

Assessment of COVID-19 pandemic impact on illicit medication in East Africa

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ANALYTICAL REPORT



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List of Acronyms

ARV	Anti-retro viral medications
COVID-19	2019 Novel corona virus
EAC MRH	East African Community Medications Regulation Initiative
EAHRC	East African Health Research Committee
EAPCCO	East African Police Chiefs Coordination Organization
GMP	General Medical Practitioner
GSM	Global System for Mobile Communications
HIV	Human immunodeficiency virus
IGGH	INTERPOL, Illicit Goods and Global Health
NCB	INTERPOL National Central Bureau
NRA	National Regulatory Authority
PPB	Pharmacy and Poisons Board, Kenya
REC	Regional Economic Community
WHO	World Health Organization

Executive summary

The COVID-19 global pandemic has had profound social, economic and geo-political impact across the globe. In East Africa, countries have attempted to face this issue in the context of resource challenged national healthcare systems. Organised crime groups (OCGs) however have sought to exploit the vulnerabilities in society, which have developed following fundamental changes in population behaviours as a result of fear and often misinformation concerning the pandemic. Challenges in regulatory authority autonomy combined with widespread adoption in East African of misinformation on COVID-19 create an ideal operating environment for OCGs. This has encouraged OCGs to move into the illicit medications market over other forms of crime. A COVID-19 related hysteria has maximised profits for organised crime in this field, whilst enabling relatively risk free activity for criminals. This activity has included increased importations of counterfeit and substandard medications from Asia as well as the acquisition of powerful painkillers to sell on the black market.

It is the activities of OCGs in the COVID-19-era illicit medications market in East Africa that are enabling increased levels of addiction to powerful painkilling medications and leading to deaths resulting from fake medications for chronic as well as life threatening conditions. This trade is also amplifying the impact of COVID-19 on East African healthcare systems. The trade in black market medications originally intended for hospitals has increased the difficulties for healthcare systems to cope with any subsequent second or third wave of COVID-19.

The following are the key findings found through an analysis of a range of available data sources:

- ❖ Illicit medication enters the market via avoidance of registration/regulatory processes or enabled by violence-based criminality or corruption.
- ❖ Variation in medical regulations in East Africa as well as a lack of regulator autonomy offer challenges to efforts to address criminality in this field.
- ❖ OCGs have sought to capitalise on the increased demands for medications during the COVID-19 pandemic. This has resulted in efforts to import counterfeit or substandard medications from Asia, particularly China. Such medications include anti-malarias, antibiotics and HIV medications.
- ❖ These illicit importations have been enabled in part as a result of a reduction in inspection capacity at Mombasa port, being the primary regional port of entry for this trade.

Challenges in regulatory authority autonomy combined with widespread adoption in East African of misinformation on COVID-19 create an ideal operating environment for OCGs. This has encouraged OCGs to move into the illicit medications market over other forms of crime.

The global trade in illicit pharmaceuticals is estimated to be worth USD 200 billion per year¹. The prospect of a percentage of that is highly attractive to OCGs involved in this trade in East Africa.

- ❖ Misinformation concerning COVID-19 has been widely adopted by the public in East Africa via social media platforms. This has increased the general willingness to source medications via illicit means.
- ❖ Adverse reactions to medications have been identified as likely resulting from medications linked to COVID-19 treatment and deaths have resulted from counterfeit and substandard medications throughout the COVID-19 pandemic.
- ❖ The online environment has played a role in the acquisition of counterfeit and substandard medications in East Africa. A regional lack of cybersecurity in Asia offers challenges to law enforcement in the context in which OCGs operate as suppliers in the illicit medications trade.
- ❖ Legitimate medications are being made available via illegitimate means in East Africa. The sale of opioids via the black market has resulted in overdose deaths due to the lack of associated regulation. Following the outbreak of COVID-19, this has resulted in significant risks concerning the abuse of codeine based cough syrups.
- ❖ Unlicensed pharmacies are increasing in number across East Africa. These businesses enable the supply of black market opioids to an increasing number of abusers.
- ❖ The demand for medications created by the COVID-19 pandemic has resulted in increased violence and corruption-based attempts to access medications intended for use in legitimate healthcare systems. This has resulted in an increased risk of healthcare system failure as well as personal risk to healthcare professionals.

Introduction

The COVID-19 pandemic has spread rapidly around the world resulting in unique challenges for countries in terms of infection control, healthcare system support and security. In relation to security, COVID-19 has offered organised crime new areas for exploitation as populations respond to the global ‘information pandemic’, which has been seen to consist of much misinformation.

The global trade in illicit pharmaceuticals is estimated to be worth USD 200 billion per year¹. The prospect of a percentage of that is highly attractive to OCGs involved in this trade in East Africa. This is particularly the case in the context of challenged healthcare systems, non-autonomous medications regulators and inspection capacity reduction seen in the East Africa region.

