



Key Lessons from Estonia

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For more information visit: <https://so-prep-project.eu/>

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Abbreviations

DCR Drug Consumption Room

EMS	Emergency Medical Services
EWS	Early Warning System
NPS	New Psychoactive Substances
OAT	Opioid Agonist Treatment
SO	Synthetic Opioids
α -PVP	α -pyrrolidinovalerophenone, 1-phenyl-2-(pyrrolidin-1-yl)pentan-1-one

Executive summary

Over the last two decades, Estonia has witnessed one of the biggest problems with opioid use in Europe and the highest overdose death mortality rate. Based on the risk behaviour and infectious disease prevalence studies among people who inject drugs since 2005, it can be seen that the main opioid injected between 2005-2017 was fentanyl. Estonia is one of the few countries in the world where the drug market has been dominated by illicitly produced fentanyl – a synthetic opioid that is 50 to 100 times more potent than morphine – as well as other fentanyl-analogues such as carfentanil, which can be even more potent.

Fentanyl appeared on the Estonian drug market in 2002 due to a temporary shortage of heroin caused by the war in Afghanistan, leading to several waves of overdose deaths among users. At first the situation was expected to be temporary with heroin soon returning to the market. During the following decade, however, fentanyl and 3-methylfentanyl started to dominate the opioid market. Due to fentanyl's higher potency, switching back to weaker opioids is difficult and heroin disappeared from the Estonian drug market.

The use of SOs (synthetic opioids) has predominantly occurred among communities in the capital area as well as in the northeast region of the country - regions most affected in the end of 1990s and 2000s by socio-economic problems. As the problem was new throughout the world, there were no recommendations or practices from other countries that Estonia could have adapted at the time and the lack of timely and sufficient action led to an unacceptable loss of human lives.

It took years for the seriousness of the situation to reach the political level. Clearly defining the SO problem on the state level allowed different parties to be more efficient in achieving shared aims. Significant progress has been made in areas such as group-based scheduling of drugs, take-home naloxone provision and other harm reduction services. As a result of successful police surveillance work, the main SO supply chains were severely disrupted in 2017.

These developments have led to a substantial decrease in overdose-related deaths. However, the decreased availability of SOs has not led to a significant increase in the uptake of OAT, rather motivating the demand for and emergence on the drug market of new alternative substances. New emerging substances can cause unknown harms to people who use drugs and have also required drug services to adapt to the new market situation, which is resource-demanding and costly.

Until 2021 the fentanyl market is still disrupted and has not recovered to its previous extent. However, other types of SOs (e.g., isotonitazene and other 2-benzylbenzimidazole group opioids) have started to emerge. Without drug checking services, having an up-to-date overview of the drug market has proven to be difficult.

In conclusion, Estonia was unprepared for the emergence of synthetic opioids in 2002 and it took nearly 15 years to mitigate the situation. In recent years, the number of deaths related to synthetic opioids has been increasing in some European countries and it is important to learn from the Estonian experience. The project SO-PREP aims to strengthen European countries' preparedness and response to the threat and potential harm from synthetic opioids.

1. Background information

For years, illicit drug use has been a major public health problem in Estonia. The exact number of people with drug dependence in Estonia is unknown, but various studies provide an overview of drug use in different population groups. A quarter of the adult population in Estonia aged between 16 and 64 have

consumed some type of illicit drug during their lifetime, with 7% in the last year and 3% in the last month. The most used illicit substance is cannabis, followed by amphetamines, ecstasy, and cocaine. A total of 0.3% have used fentanyl at some point in their lives, and 0.1% have used it within the last 12 months (Vorobjov et al., 2019). Based on data from 2015, there are an estimated 8 600 (95% CI¹ 7700–9700) people who inject drugs aged between 15 and 44 (Raag et al., 2019). Based on the risk behaviour and infectious diseases prevalence studies among people who inject drugs, it can be seen that the main opioid injected between 2005-2017 was fentanyl (Vorobjov et al., 2018, Salekešin et al., 2019). However, the availability and quality of fentanyl have decreased since 2017. The main substance currently used intravenously in Tallinn, as well as Ida-Viru County, is amphetamine; among opioids, there were small quantities of fentanyl and even smaller quantities of isotonitazene. The use of cathinones (3D bath salts, α -PVP), as well as the non-medical use of different prescription medicines, have emerged due to a lack of fentanyl.

Upon examining the history of the availability and use of fentanyl, it can be claimed, that the substance appeared unexpectedly on the Estonian drug market in 2002 due to a temporary shortage of heroin caused by the war in Afghanistan. This also led to a sharp decline in the purity of heroin between 2000-2002 (Talu et al., 2003). According to one hypothesis, fentanyl reached Estonia due to our user community's connections to the people who inject drugs in Russia, where fentanyl was already on the drug market at that time. An effective alternative to the absent heroin reached Estonia quickly through international contacts. Estonia was the only country within the European Union in which the market for heroin was fully taken over by fentanyl for many years². For a long time, the rest of the world largely did not understand that the substance was not diverted from the health care system; but rather that it was an illicitly produced substance of uncontrolled strength. Also, it was considered to simply be a short-term trend that would fade out with a strong return of heroin to the market. However, the reality was that the return of heroin did not end the use of fentanyl in Estonia. The substance had taken hold of the drug market due to its effects and potency, and in comparison, heroin seemed weak, and its effects were no longer sufficient. As a result, heroin disappeared from the Estonian drug market.

When fentanyl initially came onto the market, people who use or sell opioids did not realize that the substance is hundreds to thousands of times stronger compared to heroin and continued to buy and use as if it were heroin. The consequence of this was illustrated by a spike in overdose deaths in Estonia (Figure 1). Over time, users have learned how to better adjust to fentanyl, but this hasn't eliminated overdose deaths that increase with every new analogue emerging on the market. Until 2018, Estonia was the leading country in the EU for overdose-related deaths (EMCDDA 2018), which was ascribed to the use of fentanyl. 1705 young people died due to overdose in Estonia in 1999-2019. The majority of deaths in the period 2002–2017 were related to the use of fentanyl and its analogues (Causes of Death Registry, 2020).

¹ Confidence interval

² The SO markets in the neighbouring countries vary considerably. For an analysis of the possible factors and conditions contributing to this, see Pardo et al., (2019).

