condition for this is the emergence of a new scientific support or other relevant documents meeting the criteria for drug classification. As of 2015 up to and including today¹⁴, 35 fentanyl analogues have been classified as narcotic drugs or products dangerous to health, of which 12 as products dangerous to health. Of the 23 substances classified as narcotic drugs, five were previously classified as products dangerous to health. In addition to the above, there is also the original fentanyl molecule and carfentanil which were classified as narcotic drugs in 1964 and 1998 respectively. *Please refer to current classification table in the annex.*

With the aim to reduce the occurrence of legal abuse substances in Sweden, including the scope of related injurious effects, the Government decided in October 2015 to carry out a Government official inquiry (SOU 2016:93).¹⁵ One of the objectives of this inquiry was to present proposals for a range of measures to ensure a faster classification of substances

13 <http://eur-lex.europa.eu/legal-content/SV/TXT/HTML/?uri=CELEX:32017R2101&from=EN>.

14 10.04.2018.

15 http://www.regeringen.se/4b02e7/contentassets/90c79a6e3edd415a9fbc3f73b1758fda/klassificering-av-nya-psykoaktiva-substanser-sou-2016_93.pdf.

dangerous to health where the instruction was given to examine the possibilities of introducing a generic classification in Sweden.

Assessments and proposals of the report:

According to the report, the regulation of narcotics and goods dangerous to health should not be carried out through generic definitions. "It is not appropriate to introduce the extended possibility of classification into the drugs legislation."

- ◆ The report proposes that the Act on the Prohibition of Goods Dangerous to Health (1999:42) should be adjusted in such a way so as to allow for a classification also of products used, or which can be assumed to be used, for the purposes of reaching intoxication or other effects and which can be assumed to be likely to endanger the lives or health of individuals.
- ◆ According to the report, the Public Health Agency has, as far as the classification work is concerned, an intelligence gathering process which is very much to the purpose. However, according to the report, closer cooperation between the Public Health Agency and, above all, the Swedish Police Authority via the National Operations Department (NOA), is necessary to further improve and streamline intelligence gathering.
- ◆ It is proposed in the report that a regulated opportunity should be introduced for public authorities to purchase, under another identity, goods that may have to be regulated in accordance with the Narcotic Drug Controls Act (1992:860) or the Act on the Prohibition of Goods Dangerous to Health. The purpose of the purchases is to analyse the goods. It is proposed that the Swedish Police Authority carry out the purchases at the request of the Public Health Agency and the Swedish Medical Products Agency.

- ◆ According to the report, temporary sales bans on new psychoactive substances not covered by harmonised rules, are generally not compatible with the Treaty on European Union and EU law.

On 8 March 2018, a proposal referred to the Council on Legislation for consideration was submitted to the Ministry of Health and Social Affairs. In this proposal, the Government proposes legislative amendments to streamline the classification process for new psychoactive substances (NPS). The Government considers that the regulation of narcotic drugs or products dangerous to health should be carried out through generic definitions, i.e. the substances should be classified based on their basic chemical structure. Further, the Government considers that the regulation of narcotic drugs or products dangerous to health should not be carried out through action-based or analogue definitions.

The proposed date of entry into force of the law draft below is 1 January 2019:

- ◆ That the Swedish Police Authority should be allowed to make anonymous purchases of NPS for a faster classification of substances dangerous to health that appear or may be made available on the Swedish market.
- ◆ That the person who, through gross negligence, handles goods covered by the Act (1999:42) on the Prohibition of Goods Dangerous to Health (1995:58) can be held criminally responsible for that offence.

The Government has communicated that it will initiate a new and broad analysis of the matter as to which measures can be taken to meet the issue more effectively regarding NPS that are neither narcotic drugs nor products dangerous to health.

Application of alternative legislation

In cases where the narcotic drugs legislation is not considered to be applicable, there are other rules pertaining to criminal responsibility provisions that may be applicable in order to restrict trade. An example of such provisions is the Act on goods dangerous to health, violations of the Medicinal Products Act, tax crime and bookkeeping crime.^{16, 17} Further, the Swedish Chemicals Agency can issue a temporary ban on supplying or displaying the chemical product in accordance with Section 28 of the Product Safety Act¹⁸. One pre-requisite for this is that the product is likely to be dangerous.

In a judgment¹⁹ pronounced by Södertörn District Court in May 2018, two chief actors who had sold uncontrolled fentanyl analogues were convicted of eight counts of aggravated involuntary manslaughter. The judgment was appealed to the Court of Appeal.

In Linköping, a case involving 12 deaths is being investigated where the suspicion of crime is classified as homicide, or, in the alternative, as aggravated involuntary manslaughter. There are additional, isolated cases where a preliminary investigation has been initiated, but where there is no suspect.

16 Act (1999:42) on the Prohibition of Goods Dangerous to Health The Swedish Code of Statutes 1999:42 up to and including SFS (the Swedish Code of Statutes) 2011:11 **Pharmaceutical Products Act (2015:315)** The Swedish Code of Statutes 2015:42 up to and including SFS (the Swedish Code of Statutes) 2018:485

The Swedish Tax Offences Act (1971:69) The Swedish Code of Statutes 1971:42 up to and including SFS (the Swedish Code of Statutes) 2016:511 Bookkeeping Offence – Chapter 11, Section 5 of the Swedish Penal Code (1962:700). The Swedish Code of Statutes 1962:42 up to and including SFS (the Swedish Code of Statutes) 2018:40

17 The Act on the transport of dangerous goods The Swedish Code of Statutes (2006:42) up to and including SFS (the Swedish Code of Statutes) 2018:400 Involuntary manslaughter – Chapter 3, Section 7 of the Swedish Penal Code (1962:700) The Swedish Code of Statutes 1962:42 up to and including SFS (the Swedish Code of Statutes) 2018:409

18 **Product Safety Act (2004:451)**. The Swedish Code of Statutes 2004:451 until SFS (the Swedish Code of Statutes) 2011:1215

19 Judgment pronounced on 31 May 2018 in case B 13806-16.

Threat to society

Many of the new synthetic opioids reported to the early warning system of the EU (EWS – Early Warning System) are in fact fentanyl analogues. It is estimated that there is a total of 1 400 potential analogues of fentanyl. As mentioned before, the potency of these analogues varies by being 20 to 4 000 times more potent than that of pure heroin.²⁰ Their potency means that the substances are strongly injurious to health and difficult to manage already at very low doses and may constitute a danger to human life or health also in cases of accidental contact.

The analogues are difficult to dose, which, in combination with the lack of quality assurance of content and quality, entails a very high risk of overdosing when taking them. As most analogues have not been the object of pharmaceutical research the knowledge as regards dosage is very limited. Users of illegal products typically lack knowledge about how potent the substances are and about their active substance and/or content. Moreover, the users will frequently have taken also other types of substances which risk co-reacting with the analogues. In cases where analgesics (opioids) have been mixed with soporifics/ tranquilizers (benzodiazepines), these preparations risk amplifying the respiratory depressant effects of one another which may lead to life-threatening overdoses.²¹

Deaths

Fentanyl analogues were introduced into the Swedish drug market in January 2014. All in all, they have caused 209 deaths during the time period

1 January 2014 – 31 December 2017.²² The equivalent

number involving the original fentanyl molecule is 213 deaths. The fentanyls and their analogues have caused a total of 422 deaths during this time period.

Based on police information gathered since 2014, the number of deaths where substances taken can be traced back to internet purchases is estimated to be approximately 300. Closer examination of the distribution of deaths caused by fentanyl and fentanyl analogues shows that a significant part of the cases established as caused by fentanyl were purchased in the belief that they were fentanyl analogues. Based on information from police investigations, this particular circumstance applies to approximately 90 cases where the National Board of Forensic Medicine identified fentanyl as the cause of death.

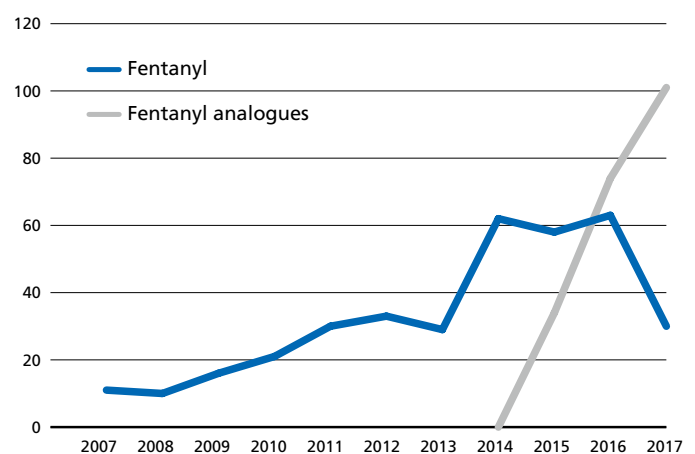


Figure 1. Prevalence of fentanyl and fentanyl analogues in forensic autopsy cases in Sweden 2007–2017.

Source: The **National Board of Forensic Medicine** (RMV)

Please refer to the detailed table over the number of post-mortem cases²³.

²⁰ European threat assessment regarding synthetic opioids, ongoing project EMCDDA.

²¹ Läkemedel i missbruksmiljöer 2015, Situationen enligt rapportörer från Sveriges polisområden (CAN rapport 157). [Pharmaceutical products in abuse environments 2015, Current situation according to rapporteurs from the police districts in Sweden (CAN report 157)]. (2016) Ulf Guttormson. p. 6.

²² 0 cases in 2014, 34 cases in 2015, 101 cases in 2017.

²³ In a number of these cases reported as deaths caused by fentanyl during the time period 2014–2016, the substances were introduced into the market and sold under the false pretence that they were fentanyl analogues. Usually, deaths caused by fentanyl are related to the use of patches, but during this time period, there were deaths caused by fentanyl through other routes of administration (nasal spray bottle). Without this false marketing, the curve for fentanyl-related deaths would display a more regular development.

