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La Convention MÉDICRIME

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Working Group on unauthorised removal, including theft, from the supply chain of medical products (WG-URSC)

Introductory report on publicly reported incidents of unauthorised removal of medical products from the supply chain, including theft, and related issues

Executive Summary

This paper has been produced in support of the Council of Europe MEDICRIME Convention's first Working Group (WG) meeting on the unauthorised removal, including theft, of medical products from the supply chain.

The focus of this paper is on three methods by which medical products maybe subject of unauthorised removal; theft, loss or diversion. In the preparation of this paper, it was concluded that:

- There is no centralised/comprehensive data of reported incidents
- No tracking of open-source "media reports" of medical product incidents (theft, loss, diversion).
- There are no comprehensive global or multi-country statistics on this topic.
- The majority of studies or reports focus on substandard / falsified medicines, medication errors, or shortages, leaving loss, including theft or diversion from the supply chain, under researched.

The challenge faced by authorities in preventing, detecting, and responding to reports of the unauthorised removal of medical products from the supply chain are therefore significant. These challenges include protecting public health whilst ensuring the integrity and security of the regulated supply chain in preventing medical products being intentionally removed from the intended supply chain, and with a consequence of denying patient access, and diverted into an unintended supply chain in another country or to the illicit market.

Through open-source online research, i.e. publicly available information, the intention of this paper is to increase awareness of the both the scale and threat that unauthorised removal of medical products from the supply chain pose. From the limited information gathered during the preparation of this paper it is suggested that unauthorised removal of medical products from the supply chain:

- is a significant issue for many countries evidenced through public reporting.
- maybe a threat indicator of future risk of the production of falsified versions of the product.
- plays a significant role in the illicit sale and supply of medical products.
- contributes to public health issues, i.e. supply chain shortages.

From this initial research it is proposed that there is a lack of awareness and understanding of the scale of unauthorised medical product removal from the supply chain. To allow States to develop evidence-based policies four key areas may require further consideration and development to resolve:

- Data – There is a limited availability of data/ comprehensive data set and agreement of who collects this data nationally.
- Research - Limited research of the topic and sub-topics has been conducted.
- Problem understanding – There is currently a lack of understanding of the scale, methodologies and enablers to allow focus upon the underlying problem/s.

- Collaboration – Inter and intra-national cooperation between authorities and States will enhance identification, understanding and response to the identified threats.

TABLE OF CONTENTS

INTRODUCTION

Objective

The purpose of this paper is to provide an introduction to and initial research of three broad methods by which medical products are subject of unauthorised removal from the regulated supply chain.

Methodology

The approach that has been adopted to compile this paper:

1. to conduct online open-source research, i.e. information gathered from publicly available information.
2. provide a narrative on each of the methods by which medical products are subject of unauthorised removal from the regulated supply chain.
3. provide source links to all identified issues to develop an evidence-base and facilitate discussion.
4. to conclude by identifying themes or strategic issues that emerge across the entirety of the paper.

Definitions

The following definitions have been used for the production of this paper:

- **Loss of medical products** refers to any instance in which medical products are removed from the authorised supply chain in a manner not compliant with regulatory, security, or quality assurance requirements.
- **Theft of medical products** refers to any unauthorised and intentional taking or removal medical products from any point within the regulated supply chain, resulting in a loss of custody, control, or traceability of those products.
- **Diversion of medical products** refers to the unauthorised and intentional supply of medical products from the legal supply chain to the illegal market, or to a user, or to a stakeholder within the regulated supply chain, for whom the medical products were not intended.
- **Medical product** shall mean medicinal products and medical devices[1];
- **Medicinal product** shall mean medicines for human and veterinary use[2], which may be:
    - i. any substance or combination of substances presented as having properties for treating or preventing disease in humans or animals;
    - ii. any substance or combination of substances which may be used in or administered to human beings or animals either with a view to restoring, correcting or modifying physiological functions by exerting a pharmacological, immunological or metabolic action, or to making a medical diagnosis;
    - iii. an investigational medicinal product.