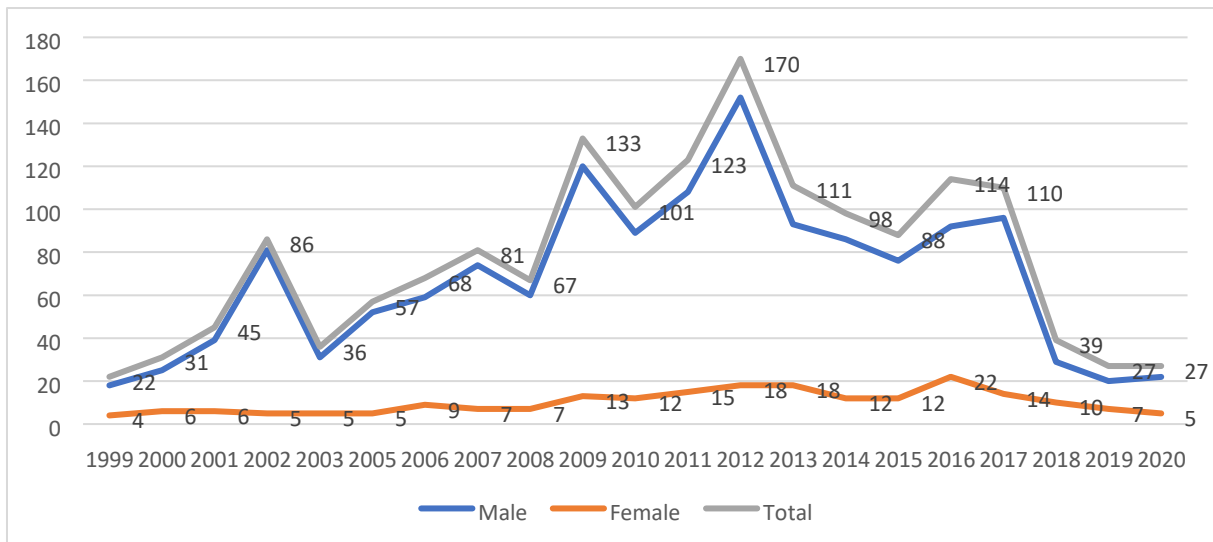


Figure 1: Drug-related deaths in Estonia. Source: Causes of Death Registry, NIHD

The number of overdose-related deaths decreased significantly since 2017. The main reasons for the decrease are considered to be the reduced availability of fentanyl on the Estonian drug market, as well as the wider roll-out of the take-home naloxone programme and other harm reduction services. When fentanyl arrived in Estonia, neither the emergency medical services nor the healthcare system, in general, was ready for such a challenge. As the problem was new throughout the world, there were no recommendations or practices from other countries that Estonia could have adapted at the time. Over time and with the help of increasing experience, the emergency medical services (EMS), as well as drug services that were still in the development stage, learned to cope with the peculiarities of fentanyl use. For example, the doses of opioid antidote naloxone administered in the case of an overdose from fentanyl were adjusted to the potency of the substance. Similarly, the doses of medicines used in the pharmacologically assisted treatment of opioid dependence were adjusted (increased). Dependence treatment (including OAT), harm reduction, and support services were developed. Since the beginning of 2000s, the number of clients in OAT has increased significantly with the rates being relatively stable since 2007 with only methadone offered by state funded programs (EMCDDA, 2019). As the number of people who use opioids has been in decline, the current OAT coverage can be estimated at around 20%. Due to the fentanyl problem, the national overdose prevention programme was launched in 2013 to disseminate take-home naloxone kits to people who use drugs, their relatives, and potential bystanders, and it has been scaled up over the years (Figure 2).

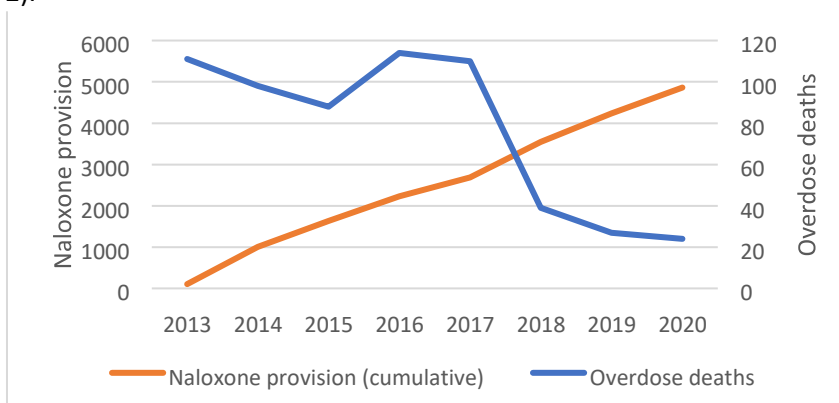


Figure 2: Naloxone provision in Estonia. Source: NIHD

The reduction in the availability of fentanyl has been the result of successful police surveillance work. At the end of 2017 and the beginning of 2018, the activities of many large, organized crime networks were disrupted, and by 2021 the fentanyl market has not recovered to its previous extent. For years, limiting the availability of fentanyl has been a major priority of the police, while new emerging analogues proved to be a challenge. Since 2016, there have been legislative restrictions implemented that help law enforcement combat new fentanyl analogues and derivatives. Fentanyls – as a substance group – have been added to the list of narcotic drugs and psychotropic substances. This change has resulted in all fentanyls, as well as all its isomers, esters, ethers, and salts, automatically being classified as controlled substances. This development allows for a more effective response to the emergence of new analogues and derivatives of fentanyl on the drug market.

An examination of the statistics on seizures in recent years reveals that among synthetic opioids, mainly different types of fentanyl and their analogues/derivatives (carfentanyl, 3-fluorofentanyl, 2fluorofentanyl, 4-fluorobutyrfentanyl, 4-methoxybutyrfentanyl, acrylic fentanyl, butyrfentanyl etc.) have been confiscated. A few years ago, the total weight of all confiscated fentanyl products was 1–11 kg, but in 2020 the total has decreased to a few hundred grams (157 g carfentanyl and 0.4 g fentanyl were confiscated in 2020). In the recent years, seizures of synthetic opioids (SOs) have increasingly included isotonitazene (54 g in 2020).

2. Methods

This report is based on a qualitative analysis of interviews conducted with experts in the field of drugs and people who use synthetic opioids in Estonia as part of the project „Strengthening Synthetic Opioids health systems’ preparedness to respond to the potential increases in prevalence and use of Synthetic Opioids — SO-PREP“. Interviews were conducted in November and December 2020. Experts involved represented the following institutions and organizations:

- Estonian Police and Border Guard Board, Northern Prefecture
- Viljandi Hospital
- Tallinn Emergency Medical Service
- Harm reduction NGO Convictus Estonia
- NGO Estonian Association of People Who Use Psychotropic Substances (LUNEST) □ State Agency of Medicines

Individual semi-structured interviews were conducted with experts. Participation in interviews was voluntary and all participants gave their consent to participate. Interviews lasted for 35-90 minutes, and the collected data was analysed using the method of thematic analysis.

Individual semi-structured interviews were also conducted with six persons who had used SOs to learn about the effects of SOs on an individual and community level. All six interviewees were recruited from the capital area of Tallinn by the NGO Convictus Estonia, a harm reduction service provider. Four interviewees were currently using drugs and two were using drugs at the time when SOs first appeared on the Estonian drug market but were no longer using drugs at the time of the interview. All interviewees were native Russian speakers. Five were male and one was female, aged between 25 and 45. They used drugs for periods ranging from 4 to 22 years, and three of the interviewees had periods where they did not use SOs. The sample consisted of volunteers who permitted the interview by completing a consent form. The interviews lasted approximately 45 minutes and a gift voucher valued at 25 Euros was awarded to each interviewee in return for their participation. The data collected was analysed using the method of thematic analysis.

The main aim of the interviews was to study:

- The availability of synthetic opioids in Estonia
- The use of synthetic opioids and the harm it causes
- The readiness of the health care and social services to cope with the use of synthetic opioids

To better study these topics the questions presented to the interviewees covered a timespan of the last 20 years, where applicable.

The study proposal was approved by the Research Ethics Committee of the National Institute for Health Development.

3. Interview findings

3.1. The prevalence of synthetic opioids in Estonia

The emergence and development of the synthetic opioid problem

The police estimate that fentanyl first appeared on the Estonian drug market in 2001 or 2002. Previously, opioid use was limited to homemade poppy liquid and heroin. Initially, fentanyl was also sold as heroin, leading to a sharp increase in overdoses, as users did not know how to dose it correctly. The initial availability of fentanyl was considered rather erratic, but it started to spread at a constantly increasing rate – initially in Northern Estonia and then in North-eastern Estonia. Its spread into other areas was limited. Police reported that by 2010, it had completely taken over the heroin market.

The described developments also correspond with the responses received from the people who use drugs. Two of the interviewees started using opioids in the second half of the 1990s with homemade poppy liquid. Soon after came heroin and in 2003 they started using fentanyl. The third interviewee started using fentanyl in 2002 without previous experience with opioids. The fourth interviewee stated that at the beginning of the 2000s, all substances were easily accessible in prisons and his/her first experience with fentanyl was there.