Open source information, engagement with healthcare professionals, port officials and non-governmental organisations have indicated that abuses exist in relation to illicit medications. Therefore, the European Union (EU) funded Project ENACT has undertaken this assessment to inform law enforcement at a strategic level and support initiatives such

as Project MEDISAFE to engage actors in the region in order to address the issue of counterfeit and substandard medications.

Project IFS/2017/390-601 MEDISAFE P66 Combating Falsified Medicines in Eastern and Central Africa is a unique initiative of the European Commission which is implemented in 11 countries by Expertise France in partnership with the Centre of Excellence Regional Bureau/CBRN in Kenya, UNICRI and INTERPOL. The mission of the project is to contribute to the fight against organized crime involved in the production and traffic of falsified medicines with a view to improve public health outcomes in the region. The project is organized around 6 themes, namely Awareness Raising, Legal Framework, Capacity Building, Inter-Agency Cooperation, International Cooperation and Pharmaceutical Supply Chain Security.

With the emergence of the COVID-19 pandemic in February 2020, MEDISAFE focused on conducting situational assessments in countries by national experts regarding Substandard and Falsified Medicines and Medical Materials and Consumables (SFM/MMC) for COVID-19, in an effort to better understand countries' responses and identify gaps where support could be provided.

A network of national experts is being established with the support of CBRN national focal points in the 11 countries. Several technical webinars have been conducted in several countries by a consortium of international experts in the legal and pharmaceutical fields, namely on 'best legal practices' and on 'definition, identification and control of SFM/MMC'. An awareness raising campaign will shortly be launched in 5 countries on the dangers of SFM/MMC regarding COVID-19.

This report is divided into four main parts. The first part sets the framework of the report by presenting its scope and objectives as well as the methodology employed. The second part aims to explain what illicit medications are, considering counterfeit/substandard medications and the black market for illegally obtained legitimate medications. The third part presents an analysis of the impact and scale of this illicit trade as a result of the COVID-19 pandemic. The fourth part of the report is dedicated to criminal methodologies. It will examine the importation of counterfeit and substandard medications from Asia as well as the acquisition of legitimate medications for distribution on the East African black market. This part will additionally summarise the explored COVID-19-related changes to this form of criminality and highlight examples. Finally, this report will present intelligence gaps identified and make recommendations.

1. STRUCTURE OF THE REPORT

1.1. Scope and Objectives

The primary objective of this report is to consider changes that have occurred to the illicit medications trade in East Africa, following the outbreak of the COVID-19 pandemic, accurate to the level of available data.

This assessment will draw upon data from all available sources and present the current level of threat to East African member countries, posed by organized crime groups engaging in this activity. This report will do this in the context of specific changes to activities and trends in the wake of the COVID-19 pandemic.

1.2. Methodology

This assessment follows an all source intelligence analysis methodology. It is the result of integrating multiple data sources. There are a diverse range of actors involved in medications regulation and identification of illicit activity. This report has drawn on these actors as sources to inform this report as primary data contributors, such sources include:

- Port authorities;
- Medical experts and healthcare system representatives;
- Pharmaceutical companies and organisations;
- NGOs involved in addiction and social support;
- World Health Organization (WHO);
- Project Medisafe, Expertise France.

INTERPOL African regions are defined on the basis of countries' participation in regional chiefs of police organizations. Some countries participate in more than one regional chiefs of police organization. In such cases, they are counted in each of the regional organizations in which they participate. Regarding this report the organisation in question is EAPCCO and covers: Burundi, Comoros, Djibouti, Democratic Republic of Congo, Eritrea, Ethiopia, Kenya, Rwanda, Seychelles, Somalia, South Sudan, Sudan, Tanzania and Uganda.

Open sources used in the framework of this report include news articles and reports from various international organizations as well as think tanks.

Information from the aforementioned sources was all aggregated together in order to identify consistencies across all data, patterns and trends, and any identifiable convergences. Following this, the ENACT-INTERPOL team consulted and cooperated with INTERPOL analysts working on specialized crime areas covering illicit goods. Information provided by these departments was incorporated into this report where relevant.

A regional approach was retained when drafting this report. Therefore, when national examples are quoted, it is done for illustrative purposes, in order to put forward regional dynamics.

2. WHAT ARE ILLICIT MEDICATIONS?

2.1. Concept definition

This report considers illicit medications to consist of counterfeit medications (often referred to as substandard but also occasionally including harmful substances) as well as legitimate medications available on the black market. The latter being sold without medical supervision or regulatory oversight.