Deaths that can be linked to fentanyl analogues show a rapid and serious development in Sweden. The number of deaths caused by intake of fentanyl analogues during 2017 basically corresponds to the level of the number of deaths caused by heroin abuse²⁴. This despite the fact that the misuse group for fentanyl analogues is being assessed considerably less than the group for heroin abuse. Since 2016, fentanyl, including its analogues, causes more deaths than heroin²⁵. According to an estimate, one in ten users of fentanyl analogues will die as a consequence of overdoses and intoxication per year. The corresponding number for heroin is 1 of 50.²⁶

In October 2017, a heavy discrepancy was noted in the number of deaths where fentanyl analogues were determined to be the cause of death. During the month in question, 24 cases were reported, compared to an average of 5.8 per month during the time period 2015–2017. By way of comparison, the number exceeded that of road deaths in Sweden during the same month. The discrepancy can be linked to the sale of the substance cyclopropylfentanyl, which caused more than 70 deaths in Sweden during 2017.²⁷

The number of deaths was particularly heavy during certain periods, which can be linked to the fact that the Swedish market at the time was dominated by isolated, particularly dangerous analogues. The analogues in question were particularly potent and difficult to dose, resulting in clusters of deaths

24 Statistics for forensic post-mortem cases completed in 2017. The number of deaths where fentanyl analogues (alone in combination with other substances) have been determined as the cause of death is 101. The corresponding number for heroin is 107.

25 Statistics for forensic post-mortem cases. The number of deaths where fentanyl and fentanyl analogues (alone in combination with other substances) have been determined as the cause of death was 137 in 2016 and 131 in 2017. The corresponding number for heroin is 88 and 107, respectively.

26 The data is based on 1 000 fentanyl users and 5 000 heroin addicts. The data is calculated based on death data from the National Board of Forensic Medicine.

27 72 deaths. Source: the National Board of Forensic Medicine

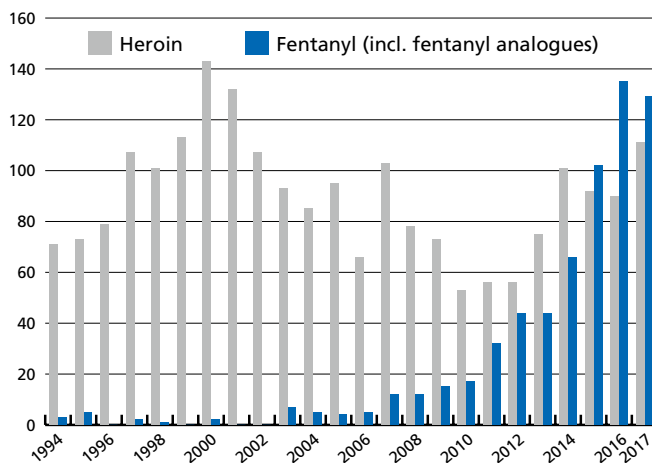


Figure 2. Prevalence of heroin and fentanyl/fentanyl analogues in drug-related deaths in Sweden 1994–2017. Source: National Public Health Agency (Toxreg database)

in Sweden. Similar patterns are also being observed internationally where the occurrence of such concentrations of deaths is described as an epidemic. During the time period 2015–March 2018, the deaths were caused by cyclopropylfentanyl (75), acrylfentanyl (53), acetylfentanyl (33) and 4F-isobutyrfentanyl and furanylfentanyl (14 each).²⁸ The first fentanyl analogue to cause death in Sweden was butyrfentanyl.

The absolute majority of cases involving intoxication with a fatal outcome can be traced back to intake at home. Moreover, in most cases, the intake was carried out in solitude. In a minority of cases, the deaths occurred in a public environment. However, the number of these deaths is negligible, compared to the number of deaths that occurred at home.

In Sweden, there have been cases of intoxication with a fatal outcome caused by the original fentanyl molecule since 1994. The median age of the individuals who died as a consequence of fentanyl use during 2017 was 47. That is considerably older than the median age of the individuals who died as a consequence of fentanyl analogues use during the same year, which

28 <https://www.rmv.se/om-oss/forskning/aktuell-statistik/> 03.23.2018.

was 32.²⁹ During the time period 2011–2013, fentanyl was detected in the bodies of more than 30 deceased individuals per year. During 2014, this number was doubled into 62 reported cases, after which the trend continues at an elevated level during 2015–2016. During 2017, the number fell back to approximately 30 cases. The elevated level of deaths that can be linked to intake of the original substance fentanyl may, through an analysis of the police's information, be explained by the fact that the buyers, without realizing it, had bought and taken fentanyl instead of fentanyl analogues. Intelligence information points to false/erroneous advertising carried out at the time in question in Swedish domestic trade, where the fentanyl analogues expected by the buyers, had been replaced by fentanyl, which increased the risk of overdoses and death.

Other risks

The risks associated with fentanyl analogues are not related only to drug use. People are also at risk of being intoxicated through the handling of the substance, or through accidental exposure. Absorption of fentanyl analogues, including the original fentanyl molecule, may occur in various ways and constitutes a danger to life, through, for example, inhalation of dusty powder or through skin contact.

In May 2017, a three-year-old girl in the city of Uddevalla died after having ingested carfentanil. Carfentanil is one of the most potent of the known fentanyl analogues, approximately 4 000 times as potent as heroin³⁰ and its legal use is to calm and sedate large animals such as elephants. In the field

of health care, the substance is not used on humans, as it so potent and so difficult to dilute. In the case in question, the drugs had been bought on the darknet market place Alphabay³¹ and delivered to Germany. There are similar case reports, from the United States as well as other European countries, where children have died as a consequence of fentanyl intoxication. Another case involves nine young individuals who were intoxicated in the town of Köping during the spring of 2017 after having taken what they believed was amphetamine. The substance in question turned out to be acrylfentanyl. It was a very serious incident, as all of those who had taken the substance would probably have died if large amounts of Naloxone³² had not been administered intravenously in time to block the intoxication.

In addition to the risks of taking fentanyl and fentanyl analogues, other people who come into contact with the substances are also put at risk. Examples of this are the coercive measures of law enforcement authorities (police, customs), analyses of seizures, mail handling or health interventions. It is, therefore, important to consider the risks from a work environment perspective and to elaborate routines to ensure a safe management. Relatives or other people who spend time in the same residence as the users expose themselves to danger as well.

In Sweden, there are cases of sales of counterfeit pharmaceutical products that have turned out to contain fentanyl analogues. This is a serious development, as users believing they are taking e.g. benzodiazepines are in fact taking substances which may be directly life-threatening.

Since 2015, more than 30 seizures of counterfeit pharmaceutical products, tablets containing fentanyl analogues or analogues, have been carried

29 The age distribution of post-mortem cases where fentanyl and fentanyl analogues have been assessed, alone or in combination with other substances, as the cause of death during 2017. The age range of deaths as a consequence of fentanyl use is 26–82 years, and for fentanyl analogues: 21–59 (the case involving a three-year-old girl is not included in the calculation). Source: National Board of Forensic Medicine 24.05.2018.

30 10 000 times more potent than morphine and 100 times more potent than fentanyl.

31 Alphabay was shut down in connection with a coordinated operation, Bayonet, on 13 July 2017, but was, at the time of the purchase, the most prominent darknet market for narcotics internationally.

32 Naloxone is an antidote used against serious opioid intoxications to counter respiratory depression.

out.³³ Substances such as the above have been detected in Tramadol, OxyContin (green tablets marked OP 80) and, most recently, during 2017/2018, in Alprazolam (2 mg Xanax bars). In all of the cases above, the tablets seized from December 2017 and onward contained the active substance cyclopropylfentanyl (0.5 mg). There are descriptions of examples including similar counterfeits in the United States and Canada. Since 2017, also in Norway, seizures have been made of counterfeit Xanax containing cyclopropylfentanyl.

Fentanyl and its analogues constitute a potential threat in that they could be used by terrorists in chemical warfare to create vast direct and far-reaching damage to the public. There is a famous case where fentanyl analogues caused mass deaths in connection with a rescue operation during a hostage situation at a theatre in Moscow.³⁴ During the course of this incident, 800 individuals were taken hostage and approximately 125 of the hostages and several of the terrorists died during the terrorist intervention operation.

33 A total of 33 seizures have been carried out during the time period 2015–February 2018. Most of the tablets contained acetylfentanyl or cyclopropylfentanyl. Source: National Forensic Centre (NFC)

34 National Institute for Occupational Safety and Health (NIOSH) in the United States. FENTANYL: Incapacitating Agent, https://www.cdc.gov/niosh/ersbdb/emergencyresponsecard_29750022.html.

National picture

The market

Prevalence

The prevalence of fentanyl analogues as substance of abuse in Sweden is limited. In the past two years, approximately 200 seizures per year have been made. In comparison to traditional drugs, such as cannabis, amphetamine and cocaine, fentanyl and its analogues constitute only a minor part of the market. There is a lower prevalence also in relation to heroin, the prevalence of which is limited in relation to the drug in question. Even if the prevalence of analogues on the Swedish drug market is limited, their harmfulness is extensive and serious, which will be described further in other sections.

The fentanyl analogues were introduced into the Swedish drug market in 2014 through online sales of unregulated versions. The analogues appear in



Seized nasal spray bottles.

particular in diluted liquids (nasal sprays), but also as ingredients in tablets and in powder form, sometimes as content in capsules. *For a more detailed picture, please refer to the section on seizures.*

The supply of analogues has varied over time and is dependent on a range of factors. At the time of writing this report, there are no analogues for sale on Swedish websites, which can be explained by the targeted effort of the authorities in combination with difficulties in bringing in new analogues from China. Chinese authorities have, among other measures taken, classified two precursors for the production of fentanyl, as well as cracked down on a number of illegal laboratories.

The web-based drug market showed strong growth during the 2000s. There are indications of individuals in Sweden purchasing drugs on the internet to a higher extent than in other countries.³⁵ Based on its scope and on the harm caused, the ongoing epidemic involving fentanyl analogues in Sweden constitutes the most serious drug-related incident at national level to date. It is preceded by previous epidemics where, during certain periods in certain geographical areas, the original fentanyl molecule caused a number of intoxications, in several cases with a fatal outcome.

Users' perception of the effects of individual analogues determines the extent of the demand for specific substances. The analogues that caused the most deaths in Sweden are also the ones that were most in demand. Despite the fact that taking them posed a great danger to life and health, these substances were initially accompanied by positive reviews. Fentanyl analogues are present all over the country, which

³⁵ <https://www.globaldrugsurvey.com/wp-content/uploads/2016/06/GDS2016-Press-Release-1.pdf>.



