Operation Pangea XI

January - June 2018

(09 - 19 October 2018 International Week of Action)

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EXECUTIVE SUMMARY

- Of the total **22,317 web links** monitored during Pangea XI the participants closed down **3,782 web links** (**2,756** independent websites and **1,026** social media) while at the moment of reporting, **2,599** other links were in the process of being shut down.
- The participant countries started **960** specific investigations, issued **1012 search warrants** and **936 arrest warrants** for a wide range of offences regarding production, distribution and sale of counterfeit/illicit medicines and medical devices. **Fifty-six organized crime groups were reported as disrupted**, **36 arrests and 89 search warrants** being connected with the criminal activity of these groups.
- During the International Week of Action, targeting mainly entry points, law enforcement personnel inspected **1,073,094** packages of which **409,323** were seized when found to contain illicit goods. The participants reported approximately **10,559,874 units**[1] **seized** (about **520 metric tons**), of illicit medicines and medical devices belonging to a wide range of therapeutic categories, with an estimated value of approximately **USD 19,543,868.**
- Besides the specifically targeted illicit pharmaceuticals seized, the actions taken during Pangea XI also led to **side seizures** (illicit items seized but not specifically targeted), namely **cannabis, cosmetics or clothing**.
- More than **250 national public awareness campaigns** were conducted in 13 countries in order to inform the public of the health risks related to the purchase of medicines through illicit websites.
- Pangea XI confirmed that **organized crime groups, as well as individuals**, acting with global reach are taking advantage of the lack of unified international legislation regulating pharmaceuticals and by using complex networks of websites are selling illicit medicines worldwide, however with a regional focus.
- The criminals are **misusing private parcel carriers and national postal services** for transporting and concealing the origin of the illicit pharmaceuticals, the sender and the recipient, making the detection by law enforcement more difficult.
- The final products are either shipped directly from the production country to the consumers or to **intermediary storage locations**, where under the cover of PO boxes, self-storage facilities and (ad-hoc) warehouses, they are redistributed to clients who most probably order the products online.
- **The patterns of the shipments/seizures** indicate that during January-May 2018 the frequency of deliveries and numbers of units seized were higher. These patterns showed also that Pangea Week of Action had strong disruptive impact on the movement of illicit medicines.
- **As a possible emerging trend,** reports show that illicit medicines are being distributed also on mobile instant messaging platforms, which offer better cover (encryption) for criminals than a standard website.
- Based on the information reported in Pangea, it is estimated that that around **3,000 metric tons** of medicines transported in small parcels, were seized globally **in 2018 alone**. The estimated illicit profits made this year from selling illicit pharmaceuticals online should be at least **USD 70 million**.
- This report contains a detailed **intelligence analysis (page 24)** based on which strategic and operational **recommendations** were made for further law enforcement actions **(page 31**).

[1] A unit means only one piece, item, box, sack, pill, tablet, capsules, ampoules.

1. INTRODUCTION

During the last ten years, INTERPOL operations showed significant increase in the manufacture, trade and distribution of counterfeit, stolen, diverted and generally illicit[2] pharmaceuticals and medical devices, a trend which is continuing and has the potential to increase in the following years. In 2018 alone, it is estimated[3] that at least 3,000 tons of illicit medicines and medical devices were seized by law enforcement worldwide, only from small parcels moved using postal services and private carriers.

These fast-moving goods[4] were transported internationally mostly by air, which diminished greatly the shipping time, posing additional challenges for a realistic real-time risk analysis made by Law Enforcement Agencies (LEAs).

Unknowingly consuming fake, altered, diverted, badly stored or unauthorized medicines or using medical devices which are not genuine creates a significant risk for the health and life of patients around the world. These factors, combined with growing consumer demand, technological advancement, the widespread use of the Internet, the advertisement, sale and supply of such illicit medicines from unauthorized and unregulated websites have created a global and continually expanding problem that needed to be tackled by law enforcement, in order to protect the health and lives of citizens across the globe.

Started in 2008 by ten countries[5], Operation Pangea has broadened gradually, leading to the development of a wider collective approach which includes police, customs, Drug Regulatory Authorities (DRAs) and the private sector. The operation aims to protect public health and raise public awareness while fostering greater cooperation and communication between the participants, as well as disrupting the activities of organized criminal networks distributing illicit pharmaceuticals online.

This is achieved by taking legal actions such as shutting down websites and removing advertisements, disrupting payment services, intercepting illicit medicines in the postal system and supply chain, investigating the criminals involved in pharmaceutical crime, and raising awareness of the dangers associated with buying medicines online.

Operation Pangea XI built upon the previous ten operations, gathering 194 LEAs (police, customs and DRAs) from 117 participating countries, several international organizations and private sector entities[6] which all acted together in conducting coordinated activities against illicit websites from 9 to 16 October 2018.

2. OBJECTIVES

The strategic objectives of Operation Pangea XI were to:

- Protect public health;
- Seize counterfeit and illicit medicines and medical products and remove them from the market;

[2] Illicit medicines include unlicensed and controlled/banned substances.
[3] This is only an estimation that tries to reflect the realily in the best way possible. It is based on the information reported during Operation Pangea regarding the first six months of 2018, corroborated with the data reported during the week of action.
[4] In comparision with container shipments, the movement of illicit medicines by air is much faster, posing increased challenges for LEAs regarding pre-arival information, risk analysis and controls at entry points.
[5] Australia, Canada, Germany, Ireland, Israel, New Zealand, Singapore, Switzerland, United Kingdom and United States of America.
[6] LegitScript, G2, Mastercard, Paypal, Visa, the Centre for Safe Internet Pharmacies (CSIP), Google, Facebook and the Pharmaceutical Security Institute (PSI).

- Target the most problematic illicit pharmaceutical networks identified during Operation Pangea;
- Close down illicit pharmacy websites and remove online advertisements for illicit pharmaceuticals;
- Identify the producers and distributors of counterfeit and illicit pharmaceuticals and medical products and disrupt the organized crime networks supporting them;
- Prosecute those responsible and, where appropriate, seize their assets;
- Disrupt organized criminal activity;
- Identify new threats.

3. METHODOLOGY

3.1 National authorities participating

One hundred sixteen (117) countries and 194 agencies (police, customs, and DRAs) from countries confirmed their participation in Operation Pangea XI: *Afghanistan*; Albania; Angola; *Antigua and Barbuda*; Argentina; Armenia; Australia; Austria; Azerbaijan; Bangladesh; Bahrain; Belarus; Belgium; *Belize*; Benin; Bhutan; Bolivia; Bosnia & Herzegovina; Bulgaria; Burundi; Cambodia; Canada; Cameroon; Chile; China; Colombia; Comoros; Costa Rica; Croatia; Cuba; Cyprus; *Czech Republic*; Denmark; Dominican Republic; Ecuador; El Salvador; Egypt; Estonia; Ethiopia; Fiji; Finland; France; The Former Yugoslav Republic of Macedonia; Georgia; Germany; Ghana; Greece; Guatemala; Hungary; India; Indonesia; Iran; Ireland; Israel; Italy; Japan; Jordan; Kenya; Korea (Republic Of); Kuwait; Kyrgyzstan; Laos; Latvia; Lebanon; Liechtenstein; Lithuania; Luxembourg; Malaysia; Maldives; Mali; Mexico; Moldova; Mongolia; Montenegro; Morocco; Mozambique; Myanmar; Namibia; Nepal; Netherlands; New Zealand; Nicaragua; Nigeria; Norway; Pakistan; Paraguay; Peru; Philippines; Poland; Portugal; Qatar; Romania; Russia; Saudi Arabia; Senegal; Serbia; Seychelles; Singapore; Slovakia; Slovenia; South Africa; Spain; Sri Lanka; Sweden; Switzerland; Syria; Thailand; *Timor Leste*; *Turkmenistan*; Uganda; Ukraine; United Kingdom; United States of America; Uruguay; Uzbekistan; Vietnam, Zambia.

Countries in this font have been added this year.

3.2 Organizing Committee

Operation Pangea XI was prepared through an organizing committee chaired by INTERPOL and composed of the following organizational entities:

- ❖ International Organizations: INTERPOL, World Customs Organization (WCO), Europol;
- ❖ Law enforcement agencies: Office Central de Lutte contre les Atteintes à l'Environnement et à la Santé Publique (OCLAESP), Food and Drug Administration Office of Criminal Investigations (FDA-OCI), Homeland Security Investigations (HSI) in the United States of America, and Hong Kong Customs and Excise Department;
- ❖ Health Regulatory Agencies: Heads of Medicines Agencies Working Group of Enforcement Officers (HMA), Irish Health Products Regulatory Agency (HPRA) Ireland, Medicines and Healthcare Products Regulatory Agency (MHRA), United Kingdom, Ministry of Health Malaysia;
- ❖ Private sector: G2, Mastercard, Paypal, Visa, the Centre for Safe Internet Pharmacies (CSIP), Google, Facebook and the Pharmaceutical Security Institute (PSI);
- ❖ Public Sector: Permanent Forum on International Pharmaceutical Crime (PFIPC);

3.3 Specific roles

The Operation Pangea Organizing Committee is chaired by INTERPOL and is responsible for organizing meetings, following up on actions, preparing working documents and circulating all relevant information to the organizing committee and DRAs. INTERPOL, the MHRA and the WCO were tasked with informing the police, health regulatory and customs communities through their respective communication channels. INTERPOL and the WCO arranged for the translation of all documents into the organizations' working languages.