Further definitions of what constitutes counterfeit medications have proven quite complex. The WHO identifies the following categories;

- Substandard = Non specification medications, these being medical products that fail to meet manufacturing, supply or distribution quality standards.
- Unregistered = Have not undergone evaluation and approval by an appropriate regulatory body.

- Falsified products = Concealed or misleading regarding composition (often limited or no active ingredients)².

The INTERPOL Illicit Goods and Global Health (IGGH) Programme has made studies that identify distinctions between criminal and administrative cases. This definition is useful as it highlights the issue of regulation and enforcement that constitute a significant variable in Eastern Africa. The INTERPOL IGGH classifications are depicted in table 1 below:

Classification	Refers to:	Content
Falsified	Health and Safety	No registered IPR involved. The content of the substance found is different from the content claimed/declared on the label/documents. Laboratory analysis is mandatory for determining the exact substance and for assessing the hazard for human health and life. Potential criminal approach: fraud involving medical products.
Substandard	Health and Safety	Product that does not meet a given standard (is deteriorated, badly stored, produced with flaws, etc.). Potential criminal approach: fraud involving medical products, but generally administrative sanctions.
Expired	Health and Safety	The product has passed the expiration date. Potential criminal approach: fraud involving medical products.
Unauthorized	Fiscal domain, Health and Safety	The product is not registered/authorized/ approved/licensed by legal authorities according to national legislation. Potential criminal approach: fraud involving medical products, but generally administrative sanctions.
Trademark Infringement	Fiscal domain - counterfeiting	Illegal use of an officially registered trademark. Potential criminal approach: Intellectual Property Rights (IPR) crime.
Patent/Design Infringement	Fiscal domain - counterfeiting	Illegal use of a patent or design legally owned by others. Potential criminal approach: IPR crime.
Diverted (from legal channels)	Fiscal domain - tax evasion	A legal product going through illegal channels. Potential criminal approach: fraud involving medical products, but generally administrative sanctions.
Other		Other situations which are not covered above.

Table 1: INTERPOL Illicit Goods and Global Health Program definitions ³

As the world becomes increasingly globalized, with medicines produced in often distant countries and subsequently flowing through complex logistic chains, there have been delays in operations and complexities added to the role of healthcare regulators.

In order to develop a regional pharmaceutical development capability, significant tax incentives would be required for business development prior to the East African REC becoming self-sufficient in domestic production.

2.2. East African healthcare key players and regulatory actors

Healthcare regulation is crucial to countries in order to ensure that high quality medications reach the people who need them. As the world becomes increasingly globalized, with medicines produced in often distant countries and subsequently flowing through complex logistic chains, there have been delays in operations and complexities added to the role of healthcare regulators.

Medicine regulation varies from state to state and this has created challenges for regulatory bodies to ensure medicines are consistently following the highest standards. The East African community was one of the first Regional Economic Communities (REC) to harmonize efforts to this effect via the East Africa Community (EAC) medicines regulation initiative (EAC MRH).

The EAC is an economic community that includes six partner states—Burundi, Kenya, Rwanda, Tanzania, Uganda, and most recently, South Sudan. Established in 2000, the aim of the EAC is to strengthen political, economic, social, and cultural cooperation among partner states and to improve trade and investment in the region. The EAC Secretariat, based in Arusha, Tanzania, is the executive body of the EAC and is headed by the Secretary General⁴.

Within the initiative set out by the EAC Secretariat, it was deemed necessary for all National Regulatory Authorities (NRA) to increase autonomy in order to deliver safety, efficiency and quality in medication controls (procurement and development). The allocation of responsibilities to each country for achieving NRA goals includes:

- Good manufacturing practices – Led by Uganda;
- Information management systems – Led by Rwanda;
- Medications evaluation and registration – Led by Tanzania;
- Quality management – Led by Kenya.

A key finding of this report relates to the reliance of East African countries on imported pharmaceuticals, primarily from Asia. This issue was highlighted by the East African Health Research Committee (EAHRC) in its pharmaceutical manufacturing plan of action 2012 – 2016⁵. It remains highly likely that in order to develop a regional pharmaceutical development capability, significant tax incentives would be required for business development prior to the East African REC becoming self-sufficient in domestic production. Before

this issue is addressed, factors enabling criminality linked to illicit medications will not disappear. These factors include:

- Limited and varied capacity for local production leading to overseas procurement;
- Delayed implementation of capacity building;
- Donor dependent funding;
- Variations in NRA autonomy, with many bodies linked to Ministries of Health as seen below.