Deadly doses of fentanyl and other drugs.

generally applies to any substance. This can be related, exclusively or primarily, to online trade. There is also a certain concentration of these substances outside big cities, such as in towns/localities and in the northern parts of Sweden.³⁶ This circumstance can be explained by the typically limited supply of drugs at street level, including opioids.

The most potent version, carfentanil³⁷, has never been sold on the Swedish internet-based markets or websites. However, it is sometimes sold on international marketplaces and has appeared in a few seizures conducted in Sweden during the spring/summer of 2017.

The illegal use of analogues occurs on the market side by side with the original fentanyl molecule, which was classified as a narcotic drug in 1964. There is, however, a clear distinction between these, for instance regarding how they are procured and used. The illegal use of the original version is long-established and derives mainly from misuse of medically prescribed patches of fentanyl/fentanyl analogues

reaching the illegal market through leakages from the illegal handling of drugs.³⁸

In Sweden, no trade in what is marketed as fentanyl analogues is currently (2018) conducted at street-level. Nor are there any indications of fentanyl or fentanyl analogues being mixed with heroin.³⁹ There are occurrences of the latter in other European countries. Reports from the United States describe a serious and heavy issue involving street-level drug-trade in heroin and fentanyl analogues. In Sweden, the markets for heroin and fentanyl analogues have so far been separated. The explanation for this is, for instance, that both types of drugs reach the drug market through different routes and that the customers are made up of different categories. The fentanyl analogues reach the customers almost exclusively through the internet trade, whereas heroin is a

³⁶ In relation to the population.

³⁷ Carfentanil is estimated to be 4 000 times as potent as morphine and was classified as a narcotic drug in Sweden in 1983.

³⁸ This can be done directly from care systems or at a later stage when fentanyl patches are handed over. Sometimes individuals, in certain cases young people, get their hands on discarded fentanyl patches and take these by smoking or ingesting them or by extracting the substance in some other way. After patches have been used in medical care, they still contain sufficient amounts of the substance.

³⁹ No seizures analysed at the NFC or the Swedish Customs laboratories have contained fentanyl or fentanyl analogues mixed with heroin. 05.03.2015.

typical street-drug. Other opioids, however, such as Buprenorphine, OxyContin and Tramadol can be found on the online market, but also frequently on the street-level drug-market.

In addition to the increase of opioids in Sweden, there is also an ongoing increase in the Nordic countries. At the same time, there is a widespread, partly concealed problem surrounding the misuse of analgesics in Sweden.⁴⁰ Pharmaceutical products that are particularly sought after by drug addicts are generally classified as narcotics and can be divided into two main categories. One consists of soporifics or tranquilizers of type benzodiazepine. The other group consists of analgesics belonging to the opioids group. Common opioid substances are e.g. Tramadol and oxycodone, contained in the pharmaceutical products Tradolan and OxyContin. The prevalence of opioids such as Tramadol, considered “weak” by users, is widely spread in the country. In addition to the great supply on the online market, these types of opioids also have strong links to criminal networks operating at a local level, directing their sales towards young people. This is an alarming development considering that the commerce may, in the long term, generate an increased demand for more potent opioids, including fentanyl analogues.

Origins

China is the source of most of the new psychoactive substances (NPS), including the fentanyl analogues distributed in Europe. In most cases, the substances have been produced legally, as they are not classified as narcotic substances in the producer country. In response to pressure primarily from Western countries, Chinese authorities have increased their efforts by classifying as narcotic drugs eight new fentanyl analogues over the past 18 months. Today, a total of

23 analogues are classified as narcotic drugs in China⁴¹. China applies the death penalty for drug offences, which makes international operational actions against identified Chinese fentanyl vendors more difficult. Given on all the production⁴² taking place in China, the country has as its objective to grow as a trading nation. Its vast geographical surface, large population and economic activity make it difficult to control everything that goes on, including what is produced and exported.

Street-level sales of fentanyl in Estonia are primarily linked to the smuggling of the substance, mainly from Russia. In the previous concentrations involving overdoses of fentanyl in Sweden, such as in the 1990s and the 2000s, it was possible to trace back the substances to Ukraine/Russia. In other respects, the origin of the original fentanyl molecule can primarily be traced back to domestic derivation of pharmaceutical products containing fentanyl from legal sources.

When it comes to domestic production/manufacturing, there is no known case in Sweden concerning domestic manufacturing of fentanyl and fentanyl analogues.⁴³ There are, however, a handful of cases involving the preparation of pharmaceutical products containing fentanyl analogues. Swedish retailers have, in these cases, used substances purchased in powder form from China to produce nasal sprays or tablets containing various fentanyl analogues.

Modus operandi

So far, the sales of fentanyl analogues have been essentially and exclusively carried out on the internet through open Swedish websites which are easily accessible to the general public.

The substances are bought directly from suppliers in China. The vendors bring in large quantities

40 Läkemedel i missbruksmiljöer 2015, Situationen enligt rapportörer från Sveriges polisområden (CAN rapport 157). [Pharmaceutical products in drug-abuse environments 2015, Current situation according to rapporteurs from police districts in Sweden (CAN report 157)]. Ulf Guttmorsson.

41 05.03.2018.

42 Many of the factories in Western countries moved their production to China, which, at an early stage, was a low-wage country with cheap labour and fewer restrictions when it came to environmental aspects such as emissions.

43 National Forensic Centre (NFC)

(approximately 1–3 hg) once or twice per month. These are then repacked by the vendors into customised packages which are then distributed further domestically to the end consumer. In each of the cases, delivery was carried out through Post Nord, the national postal service, with direct deliveries to the door or to the nearest post office and with the vendors doing this on a daily basis. This distribution pattern is very similar to the general situation of the new psychoactive substances (NPS) on the Swedish drug market. For the most part, the deliveries are carried out directly from China to Sweden. There is some information indicating that the substances are repacked in transit countries. Belgium, the Netherlands and Great Britain have on occasion functioned as transit countries for analogues distributed in Sweden.

Unregulated new psychoactive substances, including fentanyl analogues, are being marketed under the premise that they are composed of research chemicals. The sales have been dominated by solutions contained in nasal spray bottles, which is characteristic of the Swedish commerce. As the substances usually are very potent, the routes of administration of fentanyl analogues typically do not involve direct intake in powder form. By dissolving the powder in water (or other liquids), solutions are prepared that are to be taken nasally by means of nasal spray bottles. For the most part, this step is carried out by Swedish vendors with powders delivered from China. The bottles, also ordered from China, were red, blue, green, brown, white and transparent. The prepared bottles did generally not include any marking such as content and potency, even though there are cases where the bottles were marked.

There are also cases where the powder has been cut with bulk substances to manufacture tablets. As regards e.g. acrylfentanyl, the content of active substances in spray liquids has varied between 20–30 mg per 10 ml. Acrylfentanyl in the form of tablets and powder can also be found on the market. Tablets containing acrylfentanyl have been analysed and proved

to contain 0.2, 0.6 and 1.0 mg. Swedish retailers manufacture the tablets in Sweden. Tableting machines are brought in legally from China, the substance is then pressed into tablets in Sweden and subsequently sold.

Current domestic web shops providing fentanyl analogues offer several methods of payment, such as cash-on-delivery, bank transfer, swish, bitcoin, ethereum, bitcoin cash and paysafecard. Bank transfers and cash-on-delivery are the main methods of payment. Future methods of payment will be dominated by bitcoin and other types of cryptocurrencies, given that the method of cash-on-delivery provides law enforcement authorities with great opportunities to identify the vendors behind the transactions. The fact that fentanyl analogues are legal and usually cheaper than traditional narcotics, as are several of the new psychoactive substances, is a fact considered to have an impact on demand. The price of fentanyl analogues has been relatively constant, regardless of the analogue concerned. A nasal spray bottle containing an average of 50–80 spray doses⁴⁴ (approximately 100) was sold for 500 SEK. On several occasions, before classification, the vendors applied volume discounts and lower pricing.

Drug-related discussion threads on Flashback⁴⁵ attract a number of visitors daily, anyone from active writers to potential new users. Flashback is one of Sweden's most visited websites. According to Flashback, they have 1 160 386 registered members and every week the site receives approximately 2 million unique visitors. In relation to its scope and impor-

44 NFC has made an estimate of the number of spray doses contained in the bottles seized. The results have been varied, but generally remained at 50–80 spray doses per bottle. In their marketing of the product, the vendors advertise 100 spray doses per bottle. As far as the dose is concerned, it depends on the user's tolerance and on whether the liquid is diluted by the user.

45 Flashback is a Swedish internet forum, which, according to Wikipedia, is one of Sweden's most visited websites with more than one million registered users writing 15 000–20 000 posts per day.

tance, the drug-related exchange of information taking place on Flashback is regarded as a unique phenomenon in Europe. On the forum, there is a culture that tends to underestimate the risks associated with using fentanyl analogues, which is a factor of pressure for individuals who are considering trying the substances. The website is also used for marketing in the form of advertising banners financed by the vendors, but also in a covert manner where vendors use anonymous accounts and pass themselves off as drug addicts. The aim of the latter is to create positive reviews about vendors and substances to attract new customers. There are also cases where vendors give away fentanyl analogues, and in return receive positive reviews on their business. These factors highlight the importance of the forum in the marketing of fentanyl analogues in Sweden, an importance considered as having no equivalent on international fora such as Reddit or Bluelight,

The profits generated by the sales of fentanyl analogues are extensive and the business is conducted systematically within a legal structure. As soon as a substance has been classified, a new analogue is introduced into the market and business can then go on without any obstacles. The classification of a substance is usually preceded by the selling off of the stock on clearance sale, and only a small number of the classified substances remain on the market following regulation. However, substances currently classified as dangerous to health tend to remain on the market. This could be a consequence of the access to new, unclassified analogues being insufficient and of the vendors choosing to take greater risks.

Police and customs seizures

For a more detailed account of the seizures, please refer to the annex.