According to the Tallinn EMS, it is difficult for them to assess the availability of SOs directly, but they do come into contact with overdoses. There are no state-wide statistics collected on the dispatching of ambulances to attend drug overdoses, but the statistics of the Tallinn EMS start in 1998, with around 200 dispatches per year. A sharp increase occurred in 2002 with almost 1000 dispatches and the peak of overdoses was reached in 2017 with 1396 dispatches. Currently, the overdose rates are nearing that of the pre-SO period, with 350 dispatches in 2019³. It must be kept in mind that many of these dispatches were repeatedly done to attend the same persons. The ambulance services cited, as an example, that a single person had 15 overdoses in one year and one interviewee claimed to have had about 25 overdoses in his/her lifetime. The EMS does not analyse substances, which means that the diagnosis is based on the clinical indicators and effects of the antidote.

The police also stated that they cannot estimate the actual number of people who use SOs, based on the number of proceedings. They are in contact with people who use and sell drugs, but based on this, „a rather intuitive depiction of what takes place on the streets is created“. In previous years, people who use drugs were constantly visible as they committed different types of crimes. From the police’s standpoint, however, the current situation is deemed to be significantly better⁴. The police consider that their activities certainly had an impact on the situation on the streets, but in the years 2010-2017, this impact tended to fluctuate, with nothing longstanding. More lasting results were achieved with the large seizures in 2017 and 2018.

It is difficult to precisely evaluate the spread and availability of synthetic opioids in Estonia, but based on different indicators, it is possible to create an overview of the developments that took place. The emergence of fentanyl in 2002 is marked by the substantial increase in overdose deaths and ambulance dispatches, in comparison to the previous years. Although the availability of fentanyl was initially considered erratic and temporary, they started to dominate the market relatively quickly. The peak period of the fentanyl problem can be delineated from 2009 to 2017.

Current prevalence

³ The number of dispatches has been given descriptively, as the basis for data collection has changed over time and it is no longer comparable.

⁴ For the users’ perspective, see 3.2 Substitutions for synthetic opioids

Viljandi Hospital collects information about the situation „on the streets“ from its clients. According to them, the number of people who use fentanyl has drastically decreased, supporting the overall conclusion that the fentanyl market and the drug’s availability have decreased in comparison to the previous years. However, there has been an increase in the use of "salts" (i.e., synthetic cathinones) and polydrug use.

According to people who use drugs, fentanyls are still available, though not as widely as previously. They emphasize the need to have the right connections. More experienced users do not have a problem with this; in fact, they claim that the availability is stable (according to one interviewee, the availability has been the most stable over the last 2-3 years). For newer users, the availability of the drug was estimated to be worse. In the absence of good contacts, one must make use of intermediaries to obtain the substances, making them significantly more expensive. The average price of one dose of fentanyl was mentioned to currently be 25 Euros⁵ (in case of good contacts – 15 Euros) and this was considered rather high. In certain situations, it is also possible to ask for a much higher price: for example, when the availability is low or the buyer is prepared to pay such a price (this relates to the so-called “face control principle”, whether someone seems desperate enough or gives an impression of wealth).

People who use drugs mentioned fentanyl and carfentanyl as the mainly used SOs, but the question of distinguishing them remains controversial. People with more experience trust their ability to distinguish between different SO batches and strengths. Carfentanyl was considered to be the most dangerous. At the same time, one of the interviewees placed this ability in doubt. It was explained that when carfentanyl was previously more available on the streets, even people with a very long history of use overdosed. In addition, crystal form methadone was mentioned, which is highly valued among people who use SOs but more difficult to obtain. It was highlighted that the effects of „crystal methadone“ are longer lasting and more similar to heroin – unlike fentanyl that necessitates more frequent dosing.

According to Convictus, clients use different substances – close to half of the clients use different SOs, but this has decreased significantly in the last 10 years. The share of people who use opioids is currently showing a downward trend when compared to stimulants, with the most widespread being amphetamines. As neither people nor services can test the substances, it cannot be claimed with certainty what is being used. The behaviour and statements of the clients are taken into consideration in making assumptions (e.g., people who use synthetic cathinones seem to show more aggressive behaviour compared to SOs), but these may sometimes be contradictory. For example, mephedrone was previously called „UFO“, but now this refers to α -PVP.

According to the NGO Estonian Association of People Who Use Psychotropic Substances (LUNEST), the main SOs currently available on the streets are fentanyl analogues and isotonitazene. It is estimated that the share of isotonitazene may be greater, but it is given the appearance of fentanyl and sold under its name. It has been reported that injecting isotonitazene mixtures currently available on the market results in unpleasant side effects such as fever and a burning feeling in the veins. The low quality of current fentanyl and the health problems it causes were also highlighted by one interviewed person who uses drugs.

For the police, the actual chemical composition of these substances is always retrospective knowledge acquired from the expertise. The supply chains of SOs are not considered to be specific to any concrete substance or component: "Everything that is saleable is sold – regardless of it being obtained from abroad or mixed locally." According to them, neither the people who use nor sell drugs ever know exactly what kind of analogues they are dealing with at any given moment. Such information can only

⁵ For comparison, a gram of amphetamine or cannabis usually costs 20 euros.

be known by the high-level drug traffickers, and the police mainly use the more precise information on the composition of these substances to conclude supply chains.

The prevalence of synthetic opioids in the last few years has been characterized by limited availability. Despite disrupting the larger supply chains, law enforcement authorities have not been able to completely eliminate the SO market, and the former chains of distribution have been replaced by smaller closed networks. The limited availability and high prices for new users can be seen as positive developments, which should reduce the uptake of SO use. Providing an overview of the substances that are being used is certainly a challenge, as it is not possible to evaluate this based on the accounts of personal experiences.

Non-medical use of prescription opioids

Over the years, there have been some cases where doctors have sold prescriptions in Estonia⁶. However, the police do not view the non-medical use of opioid prescription medicines as a widespread problem. The number of people who misuse prescription medicines and their associated harms are considered to be small in comparison to more prevalent drugs, making misuse of prescription drugs a low priority for police. The illicit fentanyl used in Estonia has always originated from clandestine production. There has been no systematic diversion of medicines from the healthcare system to the black market and that distinguishes Estonia from other countries. The Tallinn EMS also agrees with this position – according to them, the use of prescription opioids has been under strict control for years. The misuse of other prescription medicines (e.g., benzodiazepines) is considered more probable, but not opioids.

In LUNEST's opinion, individuals or smaller circles that prefer non-medical use of prescription opioids (e.g., ordering them from the dark web) can certainly be found, but as a target group they are not visible to the services.

The harm reduction NGO Convictus Estonia (Convictus) highlights noticeable differences between cities concerning the substances used. The non-medical use of prescription opioids such as methadone and buprenorphine are more prevalent, for example, in Pärnu⁷. This is also implied by the use of larger syringes, which does not occur so much among the clients of harm reduction services in Tallinn.

The interviewees were all of the opinion that methadone is diverted and illegally produced to the illicit market in Estonia but estimates of its prevalence were conflicting. The police do not estimate the extent of the problem as widespread (the North Prefecture seizes a large quantity⁸ of methadone an estimated ten times per year). People who use drugs, however, claim that it is rather widespread on

⁶ In 2016, for example, this resulted in restricting the prescription of oral and injectable forms of buprenorphine containing medicines and they can currently only be administered as part of directly observed treatment

⁷ The fourth largest city in Estonia on the southwest coast. There is no opioid dependence treatment program, like there is in Tallinn and the Ida-Viru County. Individual patients are prescribed methadone at the Pärnu Hospital, but that cannot be considered a systematic provision of opioid agonist treatment.

⁸ A quantity of drugs or psychotropic substances, plants or fungi is large when it is sufficient to produce a drug intoxication for at least ten persons.

the street. Methadone is resold by service users who obtain it legally⁹, as well as produced illicitly (e.g., in crystal form).

The Agency of Medicines has plans to reclassify over-the-counter medicines containing small quantities of codeine into prescription drugs because of the potential for misuse. According to anecdotal evidence presented by LUNEST, the misuse of these medicines is more noticeable among youths. However, it should be highlighted that from the standpoint of the Agency of Medicines, one of the most important problems in Estonia is the strong underutilization of opioids – cancer patients do not receive enough medicines, and pain doctors do not prescribe them in sufficient quantities. The level of prescriptions is very low in comparison to Europe and the USA.¹⁰ The Agency of Medicines believes that access must be regulated to prevent misuse, but having said this, a balance needs to be reached so that medicines are available to those who need them.