During the international Week of Action (WoA), an Operation Coordination Unit (OCU) was deployed at the Command and Coordination Centre of the INTERPOL Global Complex for Innovation (IGCI), in Singapore. The OCU accomplished the following: collected and disseminated intelligence and operational results; coordinated the overall flow of information; provided support to participating countries; coordinated follow-up actions; produced daily operational reports; and coordinated media coverage of the operation.

The WCO set up a dedicated 'CENcomm' platform, a secure information exchange system designed for cross-border operations. This platform was used by Customs Agencies in participating countries to exchange information on seizures made during the operation. A Technical Officer from the WCO served as the customs coordinators during the week of action, working with Pangea OCU from the WCO HQ.

The disruption of electronic payment systems was conducted through a chain of communication via INTERPOL and several payment providers, notably Discover, MasterCard, PayPal, Visa and Western Union. The Pharmaceutical Security Institute (PSI) provided intelligence during the pre-operational phase regarding networks of potentially illicit online pharmacies, information analyzed and disseminated by INTERPOL to concerned NCBs in relevant countries, to provide leads and improve the investigations on illicit online pharmacy-related cases.

3.4 Pre-operational phase

During the preparatory phase (January to October 2018), the efforts for organizing the operation were concentrated on the following topics:

- Updating the Operation Pangea reporting forms

By creating a new partly automated Operation Pangea Reporting Form, the aim was to streamline the reporting process by facilitating, in a unitary way, the information input for countries. The new reporting form was translated into INTERPOL's four official languages and distributed to all participating agencies.

- Developing international cooperation and liaising with private partners

In this regard, INTERPOL has planned a list of enforcement activities that were due to be carried out by agencies in the participating countries and prepared assistance for actions. A Single Point of Contact (SPOC) list for participants in Pangea XI was developed via contact through all NCB Offices across the world and all SPOCs nominated by the NCB offices have been contacted through the NCB office via official means.

In addition, INTERPOL has disseminated to all participating NCBs a Guide for Working with Electronic Payment Service Providers. A Contact List for all Private Company contacts was developed for use during the operational phase in order to facilitate the contact with private partners.

- Statistical data for better planning

As an innovative approach this year, during the preparatory phase, the countries were asked to report targeted statistical information regarding the seizures of medicines and medical devices carried out from January to June 2018. In addition, open source information and data provided by PSI regarding potential illicit networks of websites was shared with the relevant NCBs, in order to foster investigations into websites potentially selling illicit medicines and medical devices.

Based on the analysis of the information above, INTERPOL was able to better detect patterns and trends and establish the focus of the operation (illicit benzodiazepines[7] this year) and plan the activities for the week of action.

3.5 Week of Action 9-16 October 2018

A multidisciplinary coordination team comprising INTERPOL's Illicit Goods and Global Health Programme (IGGH), Command and Coordination Center (CCC), Drug Regulatory Agencies (DRAs), the US (Food and Drug Administration – FDA), the UK (Medicines and Healthcare products Regulatory Agency - MHRA) and the Health Sciences Authority of the Republic of Singapore (HSA), gathered at the INTERPOL Global Complex for Innovation (IGCI)[8], to ensure checks, daily reports and follow-ups are completed.

Participating countries reported operational activities to the coordination team on a daily basis (starting on Day 2), providing details of website monitored and shutdown, seizures, investigations, arrests and any other relevant information. Information was exchanged through the main channels listed below:

1) The Operation Pangea Coordination Team's dedicated e-mail address (pangea@interpol.int);
2) INTERPOL's secure communications system, I-24/7;
3) The World Customs Organization assisted with communications from various Customs organizations around the world, through a secure channel[9].

INTERPOL and Europol ran cross-checks against their databases when requested by the participating countries, liaised with private sector and facilitated requests of assistance for transnational cases.

3.6 Post-operational phase

INTERPOL's Criminal Analysts from INTERPOL's IGGH Programme analyzed the information provided by participants on their activities during Operation Pangea XI leading to the generation of the results subsequently produced in this analysis which is based on about 37,000 individual reports.[10]

The descriptive analysis is based on the amounts of illicit pharmaceuticals reported but also on the number of reports regarding a website, medicine, concealment method, location, case number etc. Data was reported through the established reporting form for Pangea XI as well as through other documents in the framework of the operation.[11] It is worth reminding about the importance of making

[7] A class of drugs with sedative-hypnotic, muscle-relaxant, anxiolytic and anticonvulsant properties. in some cases these drugs might be abused as narcotics.
[8] Ministry of Health of Malaysia provided specialized support remotly for the OCU, especially regarding the therapeutic categories of medicines sezed;
[9] https://cencomm2.wcoomd.org/cencomm2/en/ - secured platform for exchanging information.
[10] For the purpose of this analysis, a "report" should be defined as an instance when at least three elements were indicated regarding a seizure, for example the reporting country, sub-therapeutic category and the number of units seized.
[11] Word, pdf, image files.

the effort of filling in all the sections of the reporting form and that the quality of the analysis is directly proportional to the amount and quality of the data reported.

In Pangea XI, due to the availability of the data covering the first six months of 2018 and in conjunction with the information reported during the week of action, the statistical analysis was complemented with an intelligence analysis, which can be found on page 24 of this report.

The conclusions of the report are based on the collation and cross-references made during the analysis between various sections of the reported information, on the comparison with other INTERPOL operation regarding illicit pharmaceuticals, but also on the data and buildup of experience of previous Pangea editions.

4. OVERALL RESULTS OF PANGEA XI

During the operation, 66 countries[12] reported criminal activities within their respective jurisdictions, leading to the following overall results:

- The investigation of online illicit activities involved the monitoring of **22,317 links**, of which **3,782 were shut down** and at the moment of reporting another **2,599** were in the process of being shut down.[13] Of the links shut down, **2,756** links were individual websites and **1,026 were pages** on social media, e-commerce sites and other advertisement platforms.

- **960** specific investigations led to the issuance of **1012 search warrants**, **936 arrest warrants** for a range of offences including manufacturing, distributing or selling counterfeit medicines/medical devices, selling and supplying unlicensed or prescription-only medicines, operating fraudulent website, illegal advertisement of unauthorized substances, smuggling or other offences.

- During Pangea XI **fifty-six organized crime groups were reported as disrupted**, **36 arrests[14] and 89 search warrants** having been connected with the criminal activity of these groups, especially in the areas of illicit sales, smuggling and counterfeit medicines.

- Action of law enforcement agencies at postal hubs, ports and airports led to the inspection of about **1,073,094** packages of which **409,323** were seized when found to contain illicit medicines and medical devices.

- During the WoA, the participants reported approximately **10,559,874 units seized** (about 520 metric tons), of illicit medicines and medical devices, with an estimated value of approximately **USD 19,543,868.**

- In addition to the WoA, the reporting countries have indicated further seizures of 14,446,280 units of medicines and medical devices estimated at around USD 30,171,608, during the first six months of 2018.

- The medicines seized, belonging to a wide range of therapeutic categories, were shipped from **139 different countries.**

[12] Although all participants Including carried out specific activities throughout their national territory, only sixty-six have reported results, including outside the week of action.
[13] See Annex I for a partial list of the websites investigated.
[14] The participants did not report exactly the number of arrests in all cases when an OCG was mentiond as disrupted.

- A total of **255 national public awareness campaigns** were conducted to inform the public of the health risks related to the purchase of medicines through illicit websites, and on counterfeit medicines in general. These campaigns took place in **13 participant countries**.

- Besides the illicit pharmaceuticals seized specifically targeted, the actions taken during Pangea XI also led also to side seizures (illicit items not specifically targeted for seizures), namely cannabis, cosmetics or clothing.

5. ANALYSIS

This Chapter aims at presenting an integrated view of the information reported by the participants in PANGEA XI (LEAs) during the week of action, the activities carried out during January - June 2018[15] and from private partners participating in PANGEA XI. The types of analysis used were statistical, comparative, commodity flow and activity analysis and the information reported was completed with data from open sources, for intelligence purposes.

5.1 Statistical analysis of the information reported

After more than a decade of Operation Pangea, this initiative has led to the development of a collective and wider partnership approach, including police, customs, drug regulatory authorities and important private sector entities. The significant results in terms of disrupting the illicit pharmaceutical trade and protecting public health worldwide made Pangea a very successful global operation.

	Pangea II	Pangea III	Pangea IV	Pangea V	Pangea VI	Pangea VII	Pangea VIII	Pangea IX	Pangea X	Pangea XI
Participating countries	25	44	81	100	99	113	115	103	123	116
Websites shut down	153	297	13,495	18,629	13,763	21,200	2,700	4,937	3,603	3,671
Packages inspected	11,164	278,524	65,000	143,709	534,562	618,191	171,304	335,660	722,958	10.07 m
Packages seized	2,356	21,200	7,482	7,551	41,954	35,206	50,852	167,917	408,798	409,323
Number of arrests	12	87	92	169	213	434	296	393	512	859
Medicines seized (million units)	-	2.3m	2.6m	4.3m	10.1m	9.6m	23.5m	12.5m	29.7m	10.5 m WoA

Fig. 1 Statistical evolution of the activities carried out during Operation Pangea (m=million)

The findings below are based on results received from Operation Pangea XI participating countries and partners.

5.1.1 Websites investigations and illicit medicines sold online

Identifying websites responsible for advertising and selling illicit and counterfeit medicines is the first major step in successfully thwarting online criminal networks. The successful actions of all partners[16] and participants provided an overview of the criminal activity, the main findings being described below.

[15] Reported by 30 countries;

[16] Contributions were received from private companies via the Pharmaceutical Security Institute (PSI). This data was sent to concerned countries for their information and possible follow-up action.