Fentanyl analogues were introduced into the illegal drug market in Sweden in 2014, after which point there has been a significant increase in similar seizures in the country. During 2014, a total of 11 seizures of fentanyl analogues were carried out by

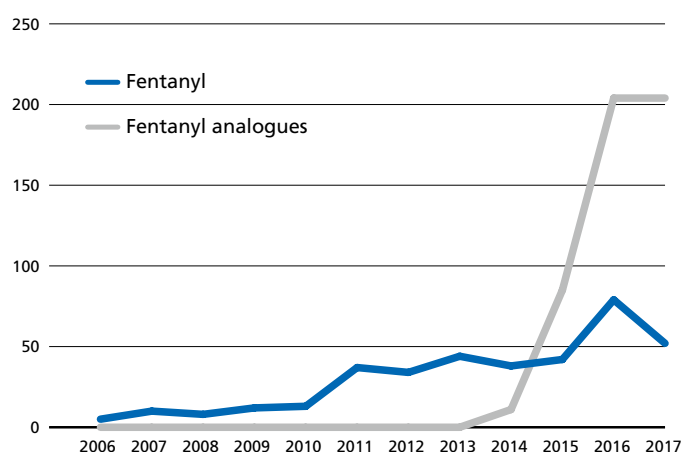


Figure 3. Appearances of seized fentanyls and fentanyl analogues, Sweden 2006–2017. Source: Swedish Customs Laboratories and National Forensic Centre (NFC)

the customs and the police. Some years later, during 2016–2017, the number had increased to approximately 200 seizures per year. Before that, from 2006 to 2015, the original fentanyl molecule was predominant and was detected in a total of 227 seizures, which have been analysed by the National Forensic Centre (NFC). 80 per cent of these seizures consisted of fentanyl patches, and as described earlier, they appear on the illegal market through diversions from legal sources.

During the time period 2014–2017, fentanyl analogues were detected in approximately 1 000 materials analysed by the National Forensic Centre (NFC), i.e. in more than 400 cases. Most of the material consisted of liquids, which reflects the selling pattern, dominated in Sweden by preparations (powders dissolved into fluent liquids and sold in nasal spray bottles). Other types of seizures such as powders and tablets are also common. Swedish Customs have seized fentanyl analogues almost exclusively in powder form, which is understandable given that the final preparation before distribution to the buyers takes place in Sweden.

The first new fentanyl analogues, butyrfentanyl and acetylfentanyl, were identified in seizures conducted during the second half of 2014. After that, a

further 17 different fentanyl analogues were identified in materials examined by the NFC.⁴⁶ The extremely potent version of fentanyl, carfentanil, was analysed in 11 materials in Sweden that can be traced back to three deaths and another three seizures. In all of these cases, the substance had been ordered from international websites.

The generally small quantities of fentanyl analogues seized can be explained by their strength/potency. These small quantities correspond to a very large number of intoxicating doses, which means that minor quantities are sufficient to meet the demand. In relation to the number of police seizures, the Swedish Customs have carried out very few seizures of fentanyl and its analogues. Generally, customs services have difficulty detecting the smuggling of these substances, with reference to the very small quantities in relation to the extensive flow of mail, parcels and goods. The Swedish Customs reports that they have carried out a limited number of seizures in Gothenburg, but that the relatively large quantities seized were done so at the Stockholm Arlanda Airport.

During 2017, there was a significant increase in the amount of fentanyl analogues seized by the Swedish Customs. During that year, 11 major seizures were carried out where the amount seized was between approximately 50 to 245 g. Three seizures of a total of 591 g of cyclopropylfentanyl, the analogue causing the highest number of deaths in Sweden to date.

Sweden has seen a steady increase in the number of seized synthetic opioids during the first decades of the 2000s.⁴⁷ These seizures carried out, indicating market increases, are examined along with other types of information analysed by the police and the customs. Examples of this are the recurring regional and local police reports regarding the drug market. The supply

of Tramadol, considered a “weaker” opioid by users, sees a significant increase in Sweden. These tablets have a high accessibility, because they are non-prescription drugs in several countries and are easy to order from online pharmacies. In addition, substantial volumes linked to organised crime are smuggled into the country and are then distributed further to local criminal networks. Street-level sales typically occur side by side with cannabis sales and are many times directed towards young people. Other frequently seized synthetic opioids and which, like Tramadol, commonly appear in the context of e-commerce, are e.g. buprenorphine and oxycodone. There is currently a very low/negligible prevalence of heroin, a typical street-drug, on the online drug markets. The number of seizures of heroin indicates a certain growth following the sharp market decline during the first decade of the 2000s as regards both supply and demand. Despite indications of increase, in particular of brown heroin for which the price is historically low at the moment, the seizures indicate that the market remains marginal in relation to other traditional drugs, such as cannabis and amphetamine. There are no seizures carried out in Sweden where heroin has been mixed with fentanyl or fentanyl analogues. This phenomenon is a growing problem in countries such as the United States, for example, and the European Monitoring Centre for Drugs and Drug Addiction, the EMCDDA, considers this procedure to be a potentially growing threat to the European market.

As regards seizures carried out in the EU, it can be established that the seizures of fentanyl and its analogues have increased in many of the Member States during 2016 and 2017. The assessment is also made that this increase is probably greater than it appears from the data on seizures of these countries, given that the ability to verify the substances through forensic analyses varies.

Since mid-November 2017 until mid-March 2018, the police have carried out 17 seizures of counterfeit tablets that looked like Xanax bars 2 mg and Oxy-Contin marked OP80. These tablets turned out to

46 18.01.2018

47 Opioids constitute an overarching category encompassing plant-based narcotics (heroin and opium) as well as synthetic opioids. Included in the latter part are pharmaceuticals classified as narcotics. These increases include both the number of seizures made and the quantities seized.

contain considerable amounts of the lethal substance cyclopropylfentanyl. Seizures of a total of 17 000 tablets of counterfeit Xanax and 2 000 tablets of counterfeit OxyContin have been made and have been analysed by the National Forensic Centre (NFC). The manufacturing of the tablets is deemed to be carried out in Sweden, probably through online sales with street-level resale.

Strategic analysis

At the beginning of June 2017, the European Monitoring Centre for Drugs and Drug Addiction (the EMCDDA) published a report, which showed that the number of deaths caused by the use of synthetic opioids during 2015 had increased by 6 per cent to 8.441 throughout the EU. Fentanyl and its analogues were behind the majority of these deaths. This confirms the observations made regarding the ongoing epidemic of the use of synthetic opioids in several EU countries, which is similar to what has happened in the United States and Canada in recent years. The report shows that the market for synthetic opioids is unevenly distributed throughout the EU, but that there is a potential risk of increased propagation because of the link to heroin markets. Individual national reports after 2015, with statistics from some EU countries, confirm that misuse and overdosing continue to increase in countries such as Great Britain, Estonia and Sweden. The substance abuse and overdosing are typically caused by fentanyl analogues, often with a fatal outcome.

Of the 25 new synthetic opioids reported to the EMCDDA by the EU countries between 2009 and 2016, 18 were various analogues of fentanyl. The EMCDDA reports that the group of fentanyl and its analogues were responsible for more than 60 per cent of the 600 seizures of new synthetic opioids reported from all over Europe in 2015.

Fentanyl in its medical form has become popular among many addicts throughout the United States. Fentanyl was first made in the 1960s and was offered legally to chronically ill patients for pain relief



Xanax-tablets.

control. After that, an illegal production of fentanyl emerged, where fentanyl was manufactured in drug factories in Mexico and China and smuggled into the United States and other Western countries.

In addition to drug users using the substance in its pure form, there are categories in e.g. the United States of users who prefer to buy and take mixtures of fentanyl and heroin. Such mixtures are sold on the street along with other pharmaceutical products, such as Xanax and OxyContin. The European Monitoring Centre for Drugs and Drug Addiction (the EMCDDA) notes that fentanyl and other types of synthetic opioids have the potential of becoming attractive commodities for organised crime in Europe in the same way as in North America. Thousands of intoxicating doses can be manufactured out of small amounts of fentanyl, which makes it easier to conceal smuggling and avoid detection, as compared to traditional drugs, such as heroin, requiring management of large quantities, which means a greater risk of detection.

Fentanyl has been popular in Estonia since the beginning of the 2000s, when a Taliban-led operation stopped a significant part of the production of opium poppies in Afghanistan. The operation resulted in a shortage of heroin on e.g. the Estonian heroin market. Since that point, the drug addicts in Estonia have, to a great extent, replaced heroin with fentanyl. This development took place despite the fact that the drug, from the point in time of its initial misuse in the country, is responsible for a large number of overdoses, in many cases with a fatal outcome. While synthetic opioids, primarily fentanyl, rapidly spread to Estonia, its spread further westwards was initially slow. The explanation for this rapid development in Estonia probably lies in the country's close proximity to Russia, where fentanyl can be bought, and in the close contacts between Russian-speaking criminals who operate on both sides of the border.

The situation in several other EU countries quickly changed at the end of the 2000s, when many countries, e.g. Sweden, began reporting on the presence of fentanyl in the seizures. There are similarities in how the market for methamphetamine evolved in Europe from being a problem mainly in the United States, to also establishing itself as a popular drug in Central and Eastern Europe. The Swedish market differs from that of most of the other EU countries, including those in North America, through its almost entirely online-based market for synthetic opioids. By means of comparison, fentanyl and its analogues are spread in Great Britain, the United States and Canada mainly through "traditional" street-level sales, and usually mixed into heroin. This means that the epidemics of overdoses and deaths in those countries typically occur locally and regionally, depending on where the street-level drug-sales take place.

The National Crime Bureau (NCA) in the UK, first noted the increase in seized fentanyl as an additive to heroin at the end of 2016. NCA warned that the introduction of fentanyl into the British addiction market would lead to overdoses and deaths. In April 2017, when British police shut down a drug factory in West

Yorkshire producing fentanyl, NCA urged drug users to be vigilant following a number of deaths related to the production in the drug factory.

A large part of the synthetic opioids, currently flooding North America along with most of the new psychoactive substances sold in Europe, are produced in China. China has taken measures to curb the illegal manufacturing of fentanyl and other similar drugs produced within its borders. In the United States, several measures have been taken to try to prevent the import of synthetic opioids, primarily fentanyl, smuggled into the country from Mexico. However, according to information received, the manufacturing of fentanyl increases in the United States, which the authorities fear will limit the importance of trying to stop the smuggling of the finished drug from China and Mexico.