[1] Article 4.a. Council of Europe Convention on the counterfeiting of medical products and similar crimes involving threats to public health. (2011). Council of Europe Treaty Series- No. 211. https://rm.coe.int/168008482f
[2] Article 4.b. Council of Europe Convention on the counterfeiting of medical products and similar crimes involving threats to public health. (2011). Council of Europe Treaty Series- No. 211. https://rm.coe.int/168008482f

Report Limitations

This paper is limited to incidents and content which has been released by authorities and other publicly available online information and does not propose to be an exhaustive assessment of all relevant global incidents.

I. INITIAL FINDINGS

This paper examines three methods by which medical products leave the regulated supply chain by unauthorised means:

- Regulatory losses
- Theft
- Diversion, including the intentional illegal supply of medical products from the regulated supply chain to the illicit market, or diversion to a user, or to a stakeholder within the regulated supply chain, for whom the medical products were not intended.

An immediate challenge from which to conduct analysis and develop clear, evidence-based findings has been the lack of availability of systematically collected data. As a result, the early findings of this report are, in the main, based upon an initial review of open-source media reports publicly available.

1.1. Theft of medical products

Numerous articles have been published which have concluded that the theft of medical products is widespread but under reported[3]. Depending on individual company policy, regulatory and/or criminal law requirements and other determining factors, such as scale, value and risk, many theft or losses may not be reported to authorities.

Research on publicly available information highlights the vulnerability of medical products to theft. Those that are reported are often involving large volumes of medical products.

More than half a million prescription drugs are stolen each year - and most are opioids: Nearly 9 million doses were reported lost between Jan. 1, 2012, and Sept. 30, 2017[4]

This media report in Canada highlighted 'More than half a million prescriptions drugs are stolen from pharmacies each year, with the majority being highly addictive opioid'. painkillers that end up on the street, according to an analysis of Health Canada data by CBC News.

Pharmacist jailed for unlawful CD supply is struck off by GPhC[5]

The pharmacist in this case ordered more than 29,000 packs of Diazepam, Nitrazepam, Tramadol, Zolpidem and Zopiclone from the pharmacy, which was owned by his mother, and diverted the drugs to criminals who sold them for over £1m. The prosecution said Mr Khaira made nearly £60,000 from supplying the drugs.

Globally, reports of thefts appear in the media on a regular basis and provide significant insights into the challenges faced by authorities.

[3] https://www.transcrime.it/wp-content/uploads/2022/11/The-theft-of-medicines-in-the-EU.pdf
[4] https://www.cbc.ca/news/canada/missing-drugs-pharmacies-part1-1.4708041
[5] https://www.pharmacymagazine.co.uk/news/pharmacist-jailed-for-unlawful-supply-of-cds-is-struck-off-by-gphc

Mozambique: Police dismantle medicine theft scheme at Beira Central Hospital[6]

This recent report quoted Mozambique's Health Minister stating that in August that "a lot of medicine is stolen" in the country's hospitals, adding that "it all disappears in less than 15 days after the drugs are distributed in the units". In addition, the article reported that authorities were dealing with 15 civil servants allegedly involved in medicine theft.

Theft of medicine reports indicate that all countries are impacted.

Well pharmacist sentenced for stealing 40 Mounjaro boxes[7]

A case relating to a pharmacist who pleaded guilty to stealing 40 boxes of Mounjaro and 60 boxes of dihydrocodeine with a combined total value of more than £4,000 from a pharmacy.

Over 1,200 pills stolen during break-in at Insight Hospital in Warren[8]

A criminal offence whereby following forced entry, a secure safe was broken into, and over 1,200 OxyContin pills were missing from the facility.

In May 2024, the Transport Asset Protection Association (TAPA) Europe, Middle East and Africa region recorded 140 theft incidents involving a range of differing commodities valued at $1,372,438[9]. The specific vulnerabilities of pharmaceuticals were subsequently highlighted within a collaborative article produced by several pharmaceutical manufacturers. A key finding highlighted that cargo theft poses a critical risk that pharmaceutical manufacturers and their associated supply chains must address, as it could result in unauthorised product diversion, adulteration and counterfeiting, directly impacting patient safety'[10].