During the operation the authorities involved monitored **22,317 links**, of which **3,782 were shut down.** Of the latter ones, **2,756** links were individual websites and **1,026 were pages** of social media, e-commerce sites and other advertisement platforms. At the moment of reporting another **2,599 links** were in the process of being shut down.

Regarding the types of offences reported during PANGEA XI in relation with the websites shut down, selling adulterated and unregistered products were the most reported offences, followed by selling controlled medicines without prescription or unlicensed medical products found to pose threat to public health.

Compared to last year the number of social media and online market places links monitored for illicit medicines **increased by more than 30 per cent**. The highest number of these links closed down were from eBay (reported by Argentina, Singapore and UK), however geographically, Facebook appears to be the most wide-spread platform for selling illicit medicines, as Facebook pages have been reported as closed down during the WoA in Argentina, Chile, Czech Republic, Greece, Ireland, Malaysia, Mexico, Russia, Singapore and UK (for other details please see Figure 2 below).[17]

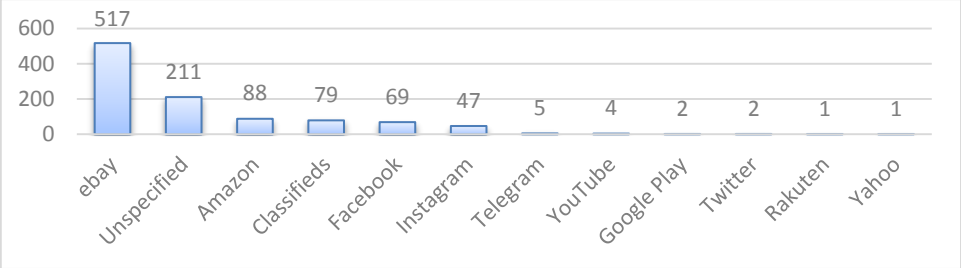


Fig. 2 Number of social media links shut down, by platform

Regarding the location of the registrar, most of the websites reported by the participating countries as being involved in illicit activities (more than 3,500 sites), were registered in North America, especially in Canada. Compared to Pangea X, the situation is a bit different, as last year more than 3,000 of such websites were registered in Europe.

The current reported situation does not clarify how/if the entering into force of the European Union (EU) GDPR,[18] has determined a migration of websites from/to Europe, however this piece of legislation adds a new layer of complexity for investigations carried out by LEAs regarding websites based in the EU. (Please see Figure 3 below, for details regarding the location of the registrars used by websites suspected/found selling illicit medicines).

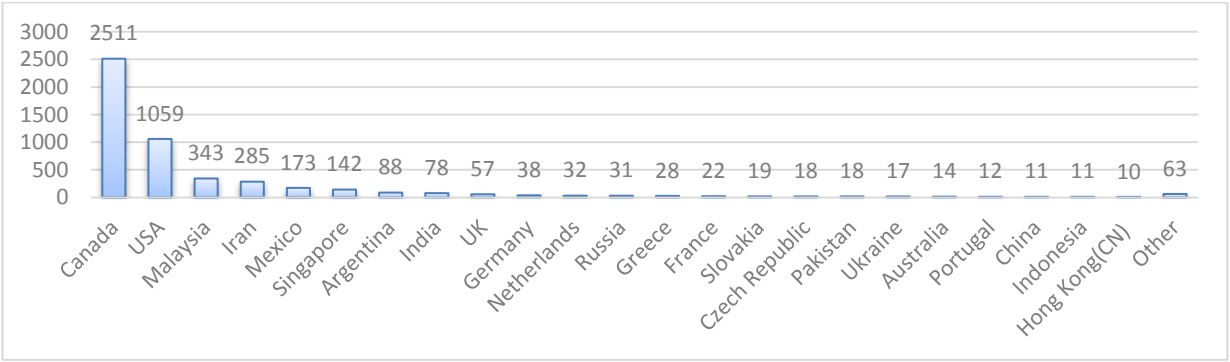


Fig. 3 Number of reports for registrar's location

With regard to payment modalities used for collecting the money for the illicit medicines sold online, credit card remains the preferred method of payment, being reported in more than 60 per cent of the cases. Bank transfers are also used in higher proportion than other payments, which potentially

[17] At the time of reporting, additional **447** social media and market places pages were in the process of being shut down.
[18] General Data Protection Regulation No. 679/2016, entered into force in 2018.

indicate that more than 70 per cent of the funds collected for illicit medicines actually go through the banking system (see Figure 4 below for details).

In this regard, closer cooperation with payment providers together with identifying banking institutions where the bank accounts used for online payments are open, might bring new possibilities for law enforcement measures, especially after identifying the merchant accounts associated with the websites.

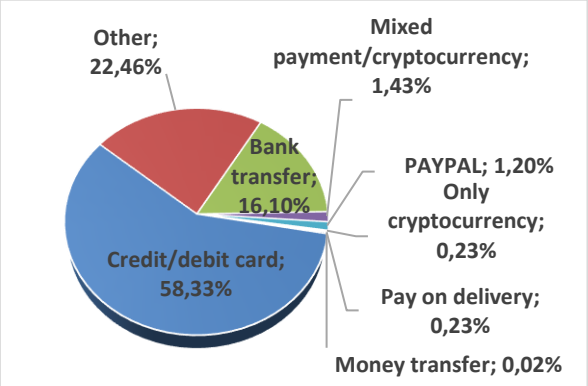


Fig. 4 Payment systems reported during the WoA

During the WoA alone, **2,743 merchant accounts** used for online payments were closed down, most of them by Malaysia and USA.

Regarding cryptocurrencies, they are available (mostly bitcoins) together with other types of payment, nevertheless the use of such payment methods remains fairly low.

5.1.2 Trends regarding illicit medicines sold online

Based on the integration of the information from all sources in Pangea XI and comparing the data with the results reported last year in Pangea X, a couple of remarks regarding three main trends observed, are presented below:

- **Increased measures for avoiding detection**

The analysis of the data reported in 2017 and 2018 indicates a continuously increasing trend with regard to measures for avoiding detection by law enforcement taken by the persons controlling the websites selling illicit medicines. In particular the use of a third party (usually a company) to register the website at a given registrar seems to be more and more utilized in order to hide the real entity registering the website.

According to this MO the person/entity behind a certain website is paying a company to record the website at a registrar on the name of the respective company, thus shielding the real identity of the website owner, which in fact this is a target hardening measure taken by criminals with the aim at delaying potential law enforcement investigations.

- **Complex networks of websites**

Another trend observed also in previous years and confirmed this year is the use of website networks for advertising and selling illicit medicines, especially erectile dysfunction medication infringing IPR (but not only). These networks typically consist of anchor sites (independent sites or social media pages) which contain links that redirect the potential customers to another website offering illicit medicines. This “base” website offers various payment means, including cryptocurrencies or even links towards other websites where cryptocurrencies can be acquired.

Most of the registrars hosting such websites were reportedly located in India, USA, Canada, Russia, Germany, China, UAE and an interesting observation is that the registrants of the websites (apparently natural persons) have typically Slavic names, which in most of the cases might be aliases[19]. In the table below, please find four examples of such networks and please see Annex III for more details regarding some of the websites connected with these networks.

Name of the network[20]	Number of websites	Main registrar used	Location of other registrars used
PharmaWebCanada	At least 80	ZhuHai NaiSiNiKe Information Technology (Hong Kong-CN)	China, Germany, Malaysia, Russia
TheraPharm	At least 158	1API gmbh (Germany), CJSC Registrar R01 (Russia), PDR LTD. (USA)	China, France, Hong Kong(CN), Netherlands, Russia, UAE
RxProfits	At least 299	EPIK Inc. (USA)	Barbados, Hong Kong(CN), India, Italy, Luxembourg, Turkey, UK
PharmCash	At least 357	Zhuhai NaiSiNiKe Information Technology(Hong Kong-CN), Gransy (Russia), CJSC Registrar R01	Australia, Barbados, Canada, China, Czech Republic, France, Germany, Hong Kong, India, Israel, Netherlands, Pakistan, Russia, Senegal, Ukraine, United Arab Emirates, United Kingdom, USA

Fig 5. Example of networks of websites suspected of selling illicit pharmaceuticals

The persons behind these networks are reportedly shipping illicit medicines and medical devices globally, however the texts and the advertisements posted on anchor/selling websites are translated mostly in languages spoken in Western and Northern Europe and Russia, suggesting that the websites are targeting primarily these regions.

- **Slow emergence of marketplaces on mobile instant messaging services**

Reports from other INTERPOL operations (OPSON, targeting counterfeit and substandard food) showed that in some cases the illicit products were sold via mobile instant messages applications.

Last year, Pangea X connected the sales of illicit pharmaceuticals with applications compatible with mobile devices and during Pangea XI, China and Ghana reported advertisements and sales of illicit medicines using mobile instant messaging systems, which can indicate an emerging trend regarding the use of mobile applications for advertising and selling illicit medicines.