Country	Medicines Regulatory Authority
Kenya	Pharmacy & Poisons Board
Ethiopia	Food, Medicines and Healthcare Administration and Control Authority, Ministry of Health.
Eritrea	Ministry of Health Regulatory Service
Tanzania	Food and Drug Authority and Zanzibar food and drugs board
Uganda	National Drug Authority
Sudan	National medicines and Poisons Board
Rwanda	Food and Drug Authority
Burundi	Department of Pharmacy, drugs and laboratory, Ministry of Health. Plan to create autonomous Drug and food regulatory authority as of Feb 2019).
Comoros	Direction des Etablissements de soins Publics et Privés
Djibouti	Direction de la pharmacie et du médicament, Ministry of Health.
Eritrea	National medicines and food administration, Ministry of Health.
Seychelles	Medicines regulation unit, Public health authority, Ministry of Health.
Somalia	Pharmacy and medical department, Ministry of Health.
South Sudan	Food and drugs control authority (semi-autonomous)
DRC	La Direction des Laboratoires de Sante, Ministère de la Sante

Table 2: Member countries national regulatory authorities⁶

3. ANALYSIS OF ILLICIT MEDICATION COMMODITIES IN EAST AFRICA

A diverse range of medications have been identified as listed by countries in the region within the context of their COVID-19 pandemic planning; an example is seen below in the case of Kenya.

LIST OF PHARMACEUTICAL PRODUCTS USED IN THE MANAGEMENT OF COVID-19 IN KENYA			
Generic Name	Dosage Form	Administration Route	Specification
Oxygen	Gas	Inhalation	British Pharmacopeia and United States Pharmacopeia

Hydroxychloroquine	Tablets	Oral	British Pharmacopeia and United States Pharmacopeia
Azithromycin	Tablets/syrup/parenteral	Oral/IM/IV	British Pharmacopeia and United States Pharmacopeia
Amoxicillin	Capsules/parenteral/liquid	Oral/IM/IV	British Pharmacopeia and United States Pharmacopeia
Amoxicillin/clavulanic Potassium	Capsules/parenteral/liquid	Oral/IM/IV	British Pharmacopeia and United States Pharmacopeia
Paracetamol	Tablets/parenteral/liquid	Oral/IM/IV	British Pharmacopeia and United States Pharmacopeia

Table 3: List of Pharmaceutical products used in COVID-19 management, Pharmacy and Poisons Board, Kenya⁷

3.1. Anti-malarial

The world malaria report 2019 indicates that approximately 228 million cases of infection (bacteria *p. falciparum*) occurred worldwide, and further that 93 per cent of these cases occur in Africa and 19 countries globally carry the burden of 85 per cent of all cases. Concerning the focus of this report it is indicated that two countries in the East African region are included in this 19 countries' list.

- DRC – 12 per cent of cases
- Uganda – 5 per cent of cases⁸

Within the context of the world malaria report, East Africa represents a primary geographical risk for malarial infection. This is indicated in comparison to the Southern African region in image 1 below.

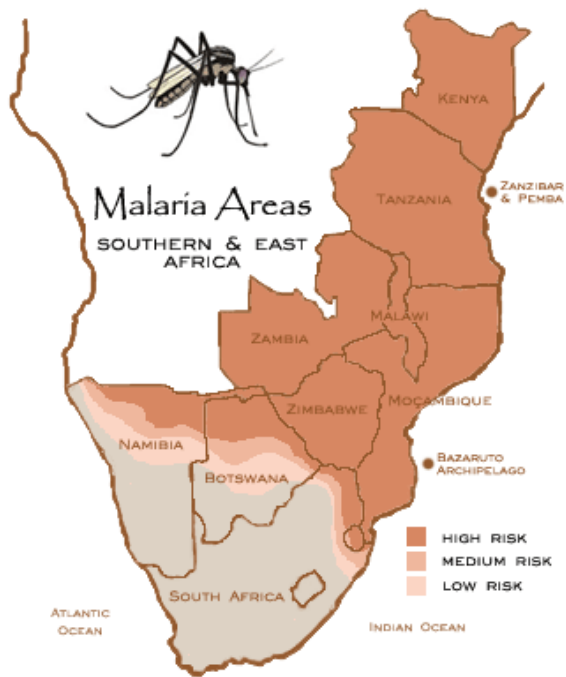


IMAGE 1: RISK ASSESSMENT FOR MALARIA IN EAST AND SOUTH AFRICA⁹

The primary medications used in the treatment of malaria in East Africa are artemisinin and chloroquine products¹⁰. The Medisafe project suggests in its findings that 60 per cent of all medications in circulation in Africa are counterfeit or substandard¹¹.

3.2. Antibiotics

The most significant antibiotic regime affected by COVID-19-related changes, identified by this report relate to the treatment of Tuberculosis. Tuberculosis is an infection caused by the bacteria mycobacterium tuberculosis that affects the respiratory system and is highly contagious, killing 1.8 million people annually¹². The treatment regime for tuberculosis consists on a stringent 6 month program of four types of antibiotics.