The risk of theft of medical products spans the supply chain. Research into the theft of medicines across European Union countries (Dugato and Sidoti 2023)[11] identified three key phases in the supply chain where thefts are most likely to occur:

- Warehouse and production sites
- Transportation
- Hospital, healthcare and pharmacies

The media reports highlighted within this paper tends to corroborate this analysis.

1.2. Losses of medical products

Losses occur when medical products are removed from the authorised supply chain in a manner that is negligent and/or non-compliant with regulatory, security, or quality assurance requirements. As a result of complex supply chains and moving large volumes of products across international borders, many organisations build a level of tolerance or acceptance that their commodities may, on occasions, be 'lost'. Medical products, however, are not 'ordinary'

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6 https://clubofmozambique.com/news/mozambique-police-dismantle-medicine-theft-scheme-at-beira-central-hospital-293313/

7 https://www.chemistanddruggist.co.uk/news/multiples/well-pharmacist-sentenced-for-stealing-40-mounjaro-boxes-OWPH4LHGU5AGXA4Z3T6IJJEPQY/

8 https://www.wkbn.com/news/local-news/warren-news/over-1200-pills-stolen-during-break-in-at-insight-hospital-in-warren/

9 https://tapaemea.org/

10 https://www.pharmoutsourcing.com/Featured-Articles/342562-Pharmaceutical-Supply-Chain-Security-Risk-Assessment-for-Shipping-Lanes/

11 Dugato, M., & Sidoti, C. (2023). The Organised Theft of Medicines: a Study of the Methods for Stealing and Reselling Medicines and Medical Devices in the EU and Beyond. European Journal on Criminal Policy and Research. Retrieved from https://link.springer.com/article/10.1007/s10610-023-09546-w

consumer products. Losses within the supply chain can often be perceived as low volume incidents. However, a recent investigatory media report highlighted:

Unexplained loss of $4 million worth of controlled medicines from a pharmacy[12]

Subsequent analysis by the reporter unearthed the scale and nature of medicine losses over a six-year period within the Canadian market. This amounted to:

- losses of nearly 10 million doses being 'lost' within the regulated supply chain over the period analysed.
- seven of the top eight were controlled medicines and subject to enhanced controls relating to manufacture, distribution, storage, and prescribing.

The article reinforced the potential for these losses to be leaked into the illegal market. Open-source research to identify specifically reported incidents of 'losses' were rare; however, it may be reasonable to assume that the large volumes of incidents reported in the media as 'thefts' are likely to include a number of loss cases.

1.3. Diversion of medical products

The diversion of medical products for the purposes of this paper refers to the unauthorised intentional supply of medical products from the legal supply chain to the illegal market, or to a user, or to a stakeholder within the regulated supply chain, for whom the medical products were not intended.

The identification of the diversion of medical products can emerge from a number of sources including:

- Seizures by border authorities on goods illegally entering the country

Drugs containing psychotropic substances were sent into the USA[13]

- Identification by regulatory authorities of suspicious purchasing patterns

Pharmacists who illegally supplied more than 55 million doses of controlled drugs sentenced'[14]

- Suspicious prescribing patterns by healthcare professionals

Oakton doctor sentenced to 13 years in prison for running urgent care center as opioid pill mill[15]

Previous research which examined the Illicit diversion and falsification of medicines[16] reported on a large number of incidents of diversion involving a diverse range of medical products. Identified incidents of diversion were reported across the globe. However, the issue of the lack of a comprehensive data set of reported incidents was a concern also identified within the report.

[12] https://www.cbc.ca/news/canada/unexplained-losses-prescription-drugs-1.7247602
[13] https://cbsp.policja.pl/cbs/aktualnosci/215101,Leki-zawierajace-substancje-psychotropowe-wysylano-min-do-USA-rozbity-gang.html
[14] https://www.gov.uk/government/news/pharmacists-who-illegally-supplied-more-than-55-million-doses-of-controlled-drugs-sentenced
[15] https://www.justice.gov/usao-edva/pr/oakton-doctor-sentenced-13-years-prison-running-urgent-care-center-opioid-pill-mill
[16] https://rm.coe.int/crimfamed-2025-11-diverted-and-falsfified-medicines-e/1680b50a56

II. CHALLENGES AND RISKS

In considering issues raised by the unauthorised removal of medical products from the regulated supply chain the following areas emerged consistently throughout the incidents identified:

2.1. Complex Supply Chains

- Medical products pass through multiple intermediaries: manufacturers → distributors → wholesalers → pharmacies/hospitals → patients.
- Each transaction introduces opportunity for loss, including theft or diversion.
- International supply chains can involve different countries with variable regulatory oversight, making detection harder.