Europol has made the assessment that fentanyl along with its analogues and other synthetic opioids are an attractive alternative for criminal organisations. This assessment means that there is a considerable risk that this market will expand further throughout Europe. Unlike, for instance, methamphetamine, for which the market and profit margins are relatively limited, synthetic opioids, including fentanyl and its analogues, represent a large potential market and a lucrative profit margin for organised crime. Another important part of the threat assessment is the close connection to the previously established national markets for heroin. There is a risk of a similar development to that of Estonia, i.e. that the heroin market will be quickly transformed into a market for synthetic opioids, in the case of Estonia – fentanyl. The EMCDDA therefore makes the assessment that the EU countries should prepare for a continued increase in overdoses and deaths.

Actors

Over time, only a small number of actors have supplied the Swedish fentanyl market with fentanyl analogues. Since 2014, a total of more than ten net-

works/constellations have been active with this type of sales through the internet, preferably through the open internet.⁴⁸ Each network of actors is made up of 1–4 individuals. Some 30 individuals in total, all of them men. In relation to the networks, there is also a large number of individuals operating in the capacity as e.g. front men, acting as holders of bank accounts. Within the networks, there is a certain distribution of roles, such as administering the web site and being in charge of functions such as packing, posting, manufacturing, order placement and account management.

Advertising has exclusively been directed at the Swedish domestic market, though there have been cases of purchases carried out from abroad. All of the networks have a history of selling various types of substances over the internet and most of them also conduct parallel sales of other NPS. Networks with the highest customer loyalty at the time of the marketing of the fentanyl analogues directed their effort exclusively at selling uncontrolled substances (NPS). Among the other networks, there have also been cases of trade in traditional narcotic drugs.

The general rule is that actors organising the import of narcotic drugs into Sweden usually have access to several preparations-related networks. When it comes to the trade in fentanyl analogues where the substances originate from China, Swedish vendors set up business contacts with Chinese suppliers who market themselves online.⁴⁹ Direct contact is then established between the Swedish vendors and the Chinese suppliers. There are examples of Swed-

ish vendors travelling to the Shanghai area to meet with the suppliers on-site. In the trade in fentanyl analogues, there are no domestic networks involving ethnic links to the country of origin – China – that have established themselves for the purpose of organising drug trade to and within Sweden. It differs from traditional drug-trade where criminal individuals from the country where the drug is produced usually play an important part in setting up the distribution to and in Sweden.

The turn-over from the online drug trade is assessed to be very extensive in certain cases. The profits are largely used for personal consumption, but are also reinvested to expand the business with new websites and by selling more preparations. The website RC24 had, while they were operating, an estimated turn-over of 15 million SEK. Simultaneously, RC24, along with all the other sites selling fentanyl analogues in Sweden, also sold other types of substances.

Since the beginning of February 2018, all known and major actors have stopped trading in fentanyl analogues in Sweden. However, it is assessed that a more restricted and covert trade is still there, occasionally. The reason for why the extensive sales of fentanyl analogues basically have ceased, is probably a consequence of many concurrent factors. The main reasons for this are, probably, a temporary shortage of new and unregulated fentanyl analogues from China, the aggravated involuntary manslaughter conviction, and the police measures directed against the business activity and the actors.

Of the limited number of actors, only a handful have sold major amounts of fentanyl analogues and only one of the actors has been active for more than two years. This means that only a few actors are behind a large number of deaths. Some of the actors have a long history of drug-related offences. Circumstances indicate that the actors are not affected by the low penal value currently imposed on/regulating this type of activity.

⁴⁸ From 2014, when the fentanyl analogues were introduced into the Swedish drug market. In addition to the above, there are isolated, sporadic sales of analogues on the darknet or on other fora, but this is negligible in terms of describing active networks within the Swedish market for fentanyl analogues.

⁴⁹ From the darknet to the open net. There are also market places such as alibaba and aliexpress. Chinese suppliers can also be reached by mail contacts in published pictures of fentanyl analogues, i.e. it is possible to google up contacts in pictures.

Users and user environments

The NOA Intelligence Division assesses that in 2017, there were 1 000 users of fentanyl analogues in Sweden.⁵⁰ Since the analogues were introduced into the Swedish drug market in 2014, it has been assessed that 2 000–3 000 individuals have bought and used fentanyl analogues. In addition to the above, a number of individuals buy the substances from international web-based market places. However, this is, as yet, less common, and concerns mainly individuals who also make purchases on the Swedish domestic market. In relation to the heroin market, the market for fentanyl and its analogues is considerably smaller. The estimated number of heroin addicts in Sweden is approximately 5 000 individuals.⁵¹

Fentanyl and its analogues are taken for their analgesic, anxiolytic and/or euphoriant effects. They are also taken in order to avoid withdrawal symptoms from opioids. The substances have the characteristics of a non-social drug. They are usually taken alone at home, which limits the possibilities of using Naloxone for life-saving purposes. Hence, this user group differs significantly from the categories of users who use central stimulants, which are often taken socially. The latter category can typically be found on the night-life scene and is, therefore, more exposed and visible to patrolling police officers. However, there are examples of cases of intoxication caused by fentanyl and fentanyl analogues in public environments. In such cases, the users usually took the substance in connection with collecting the delivery. The fact that the users are not exposed in public environments can make it more difficult to identify the target group.

50 This estimate is based on data referring to individuals who execute purchases on Swedish web-based market places. Purchases of other substances are also included and are difficult to distinguish from the ones above, which means that the estimate in question may include people who did not buy fentanyl analogues.

51 Expert opinion regarding fentanyl 08.11.2018, senior physician/university lecturer Kai Knudsen, in case 5000-K125090-17.

Differences have also been observed between users of fentanyl and users of fentanyl analogues, as the former will often have taken legal pharmaceuticals containing fentanyl. Examples of this are users who reuse a large number of discarded fentanyl patches on the body, or who inhale fentanyl by smoking those patches. The original fentanyl molecule is mainly characterised by being a street-drug bought at street-level markets typically visited by older individuals who lack experience in making purchases online.

An average of 80 per cent of the buyers are men, which corresponds to the distribution of drug-use between genders. As shown in the section on mortality, 86 per cent of those who die as a result of drug poisoning related to fentanyl or fentanyl analogues are men. The most common age range among all categories is 20–25 years; buyers, users and deceased individuals. The proportion of female buyers is estimated to be approximately 20 per cent.⁵² The buyers are geographically spread throughout the country. This also goes for internet-drugs (NPS), although, taking into account population density, there is a certain concentration in minor cities and the northern parts of Sweden. In this context, there is a sharp contrast in comparison to the spread pattern for heroin, which is a typical street-drug concentrated in big cities.

Individuals who use fentanyl analogues generally have a longer substance misuse career behind them, involving a gradual increase in the use of other opioids. The misuse is typically initiated by opioids perceived as “weaker”, such as Citodon, Tramadol and Codeine to OxyContin and Subutex, which, at a later stage, may lead to intakes of fentanyl/fentanyl analogues. The gradual increase in intake results in many users developing a tolerance to the drugs. There is information on users declaring, in interviews, that they have taken up to three nasal spray bottles per day, where one bottle contains, in average,

52 Estimate made by the National Operations Department regarding buyers.

50–80 doses. The duration of action of e.g. acrylfentanyl is declared to be short, meaning that the user frequently takes a new dose and so quickly builds up tolerance to the substance. Some individuals are said to have used a bottle a day, which for a person having no tolerance, would take weeks to consume.

The reason people initiate opioid use differs from case to case, as does the awareness of its risks and effects. There are also cases where people will take the substances in the belief that they contain something else. The profile of the typical user of fentanyl analogues is the same, regardless of the analogue used. Opioid misuse may develop from taking the drug for analgesic purposes, e.g. to treat back problems. There are cases where the drug use was initiated based on slight or no experience of opioids, but this should be considered an exception. Among those who take opioids, parallel intake of other preparations is also frequent. This is known as poly-drug use. For example, opioids (analgesics) are combined with benzodiazepines (tranquillizers/sedatives), where the latter amplifies (“boosts”) the effects of the opioid taken. Poly-drug use of this kind may lead to mortal danger.⁵³ Other medications, such as Lyrica/Pre-gabalin are commonly taken to reduce the effects of withdrawal.

The most common route of administration of fentanyl analogues is in the form a liquid, which is sprayed into the nose with a nasal spray bottle. There are also cases where tablets are crushed into powder and then taken nasally by ‘snorting’. Another route of administration is injecting the liquid from the nasal spray bottle intravenously with a syringe. Tablets can also be placed under the tongue. Less common/routes of administration are smoking using a vaporizer or taking the substance rectally.

Since autumn 2016 and winter 2017, the police have carried out two nation-wide operations for preventive purposes against buyers of fentanyl analogues in Sweden.⁵⁴ During these operations, the police conducted a number of house calls, which revealed the vast need for social interventions. In connection with the interventions, several individuals were taken into care as a consequence of their drug-misuse.

53 Analyses made on deceased individuals show that combinations of opioids and other categories of medicinal products were very common and that the most common was the combination of benzodiazepines and opioids. Narcotics-related deaths. En analys av 2014 års utveckling av den officiella statistiken (2016). [An analysis of the development during 2014 of the official statistics (2016)] The National Board of Health and Welfare

54 Operations Baretta and Baretta II, coordinated by the National Operations Department (Swedish Police Authority). <https://intrapolis.polisen.se/aktuellt/nyhetsarkiv/2018/februari/regioner/syd/lyckosam-insats-mot-narkotika-forsaljning-via-natet/>

Measures taken

Under this section, measures taken since April 2015, at the initiative of the NOA Intelligence Division, will be presented. The measures were taken in line with the special anti-fentanyl priority of the police.⁵⁵ The aim of the priority is to prevent, impede, investigate and take legal measures against trade in fentanyl analogues in Sweden.

Taken together, the results from the measures taken to date, show that the supply of fentanyl and fentanyl analogues sold online has been reduced. The police efforts on disrupting and impeding the trade in these drugs will continue. However, due to deficient legal instruments there are limits to the possibility of the police taking effective measures, as high-lighted by the recommendations in the report.

In addition to the measures initiated, coordinated or carried out by the NOA Intelligence Division, other authorities have carried out measures as well, either separately or through cooperation between authorities. An example of the above is the increased priority of the Public Health Agency of Sweden to examine and submit proposals to the Government for the classification of fentanyl analogues as goods dangerous to health or as narcotics.