Although misuse occurs, the systematic diversion of prescription opioids used in pain treatment or OAT to the black market has not yet been observed in Estonia and the problem is rather seen in the underprescription of opioid medicines for patients who need them. The illicit market for SOs exists as resale (usually taking place within the specific group) and illicit production, but estimating its extent is difficult. Gathering data on this issue would require additional work and currently, this is not considered a priority.

The supply situation

According to the interviewed users, at the beginning of the 2000s SOs originated from Russia and China: "If there was no substance in Tallinn at the time, then one went to Narva¹¹ to fetch it". One interviewee added, that in 2013, fentanyl supposedly came from Latvia. The importance of Russia and Latvia, as the main sources for SOs at the present moment, was repeatedly mentioned. Another interviewee claimed, however, that it is illicit methadone that is currently prevalent in Russia, not fentanyl – and that fentanyl is also produced locally in Estonia. In addition, one interviewee highlighted, that in the spring of 2020, when Estonian borders were closed due to COVID-19, fentanyl was not available for two weeks.

The police confirmed that, before the large seizures of 2017-2018, SOs originated from neighbouring countries (initially from Russia) or were produced locally. The seizures of postal parcels are still rare and trafficking of SOs in Estonia is still considered to be "traditional". After the large seizures, a multitude of criminal actors attempted to fulfil the market gap – a myriad of fentanyl analogues from different sources emerged on the market -, but law enforcement authorities were ready for that scenario and hindered the wider spread of these substances, thus they remained available only temporary.

According to people who use drugs, fentanyl transactions usually involve in-person meetings that are agreed by phone. In current times, it has become more important to have acquaintances, as strangers are not considered trustworthy. Intermediaries are used additionally if required. They meet with the

⁹ Under certain conditions, the national clinical protocol for provision of opioid agonist treatment allows service users take-home doses of methadone. If the client is using illegal drugs at the same time, methadone will only be available on site.

¹⁰ See Uusküla et al., (2020).

¹¹ City in the Northeastern part of Estonia, on the border to Russia.

client instead of the person selling the drugs, but this requires additional expenses by the buyer. People with a longer experience of use highlighted that where people who sell drugs did not previously warn about a stronger batch, in current times this is usually done. For example, they recommend not to use alone. One of the interviewees had also heard of "meeting points in the forest" where, at agreed-upon times, it was possible to meet with people who sell drugs. It is also possible to purchase all "light" drugs through the internet (e.g. Telegram) and the use of "dead drops"¹² („zakladki“) was also mentioned, but apparently, it is not possible to buy SOs in this way. The police confirmed that the distribution of SOs in Estonia has not moved to social media yet, unlike the distribution of other substances.

The police estimate that criminal organizations still have a strong ambition to restore the supply, as the reduced availability of fentanyl has not led to a decrease in demand. “The case of α -PVP has shown that when a suitable substance emerges on the market and proves to be popular, we need to be very operational to prevent a rapid re-expansion of distribution networks.” This implies that the collection of information and the suppression of criminals remains a top priority for the police and this task cannot be neglected because the situation is still considered to be precarious. Also, shortcomings in international cooperation were highlighted: "Starting from the countries of origin, transit countries – the whole package – everything must be put to achieve any progress.”

According to LUNEST, the current situation on the Estonian SO market is rather demand-driven. Attention, together with resources, should therefore be directed at reducing the demand-side forces (i.e., increasing the provision of different prevention, harm reduction, and treatment measures). Mere reduction of supply-side forces was considered short-sighted, and the solution was rather seen in a state-regulated market. A step towards that, for example, was seen in the „safe supply“ concept¹³. In the longer term, a model of legalization should be reached that best balances the possible harms and regulatory measures. This would help people make informed choices about their use to mitigate possible risks. In addition, it could reduce the demand for NPS and other illicit substances, leading to an overall reduction in illicit supply. Some hope was expressed that perhaps Estonia is moving in such a direction, though very slowly.

The limited amounts of synthetic opioids that reach the Estonian drug market, are supposedly produced locally or originate from neighbouring countries – i.e., they are distributed through traditional criminal networks and the share of trafficking via the internet and postal services is estimated to be small. Preventing SOs from spreading among youths through social media is considered very important. After the disruption of main distribution networks, the remaining of smaller closed networks with different supply sources can be assumed. Reduction of the supply side of SOs has increased the motivation of criminal networks to introduce new substances to the drug market rather than decrease the demand.

¹² A coordinated handoff in which substances are hidden for customers to pick up in an agreed-upon hiding spot.

¹³ See also Ivsins et al., (2020).

3.2. Synthetic opioid use and people who use synthetic opioids

First contact with synthetic opioids

All of the interviewed people who use drugs had used other drugs before using fentanyl. Three out of 6 had previous experience with opioids, such as heroin and homemade poppy liquid. For younger users, these substances were available too long ago. For two interviewees, their first contact with SOs was when their dealer offered them fentanyl instead of heroin. The third interviewee used it for the first time in prison, as it was widespread in his/her social circle and easily accessible. The remaining three interviewees had previously mainly used stimulants. For one of them, fentanyl was also widespread in his/her social circle, so he/she decided to try it. The other two discovered it through a friend.

Half of the interviewees reported negative first experiences with fentanyl (e.g., it was a disappointment, it was unpleasant, or caused an overdose). Two interviewees, who had previously used stimulants, gave a similar description of how fentanyl offered them an experience that other drugs were not capable of – and the so-called "drug of choice" was found. It was also highlighted that unlike heroin or homemade poppy liquid, fentanyl must be consumed several times a day and the transition from heroin to fentanyl visibly impacts the behaviour of users. People who currently use SOs, according to some of the interviewees, do not know what the real "high" feels like, as the effects of the substances they use are so different compared to heroin.

For all interviewees the common factor for obtaining SOs was considered to be their wide availability. Fentanyl became more easily available than heroin and started spreading even among curious people and groups who didn't use drugs before. The transition from heroin to fentanyl was assessed negatively by those with personal experience.

Characteristics of people who use synthetic opioids

The interviewees all agreed that people who use SOs in Estonia belong to a marginalised community that is predominantly male and Russian-speaking, though this disparity has decreased over the years. It has been observed that there is no significant influx of new, young users, so the average age of the user group has constantly increased. In Estonia, SOs are mostly used intravenously, which is stigmatized and has a deeply negative image in society thus making it not the first preference for youths. According to Convictus, stimulants are more commonly used among youths. Additionally, harm reduction services have noticed increasing numbers of Estonian-speaking clients, which may indicate an increased demand for service rather than the increase in the number of users.

The use of SOs, according to LUNEST, has remained a regional problem. SOs are used mainly in two regions – in the north (Harju County and Tallinn) and the northeast (Ida-Viru County) of the country. In other regions, people who use drugs tend to prefer other substances and SO use is less prevalent.

According to the police, the use of SOs has been strongly linked to the criminal subculture: "It was best suited to a Russian-speaking criminal who had been in prison." It was noticed at the peak of the problem (approximately 2012-2015) that fentanyl had also started to spread to other social groups, but its spread into the masses was fortunately prevented by the sharp decline in availability.

A temporary growth in the number of people who use SOs was observed at the peak of the fentanyl problem, but at most times, the use of SOs in Estonia has predominantly occurred in the capital area as well as in the northeast region of the country¹⁴. The use of SOs is a decreasing trend, in the current situation of low availability, but this could also implicate a shift in the drug preferences of people who use drugs rather than a decline in the number of users.