Two key health issues have been identified relating to tuberculosis infections and associated medications in East Africa:

- 1) The prevalence of tuberculosis infections in Somalia has wider implications for the region. Due to geo-political challenges in Somalia, the region has experienced high volumes of refugees crossing often insecure borders. Indeed 400,000 Somali refugees are present in Kenya and 200,000 in

60 per cent of all medications in circulation in Africa are counterfeit or substandard.

The most significant antibiotic regime affected by COVID-19-is the treatment of Tuberculosis.

COVID-19-related increases to the supply of counterfeit and substandard forms of HIV medications from Asia could jeopardize these improvements to HIV treatment in East Africa.

Ethiopia¹³. Due to the highly infectious nature of tuberculosis, this poses a significant problem concerning the spread of the disease in East Africa.

2) HIV impact – the Human Immunodeficiency Virus (HIV) impacts the body’s ability to combat diseases and fight off infections such as tuberculosis. It is estimated that 19.6 million people in East and Southern Africa are currently living with HIV¹⁴. Tuberculosis represents the biggest cause of death of HIV positive people in East Africa¹⁵.

3.3. HIV medications

Since 2010 there has been a 42 per cent decrease in AIDS/HIV related deaths across East Africa¹⁶. Following international and regional efforts, this success is the result of a widespread availability of various anti-retroviral drugs. Recently, the medication Dolutegravir (DTG), which is a combination therapy including Tenofovir fumarate, Lamivudine and Dolutegravir (TLD) has widely been considered as highly effective and a more affordable course of treatment¹⁷. COVID-19-related increases to the supply of counterfeit and substandard forms of HIV medications from Asia could jeopardize these improvements to HIV treatment in East Africa.

3.4. Opiate medications

Opiates are a class of medications used for the short term treatment of pain. These medications work by binding to receptors in the brain and blocking the perception of pain, whereas, users can experience a euphoric sensation. Opiates are highly addictive and it is estimated that between 26 and 36 million people worldwide abuse this form of medication¹⁸.

Many countries in East Africa have sought to control the availability of opiate medications through medical professional regulation, this has faced challenges due to the criminal abuse of pharmacy registration processes. The most significant opiate medications identified during the course of this report are codeine based cough syrups and tramadol.

Both of these commodities have offered organised crime significant increases in profits in the COVID-19 period. The motivation of criminals to maximise these profits has in turn led to increased risks of addiction and death amongst the populations of East Africa.

3.5. Adverse health reactions

Due to the serious nature of chronic and acute conditions, such as those mentioned above, the ramifications of treatment with counterfeit and substandard versions of those medications are serious, and indeed can be life threatening. Countries in the East African region have recorded adverse effects in relation to some medications believed to be counterfeit or substandard, as seen below in the example of Kenya.

TYPE	SYMPTOMS	SUSPECTED CAUSITIVE PRODUCT
Induced swelling of lower limb	Gross swelling of the lower limb a day following zulu-mr (paracetamol, aceclofenac, chlorzaxone) intake.	Amoxicillin; Aceclofenac; Chlorzoxazone; Paracetamol
Anaphylactic reaction to Ibuprofen	Swollen eyes, lips, tongue with difficulty in breathing and wheezing	Ibuprofen
Diclofenac related to Slow Speech, Dysarthria, Dizziness and Maternal Exposure During Pregnancy	Slowness, Slurred speech (Dysarthria), Maternal exposure during pregnancy.	Diclofenac
Steven Johnson syndrome due to Ceftriaxone and Ibuprofen	Blistering, purple rash, itchiness, difficulty in swallowing, skin membrane similar to burnt victim	Ceftriaxone; Ibuprofen

Table 4: Reported adverse reactions to suspected counterfeit or substandard medications, Kenya¹⁹

In the case of Kenya, there is no central repository/database for the recording of identified, substandard medicines. Despite this, the Pharmacy and Poisons Board (PPB) does share data with the WHO Uppsala monitoring centre, as reports have been received during the COVID-19 pandemic. This represents an opportunity for East African member states to tackle COVID-19 related changes to criminality in this field²⁰.

4. CRIMINAL METHODOLOGIES AND COVID-19 RELATED CHANGES.

4.1. Counterfeit and substandard medication imports into East Africa

The importation of medications produced in China to East Africa represents a significant opportunity for organised crime groups. China represents the key global location for the

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The primary forms of medication imported to East Africa include anti-malarias, antibiotics and Anti-Retro Virals (ARV) for the treatment of HIV.

production of counterfeit and substandard medications in the world. Further to this, many Chinese companies involved in the production of medications struggle to meet WHO required standards²¹. The value of Chinese importations of medications to East Africa in 2018 was in excess of USD 30 million and has represented an increasing curve²².