The measures taken by the NOA Intelligence Division cover several types of actions, which roughly can be divided into the categories below. Examples of measures taken are shown within each category.

Also Police Development Centre Öst and National Forensic Centre (NFC) have carried out measures in the form of e.g. method support and oversight/

procedures when it comes to safe handling from a work environment perspective.⁵⁶ In addition, the Swedish Police Authority has been involved in Government remits coordinated by the National Board of Health and Welfare with focus on the fentanyl issue, such as the National Board of Health and Welfare project on drug-related mortality in Sweden and making Naloxone available.

- ◆ **Initiation of preliminary investigations:** The core activity of this effort is, and was, to collect, process and analyse information with the purpose of initiating preliminary investigations against actors making fentanyl analogues available on the Swedish drug-market through the internet. Since 2015, the NOA Intelligence Division has produced operational intelligence resulting in a number of preliminary investigations.
- ◆ **Regulatory issues:** The NOA Intelligence Division has continually identified needs of amendments to the current legislation, or of the creation of a new legislation, to counteract the trade in fentanyl analogues in Sweden. The needs in question have been submitted within the framework of a Swedish Government Official Report regarding the classification of new substances (SOU [Swedish Government Official Reports series] 2016:93). The recommendations stated in this report are other examples of measures taken within this category.

⁵⁵ Within the scope of the existing anti-narcotics effort at the NOA Intelligence Division, it was decided that special priority would be placed on the effort against fentanyl and the online sale of fentanyl analogues.

⁵⁶ An ongoing project with the aim of reviewing how to handle fentanyl analogues, including other dangerous substances, in a safe way.

- ◆ **Prosecution/investigations-related issues:** The NOA Intelligence Division has continually provided their support through their expertise in investigations conducted throughout the country against the trade in fentanyl analogues. The NOA Intelligence Division has devoted substantial resources to examining whether the law on ‘involuntary manslaughter’ is applicable to cases resulting in death. The NOA Intelligence Division has therefore initiated a memorandum produced by the Swedish Prosecution Development Centre, Stockholm, regarding the possibility for prosecutors to apply ‘involuntary manslaughter’. The NOA Intelligence Division has also conducted a similar effort within the police organisation on procedures related to the initiation of a preliminary investigation into involuntary manslaughter and to the carrying through of adequate crime scene investigations in the form of seizures etc., in cases of suspected fentanyl intoxication.
- ◆ **Cooperation between authorities:** The NOA Intelligence Division has continually exchanged information and cooperated with relevant authorities in other ways e.g. through the framework of the NADis network.⁵⁷ As an example of the above, the police have concluded a collaboration agreement with the National Board of Forensic Medicine (RMV) regarding a formalised exchange of information with a view of identifying, for intelligence purposes, suspected cases of fentanyl and fentanyl analogues intoxication. In cooperation with the Swedish Civil Contingencies Agency (MSB) and the Swedish Chemicals Agency (KEMI), the opportunities of applying the Act on the transport of dangerous goods on the distribution of fentanyl analogues have been clarified.
- ◆ **Crime prevention measures:** During autumn 2016 and winter 2017, the NOA Intelligence Division has initiated and coordinated preventive nation-wide efforts targeting buyers of fentanyl analogues in Sweden.⁵⁸ During these efforts, the police carried out a large number of house calls and could establish that there was a significant need for social interventions. In relation to the above, the issue of how the police should disclose information to the Social Services were examined. The NOA Intelligence Division has also provided the national and regional communications departments of the authority with expertise to alert, explain and spread information about fentanyl analogues to the general public.
- ◆ **International cooperation:** The NOA Intelligence Division has, at its own initiative and as requested, shared information with international cooperation partners. For example China, through the Nordic PTN Liaison Officer⁵⁹, Europol and the United States. The NOA Intelligence Division has also received information from the United States which has proved useful to Swedish investigations. The NOA Intelligence Division is an active part of the Fentanyl Operational Task Force to increase the exchange of information between relevant Member States and to join forces in actions targeting significant actors in the organised trade in fentanyl.
- ◆ **Knowledge Support:** The NOA Intelligence Division has contributed to increasing the level of knowledge internally as well as externally in relation to the trade in fentanyl analogues, e.g. through lectures and elaboration of knowledge-bases.

⁵⁷ The Network for the Current Drug Situation in Sweden (NADis) The Public Health Agency, the National Board of Forensic Medicine, the Swedish Customs Laboratory, the National Forensic Centre, the Swedish Medical Products Agency, the National Food Agency, the Swedish Prosecution Authority, the Development Centre Stockholm, the Swedish Prison and Probation Service, the Swedish Poisons Information Centre, the Pharmacology Laboratory, Clinical Pharmacology.

⁵⁸ Operation Baretta and Baretta II.

⁵⁹ PTN – the Nordic Police and Customs Cooperation is Nordic police cooperation. There are Nordic PTN Liaison Officers stationed in approximately 20 countries throughout the world.

Conclusions

Through the accumulated knowledge obtained by the Swedish Police Authority, partly through directed intelligence work against the prevalence of and trade in fentanyl and fentanyl analogues, and partly through strategic analysis focusing on drug markets, the NOA Intelligence Division has come to the following conclusions:

The prevalence of life-threatening fentanyl analogues on the Swedish drug-market, observed since 2014, is assessed as being the most serious drug-related development to date. In October 2017, a higher number of individuals died of fentanyl analogues than in road-traffic accidents. Since 2015⁶⁰, the use of fentanyl and its analogues have caused approximately 370 deaths. The number of fentanyl-related deaths have thereby surpassed heroin as the group of substances causing the highest number of deaths.

The youngest victim in Sweden is a three-year-old girl who died following an accidental intake of the substance in her home. There are also similar examples from other countries of children who have died in this manner. Fentanyl analogues are extremely potent, which means that there is a considerable danger of intoxication also in situations other than when using it directly. Unsafe and/or unconscious handling and accidental contact present a risk, as the absorption also takes place through the skin. Absorption through the skin is particularly dangerous when the substance is in liquid form. In its powder form, the greatest risk associated with the substance is inhalation of dusty powder.

The prevalence of fentanyl analogues in Sweden is, to a large extent, dependent on international developments. The analogues, currently (2018) put on the

market, originate mainly from China. China's application of death penalty for narcotic drug offences makes police cooperation with this country more complicated. This makes it more difficult to carry out international operational actions against identified Chinese fentanyl producers and vendors.

There is a risk that the Swedish Police's active work in reducing the nationally based online-trade in fentanyl and their analogues will increase Swedish users' interest in buying from foreign websites instead.

The ongoing development of the prevalence of fentanyl analogues in Sweden needs to be assessed in relation to a possible change of the legal position, to the authorities' continued directed work and priorities, and also to international developments. Examples of the latter are the measures that China will take to reduce the production in the country.

Currently, the prevalence of fentanyl and fentanyl analogues constitutes, in comparison to most other drugs, a minor part of the total Swedish drug market. The number of Swedish users and individuals prepared to market and sell these life-threatening substances will continue to be limited. At the same time, there are indications of a still growing opioids market controlled by an increasing number of actors.

- ◆ Currently, there is an ongoing legal case where the offence of 'aggravated involuntary manslaughter' is being examined for the first time in Sweden. At a District Court, the outcome was a conviction for eight counts of aggravated manslaughter. The outcome of this legal process will have bearing on future forms of fentanyl trade in Sweden. In case of a conviction, the domestic sale of fentanyl analogues is deemed to be reduced.

60 Until March 2018.

- ◆ The marketplaces from which the sale of fentanyl and its analogues will take place in the future will depend on the repressive measures that the law enforcement authorities will take. So far, the trade has been concentrated to the open internet, but it is assumed that it will move on to the dark net. The assumed change of marketplaces is a consequence of the police's increased focus on, and measures against the open trade. It is the opinion of the NOA Intelligence Division that sales through the dark net will limit public exposure and reduce availability.
- ◆ In connection with a reduced domestic sale of fentanyl analogues, it is likely that users will try to find international marketplaces. This factor will result in an increased need of strategic analysis and international information exchange. An important part of the intelligence work conducted is the opportunity to carry out trial purchases to establish the type of substance involved and to identify and link vendors to specific substances.
- ◆ As a consequence of the increased attention of the media to the sale of fentanyl and fentanyl analogues in Sweden, actors turn to other forms of drug dealing. The NOA Intelligence Division has already confirmed this development, which is viewed as a consequence of the measures taken by the police. Uncontrolled benzodiazepines (tranquillizers with a milder effect) constitute a new big market within the already existing NPS market. The demand for benzodiazepines is currently already high on the online-market, and the user group using benzodiazepines is significantly larger than that using fentanyl analogues.

There is a link between the development of the fentanyl market (including its analogues) and the opioid market in general. A generally increasing demand for opioids will therefore have an effect on future supplies of fentanyl analogues on the Swedish drug

market. Sweden sees an extensive and long-term increase in the illegal trade in narcotic substances, where, in average, more than one million tablets classified as narcotic drugs are seized every year. This makes the market for pharmaceutical products classified as narcotic drugs the second largest in Sweden after cannabis. There is nothing to indicate that the illegal trade in pharmaceutical products classified as narcotic drugs will decrease. On the contrary, this kind of misuse risks intensifying if mental ill health increases in society.

Further, it is assessed as probable that Sweden faces an increased issue involving the abuse of heroin. The heroin market has been decreasing considerably for some years, but there are several indications pointing towards increased access to the drug in Sweden. Record harvests in Afghanistan in 2017 and a historically low price of brown heroin in Sweden are assumed to have an impact on this development. It is assessed that brown heroin (typically smoked) will initially represent this major increase. The criminal actors trading in heroin, including addicts, are assumed to be found primarily among socially vulnerable groups/individuals originating from Afghanistan and other countries where smoking opium is common and the attitude more permissive. The assessment made is that there is a risk that also other groups who are socially excluded in Sweden will be recruited to the handling and the abuse of heroin. The market for heroin is assessed to continue to be marginal in relation to other traditional drugs, including the market for pharmaceuticals classified as narcotic drugs. Further, it has been observed that there is a clear distinction between street-heroin users and online fentanyl buyers. It is almost exclusively a question of different types of user groups, even if there are exceptions.