2.2. High Value/ High Demand

- Many medical products (e.g. weight loss products, oncology drugs, opioids, vaccines) are expensive and in high demand, making them attractive targets.
- Small thefts can have significant financial value, incentivising organised crime involvement.

2.3. People Security

- Employees in hospitals, pharmacies, or warehouses can misappropriate drugs.
- Insider theft is often harder to detect, as perpetrators may know internal processes and security weaknesses.

2.4. Physical Security

- Storage facilities may lack robust locks, surveillance, or alarm systems.
- Poor inventory controls, unsecured transport, or lack of real-time tracking can make theft easier.

2.5. Inadequate Tracking & Traceability

- Globally, different standards and approaches result in some supply chains continuing to use paper records or outdated tracking systems.
- Without serialization, barcoding, or electronic verification, stolen medical products are at risk of reintroduction into regulated supply chain

2.6. Regulatory & Enforcement Gaps

- Theft is often prosecuted under general criminal law, but MEDICRIME-specific offences[17] (i.e. falsifying stolen medicines to re-enter the supply chain) may not be fully implemented in all countries.
- Cross-border enforcement is challenging due to varying legislation and limited international coordination.

2.7. Online & Dark Web Markets

- Stolen, ‘lost’ and diverted medical products may be resold online or via the dark web.

[17] Articles 5-8, 9 and 11. Council of Europe Convention on the counterfeiting of medical products and similar crimes involving threats to public health. (2011). Council of Europe Treaty Series- No. 211. https://rm.coe.int/168008482f

- Anonymous online sales challenges law enforcement activity making detection and seizure difficult and resource intensive.

2.8. Lack of Awareness & Reporting

- Research would indicate that not all thefts, losses and diversions are reported, especially minor incidents.
- Inconsistent reporting hinders risk assessment, trend monitoring, and preventive measures.

2.9. Falsification & Unauthorised Removal Overlap

- 'Lost' medical products, including those stolen or diverted may be falsified or relabelled, making them appear legitimate.
- Medical products that have been subject of unauthorised removal from the supply chain may be an early risk indicator of subsequent falsification[18].

2.10. Public Health Risks

- Stolen, 'lost' and diverted medical products are likely to be stored improperly, expired, or tampered with, endangering patients.
- Fear of reputational damage can lead institutions to underreport thefts, perpetuating the problem.
- Unauthorised removal of medical products from the supply chain may lead to supply chain shortages and impact upon public health.

III. CONCLUSION

This paper has set out to describe some of the key threats and challenges faced by supply chain actors and authorities in understanding, preventing and responding to the threat of unauthorised removal of medical products from the supply chain. The information and incidents highlighted within this report are based upon open-source reporting from publicly available information.

The challenges for States include protecting the patient and wider public health whilst ensuring the security of the regulated supply chain in preventing medical products being intentionally removed from the supply chain and diverted either into the illicit market or being placed on the legitimate markets for medical products in countries which were not the intended recipients and are not authorised there are significant.

In concluding this report, it is proposed that to enhance the foundations required for the development of informed responses, four key areas may require exploration and further consideration:

- Data – There is a limited availability of data/ comprehensive data set and agreement of who collects this data nationally.
- Research - Limited research of the topic and sub-topics has been conducted.
- Problem understanding – There is currently a lack of understanding of the scale, methodologies and enablers to allow focus upon the underlying problem/s.
- Collaboration – Inter and intra-national cooperation between authorities and States will enhance identification, understanding and response to the identified threats.

[18] AN ASSESSMENT OF PUBLICLY REPORTED INCIDENTS OF ILLICIT DIVERSION AND FALSIFICATION OF MEDICINES - https://rm.coe.int/crimfamed-2025-11-diverted-and-falsfified-medicines-e/1680b50a56