In the case of Kenya (the primary first destination for sea imports from Asia), any medicine imported must be registered with the Poison and Pharmaceuticals Board (PPB). The registration costs USD 1,000 per dossier and requires a site General Medical Practitioner (GMP) inspection at a cost of USD 4,000. In addition to these costs, a PPB permit is required at an additional cost²³. These costs are highly likely to facilitate criminal enterprises seeking to further avoid inspections following the COVID-19 pandemic. Furthermore, it is likely that organized crime groups will seek to exploit the administrative variations in the inspection processes (seen in the existence of two separate NRAs) and the inspection capacity between Zanzibar and mainland Tanzania²⁴ in order to utilise fraudulent importations to move counterfeit or substandard medications into the wider East African market.

The primary forms of medication imported to East Africa include anti-malarias, antibiotics and Anti-Retro Virals (ARV) for the treatment of HIV.

According to available data, it is evident that during the COVID-19 pandemic, there has been a move away from global RoRo (roll on roll off shipping) and accompanied air passenger goods movements in East Africa and based on indications from port workers the number of cargo container shipments from Asia to Africa is increasing in volume.

This change in importation volume is occurring in the context of two separate COVID-19-related developments:

1) Adoption of COVID-19 related misinformation: The WHO has described an 'infodemic' occurring in East Africa²⁵. This has resulted in a public belief in inaccurate safeguards against the virus and poor social safeguard adherence. This includes the widespread acceptance that the anti-malarial medication hydroxychloroquine was an effective treatment for COVID-19. Medical professionals in Kenya and Tanzania have additionally seen an increase in overdoses of this medication recently²⁶.

The variety of identified misinformation on COVID-19 related topics is highly varied and includes²⁷:

- Public authority action
- Community spread
- General medical news
- Prominent actors
- Conspiracy theories
- Virus transmission
- Public preparedness
- Vaccine development.

Misinformation relating to COVID-19 represents one of four primary cybercrime threat developments during the COVID-19 pandemic. In Africa, such misinformation has been spread via users of online platforms including WhatsApp, Twitter and Facebook. Concerning East Africa, a study by Save the Children found that:

- In Somalia, with more than 3,000 people surveyed, 42 per cent of respondents said they believed COVID-19 was a government campaign and around three quarters said that while they had heard of the virus, they did not feel they knew enough about it. 27 per cent felt COVID-19 generated a stigma against specific minority groups in their community, of these 32 per cent also felt it stigmatised all foreigners.
 - In Tanzania, an assessment of 121 people revealed that 86 per cent thought that COVID-19 generates stigma against particular groups²⁸.
- 2) Significant increases in consumer demand for medications during the COVID-19 pandemic have applied pressures to under resourced healthcare systems²⁹. This in turn has contributed to a reduction in scrutiny at ports of entry concerning medications, specifically with the decree that the Kenya PPB, Ugandan NDA and Rwandan Food and Drug Authority would no longer work jointly at the port of Mombasa to inspect imported medications, this subsequently saw a reduction of inspection staff from 30 to 3 and removed qualified medical officers in order to expedite cargo clearances³⁰.

It is almost certain that the increased demands for medications, the adoption of misinformation concerning COVID-19 and the reduction of capacity at the Mombasa port will lead to significant increases in the availability of counterfeit and substandard medications from Asia. It is

The increased demands for medications, the adoption of misinformation concerning COVID-19 and the reduction of capacity at the Mombasa port will lead to significant increases in the availability of counterfeit and substandard medications from Asia.

further highly likely that the above factors will contribute to an increasing trade in chloroquine products. Further to this, Kenya has identified that hydroxychloroquine is one medication recently recorded as initiating adverse reactions³¹.

In the case of Rwanda, three forms of treatment have been utilized during the COVID-19 pandemic, these include:

- Lopinavir/ritonavir – Treat/prevent HIV;
- Hydroxychloroquine – Anti-malarial;
- Remdesvir – Anti-viral under study for treatment of COVID-19.

Further, Rwanda maintains that all medicines procurement must be in line with WHO standards and certified as so. Enforcement of this has been enabled by the training of 2,400 healthcare workers in pharmacovigilance and the Rwandan Bureau of Standards verifies certification³².

Available data stating that instances of links between OCGs and illicit medications had not been identified and no associated cases had been brought before the courts³³. This is likely a result of Rwandan FDA efforts to effectively apply regulatory controls during the lockdown phase of the pandemic management. However, it is almost certain that with the increasing trade in counterfeit or substandard medications resulting from points 1 and 2 above and the porous nature of borders in East Africa, the current capacity to identify and address this problem will be insufficient. This is particularly the case concerning the lack of a specific budget allocated to address illicit medications in the overall Rwandan COVID-19 response plan, despite this plan being allocated a total of USD 73,471,760³⁴.