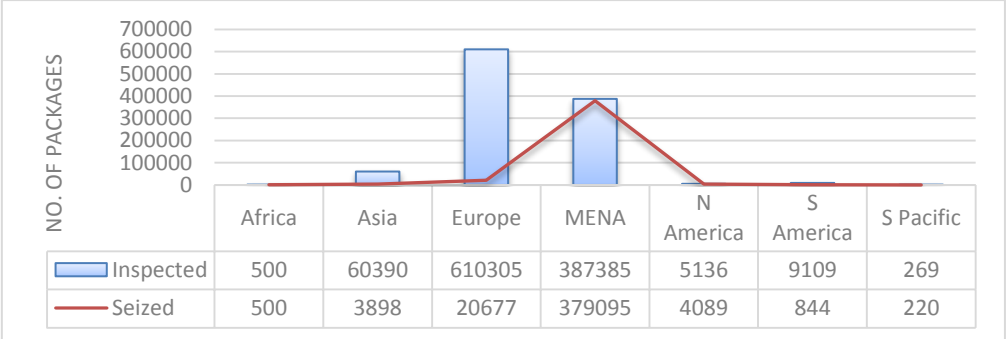
These mobile applications sustain typically small businesses and because most of these messaging systems are encrypted, they might be perceived as safer for criminals selling illicit medicines or other products online. In this context, the increase of illicit medicines being sold using mobile messaging services cannot be completely ruled out and should be given more attention in future operations.

5.1.3 Packages inspected and seized

Of the **1,073,094** packages inspected at postal hubs and entry points (such as airports, harbors and border crossings), **409,323** or **38 per cent**, were found to contain counterfeit and other illicit medicines or medical devices and were subsequently seized. Compared to last year, the data shows an increase in both the numbers of packages inspected (by circa 30 per cent) and seized (by about 1 per cent), showing that this year the authorities have put a lot more effort in the control of packages especially at national entry points.

[19] Significant data, at the request of private partners supporting PANGEA XI, was shared with the relevent NCBs in the preparatory phase of the operation.
[20] The name of the network is based on the main domain name availabe with multiple extentions.

Although the highest number of packages were inspected in Europe, most of the seized packages were reported actually by Iran (more then 380,000) followed by Hungary (almost 10,000) and Afghanistan and Canada, more than 3000 each, Bosnia and Herzegovina more than 2,000, while Austria, Spain, Germany and Italy reported more than 1000 each (details about the seizures per continent, in Figure 6 below).



	Africa	Asia	Europe	MENA	N America	S America	S Pacific
Inspected	500	60390	610305	387385	5136	9109	269
Seized	500	3898	20677	379095	4089	844	220

Fig 6. Number of packages inspected/seized during PANGEA XI

5.1.4 Reason for seizure and concealment methods reported

According to the cases where the reason for seizure was clearly indicated (36,266 reports during and outside the WoA), and besides the seizures categorized as "others", the largest quantity of medicines and medical devices were seized for being "unauthorized" and "smuggled".

In comparison to the data reported in the framework of PANGEA X, when more than 60 per cent of the medical products were unauthorized, in 2018 the per cent dropped to 44, while smuggled products appear to be at 24 per cent. The general level of counterfeit medical products reported this year during the WoA is around 11 per cent (details in Figure 7 below).

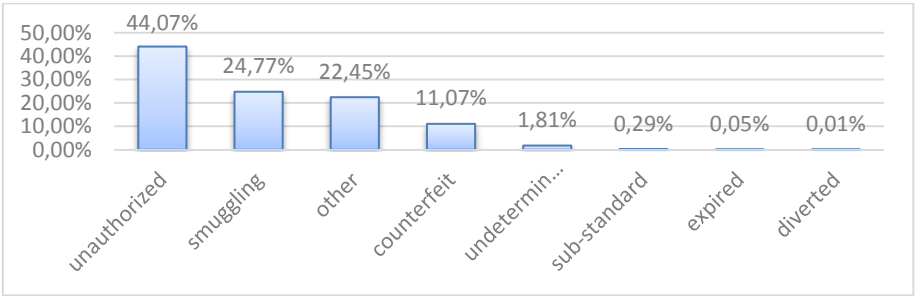
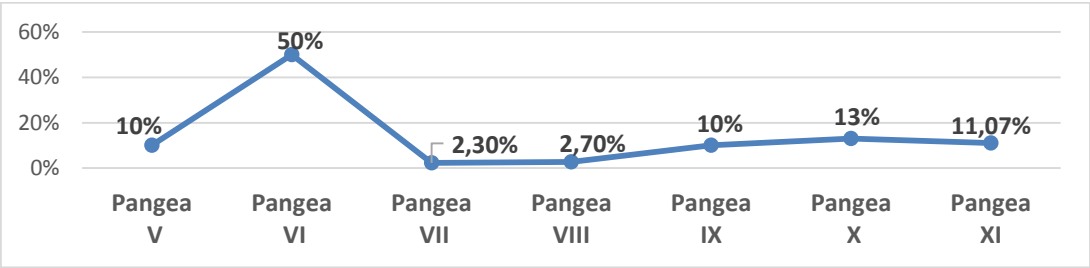


Fig 7. Reason for the medicines seized as reported

Strictly regarding the counterfeit and suspected counterfeit medicines, when looking at the trend of the last seven years, a spike in Pangea VI can be observed and afterwards, a slow but steady increase to thirteen per cent for Pangea XI, then a decrease to eleven per cent this year[21] (details in Figure 8 below).



[21] Looking strictly at the data reported during the Week of Action, the level of counterfeits would be around 11 per cent. However merging all the data reported in Pangea XI, the per cent resulted is 6.53, this applying to January-October interval, including the WoA.

Fig 8. Evolution of counterfeit medicines and medical devices seized during last seven years of PANGEA

From a geographical point of view, the counterfeited medical products were seized in the Americas (60 per cent of the seizures), Asia (20 per cent) and Europe (19 per cent of all). By number of units seized, in all cases, these figures compared to the ones reported last year represent a decrease.

With regard to the concealment methods, the reports indicated more than 250 different concealment methods or cases when the illicit medical products were miss declared at the customs, in order to avoid detection, however in the vast majority of the cases the products were not concealed. The most used customs declaration for illicit medication was "health supplements" or "gifts".

Regarding erectile dysfunction medication (EDs), these were the most miss declared products of all and they were stated as gifts, food, plastic products, toys, cough candy, daily necessities, harmless medicines, memory cards, health care products or clothing, amongst others.

5.1.5 Therapeutic categories seized

During Pangea XI, the participating countries have identified hundreds of different types of medicines during inspections, test purchases and investigations. The medicines belonged to a wide range of therapeutic categories,[22] from essential medicines to life style medicines; however, a handful of different types of categories accounted for the majority of medicines seized.[23]

During the WoA and based on the quantities reported, the most seized items were anti-inflammatory products, which accounted for more than forty per cent of the seizures. Erectile dysfunction medication was the second most reported category (twelve per cent) while painkillers were the third (nine per cent). The chart below (Figure 9), presents the eleven most seized categories of products. The other fifty-four different categories were reported in less than one per cent.

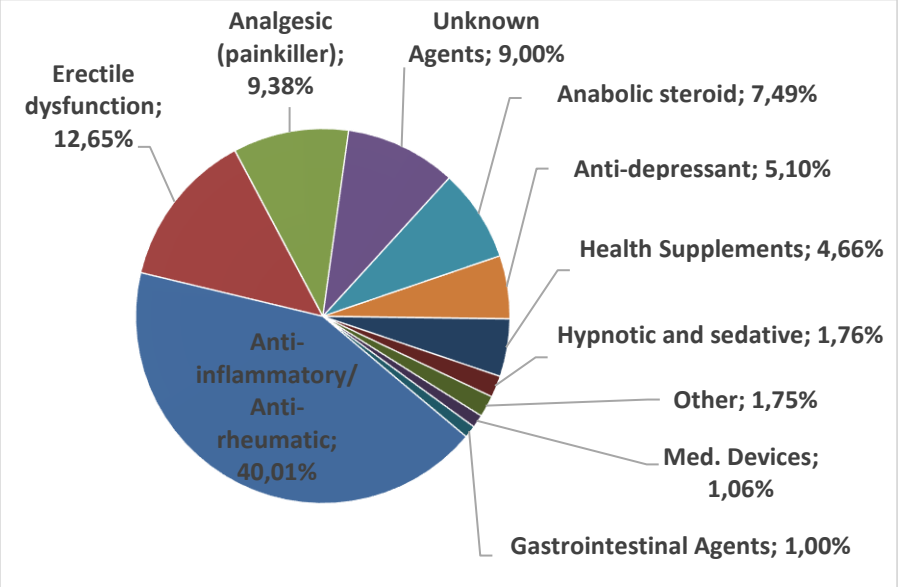


Fig 9. Categories of medicines seized based on the number of units reported during the week of action

However, the seizures reported during the WoA represent only a fraction of the seizures carried out during the entire year. For a clearer perspective, the data regarding therapeutic categories reported during the WoA was integrated with the available data from the first six months of 2018, thus obtaining a better understanding of the types of illicit medicines seized throughout the year. The chart

[22] Please note that whenever the name of the medicine is unknown and it is impossible to determine the type of medicine from the name provided the substance or product is categorised as "unknown".
[23] For a full list of the therapeutic categories that were used, please see Appendix III.

below (Figure 10) presents the results of the two data sets merged, pointing out that the results from the week of action differ than the ones reported by the participants for January-June 2018 interval.