- ◆ There is an increase of Tramadol, OxyContin and other ‘gateway opioids’ among the seizures. Tramadol has shown significant increases in recent years and will probably continue to be considered a ‘weak’ opioid that is particularly suitable to combine with cannabis or to be used as self-medication. The demand for Tramadol is assessed to continue to increase among younger people. One of the reasons for this trend is the increased abuse of cannabis which, over time, can contribute to mental ill health, which increases the need for taking Tramadol and similar substances to alleviate depression and anxiety.
- ◆ The criminal networks handling pharmaceutical products classified as narcotics usually combine the import of these substances with other drugs, e.g. cannabis. There are substantial profits to be made by the criminal networks in the handling, and the local trade will remain important.
- ◆ The availability of fentanyl analogues on the internet, in combination with low prices and new forms of addiction, increases the risk that more people will form an addiction to opioids. This means that it is even more important to prevent and impede the easily accessible sales of nasal sprays on the open internet.
- ◆ There is currently a very weak link between the fentanyl analogue market (internet) and the heroin market (street-level trade) in Sweden. They may be considered as constituting completely different markets and user groups. However, it is assessed that there is a certain risk that heroin will, to a greater extent, be purchased via the internet. The marketing of brown heroin via the internet may influence the view on heroin in a more long-term perspective, which may lead to the disruption of the previously decreasing trend for heroin.

- ◆ There is an increased risk that fentanyl analogues will be introduced into the street-level market. Unconfirmed intelligence information indicates that this is what is happening, although the NOA Intelligence Division has not been able to confirm this conclusively.

In general, it may be concluded that the increasing online sale of drugs has led to the fact that addiction substances are more easily accessible today and that they are not linked to a geographical area. Drugs on the internet are exposed to new target groups and challenge the traditional view held of the actors on the drug market. Directed controls of the mail flow show that extensive amounts of drugs are sent to Sweden and within Swedish borders. Every week, there is an influx of approximately one million postal items into the mail and courier flow, which makes identifying the substances of abuse a heavy task. An overview of seizures made show that this flow is frequently used for smuggling drugs, usually smaller quantities, which are then sold on the internet. To a large extent, these deliveries are made directly to the consumers, as compared to the deliveries from the couriers which are made to the wholesalers. However, the increasing online market has also led to competitive situations, where vendors offer quality-assured products as a way of getting through in an increasingly tougher market competition. This is relevant to all trade in NPS. This means that the actors will, to a higher degree, use private companies abroad for substance quality-assurance. The increased awareness of the importance of quality-assured products will probably also have impacts on the production of new psychoactive substances (NPS) in China, where the actors are expected to adapt their production to the increased quality requirements. Sweden is the country in Europe reporting the largest amount of new substances to the European Monitoring Centre for Drugs and Drug Addiction (the EMCDDA). This is not only a question of Sweden having adequate methods for that (our laboratories are leading in Europe

when it comes to identifying new substances). It is also a question of Swedish internet vendors, through their international contacts, successfully introducing new substances into the Swedish drug-market.

The access to new online substances of abuse as an alternative to the traditional drugs involves great risks for the consumers. New, uncontrolled substances of abuse are constantly up for sale on the internet and some of them are very dangerous to health with a high risk of overdosing. Drug-related mortality in Sweden is characterized by the fact that those who overdose are younger people. In Sweden, there are several examples where internet sales of new substances have caused time-related concentrations of deaths. This does not only concern fentanyl analogues, even if the greatest threat can be linked particularly to these analogues. Previous deaths have also been determined in connection with the intake of the synthetic opioid MT-45 and various synthetic

cannabinoids. Moreover, the development of counterfeit pharmaceutical products containing fentanyl analogues is considered very serious. Users believing they are taking e.g. benzodiazepines are in fact taking substances which may be directly life-threatening.

- ◆ Similar concentrations of deaths will occur more frequently on the Swedish drug-market and indicates the need for a national monitoring of drug-related mortality.
- ◆ It is likely that the prevalence of counterfeit pharmaceuticals containing fentanyl or fentanyl analogues in Sweden is higher than the NOA Intelligence Division estimates. It may also be concluded that there is a limited knowledge in general about counterfeit pharmaceuticals in Sweden, which could be explained by factors such as the deficient legislation in this area.

Recommendations

The following recommendations have been elaborated based on the national picture presented in this report, and on the needs that the NOA Intelligence Division has identified within the special anti-fentanyl priority work against the trade in fentanyl analogues in Sweden. The recommendations provided by the National Operations Department in this report are consistent with those provided at the European Union level to meet the current issue.

The recommendations are presented without any order of priority or evaluation as to their expected effects. In addition to these recommendations, the Swedish Police Authority sees a need for further measures. However, those measures have not been elaborated and presented in the form of recommendations in this report. In some cases, measures have been initiated/taken to varying degrees. If this is the case, this will be stated at each recommendation and need.

Amendment to the Postal Act concerning the obligation of secrecy

Legislative amendments

The possibility of law enforcement authorities identifying and investigating suspected vendors through the mail flow is currently limited. The current legislation does not allow private legal entities running a postal service to disclose to the police, at their own initiative, information on letters suspected to contain drugs or other illegal goods. This restriction also applies to aggravated offences. However, at the request of the police, the obligation of secrecy may be breached if the suspected crime has a penal value of at least two years. The consequence is that the police may not, not even in cases of aggravated involuntary manslaughter, obtain information from Post Nord, the national postal service.

Recommendation 1

Amendment to the Postal Act (2010:1045) concerning the obligation of secrecy Chapter 2, Section 15, second paragraph regarding the obligation of secrecy.

The purpose is to facilitate cooperation between the Swedish Police Authority and e.g. Post Nord, the national postal service.

New sections of law

Drafting a new legislation

The legislation available today is not adapted to regulate the online trade in substances that are dangerous to society. Amendments to the current legislation, alternatively new legislation for this purpose, are necessary to further restrict the trade in fentanyl analogues.

Unless not classified as narcotic drugs or goods dangerous to health, the sale of fentanyl analogues is dependent on an alternative legislation. Involuntary manslaughter is only applicable once a person is dead, and the police request extended possibilities to prosecute vendors before a death has occurred.

Ongoing legal cases concerning involuntary manslaughter will – if they result in convictions – be of significant signal value to potential new vendors. In cases where there are no convictions, the need for alternative sections of law will be intensified to prevent new vendors from establishing themselves on this lucrative market.

Recommendation 2

Review of the legislation concerning the spreading of poison, Chapter 13, Sections 7 and 9 of the Swedish Penal Code, or review of completely new legislation of similar nature concerning the most poisonous and fatal substances. The current legislation does not comprise the sale in question, as there has not been any danger to the public. In the section on the spreading of poison, there is a generic definition where it is not necessary to control and list the substance; it could, therefore, be effective regarding new, unknown analogues of poisonous substances.

Recommendation 3

Aggravated offence in reference to the Act (1999:42) on the Prohibition of Goods Dangerous to Health, which takes into consideration professional sale, large-scale sales or sales of a particularly pernicious or ruthless nature (i.e. substances causing death). Currently, offences involving goods dangerous to health cannot be assessed as aggravated offences. The punishment imposed for offences involving goods dangerous to health is one year's imprisonment. The proposal should be based on the definition of "aggravated offence" as stated in the Swedish Penal Law on Narcotics.

Revision/relaxation of the Swedish Public Access to Information and Secrecy Act, providing the police with increased possibilities to disclose information to the Social Services concerning suspected users

Legislative amendments, crime prevention

Typical of the fentanyl analogues is the fact that the purchases are made through the internet and that buyers take/use them alone at home. Public exposure is assessed to be lower for these individuals in relation

to individuals with other types of addiction. Analyses of "buyers lists" (compiled data of individuals who buy drugs on the internet) also show that over more than half of the buyers do not have a criminal record for suspected drug offences (Database of Persons Subject of Criminal Proceedings, Criminal Records Register and General Surveillance Records). In view of conducting successful outreach services and making more people in need of care get in contact with addiction care providers, the "buyer lists" put together by the police could constitute a relevant tool for the Social Services. The National Bureau of Investigation previously examined this issue and noted that a confidentiality assessment must be carried out in each individual case and that the individual must be consulted before a contact is made with the Social Services. According to the Legal Affairs Department of the Swedish Police Authority, there is no need to make any changes to the assessment carried out in 2014. In a similar matter, the Värmland County Police was criticised by the JO (the Parliamentary Ombudsman) for having disclosed classified information to a social welfare board (JO 03.12.2014 Ref. No. 682-2014).

Recommendation 4

Revision/relaxation of the Swedish Public Access to Information and Secrecy Act, providing the police with increased possibilities to disclose information in the form of buyers lists to the Social Services concerning suspected users. This measure requires the relaxation of the Swedish Public Access to Information and Secrecy Act regulating the Swedish Police's disclosure of information to other authorities.

Needs:

Proactive classification procedures

In this report, it is concluded that the prevalence of fentanyl analogues in Sweden is highly dependent on international developments, where substances, available on the international markets, reach Swedish users. It is also concluded that the active work of the Swedish Police against, and the reduction of, the nationally based online trade in fentanyl and its analogues may lead to an increased readiness of Swedish users to purchase the substances from foreign websites/international marketplaces.

In the Swedish Government Official Report “Classification of new psychoactive substances” (SOU 2016:93) it is recommended that a generic classification be rejected. However, the issue has been brought up again in the political debate. Offensive and proactive classification procedures are necessary in order to avoid issues related to the fact that the most lethal of the new substances (fentanyl analogues) have been introduced into the Swedish addiction market. Today, the procedures are of a more reactive nature, where the classification does not take place until after seizures have been made and deaths have occurred. The core issue is whether it is possible to classify known fentanyl analogues as narcotic drugs or products dangerous to health, given that there are no known cases involving fentanyl analogues in demand on the addiction market that have not been dangerous. Cyclopropylfentanyl, which caused 72 deaths in five months and was known since 1968, was not classified as a narcotic drug until 12 December 2017.

The Swedish Police Authority has, with help from the National Forensic Centre (NFC), put together a list of fentanyl analogues that have not yet been identified on the Swedish market. In the classification procedures, compilations of international research on fentanyls constitute a facilitating factor. An alternative would be to initiate research in Sweden to cover current knowledge gaps.