4.2. Online Parcel freight orders

The online purchase of medications for shipment to East Africa represent a significant risk to the public due to a lack of supply chain verification³⁵. When this is considered in the context of a lack of domestic production, we see a significant opportunity for exploitation by OCGs involved in the supply of counterfeit and substandard medications from Asia.

73 per cent of pharmacies in Dar El Salam, Tanzania, reported challenges in procurement with a further 74.2 per cent highlighting their use of internet in order to identify procurement opportunities³⁶. Pharmaceutical professionals in Uganda, Kenya, Rwanda and Tanzania have indicated that they are aware of counterfeit medications, including Augmentin, in circulation in their country³⁷. According to available data, it is likely that this is the result of the volume of online sales of counterfeit and substandard medications from Asia, facilitated by the regional lack of cybercrime awareness, creating an ideal operating environment for criminals involved in the supply.

Due to the demand generated by misinformation related to COVID-19, the lack of cybersecurity awareness around this issue and the reduction in inspection capacity at ports, members of the public in East Africa will continue to be exposed to health risks due to the importation of counterfeit and substandard medications from Asia. This is particularly relevant in the event of 'additional waves' of COVID-19. Indeed, healthcare professionals in Kenya and Uganda have highlighted an increase in HIV related deaths due to the self-administration of substandard medications following the COVID-19 pandemic³⁸. It is likely that the cases of fraud involving falsified medical certificates for testing and/or vaccination status will increase, especially in the context of international travel and tourism as popular destinations in East Africa reopen to the international community.

4.3. Crimes associated to black market medications

Whilst counterfeit and substandard medications are widely sold on the black market, this section will consider medications identified as widely available on the black market through unregulated supply, despite the legitimate production of the medication.

4.3.1. Opioids

Due to the addictive nature of opioid medications, combined with the risk of respiratory failure in overdose, countries in East Africa have sought to apply regulations to their distribution. Despite this, 1 in 8 individuals who abuses opioids die in East Africa and 1,338 people died from opioid abuse in East Africa in 2016³⁹. It is further noted by medical professionals in Uganda, Kenya and Tanzania that they are seeing an increase in levels of opioid addiction following the COVID-19 pandemic.⁴⁰ The opioids products identified as often misused include: tramadol, codeine, cough syrup and morphine. It is almost certain that due to the increased levels of profit available to organised crime since the COVID-19 pandemic, such groups are contributing to the increased levels of addiction identified.

4.3.2. Codeine based cough syrups

Pharmacists in East Africa have identified an increasing widespread abuse of codeine based cough syrups⁴¹. This has been increasingly prominent in recent years and has led to attempts by countries in East Africa to regulate the distribution of such medications. The COVID-19 pandemic has reinforced the abuse of codeine based cough syrups due to the pre-established criminal supply mechanism and the association of COVID-19 with a persistent cough as a key symptom.

This increased demand resulting from COVID-19 perceptions, combined with attempts to establish better regulatory controls, has seen an increase in cost for black market codeine-based cough syrups by 1,400 per cent in some parts of East Africa, with the key demographic for abuse of codeine-based cough syrups within the age range of 22 to 35 years⁴². It has been further identified that this situation is increasing the number of associated crimes in order for addicts to fund purchases.

The COVID-19 pandemic has reinforced the abuse of codeine based cough syrups due to the pre-established criminal supply mechanism and the association of COVID-19 with a persistent cough as a key symptom.

The COVID-19 pandemic has increased the frequency of unlicensed pharmacies being established. It is almost certain that the increased occurrences of unlicensed pharmacies are acting as a means to proliferate counterfeit and substandard medications in the region.

4.3.3. Associated crimes

Legitimate pharmacies in Uganda, Kenya, Rwanda and Tanzania have identified the presence of unlicensed pharmacies in their countries⁴³. This represented a challenge to member countries prior to the COVID-19 pandemic, with for example 994 illegal pharmacies shut down by the PPB in Kenya in 2018⁴⁴. However, there are indications from the pharmacy industry that the COVID-19 pandemic has increased the frequency of such businesses being established⁴⁵. It is almost certain that the increased occurrences of unlicensed pharmacies are acting as a means to proliferate counterfeit and substandard medications in the region.

It is likely that misinformation and reduced controls has increased the consumer demand for all medications whilst enabling criminal organisations to meet this demand with illicit medications.

It is almost certain that the number of pharmacies without appropriate licencing will increase in order to capitalize on this trade across East Africa. This would represent an increasing trend as seen with the example of Uganda, where the inspection of 4,387 drug outlets led to the closure of 1,526 and 56 arrests for offences relating to licencing and regulation⁴⁶.