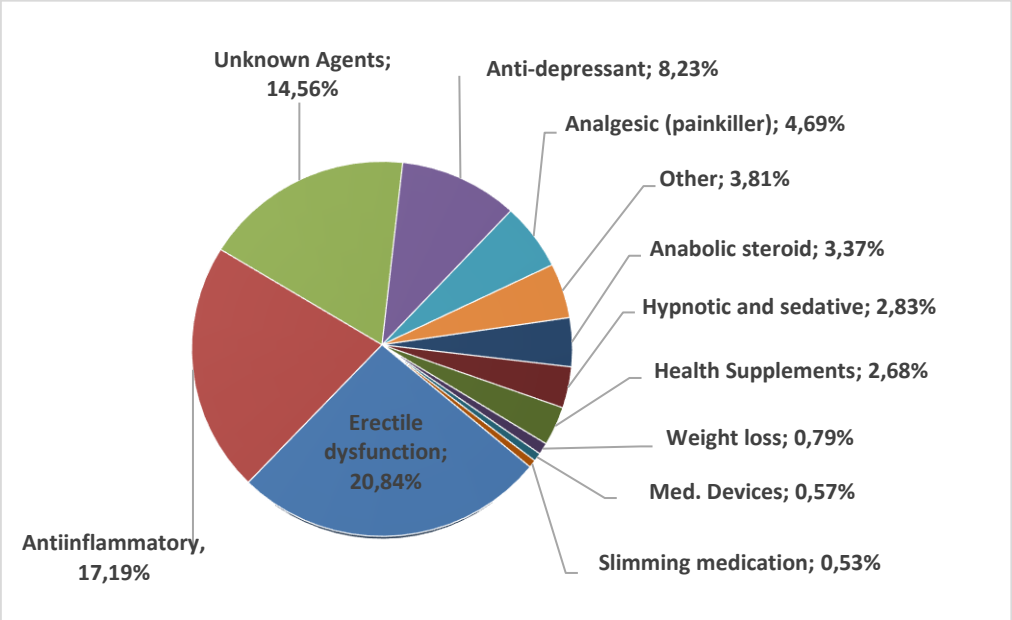


Fig 10. Categories of medicines seized based on the number of units reported for the first six months of 2018, integrated with the reports from the WoA (first 12 categories)

In this context, although during the WoA anti-inflammatory medication was the first category of illicit medicines seized (40 per cent), after merging the data sets, the conclusion is that actually erectile dysfunction medicines were the most seized products during the January-October interval (20 per cent), whereas anti-inflammatory medication was at around (17 per cent).

Compared to the results of Pangea X 2017, the overall data reported this year shows a general decrease in the numbers of units seized. The erectile dysfunction medication went down from 34 per cent in Pangea X to 20 per cent this year, while the amounts of illicit anti-inflammatory medication rose from 4 per cent last year to 17 per cent in Pangea XI. It has to be noted though that during the WoA most of the anti-inflammatory medication came from one seizure reported by Argentina at the Buenos Aires International Airport, where more than four million pieces of products were seized.

In 2017 dermatological agents were reported in more than 17 per cent of the seizures, while in 2018 this category was reported under 1 per cent.

Regarding the medicines which were reported strictly as counterfeit or suspected counterfeit, totaling more than a million units during the WoA and more than 350,000 outside the WoA, in most of the cases they were analgesics (50 per cent) and EDs (24 per cent, mostly Viagra, Cialis, Levitra).

Amongst the other categories reported as suspected/counterfeited, worth mentioning are the following: hormone agents (Genotropin, Pregnyl, Primodene, Boldadene), painkillers (Diclotard, Panadol Rapid, Oltram, Opadol, Kitadol), nervous system agents (Gabapentin, Modalert, Walkalert), anti-inflamatory (Paracetamol, Diclofenac), anabolic steroids (Proviron, Testoviron Depot), anorexiant (Adipex), anticancer agents (Armoarsin), anti-diabetic (Metfortin) or immunological agents (Arpimumne E, Herceptin). In this context, the biggest seizures of counterfeits was reported by Peru (750,000 units of Panadol and Kitadol) and Bulgaria (220,000 units Proviron 25).

Furthermore, medical devices were also reported as counterfeit i.e. bags for blood transfusions – “Blood bag 450/450/300/300 millilitre ЦФД/САГМ”, plasters and Contex condoms – by Russia and Durex Condoms by Hungary and Portugal.

Regarding medical devices seized for reasons other than counterfeiting, most items were condoms (circa 105,000), syringes (about 2,600) and menstrual cups (approx. 2,000). The other devices seized pertain to 21 different categories and worth mentioning are: dental equipment including X ray devices, various electric laboratory equipment, electronic cigarettes, hearing aids, surgery instruments, needles, diabetes monitor and test strips, catheters, dioptric glasses, injection pens, bandages, while a significant part remained unspecified. The total number of medical devices seized, regardless of the reason for seizures is 142,876 units pertaining to more than 40 different categories.

Compared to the numbers reported last year, the total number of medical devices is lower by about 20 per cent, however the spectrum of devices is fairly similar.

With regard to the ED medication which accounted for about 5.1 million units in total in Pangea XI (January to October interval), the majority of these products were seized because they were unauthorized in the country of destination. The most prevalent names of these medicines, based on the numbers of units seized, can be observed in the Figure 11, below.

While in Pangea X medicines reported as Tadalafil, Nizagara and Sildenafil Citrate accounted for about 59 per cent of all the EDs, this year Kamagra, Cenforce and Vidalista total roughly 60 per cent of the EDs seized. Similar to last year, the vast majority of these EDs reportedly originate in India and are connected with three main producing companies Combitic Global Caplet PVT. LTD, Centurion Laboratories PVT. LTD and Ajanta Pharma Ltd.

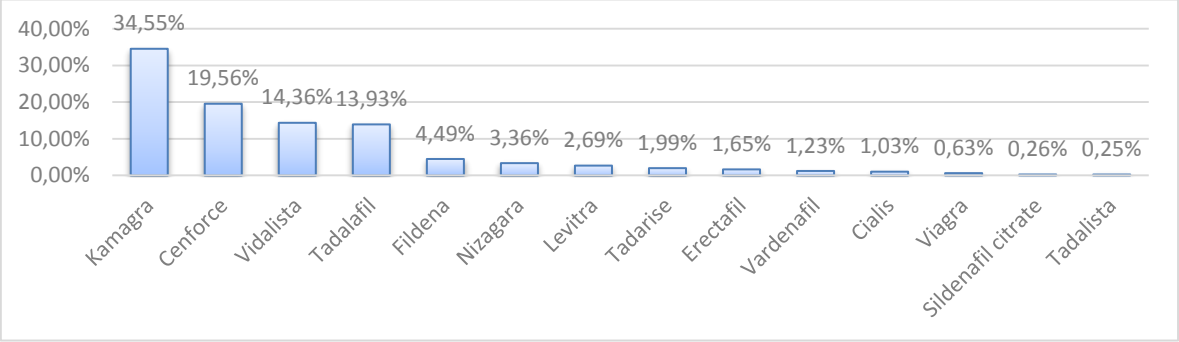


Fig 11. Most prevalent EDs names amongst the seizures

Illicit benzodiazepines were reported during Pangea XI WoA by 13 countries who seized more than 209,000 units, most of them unauthorized and smuggled. However outside the week of action, seizures of benzodiazepines raised to about 1.7 million pills and they were reported by additional 5 countries. Consequently, in the interval from January to October 2018 and reported by 18 countries, the seizures of illicit benzodiazepines rose this year to roughly 1.9 million units. As a comparison, during the WoA of Pangea X the number of benzodiazepines seized was around 92,000 units, which indicates than in 2018 the seizure of illicit benzodiazepines increased significantly. Most of the names reported for benzodiazepines were: Alprazolam, Bromazepam, Clonazepam, Diazepam, Lorazepam, Lexilium, Medazepam and Valium.

5.1.6 Origin and destination countries

The analysis in this section is based on all information reported during Pangea XI[24] by each country regarding its own seizures, and also on the locations indicated by other countries[25] as points of origin, transit or intended destination of the illicit medicines and medical devices seized.

[24] Based only on the cases when the origin transit or destination was reported.
[25] For example in one seizure reported by Malaysia, a parcel containing dermatological agents was shipped from Netherlands but the products originated in Germany.

Such products were shipped during Pangea XI from 139 countries, which is one of the highest numbers of origin countries reported so far in Pangea. It has to be noted though that not all the countries reported as origin of illicit medicines are necessarily the origin of the illicit product, some of them being actually transit countries.

It is worth mentioning that the quantity of the seizures can indicate the overall volumes of goods coming from a specific point of origin, whereas the number of reports can indicate the frequency of the deliveries from that respective location, thus the analysis looked at both parameters.

Regarding origin countries for illicit medicines, based on both quantity and number of reports, India was indicated as origin for the majority of the medicines seized. An interesting observation made last year and confirmed this year is the emerging presence of Russia and Bangladesh amongst the origin countries of illicit medicines. Please, see figures 12 and 13 below for other origin countries.

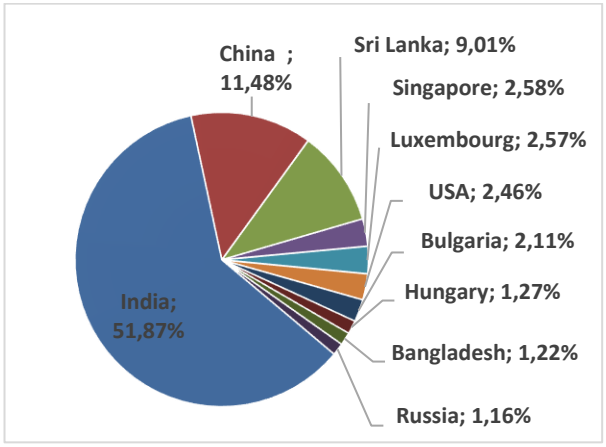


Fig.12 Origin countries by quantity seized (first 10)

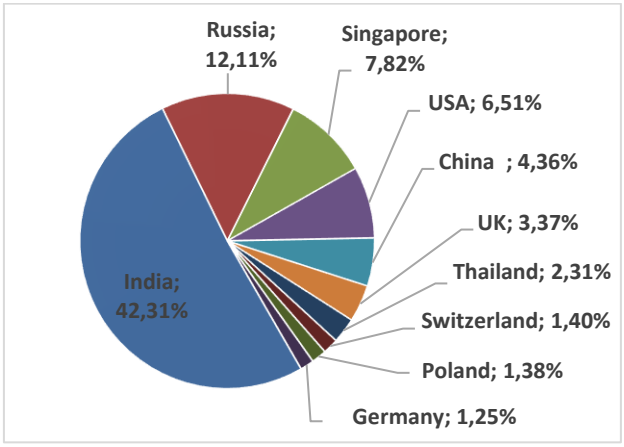


Fig.13 Origin countries by number of reports (first 10)

With regard to the destinations reported in Pangea XI from both frequency of shipments and quantity, Western Europe was targeted more than other regions. In this context, UK seems to receive bigger quantities of illicit products but not that often, whereas smaller quantities but in more frequent shipments are going to Italy and Netherlands. Outside Europe, shipments going to Canada, Iran and Malaysia were also in higher frequency than in other regions. In South America frequent shipments go to Argentina and El Salvador, however bigger quantities of medicines were seized in Nicaragua and Peru. Please see below (Figures 14 and 15) the ten most reported destination countries by number of reports and quantity of units seized.