Substitutions for synthetic opioids

The police predicted that in 2018, a lot of users would be motivated to turn to opioid agonist treatment (OAT) after the availability of SOs dropped drastically. However, this expected increase in the uptake of treatment did not take place and only a small number of people who use SOs entered treatment. It is estimated that, despite the significant decrease in overdoses, there hasn't been a proportional decrease in the number of people who use synthetic opioids, leading to the emergence of new „substitute“ substances (e.g., isotonitazene or α -PVP (the latter being a synthetic cathinone)). The effects of these alternatives are often unknown or considered even more harmful: “In the absence of the preferred substance, substances with similar effects are initially sought, but in the case of their absence, other substance groups will be used.” α -PVP, in particular, is highlighted, as police noticed its popularity among people who use SOs. Convictus and the Viljandi Hospital also highlighted that amphetamines are often used as a substitute. In addition, prescription medicines such as benzodiazepines, alcohol, over-the-counter medications, or other drugs like GHB/GBL may also be used. Experts added that many of the people who use SOs were already polydrug users previously.

The claims of people who use drugs correspond with the aforementioned. Methadone, for example, is used in treatment, as well as illicitly, for supporting the effects of poor-quality fentanyl or when fentanyl is unavailable. There are different medicines also available on the black market (e.g., benzodiazepines, pregabalin) that people with prescriptions sell at 3-5 Euros per tablet. This price is currently considered high. Previously it was 1-2 Euros.

According to Tallinn EMS, it should be noted that the decrease in the availability of SOs has led to a drastic decrease in overdoses: "It cannot be said that they have stopped using drugs, but they are alive." There have certainly been no other substances other than SOs that have caused this amount of work for paramedics.

LUNEST expressed a certain measure of surprise that after such a drastic suppression of the fentanyl market, the negative consequences remained relatively low. According to them, it is very difficult to detect isotonitazene in toxicology. For that reason, there was some suspicion toward the very low number of drug-related deaths in 2019 and the assumption that maybe some isotonitazene related deaths were overlooked, but it was stressed that this is pure speculation.

In the situation of the limited availability of SOs, people have started to replace them with other substances, rather than seek help. Various depressants are commonly used in the absence of opioids, but the use of stimulants has also increased. This has led to a decrease in overdose deaths, but the extent of harm caused by the use of NPS (e.g., α -PVP) is still difficult to evaluate.

¹⁴ These regions were most affected by socio-economic problems that disproportionately affected the Russianspeaking minority. See also Allaste (2006).

3.3. Services

Preparedness and development of national systems

The main opioid used at the end of the 1990s was homemade poppy liquid, which was significantly less potent than SOs. For this reason, it was more difficult for people to overdose, and according to the paramedics, intoxication was more common. The SOs that emerged on the market in the early 2000s were initially sold under the name of heroin and consequently, people did not know how to dose them correctly. In 2001, naloxone was added to the standard ambulance equipment. However, the EMS was not prepared for such a large increase in overdoses.

Another occurrence that was very concerning for paramedics was that a large number of people who use SOs were HIV-positive. The employees were cautious when assisting patients to avoid contact with blood or injecting equipment. The use of post-exposure prophylaxis (PEP) in occupational work was initiated for those at risk after being in contact with HIV. The provision of PEP eased psychological stress. Fear of fentanyl has not been noticed among paramedics, as opioids have always been used in medicine and they are familiar with their effects. Incidents, where ambulances were attacked to steal medicine, were not brought out.

Stigmatization of people who use SOs was considered greater in earlier years when SO use was strongly associated with crime. According to the paramedics: "Then perhaps the ambulance was not even called for every young man". In the early 2000s, drug consumption was still punishable under criminal law which meant that along with the ambulance, the police arrived at the scene in case of an overdose. As people regain consciousness after the administration of naloxone fairly quickly, they often tried to escape from the scene, which was disturbing or frightening for the paramedics. Later, however, they were prepared for this, and people were not held back when they wanted to leave. The police arrests lasted for a short period until the decriminalization of drug use in 2002 (before that, those who were charged for drug use or intoxication for a second time could face criminal punishment and imprisonment). After the fear of arrest gradually decreased, escaping and hiding drug use from paramedics also started to decrease (at least among people who use SOs): "It is usually the case when an ambulance is called to a friend, that one also remains on the scene, out of curiosity." Tallinn EMS stated that it is a very rare occurrence when paramedics find a deceased person for whom no one has called an ambulance. According to the paramedics, the situation has improved significantly over the years.

Even though ambulance patients were no longer arrested, the issue of drug use was still considered to be in their area of responsibility, according to the police. A long period followed in which attempts were made to deter the use of drugs with fines and arrests (consumption of narcotic drugs or psychotropic substances without a prescription or illegal manufacture, acquisition or possession of small quantities of narcotic drugs or psychotropic substances is a misdemeanour punishable by fine or short-term detention). Thereafter, the focus shifted from the people who use drugs to people who sell drugs. The attitude of the police towards people who sell drugs has remained unchanged, yet an important shift has taken place in their attitude towards people who use drugs within the last five years: "They are no longer punished or deliberately captured, no arrests are made." Support is offered instead of punishment – for example, diverting people to the SÜTIK programme¹⁵ is considered more effective than imposing a fine, according to the police.

¹⁵ A social support program, which has law enforcement arrest diversion as one of its aims.

The police acknowledge that the fentanyl problem became a priority for them because of the large number of drug-related deaths. The matter then received additional resources (financial, as well as human resources), and new views on the matter evolved in the judicial system including the prosecutor's office. According to the police, results were achieved when all parties understood how much harm the problem has caused and saw the need to deal with it in a concerted manner. Before that, they were not able to apply different measures to such an extent. This changed the direction of the police into something significantly more concrete – fentanyl became an absolute priority compared to other substances: “It can be said based on this, that actual readiness to deal with the problem emerged only in recent years.”

LUNEST also stated that things started to move along only once the number of drug-related deaths became very high. Strong public opposition to harm reduction measures was seen before that. “The reaction to the problem certainly came too late and poorly, but that is the typical way the problem is reacted to, always and everywhere.”

The national systems were not ready for the appearance of SOs at the beginning of the 2000s. Their readiness has slowly but significantly improved over the years. A very important step was decriminalization, which allowed for different services/parties to better deal with the problem. The next step was the change in attitude among law enforcement authorities, which started offering users assistance instead of punishing them. Significant results were, however, only achieved when dealing with the problem was set as a priority due to the very high number of drug-related deaths.

Preparedness and development of drug services

According to the interviewed people who use drugs, the harm reduction services were still in an early stage of development at the beginning of the 2000s. The choice of services was very limited. Mainly needles and syringes were exchanged, and hot drinks were offered. “Times were complicated,” and often the same paraphernalia was used by several people. An interviewee remembers, for instance, that he/she had a single syringe in 1998, which he/she kept and used for a week at a time because neither clean injecting equipment nor services were available. The main aim of developing services and the distribution of clean paraphernalia was to reduce the spread of infectious diseases, particularly HIV. One of the interviewees became infected with HIV in prison approximately in 2000. He/she remembers the first doctor employed by the prison who tried to educate detainees on the matter and maintain hope in them. Another interviewee stated that at those times, visiting harm reduction services was unpopular. He/she felt discomfort and shame and was not ready to make contact. The motivation to use the services and to make contact arose in him/her only in the last years of drug use.

One interviewee estimated that services started to develop around 2005. More centres were opened (including OAT sites), social and psychological counselling was offered. The harm reduction services started to disseminate information materials and information also started to spread among communities of people who use drugs. Before that, information was sought, for example, from the media. One interviewee first heard about the services while living in a dormitory, where all of the used syringes were gathered together and one of them went to exchange them for new ones. Information was also received while in prison or at meeting points for buying drugs, where an outreach worker was present. People came together there and shared experiences and information about different substances and batches. One of the interviewees did not initially understand the necessity of all this information and the need for different services. Over a long period, however, it started to have an

impact, as different service workers always attempted to make contact and offer help, and that motivated to change.