4.4. Violence based acquisition

There is an increased level of targeting and violent attempts by criminals in East Africa to acquire medicines⁴⁷. Such examples include a doctor who was targeted by an individual with a firearm seeking to gain access to opioid medications⁴⁸. Incidents have further been reported of opioid addicts accessing hospital facilities using stolen identifications in order to source opioid medications⁴⁹.

As criminal organisations proliferate access to opioid medications, the levels of addiction resulting from unregulated use could increase and further contribute to the examples of violence-based attempts to access restricted medications, particularly targeting healthcare professionals and facilities.

4.5. Summary of COVID-19 related crime developments

There have been significant developments in criminality in East Africa during the COVID-19 pandemic, including changes to the illicit medications trade. Due to the complex

variations of commodities within the categorisation ‘illicit medications’ and the wide ranging impact of COVID-19, these changes are complex in nature. The developments have been discussed in this report within the context of counterfeit/substandard and black market medications.

In summary, they are highlighted in the table below with examples identified during the course of this report.

<i>Illicit medication</i>	<i>Development during COVID-19</i>	<i>Examples</i>
Counterfeit and substandard hydroxychloroquine and other chloroquine products.	<p>Increased importation of such products due to the widespread promotion of their role as a treatment for COVID-19.</p> <p>OCGs selling products imported from Asia, leading to negative health impacts.</p> <p>OCGs in Asia promoting online sales for shipment to East Africa.</p>	In March 2020, the PPB identified that Kenyans had been able to stockpile hydroxychloroquine. This was despite the medication being available on prescription only and was subsequently identified as originating from illegitimate sources. ⁵⁰
Counterfeit and substandard HIV, antibiotics and anti-malarial medications.	<p>Increased importation resulting from overall increased demand for medications in light of healthcare strains during COVID-19.</p> <p>Approaches by OCGs to people working in ports in attempts to facilitate inspection free importations.</p>	Earlier this year 2020, port authorities in an Eastern Africa country identified suspected false medications used in the treatment of HIV and Tuberculosis. These were intended for distribution to Chinese medical practitioners who were additionally unlicensed to distribute them ⁵¹ .
Codeine based medications.	COVID-19 increased the levels of addiction which have led to attacks on healthcare professionals with access to restricted painkillers.	In October 2020, the Ugandan National Drug Authority (NDA) impounded government drugs worth 250 million Uganda shillings (USD 67,518) from illegal dealers in Kampala; these drugs had been stolen from the national healthcare system. ⁵²
Codeine based cough syrups. All illicit medications	Increase in sales and price of codeine based cough syrups by criminals following increased demand related to COVID-19.	An inspection by the PPB led to the arrest of a woman on 25 August 2020 for operating an unlicensed pharmacy. ⁵³

<i>Illicit medication</i>	<i>Development during COVID-19</i>	<i>Examples</i>
	Increase in number of unlicensed pharmacies opening across the region. Use of unqualified staff in the promotion of illicit medications. Many such companies operate from multi locations.	During the 2019/2020 financial year, an Ugandan inspection of 4,387 drug outlets led to the closure of 1,526 and 56 arrests for offences relating to licensing and regulation. ⁵⁴
All illicit medications	The widespread adoption of misinformation across East Africa concerning COVID-19 has been utilised by OCGs. Criminals involved in the supply of illicit medications have promoted 'fake news' stories via social media platforms.	Available data shows an increase in the number of people identified as seeking to purchase anti-malarias advertised as effective COVID-19 treatments on the Chinese social media platform 'weChat'.

Conclusion

Counterfeit and substandard medications have been identified as trafficked commodities moving from Asia, where they are produced in avoidance of WHO standards. These are shipped to East African ports of entry where reduced inspection capability has enabled onward distribution to the region. This trade has included anti-malarias, antibiotics and HIV medications. Such medications represent life lines to many of the most vulnerable members of East African society. Healthcare professionals in the region have identified the impact therefore of this trade on mortality rates.

The abuse of opioids has been a well-established feature of healthcare for many years. Levels of addiction remain an issue in East Africa and governments have sought to control the distribution of such medications to address this. COVID-19 has fuelled the demand for codeine based cough syrups and has led to the distribution of such medications attracting the attention of organised crime groups. This has led to increased associated risk of violent offences aimed at sustaining addiction.

The demand for medications including opioids has further fuelled violence and corruption in attempts to compromise healthcare facilities and healthcare workers in order to access controlled medications. This is prompted by the significant profits gained as a result of demands for a number of medications in the COVID-19 era.

Global healthcare professionals are, at the time of writing this report, considering the risks of further waves of COVID-19 infections. It remains a prominent challenge for countries in East Africa to consider the impact of organised crime on the trade in illicit medications and to what extent that may further develop as COVID-19 potentially reasserts itself.

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