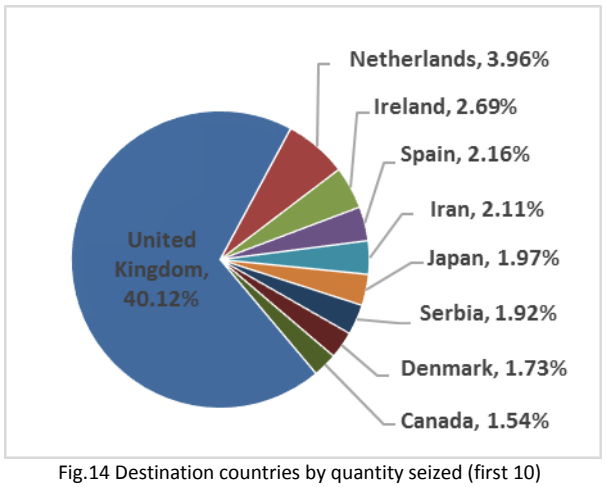


Fig.14 Destination countries by quantity seized (first 10)

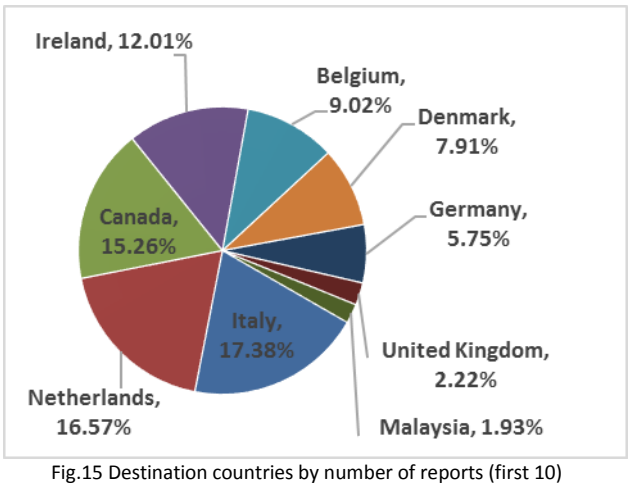


Fig.15 Destination countries by number of reports (first 10)

Besides the frequency of the shipments and the quantities shipped, another parameter taken into account was the number of unique connections between a source country and several destination

countries or between a destination country and several source countries[26]. These connections can potentially reveal the most active origin countries for illicit medicines, and when put into a wider context, this is an indication of possible transit hubs used for rerouting the illicit products.

Compared to Pangea X, when most of the routes led to North America, this year the data reinforces Europe as the main destination. However, last year Italy and the Netherlands were mentioned as being connected with more origin countries than other European states, conclusion sustained by Pangea XI. Details in Fig. 16 and 17 below.

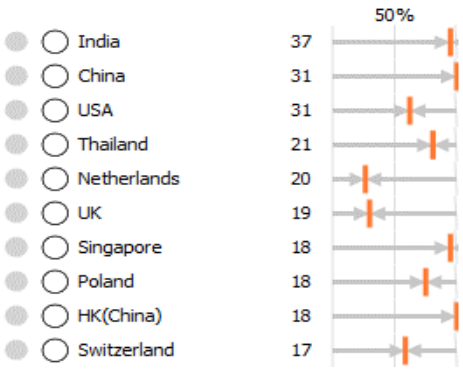


Fig.16 Origin countries by number of connections with different destination countries (first 10)

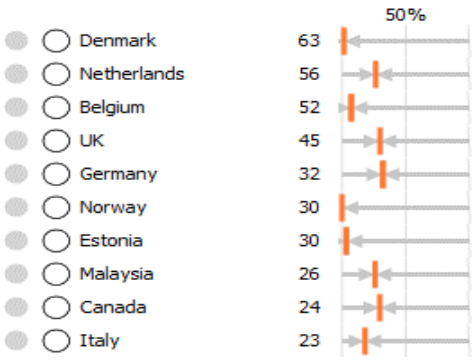


Fig.17 Destination countries by number of connections with different origin countries (first 10)

In the Middle East, most of the seized products (excluding the local production) were coming from USA and Thailand, however products from Europe (Italy, Poland) were also seized.

In North America, most of the seized products originated in Russia and India, while in South America, besides the local origin mostly from Peru and Nicaragua, direct shipments of various illicit medical products were coming from France, Germany, Netherlands, USA, China and Israel. A high frequency of shipments, though in smaller amounts of units per shipment, was reported from El Salvador to Costa Rica.

In Asia and the Pacific, most of the products originated in China, Bangladesh, Pakistan, India, USA and Australia. However, the quantities of illicit medicines reported are lower than other regions.

In Africa (information reported by Benin, Mali and South Africa only) the main origin countries mentioned were Ethiopia, Nigeria and Mozambique, but smaller seizures originated also in Hong Kong (CN), Qatar, India or UK. The majority of the products were unauthorized.

As a general view of the units seized in every region of the world, please see Figure 18 below.

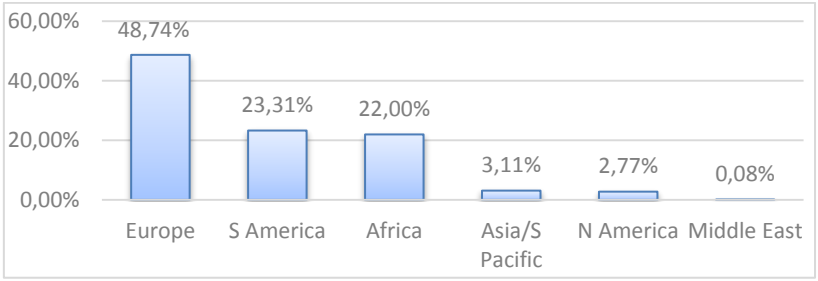


Fig.18 Number of units seized by region, in per cent, from January to October 2018

[26] Excluding the frequency of shipments and the quanitities seized, only unique connections between the origin and destination countries have been taken into account.

Transit hubs and "hot"[27] routes

Regarding the hubs used for rerouting or concealing the real origin of the illicit medicines, the observations made last year are confirmed by the findings of Pangea XI, while new observations were made. Consequently, the illicit products coming from continental China were rerouted mainly through Hong Kong (CN), Turkey, Belgium and the Netherlands, while the illicit pharma goods coming from India went mainly through Singapore, Switzerland, Russia, Germany and UK, but also through Hong Kong (CN) and Mauritius.

However, besides the above-mentioned locations, new hubs have been identified, for example products originating in India have been rerouted through Portugal, Greece, Slovakia, Hungary, and Thailand but also through Brazil and Kenya towards Italy, through Mauritius to Norway and through Poland to Germany and Italy. Indian products transited Thailand also on their way to Norway and Sweden. During Pangea XI, products originating in the USA have been reported coming through Malaysia towards Indonesia and through Australia and Canada to Malaysia.

In South America, illicit benzodiazepines from Mexico transited via Peru on their way to Bolivia.

Another point worth underlying is that in Eastern Europe Serbia was mentioned as a source country of a significant number of benzodiazepines, which reportedly were directed towards Hungary and the UK.

Of note regarding some particular routes (directly from origin to destination country) is that the seizures indicated on these routes pertained to a higher variety of therapeutic categories seized than on other routes. In this regard, the shipments from India to Italy included more than 40 different therapeutic categories, making this, similar to last year, one of the "hottest" routes reported. In addition, other routes where illicit medicines belonging to more than ten different therapeutic categories seized were from China, Hong Kong (CN), Thailand, Tukey and USA to Netherlands or from USA to Estonia and Iran.

An interesting modus operandi: misuse of self-storage facilities and P.O. boxes

Based on the fact that the reporting period was wider this year, an interesting modus operandi was observed, possibly used for concealing the real sender, recipient and origin of the illicit medicines, by using self-storage suits and P.O. (post office) boxes.

In this regard, seizures of unauthorized medicines made from February to Octoober 2018, in several postal hubs in the UK, showed that EDs and anti-deprsants were shipped from India, China and Singapore, in small quantities (an average of about 1000 units) to the same address in the UK, which turned out to be a self storage facility where the medicines were sent to rented suits or mail boxes. The numbers of the suites and P.O. boxes were mentioned as "appartment numbers" (suggesting a home address) and the address of the building in which the "appartment" was supposed to be was actually the address of the storage facility or post office where the P.O. box was situated, thus hiding the real address of the recipient.