The first fully state-funded inpatient rehabilitation centre was opened in 2005 (for men only). The service was extended for women in 2012 when fentanyl was already widely available. According to the Viljandi Hospital, the rehabilitation services were developed specifically for people who use SOs and have now been evolved according to their needs (e.g., the addition of aftercare services) and extended to new locations.

The interviewees unanimously stressed the importance of naloxone, which was introduced to the harm reduction services as a take-home programme, in 2013. It is distributed, together with counselling, to clients as well as their families and other possible witnesses of overdoses (e.g., harm reduction workers, police officers). It was, however, cited as a shortcoming that naloxone can be only prescribed by a doctor. One of the interviewees recalls that in earlier times, it would have been difficult to get naloxone from the harm reduction centre, as the doctor was often not present. Provision of naloxone has since become more flexible, but the prescription obligation is seen as a barrier to universal coverage.

The views of people who use drugs on the preparedness of services for the emergence of SOs were conflicting. One considered that there was readiness, as clean syringes and disinfecting skin cleansing wipes were distributed. Another considered that the widespread distribution and use of naloxone was implemented too late, which caused a lot of drug-related deaths.

At the beginning of the 2000s, drug services were still in their early stages of development, especially harm reduction, and their main aim was to curb the spread of infectious diseases. These few services were not ready for the emergence of SOs. This, on the other hand, means that the predominant part of the current system of services has been established in a situation where SOs have dominated the drug market. The awareness of services and interest in them was initially very low, but with targeted interventions developed with the involvement of peers, the situation has improved considerably. The introduction of take-home naloxone is considered to be one of the most important steps in coping with SOs.

The current state of drug services

All people using SOs who participated in the study had made use of drug services due to their SO use. They highlighted harm reduction services, Narcotics Anonymous groups, and OAT services. All interviewees agreed that they were assisted and that they received support from the services. The services have, in their words, developed a lot over the years: the selection of equipment distributed at harm reduction sites has expanded and peer support is also provided. It is highlighted separately that the range of different services and organisations has increased, which allows people to find support according to their needs. Today's users have higher awareness as information, contacts, and experiences are shared. One of them highlighted that he/she also obtains information from the internet and the dark web. The trust of people who use drugs towards services has increased significantly over the years.

LUNEST also brought out some of the more positive recent developments in harm reduction services. For example, the number of naloxone kits distributed was quickly increased when isotonitazene emerged on the market, as in the case of its overdose more doses may be required. Low dead-space

syringes¹⁶ are additionally distributed and there is cooperation with people related to the sales of drugs, giving syringes to them in larger quantities so that they can distribute them to their clients.

The substances currently being used are changing, according to the Viljandi Hospital, and with it the needs of the clientele. They are currently adapting to the lower availability of SOs – psychological programmes are being created and support services are being remodelled for people who use stimulants. It is important to adapt to the changing drug market.

Convictus also highlights that people are better informed now and there has been a significant improvement in the availability of services. The social support programme SÜTIK, launched in 2018, is praised. The programme aims to improve the wellbeing and social coping of people who use drugs by appointing a support person to them, without pressure to stop using drugs. Assistance offered by the support person is considered to be much more direct and personal, as active contact is established with the person. The need to offer the client a relationship without stigmatizing their drug use is also stressed: "The self-esteem of a person needs to be improved. Change happens when a person feels valued and starts respecting himself. These people currently do not appreciate themselves." Within the SÜTIK programme there is close cooperation with the police, who hold the programme in high esteem. The mobile harm reduction service also assists in offering the service in regions where, due to the lower number of people who use SOs, stationary harm reduction services have yet to be developed (e.g., Southern Estonia).

The current situation is characterized by a more diversified selection of services. Services have become more proactive and personal, offering clients a relationship as well as greater inclusion. The flexibility of services allows for closer cooperation with clients to better adapt to changing circumstances. People who use drugs appreciate this, and trust in services has increased.

Challenges and how to reduce harm further

Two interviewees claimed that the services already contained everything of importance. Another highlighted that in Estonia, there should be available housing intended only for people who use drugs – e.g., where only people who use or have used drugs can stay and they are not housed together with the homeless. Although the flow of information between services and clients has significantly improved over time and is generally considered to be good, one interviewee stated that there is still the problem of new users who are uninformed as they are often ashamed to ask for assistance. As an example, it was recommended that information be distributed in online chatrooms frequented by new users. One interviewee wished that one day there would be drug consumption rooms (DCR) in Estonia, where trained employees could assist people with safer drug use.

DCRs would help reduce drug-related harms, also according to LUNEST. It is emphasised that these should not be aimed solely at people who inject drugs, but at all people who are not certain about the purity of the substances they are using. The usefulness of the service could be significantly supplemented by adding the possibility of free anonymous drug checking. DCRs, according to Convictus, could assist in removing the element of excitement and rebellion from drug use and would reduce its attractiveness: "The problem becomes sort of one's own and if the person wants to change

¹⁶ Low dead-space syringes retain significantly less fluid (only in the needle itself) and may thus reduce the transmission of infectious diseases.

thereafter, then they have a chance. They have been informed of the steps they can take. When a person is no longer forbidden to take drugs or argued with, they can make their own choices.”

According to LUNEST, an additional direction of work could be to motivate people to stop injecting and prefer other methods of use, as injecting causes the greatest harm. The aim of harm reduction services should not be limited to keeping a person alive until they are ready to change their behaviour, but the focus could also be on improving the health and quality of life of people who use drugs: “Some harm reduction services and SÜTIK employees already distribute information on “safer, better use” – that such a thing is at all possible and how it can be done.” A shortcoming that was raised was the lack of knowledge on newer “fentanyl replacement substances”, which effects and safer methods of use many services provides still do not know.

LUNEST also emphasized the need to further develop OAT. The situation in Estonia is considered to be fairly unique, as the opioid market is dominated by SOs and the share of heroin is almost non-existent. However, the outcomes of different OAT responses have not yet been well-studied in relation to SOs. According to LUNEST, it has been proved that OAT and rehabilitation work more effectively on people who started using opioids before SOs. Methadone might not be as effective for people who started with SOs or they have to use it in larger quantities that starts to interfere with their daily lives. The efficiency of fentanyl patches, heroin-assisted treatment, as well as buprenorphine etc., should be studied in relation to SOs. For example, in the case of buprenorphine, the transition period from SOs could play an important role: “It is possible to do it gradually, without causing side effects – within a week – in the form of outpatient treatment but currently, this is an excessive luxury. This nuance, that buprenorphine might not reach its therapeutic effect sufficiently fast, has not been taken into consideration. It could perhaps be a more efficient agonist treatment if that sort of action were taken into consideration.” Buprenorphine could also be funded by the state in case of better efficiency (currently only methadone is state-funded and free, buprenorphine is available for a service fee). LUNEST finds that the national clinical protocol for OAT¹⁷ should be updated, allowing to start treatment upon patient referral from day one. One interviewee also expressed criticism of OAT where, according to him/her, the clients are kept for as long as possible on a large dosage so that the service providers can earn more money. The quantity of methadone is only decreased, in their opinion, when a client violates the rules.

Convictus pointed out the following needs for improvement: an inpatient treatment service needs to be established for mothers with young children (so that children can stay with the mother during treatment); drug treatment should be financed through the Health Insurance Fund as part of insurance package instead of being funded by the state separately; acute withdrawal treatment should be made more available, as well as broadening the possibilities for short-term treatment (e.g., by state funding the Minnesota based treatment model). In addition, the availability of naloxone could also be improved, as it currently requires the personal data for prescription, and this is not suitable for all people.

The police stresses the importance of person-centered social support, meaning that approaches should be as personal and diverse as possible, and that social workers should find those who need assistance and not vice versa. The state should be more proactive and improve the availability of preventive interventions. The police mostly comes into contact with people once their problems are severe and offenses have been committed. Risk groups must be offered assistance more actively and repeatedly: “It is said that support must be offered 7 to 9 times before it is accepted. The police must, so to speak, push the supply further away, and the other parties must bring support closer. Support has to be closer than the next dose.”