Increased inspection of the mail flow

In this report, it is concluded that the fentanyl analogues found on the Swedish market can be traced back to the flow of postal items from China. This flow has increased considerably during the 2000s, as a consequence of the increased importance and volume of online trade in drugs. The further distribution of the substances to Swedish end users is carried out by Swedish vendors, who exclusively use the domestic postal service. Opportunities to carry out inspections of the mail flow and to apply the Act on the Destruction of Certain Substances of Abuse Dangerous to Health⁶¹ are key tools in order to limit the online trade in drugs and its injurious effects.

◆ **Allow inspection of the domestic flow of postal items without suspicion of crime:** The items sent from China may be inspected by the Swedish Customs without this requiring any suspicion of crime. This is not possible within the domestic flow, i.e. this flow cannot be inspected without an existing suspicion of crime (search warrant). As Swedish vendors send postal items to end users through the domestic flow on a daily basis, it is assessed that the possibilities to dispose of substances in this flow are higher, as compared to profiling the few larger postal items (hectograms) smuggled into the country. Hence, there is a need to carry out inspections of domestic postal items, through the use of dogs and X-rays, without suspicion of crime. The possibility to carry out inspections should correspond to the inspections of international postal items currently carried out

⁶¹ Through the Act on the Destruction of Certain Substances of Abuse Dangerous to Health (2011:11), the Public Health Agency of Sweden can initiate an investigation on its own initiative or through an opinion of the Swedish Prosecution Authority. This legislation makes it possible for the police and customs to dispose of/seize dangerous substances potentially leading to addiction, if they are about to be controlled under the legislation on goods dangerous to health. The Public Prosecutor may then take a decision on destruction.

by the Swedish Customs at Stockholm Arlanda Airport and the main national postal processing facility at Toftanäs, Sweden.

- ◆ **The need of tougher inspections of international flow:** The Swedish Customs is in need of a considerable reinforcement of resources to be able to inspect an important part of the international flow of postal items and couriers passing through Stockholm Arlanda Airport. Most fentanyl analogues on the Swedish market originate from China and enter the country almost exclusively through the international flow of postal items and couriers via Stockholm Arlanda Airport. A tougher inspection could be carried out by means of technical solutions, priorities or additional resources. Swedish Customs has significantly increased the number of seizures made in connection with ad hoc interventions. Such measures would initially lead to the detection of a considerable amount of crime and to a significant increase in the number of cases/seizures and to an increased need for investigation resources.

The Swedish Chemicals Agency

The Swedish Chemicals Agency needs to prioritise fentanyl analogues and ensure that the analogues are entered into the list of the agency's monitored chemicals/substances. Fentanyl appears on the list of product categories in the Annex to the Ordinance (2008:245) on chemical products and biotechnological organisms. No fentanyl analogues, however, appear on that list. The Swedish Chemicals Agency can already decide on temporary prohibitions, in accordance with SOU 2016:93, although they currently do not, as far as fentanyl analogues are concerned.

Reinforcement of the legislation covering counterfeit pharmaceutical products

It is concluded in this report that there are cases in Sweden involving counterfeit medical products containing uncontrolled fentanyl analogues. Although

the risk of death is obvious, the penal values are low (violations of the Medicinal Products Act carry a maximum one year in prison). The police's opportunities to prevent the trade, which risks increasing, are limited by the low penal values. There is an international convention, the MEDICRIME Convention⁶², which should be implemented into the Swedish legislation to increase the penal values for offences related to counterfeit medical products and medical devices.

Increased knowledge about the dangers associated with fentanyl analogues

There is a need for increased knowledge/research about the dangers associated with fentanyl analogues. This could require e.g. compiling international research and provide resources for research about the analogues in Sweden. The National Board of Forensic Medicine has started working on this area.

⁶² The MEDICRIME Convention, Council of Europe, Convention on the counterfeiting of medical products and similar crimes involving threats to public health (CETS No.211), is a convention from the Council of Europe, which, to date, Sweden has not signed or ratified. Only when this has been done will the convention be applied in Sweden.

APPENDIX

The prevalence of fentanyl and fentanyl analogues in post-mortem cases

The table below shows the number of post-mortem cases, where **fentanyl, fentanyl analogues** and **heroin**, either alone or in combination with other substances, were determined to be the cause of death during 2007 and March 2018.

New technology was introduced in 2011 at the National Board of Forensic Medicine (RMV), making it possible to detect fentanyl at lower concentrations, which means that it is easier to detect unexpected poison-related deaths since 2011.

Year	Fentanyl	Fentanyl analogues **	Heroin
2007	11	-	
2008	10	-	
2009	16	-	
2010	21	-	
2011	30	-	
2012	33	-	
2013	29	-	
2014	62	-	
2015	58	34	93
2016	63	74	88
2017	30	101	107
2018	6*	3*	17*

* The statistics of 2018 comprise forensic post-mortem cases, closed during January–March 2018.

** More than one fentanyl analogue may have been the cause of death in one post-mortem case.

The table below shows the number of post-mortem cases, where fentanyl, either alone or in combination with other substances, has been determined to be the cause of death between 2007 and March 2018, per month.

Month	2015	2016	2017	2018
Jan	-	3	2	1
Feb	-	1	8	2
Mar	-	1	6	-
Apr	3	1	3	
May	2	5	5	
Jun	7	12	10	
Jul	1	11	13	
Aug	13	13	12	
Sep	3	10	6	
Oct	2	7	24	
Nov	2	5	6	
Dec	1	5	6	
Total	34	74	101	3

The table below shows the number of post-mortem cases, where fentanyl, either alone or in combination with other substances, has been determined to be the cause of death between 2007 and March 2018, per month.

Month	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Jan	1	-	3	3	1	6	3	8	1	15	3	4
Feb	-	-	2	1	2	-	-	3	2	8	3	1
Mar	-	2	-	4	3	4	-	5	2	14	5	1
Apr	-	1	1	-	2	1	3	3	5	4	2	
May	-	-	-	1	2	-	3	7	4	4	2	
Jun	1	-	-	1	-	7	2	8	5	3	1	
Jul	-	-	1	1	1	2	4	2	3	3	-	
Aug	-	1	1	4	5	4	1	5	2	5	3	
Sep	3	1	1	1	3	1	5	6	4	1	2	
Oct	3	4	3	2	3	6	3	10	4	2	2	
Nov	2	-	2	1	4	1	2	1	4	4	3	
Dec	1	1	1	-	4	1	3	4	22	-	4	

APPENDIX

Statistics of seizures

Seizures of fentanyl and fentanyl analogues in Sweden, 2006–2017 (number of seizures).

Source: National Forensic Centre (NFC) and the Swedish Customs Service Laboratory.

	Police		Customs		Total	
	Fentanyl analogues	Fentanyl	Fentanyl analogues	Fentanyl	Fentanyl analogues	Fentanyl
2006	0	5	0	0	0	5
2007	0	10	0	0	0	10
2008	0	8	0	0	0	8
2009	0	10	0	2	0	12
2010	0	13	0	0	0	13
2011	0	37	0	0	0	37
2012	0	33	0	1	0	34
2013	0	38	0	6	0	44
2014	8	37	3	1	11	38
2015	82	36	3	6	85	42
2016	179	71	25	8	204	79
2017	169	45	35	7	204	52
In total	438	343	66	31	504	374

APPENDIX

Controlled fentanyls and fentanyl analogues in Sweden 10.04.2018

Name, others	Drugs/goods dangerous to health	Date of coming into force
acetylbenzylfentanyl	Goods dangerous to health	10.04.2018
bensoylbenzylfentanyl	Goods dangerous to health	10.04.2018
cyclopropylfentanyl	Narcotics Goods dangerous to health	12.12.2017 18.10.2017
Tetramethylcyclopropanefentanyl	Goods dangerous to health	12.12.2017
benzoylfentanyl	Goods dangerous to health	12.12.2017
3-phenylpropanoylfentanyl	Goods dangerous to health	12.12.2017
4-fluoroisobutyrfentanyl (4F-iBF)	Narcotics Goods dangerous to health	12.12.2017 25.01.2017
tetrahydrofuranfentanyl (THF-F)	Narcotics Goods dangerous to health	12.12.2017 25.01.2017
methoxyacetylfentanyl	Narcotics Goods dangerous to health	12.12.2017 25.01.2017
thiofentanyl	Narcotics	14.11.2017
bensodioxolfentanyl	Goods dangerous to health	28.07.2017
isobutyrfentanyl	Narcotics	25.01.2017
4-chloroisobutyrfentanyl (4Cl-iBF)	Goods dangerous to health	25.01.2017
valerylentanyl	Goods dangerous to health	25.01.2017
2-fluorofentanyl	Goods dangerous to health	25.01.2017
cyclopentylfentanyl	Goods dangerous to health	25.01.2017
furanylfentanyl, Fu-F	Narcotics Goods dangerous to health	25.01.2017 26.01.2016
acrylfentanyl	Narcotics	16.08.2016
4-methoxybutyrfentanyl, 4-MeO-BF	Goods dangerous to health	26.01.2016
acetylfentanyl	Narcotics	18.08.2015
butyrfentanyl	Narcotics	18.08.2015
ocfentanyl	Narcotics	18.08.2015
4-fluoro-butyrfentanyl, 4F-BF	Goods dangerous to health	18.08.2015
Thiofentanyl	Narcotics	1990
Para-fluoro-fentanyl	Narcotics	1990
Beta-hydroxy 3-methylfentanyl	Narcotics	1990
Beta-hydroxyfentanyl	Narcotics	1990

Controlled fentanyls and fentanyl analogues in Sweden 10.04.2018, continued

Name, others	Drugs/goods dangerous to health	Date of coming into force
Alfa-methyltiofentanyl	Narcotics	1990
Alfa-methylfentanyl	Narcotics	31.10.1989
Acetyl-alfa-methylfentanyl	Narcotics	31.10.1989
3-methylfentanyl	Narcotics	31.10.1989
carfentanil	Narcotics	01.07.1983

Fentanyl/fentanyl analogues included in approved pharmaceutical products in Sweden

Substance	Drugs listing	Classified (year)
Remifentanil	II, NI	1999
Alfentanil	II, NI	1983
Sufentanil	II, NI	1980, internationally controlled
Fentanyl	II, NI	1964, internationally controlled



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