Furthermore, information reports from eight different countries[28] indicated that for a significant quantity of illicit medical products apparently coming from India, South Korea, Singapore, Switzerland and the USA the senders mentioned were actually P.O. boxes, apparently located in Singapore, Hong Kong (CN), Thailand, Germany, UK and USA. However the reported manufacturers of the respective

[27] For the purpose of this report a "hot" route, is a route on which illicit medicines belonging to several cathegories of medicines were seized, poiting out to a complex situation of seizures.
[28] Argentina, Belgium, Italy, Norway, Portugal, Spain, Switzerland and Thailand.

medicines shipped,[29] were companies based in India (Mumbai and New Dehli area) and in fewer cases in Thailand and South Korea.

Frequency of shipments and quantities shipped

Taking advantage of the longer period of time covered by the reports this year, several patterns were observed regarding shipments of illicit medicines within the January-October interval. On one hand, the frequency of shipments containing illicit medicines is higher in January, February and March and then decreased during the other months until October, when it increased again, due to the activities related with the Pangea WoA.

On the other hand, the quantities seized were higher in January, March, April and May, they decreased in June, July, August and September and increased again in October, because of the Pangea WoA (for details please see Figure 19 below).

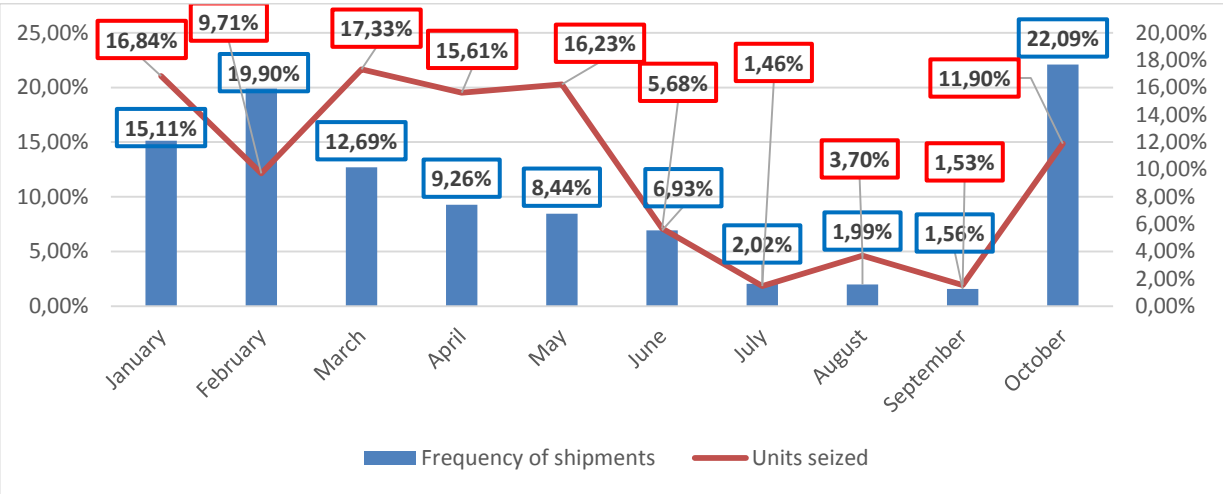


Fig.19 Frequency of shipments and units seized in per cent

Clear spikes in the numbers of shipments reported were observed on 15 January and 26 February when more than 1,800 shipments each day were seized worldwide. Most of the shipments originated in India and contained largely EDs, with an average of 59 units per shipment, (other several therapeutic categories were seized too, but in smaller amounts).

Regarding the highest quantities of units seized, distinct spikes were observed on 24 January, 10 March and 6 April, when more than 450,000 units were seized per day worldwide. The origin countries were mainly India and China and the medicines seized were mostly EDs and benzodiazepines.

While the exact reasons for the patterns above are not clear, they might be related with production cycles of the illicit medicines seized or with increased demand from the customers buying medicines online. However, the most relevant conclusion when looking at these patterns is that both higher amounts of pharmaceuticals seized and of shipments are grouped at the beginning of the year (January-May), therefore better targeting illicit medicines within this interval would be advisable.

In addition, the data presented in Figure 19 above underlines the importance of the Pangea WoA for law enforcement, as the efforts put into detecting illicit medicines are much higher than throughout the year.

[29] Mostly EDs and anabolic steroids, but also anti-inflammatory, anti-viral, anti cancer and nervous system agents.

5.1.7 Sender, recipient, shipping companies

Out of about 9,000 cases when the sender was clearly reported, 1,487 different senders of the medicines seized were identified, both natural persons, companies, geographic locations and P.O. boxes. One general observation is that whenever the sender was a company, the number of units seized was lower than the average,[30] whereas the frequency of shipments was very high in comparison with seizures when the sender was a natural person suggesting a rather business-to-consumer delivery possibly after a buying order was placed on line.

Conversely, when the sender mentioned was a natural person, the number of units seized was significantly higher than the average, suggesting larger movements of illicit medical products more consistent with a business-to-business model.

Besides the natural persons mentioned as sender, several entities were repeatedly reported in this context and similar to last year. Combitic Global Caplet Pvt. Ltd. appeared in the highest number of reports (for other details see Figure 20 below).

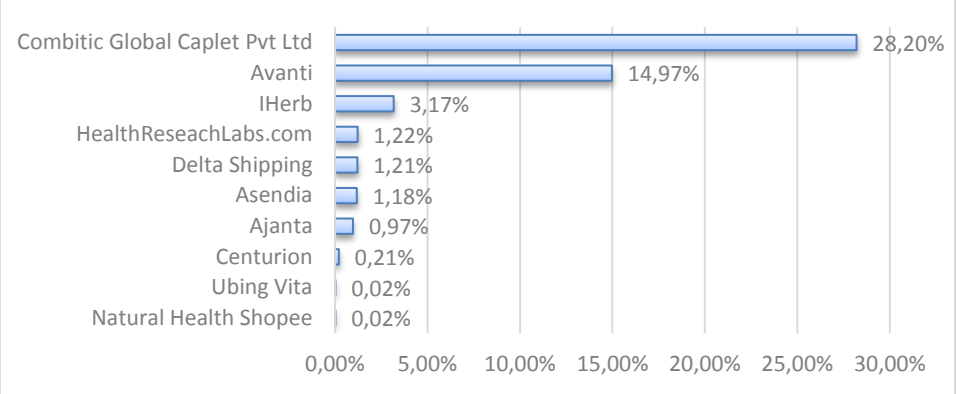


Fig.20 Entities reported as sender, by number of reports (first 10)

The fact that amongst the senders of the packages, instead of the real sender, several international shipping companies were mentioned reinforces the idea of concealing the identity of the persons behind this illicit activity. However, it also points out that international shipping companies are misused for shipping potentially illicit items. In this regards, the most reported transport companies in Pangea XI were Delta Shipping, M/S Global Logistics Services PTE. LTD, Asendia and Fedex.

Regarding the entities reported as the manufacturer of the products seized first ten companies reported, by number of units seized are listed in Figure 21 below. It is worth mentioning that the situation is roughly similar to last year.

Entities reported as manufacturer	Number of reports	Number of units seized
Combitic Global caplet Pvt. Ltd.	**16,135**	**7,558,846**
Catalnet Argentina SA	**1**	**4,192,810**
Bayer	**58**	**187,621**
Pfizer	**73**	**112,864**
African Compass Trading	**1**	**87,500**
GSK	**42**	**81,172**
Centurion Laboratories Pvt. Ltd.	**466**	**19,947**
Ajanta Pharma Ltd.	**420**	**14,799**
Hab Pharmaceuticals Pvt. Ltd	**107**	**5,537**
Fortune Healthcare Ltd.	**825**	**4,824**

Fig.21 First 10 entities reported as manufacturer of the medicines seized

[30] The average number of units seized in Pangea XI was about 600 units per reported seizure.

When looking at the hotspots (locations in destination countries), where the numbers of international seizures were highly concentrated, first to attract attention this year was Schiphol Airport in the Netherlands, where more than 15 per cent of all seizures were reported. Last year, Linate airport in Italy was the most reported entity and 18 per cent of all seizures in Pangea X were done there.

Although the seizures in Pangea X involved different locations, the hotspots of illicit medicines shipped during Pangea XI were almost in the same countries as below, however in different order. Please see Figure 22 below, for other details regarding hotspots.

Destination country	Location reported	Number of reports (in per cent)
Netherlands	Schiphol Airport	15.76%
Canada	Montreal International Mail Processing Centre - 3952	13.73%
Italy	Linate Airport	12.29%
Denmark	Copenhagen Airport	7.97%
Germany	Frankfurt Postal Hub	4.62%
Italy	Milano 1 - Post	1.87%
Italy	Malpensa Airport	1.42%
Canada	International Mail Processing Centre - 491	1.35%
Estonia	Tallinn post/courier	0.98%
Netherlands	POSTNL Centre	0.98%

Fig.22 First 10 locations reported as places of seizure, by quantity of products seized

5.1.7 Investigations

Participant countries reported this year 960 specific investigations, 1012 search warrants and 936 arrest warrants connected with more than 20 different types of offences. Most of the offences relate to advertising, smuggling or selling counterfeit medicines/medical devices, selling and supplying unauthorized or prescription-only medicines, operating fraudulent website or illegal advertisement of unauthorized substances.

During Pangea XI the measures taken by the LEAs disrupted the activity of 56 organized crime groups (OCGs), with 36 arrests[31] and 89 search warrants having been connected with the criminal actions of these groups, especially in the areas of smuggling and counterfeiting medicines. The highest number of OCGs disrupted were reported by Iran (21) and Benin (19), however OCGs were reported in all regions. The main offences connected with the activity of OCGs was illicit sale of medical products (about 70 per cent of all cases) but also smuggling (Bosnia and Herzegovina, Ecuador, Russia, Spain, USA) and selling/counterfeiting medicines (Ecuador).