¹⁷ A new protocol is adopted and implemented since January 2021.

Missing services that would further reduce drug-related harms include drug consumption rooms (DCRs), anonymous drug checking services, as well as inpatient services for mothers with young children. Access to detoxification treatment and naloxone should also be improved. The shortcomings of existing OAT services should be addressed, especially the efficiency of different treatment regimes, in the context of SOs. Awareness among people who use drugs about options that can improve their quality of life should be increased even more. The state services should set more proactive and preventive approaches as their priority, rather than just dealing with the consequences.

3.4. The Estonian experience

The main positive factor, with which the interviewed people who use drugs considered Estonia to set as a good example, was the good attitude of the service providers. People who use drugs are treated with respect and understanding. Convictus pointed out the experience and professional attitude of the frontline workers towards clients: "It is not disapproving, nor is it overly hand-holding. Attitude is the most important thing. A person and their choices must be treated with respect; one needs to be there in case he/she wants to make changes and be given the possibility to live." One of the interviewees also emphasized that it is possible to survive any situation so long as the person is given a fair chance.

Convictus highlighted the decriminalization of the use and possession of small quantities of drugs in 2002 as an important step. This ended arrests for merely using drugs, provided that one was not a danger to oneself or others. It is currently possible to refer people to the SÜTIK programme (arrest diversion), which is considered good practice. The existence of the take-home naloxone programme is praised but there is still a lot of room for improvement.

According to the EMS, a lesson that can be learned from the experiences of Estonia is that drug-related deaths are preventable. It is considered to be of utmost importance that the public debate was initiated in Tallinn, as well as in Ida-Viru County: "That there was no shame, that the subject was on the table." Cooperation between parties and support for each other's aims are important. Many overdose deaths, for example, were avoided as the police started to treat users as people in need of help, instead of criminals. The importance of prevention was also stressed, as the use of SOs started among vulnerable groups affected by social problems and attending to the needs of these groups should have received more attention before the problem escalated.

According to the police, it is important to start addressing the problem on a political level as early as possible. Different authorities in Estonia were already aware of the seriousness of the problem, prior to it gaining momentum on a political level. However, the police was dismissive of the problem: "We initially had the naive hope that we could put minimal resources into it and see, perhaps it blows over or ends, but it did not, not on its own. Rather, it got exponentially worse, and it was much more difficult to get under control later." Problems are often allowed to grow too big before they reach political circles. The importance of state coordination was also stressed. The White paper on the drug policy adopted in 2014 (and the currently developed new policy document) defined the problem, approach, participating parties, together with the activities and indicators. This assisted in creating a joint understanding of the actual state of the problem and whether all parties are doing the right thing. The legislative measures were also highlighted – by making the list of banned substances group-based, the speed of their regulation was significantly increased – as well as allocating resources to services so that they could be enabled more operationally and widely: "It took Estonia a rather long time to reach targeted programmes that would actually benefit people who use drugs."

It is difficult to compare Estonia to other countries, according to the Viljandi Hospital, as we are a small country. Estonia may look at the examples of more successful welfare states (e.g., Switzerland or Australia), but their financial possibilities to invest in public health are often considered to be unattainable. The constant evidence-based broadening of the network of services is important, to ensure the sufficient accessibility of existing services and develop new possibilities based on the needs and changing situation. It is also considered noteworthy that in Estonia, it is possible for a Russianspeaking person to obtain a high-quality service in their native language.

It is possible, according to LUNEST, to also learn from the experiences of Estonia, based on failures: "A paragon that under pressure, things become worse. It is not good news if your country is capable of forcing heroin off the market." It is considered characteristic for Estonia to follow other countries and

take over already proven interventions, without particular innovations, as the interventions that are functioning well in our country (e.g., OAT or naloxone provision) originate from other countries. According to one interviewed person who uses drugs, other countries should give Estonia recommendations instead, as its policy development is still lagging behind more progressive countries.

Drug services in Estonia are currently focused on the needs of people who use drugs while reducing the stigmatization of the target group. It has been important to recognize the problem on a political level – a clear definition of the problem and coordination of responses on the state level have allowed different parties to be more efficient in achieving shared aims. The evidence-based network of services has been continuously developed, against the backdrop of wider advocacy. Estonia has not pioneered decriminalization of drug use, provision of naloxone, or group-based scheduling of substances, but the country's experience of implementing these measures supports their effectiveness. Estonia's fairly unique experience with SOs might contribute to understanding the problem more widely.

4. Discussion

The wave of overdoses in 2002 that followed the emergence of fentanyl on the Estonian drug market can largely be attributed to the general lack of information among users and sellers and due to insufficient support from appropriate services. People who use drugs lacked previous experience with the substance that was significantly more potent, and they were often not warned about the strength of the substance in advance. However, these risks are reducible through several measures. The Estonian experiences stresses the need for a well-functioning early warning systems (EWS) to provide timely and reliable information about new substances on the market to people who use drugs as well as services. Collecting data from the user and service levels is crucial for EWS to operate promptly and efficiently. This assumes the existence of a drug checking service that would not be dependent on the long waiting time for forensic expertise. If drug checking services would be available, it would open up additional harm reduction possibilities, by including, for example, people who sell drugs in the dissemination of credible information¹⁸.

The emergence of new substances on the market demands a very rapid response from the law enforcement authorities to prevent them from becoming established on the market. Fentanyl's emergence in Estonia is an instructive example, as it was capable of replacing other opioids on the market very quickly. The shift from fentanyl back to heroin did not occur even when heroin became available again.

Although the factors contributing to the two major shifts on the Estonian drug market (2002 and 2017) were different, it is still possible to compare their consequences. Law enforcement activities have become swifter and more efficient with years, and they have managed to prevent the emergence of new large criminal networks. In addition, people who use drugs have highlighted the fact that people who sell drugs have started to warn clients more about the potency of substances. The reaction of services to the emergence of new substances on the market has also improved (e.g., the distribution of additional naloxone kits in the case of isotonitazene) and people who sell drugs are to some extent included in harm reduction activities. An important similarity, however, is the lack of knowledge among people who use drugs concerning the substances used. None of the people who use drugs interviewed in the given study mentioned isotonitazene, although its spread and sales under the name of fentanyl are frequently cited by different sources¹⁹. For example, 21% of those who turned to treatment for drug dependence in 2009 similarly mentioned that they use heroin, although heroin was missing from the Estonian drug market (Talu et al., 2010). Risks are inherent in such a lack of knowledge as people cannot take into consideration the characteristics of the substances being used.

The functioning of larger SO supply chains is currently disrupted, but this has not led to a complete disappearance of SOs from the market. Their handling has rather broken down into smaller networks, in case of which it is more difficult to assess the origin of the substances. The number of substances ordered online has constantly grown over the years, but the share of mail ordered SOs has until now remained minimal and there is a lack of evidence that their distribution has moved to the internet. This could be attributable to the fact that people who use SOs prefer more „traditional“ methods of obtaining drugs. It is, however, difficult to refute the ordering by mail, as the handling of SOs is predominantly done in smaller closed circles.

According to the interviews, people first came into contact with SOs due to their wide availability. The prevalence of fentanyls at the peak of the problem was high enough that people who did not belong

¹⁸ See also Betsos et al., (2021).

¹⁹ For example seizure and toxicology data or Kangur (2021). In addition, the most recent LUNEST reports state the possibility of other SOs belonging to the benzimidazole group.

to the SO using communities started to try them out of curiosity. The availability of SOs is limited at the moment and sourcing them is difficult even through traditional channels, which should inhibit the increase in the number of users. Based on the most recent reports²⁰, it can even be claimed that the use of SOs is currently concentrated in the Tallinn area, while in the Ida-Viru County α -PVP use is more prevalent. It is therefore of utmost importance to prevent SOs from regaining their availability, for example, through social media or the dark web.

Based on the Estonian experience, it can be stated that the substantial reduction in SO availability might not bring with it a substantial reduction in demand. In case of a shortage, there is a strong motivation among people who use or sell drugs to recover or replace formerly available substances. Such shifts on the drug market may have unpredictable consequences. The decrease in the availability of fentanyl has significantly contributed to reducing the number of overdose deaths, but at the same time, has introduced α -PVP to the market, which can have a much more harmful and irreversible impact on mental and physical health of its users, including risk of death.

In addition to individual harms, such transitions create challenges for drug services. When SOs emerged on the Estonian drug market, drug services were still in their early stages of development, thus most of them have evolved based on the needs of people who use SOs. Currently, however, services need to adapt to the new market situation, which is resource-demanding and costly. The emergence of new types of drug-related harms may lead to a situation where there are no services capable of dealing with these problems. A question can be raised here whether the aim should be a more “standardized” drug supply through state regulations to be able to better address known harms or does it highlight the need for services to be more resourceful and flexible to keep up with today's rapidly changing drug markets.

There is a wealth of scientific evidence on the effectiveness of OAT, but a person-centred service delivery approach that meets the needs of clients is the key to success. It is important to broaden the range of available services and medications offered to increase OAT uptake as the current coverage remains suboptimal (i.e., around 20%, while medium coverage levels in the EU are considered to be between 30-50% (EMCDDA, 2021)). The effectiveness of different service delivery models should additionally be evaluated (especially concerning SOs). The degree to which the clients are informed concerning the aims and organization of treatment is also relevant, as this helps them to make informed choices while avoiding unrealistic expectations or misunderstandings.

The interventions offered by the drug services need to be more proactive and targeted, with emphasis on user inclusion and empowerment. The situation has improved significantly from the passive aid provision at the beginning of the 2000s, but as the interviews suggested, low self-esteem and difficulties in asking for assistance are still widespread among people who use drugs. Empowerment enables people to become more aware of their possibilities and be more proactive in making their choices, moving forward from passively accepting assistance. However, when offering targeted intervention, it is also important to maintain flexibility concerning the persons' needs, so that one retains the freedom to choose exactly the support one currently considers necessary.

Agreeing on common priorities has helped Estonia to achieve progress - the availability of synthetic opioids has decreased significantly in the country. The fact that it is easier to coordinate activities in a small country may play a role in achieving this. In addition, the drug market in Estonia is very small compared to other countries (it was also very centralized in the case of SOs), making it difficult to replicate these results in other countries. The cooperation of all parties is important to avoid repeating mistakes and hinder the spread of new hazardous substances.

²⁰ LUNEST reports 2021

5. Conclusion: key lessons from Estonia

- Disruptions in supply chains are one of the contributing factors for SOs emerging on the drug market.
- SO use can emerge without systematic diversion of prescription opioids from the health care system.
- Whether new emerging substances establish themselves on the market, depends on multiple factors (e.g., existing user population, user preferences, potency, price, availability of substances). When these conditions are met, SOs can rapidly take over the market.
- Due to fentanyl's higher potency switching back to weaker opioids (e.g., heroin) is difficult, especially if fentanyl is available on the market. This means that the initial supply-driven situation on the market can change into a demand-driven market.

- In the case of new emerging substances, a lack of rapid warning systems may lead to increased drug overdoses and other harms.
- Without drug checking services, it is difficult to have an up-to-date overview of the drug market.
- SOs and other new emerging substances can pose a wide range of direct harms to the user. In addition, it requires costly adaptation from services and can affect other areas like prescribing pain medicines.

- A wide roll-out of the take-home naloxone programme and other harm reduction interventions can decrease drug-related overdoses significantly.
- Limiting the availability of SOs is an important strategy, but it might not lead to a reduction in demand, possibly motivating the emergence of new alternative substances.
- In addition, it does not directly increase the uptake of OAT, stressing the importance of meeting the needs of service users. Accessible and high-quality OAT provides a vital alternative for the illegal supply, especially in the context of SOs.
- Drug services need to move forward from providing passive support to proactive and targeted approaches that include and empower service users.
- Tailored interventions are important to address specific communities of people who use drugs, where SO use is more concentrated.
- Destigmatization of people who use drugs needs to be done on the level of services as well as policy and society in general.

- Clearly defining the SO problem on the state level has allowed for a balanced approach where different parties can be more efficient in achieving shared aims. Lack of timely and sufficient action can lead to an unacceptable loss of human lives.
- Decriminalization has provided different parties the opportunity to better reduce the harms of SO use.
- Law enforcement efforts on the supply side can disrupt the establishment of new drugs on the market, but have a limited effect on the overall problem.
- Disrupting local/physical supply chains may move SO distribution online. Monitoring of online activities then becomes important.
- Group-based scheduling has allowed law enforcement to better prevent the emergence of new substances.

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Appendix

Appendix 1. Questions for the interviews with experts in Estonia

1. Background information

What is the history of synthetic opioids regarding supply in Estonia?

What is the history of synthetic opioids regarding prevalence in Estonia?

Are there any differences in certain user groups (men, women, younger/older people, Estonian or Russian speakers etc.?)

How do people cope with changes in the availability of opioids, incl SO (what do they replace them with if they have no access)?

2. Drug services

When synthetic opioids first appeared on the market in Estonia, were drug services prepared for the challenge of synthetic opioids?

What were the main changes and development in drug services for people who use synthetic opioids? (E.g., special services, information leaflets, support groups, treatment etc.)

Did drug services develop new strategies and practices to tackle the challenges of synthetic opioids for clients?

What you think is needed to reduce the prevalence and use of synthetic opioids? What other services might be needed/ beneficial in keeping people who use synthetic opioids safe?

3. Lessons learned

How did politics develop strategies to tackle the problems (new laws and regulations etc.)?

What other activities do you think are still needed to reduce supply?

What can other countries learn from your experiences?

Appendix 2. Questions for people who currently use synthetic opioids in Estonia

How long have you used opioids? Have you used different opioids?

1. Current supply situation

What type of synthetic opioids have you or people around you used? What are the names in the drug scene for these substances?

Where do you purchase them? (For example, on the black market or also online)?

How does the price of synthetic opioids compare to other opioids or other drugs?

How did you come first in touch with synthetic opioids? (For example, did a person selling drugs or someone you know offer it to you?)

Did synthetic opioids replace heroin or other opioids for you? Please elaborate on it

How is the supply situation now in Estonia? (Additional remarks)

Do you know which country/countries the synthetic opioids come from?

Who uses synthetic opioids? For example, more men than women? Older or also younger people? More Estonian or Russian speakers?

How do you cope with shortage of SOs and what is offered to you as substitution on the black market?

2. Drug services

Do you get any help or support regarding synthetic opioids from the drug services? Please elaborate on it.

Where do you get your information about synthetic opioids from? (For example, information on new substances, their dangers, how to stay safe, etc.). Is it from drug services, friends, people who sell drugs...?

What do you think is still needed? What other support services could you benefit from regarding your synthetic opioid use?

3. Lessons learned

What can other countries learn from your experiences?

Appendix 3. Questions for people who used synthetic opioids in Estonia during the emergence of SO

How long did you use opioids? Have you used different opioids?

1. Current supply situation

What type of synthetic opioids have you or people around you used? What are / were the names in the drug scene for these substances?

How did you come first in touch with synthetic opioids? (For example, did a person selling drugs or someone you know offer it to you?)

Did synthetic opioids replace heroin or other opioids for you? Please elaborate on it

Did you know which country/countries the synthetic opioids came from?

2. Drug services

How quickly did drug services adapt regarding synthetic opioids?

Did you get any help or support regarding synthetic opioids from the drug services? Please elaborate on it.

Where did you get your information about synthetic opioids from? (For example, information on new substances, their dangers, how to stay safe, etc.). Was it from drug services, friends, people who sell drugs...?

3. Lessons learned

When synthetic opioids first appeared on the market in Estonia, were drug services prepared for the challenge of synthetic opioids?

Looking back what were the changes and the development?

What can other countries learn from your experiences?