In the USA, legal actions started during Pangea V (2012), by sending warning letters to the Canada Drugs Online Pharmacy Network were finalized during Pangea XI, after an investigation that culminated with the prosecution of a Canadian person, from Manitoba region, who finally admitted to widespread illegal sale of misbranded and counterfeit prescription drugs in the USA, together with several Canadian companies.

The Canadian companies were sentenced to forfeit USD 29,000,000 of the proceeds of their illegal scheme, to pay a fine of USD 5,000,000, and to five years of probation, whereas the person was

[31] An OCG is defined according to the national legislation, of each country , however the participants did not report exactly the number of arrests in all cases when an OCG was mentiond as disrupted.

sentenced individually to pay a fine of USD 250,000 and to five years of probation, with the first six months in home confinement.

Still in the USA, the authorities arrested a San Diego resident who was using the dark net marketplace called Dream Market for selling counterfeit oxycodone tablets containing fentanyl. The suspect is believed to have shipped at least 50,000 oxycodone tablets throughout the USA. At the moment of the reporting the legal proceedings were ongoing.

The Chinese authorities dismantled a criminal group, arrested 10 suspects, and shut down ten online stores and other websites, which were used for sales of counterfeit drugs and forbidden psychoactive substances. Over 30,000 pills of Ritalin and Modafinil and another 40,000 pills of other counterfeit drugs were seized related to the online sales. The investigation revealed that, since October 2016, the criminal group bought large quantities of psychotropic drugs from Pakistan and India, which were then smuggled to China. The suspects set up online stores, recruited sales agents and set up a distribution network using instant messaging services.

In another case in China, nine suspects were arrested and four specialized production machines were sealed up on site. Over 60 different types of products, 25,000 boxes, packaging materials and a large amount of semi-finished counterfeit drugs which claimed to treat rheumatism and asthma were seized. Investigation showed the suspects started to manufacture counterfeit drugs since 2017 and were selling online.

In Russia, one individual was illegally producing and selling oxygen containers labeled as “medical oxygen”. The alleged medical devices were produces using an air separation unit and the person had sold allegedly more than 60 million litres of oxygen, before the authorities have stopped the illegal production.

Still in Russia, the authorities found 21 packs of counterfeited condoms on sale at a grocery store in Tyumen region. In the Volgograd region, local authorities seized 43 packs of medicines and cosmetics containing Lidocaine, which were ordered from an unknown location by a criminal group with the intention of illegally selling the products in Russia. In another three different cases, Russian citizens ordered online unauthorized anabolic steroids and health supplements with the intention of reselling the substances in Russia. In all cases the goods were seized and legal measures were taken according to the national legislation.

In Cyprus, after an investigation regarding the illegal shipment of anabolic steroids, one person was arrested for the illicit use of controlled substances. The suspect was arrested at the post office when he arrived to receive the parcel.

The Malaysian authorities, in one case reported an investigation regarding an individual who was advertising and selling unauthorized drugs via social media. The illicit products were stored in residential premises from where the delivery was made. The perpetrator was doing transactions only through cash-on-delivery. In another case, the authorities found a shop that was supplying unauthorized medicines to another person who was selling the medicines online. In both cases, the persons were sanctioned according to the national legislation.

UK authorities reported an investigation targeting organized crime groups involved in selling illicit medicines and money laundering at national and international level. At the moment of the reporting the investigation was ongoing.

5.2 Intelligence analysis

The analysis below aims at extracting intelligence from all data reported during Pangea XI, firstly by drawing deductive intelligence premises. Afterwards, based on these premises, a series of inductive

inferences are made regarding the dynamics of crimes involving illicit medicines, in order to identify some of the factors influencing the illicit distribution of pharmaceuticals worldwide. In addition, several hypotheses were issued regarding the persons who are part of the threat constituted by online sales of unauthorized, smuggled, expired and counterfeit medicines.

5.2.1 Main intelligence premises

1. The structure of advertisements, sales, shipping, payments and the careful measures taken to avoid detection show an advanced strategy of advertising and moving illicit medicines from production places to the consumers. The perpetrators are taking into account possible law enforcement measures and legislation gaps.

2. The websites selling or suspected of selling illicit medicines were registered by:

    - persons with names typical for Russian speaking countries. In these cases, some of the Internet Service Providers identified were from Russia and Ukraine and the registrars from Australia, Germany, Switzerland, Russia, China and India. The text on these websites was translated in several European languages (French, English, Polish, Swedish, German) and Russian, while the contact phone numbers displayed were mostly from USA, UK, France and Russia;
    - persons with names typical for Japan, who were connected with registrars in Australia;
    - persons with names typical for Arabic speaking countries, who were connected with registrars in Singapore and UK;
    - persons with names typical for Spanish speaking countries, connected with registrars from Argentina, Chile, Spain, Mexico, Peru;
    - persons with names typical for Hindi speakers, connected mainly with registrars from India, UK and USA

3. The persons selling illicit medicines online operate complex networks of websites, companies, and storage facilities and misuse the legal transport systems to move pharmaceuticals from the production places to the consumers.

4. The payment for the illicit products is received sometimes in cash but also in bank accounts associated with online merchant accounts. Most of the payments are carried out using credit/debit cards, especially Visa and MasterCard.

5. Some of the measures used for concealing identity involve P.O. boxes, self-storage facilities, aliases or fake addresses used for sending/collecting the products.

6. During the first five months of 2018, both the numbers of shipments and of units seized were higher than the rest of the period until October 2018.

7. By quantity of seizures, the first four origin countries of the illicit products seized in Pangea XI were India, China, USA and Thailand respectively. Other countries were mentioned as sources of illicit pharmaceuticals, however in much lesser cases.

8. Some of the pharmaceuticals seized were produced legally in the origin countries, however they became illegal when they entered another countries' territory, if not registered, authorized, approved or licensed.

9. **Regarding the sender** of the medicines seized:

- In many cases the sender was not reported or reported as a "private person" and a cross-reference could not be made;
- In most of the identifiable cases the sender was a private company, usually the manufacturer/shipping company or a location such as an airport, postal hub, where the goods transited or originated;
- Most of the companies reported were from India (majority from Mumbai and New Delhi regions), China (Guangzhou region) and Thailand (mostly Bangkok area).
- The name of the natural person or the address mentioned in a higher number of cases **as sender** were characteristic for the following countries: India, China, Bulgaria, Japan, Serbia, Poland, Portugal, Thailand, Turkey, UK/US. In addition, names of persons specific for Spanish and Russian speaking countries were also present.
- In few cases, a website or a social media page was mentioned.

10. **Regarding the recipient** of the medicines seized:

    - In many cases, the recipient was not reported or reported as a "private person" and a cross-reference could not be made;
    - In Europe, most of the names of the recipients are specific for nationals of the Netherlands, UK, Portugal, Italy, Spain, Germany;
    - In Europe, there were also persons with names common for Hindu, Arabic, Chinese and Russian speakers.
    - In Spain, 340,000 pills, mostly EDs from India were addressed to two persons known as members of a local OCG;

11. The legal/illegal markets in North America and Northern and Western Europe were a priority target for the persons producing/transporting/selling illicit medicines.

12. In Pangea XI, the highest numbers of shipments and biggest quantities of unauthorized medicines were destined to Western and Northern Europe.

13. Shipments going to Netherlands and Italy contained illicit medicines in a wider spectrum of therapeutic categories then in other countries.

14. In the Netherlands, besides the high number of anabolic steroids seized (more than 480,000 units) 8.3 tons of paracetamol and 3.3 tons of caffeine were seized from January to October 2018.

15. Products going from continental China to Europe and North America, transit mainly via Hong Kong (CN), the Netherlands and Turkey.

16. Products coming from the USA, transited via Germany, Switzerland, and Spain going to several other European countries.

17. Products coming from India transited via Singapore, Russia, Switzerland, Germany, Mauritius, and South Africa going to various countries in Europe and North America.

18. Medicines and medical devices from Ghana, Nigeria, Senegal, Togo, Uganda, Cameroon, Morocco, and Namibia, were sent mostly to Europe and in smaller quantities also to the Americas.

19. The highest number of products reported as unauthorized and the highest numbers of shipments of such products originated in India. The majority of these products were EDs, anabolic steroids, health supplements, painkillers, anti-depressants, hypnotic and sedatives.

20. The highest quantities of (suspected) counterfeits and the highest number of shipments of such products were reported as originating in China/Hong Kong (CN) and in the USA. Most of the

products were EDs and health supplements, but also other types of medication in smaller amounts (e.g. hormone agents, painkillers, and anabolic steroids).

21. The highest quantities of suspected/counterfeit products were destined for the United Kingdom, Japan, Canada and Russia. The highest number of shipments of (suspected) counterfeit products were destined for Canada, Japan, and Germany.

22. Seizures of benzodiazepines have increased significantly compared to last year. Highest quantities seized during Pangea XI were in the UK, Netherlands, Peru and Chile.

23. Open source information[32] recently pointed out an increase in deaths related to the abuse of benzodiazepines in the UK. Increased use of such products appears to take place in the USA especially for the 18-25 age range.[33] In the USA, the deaths of adolescents caused by opioids, involved also benzodiazepines and other pharmaceuticals.[34]

24. El Salvador and Mexico are entry points to South America for illicit medicines from the USA, several European countries and China. This premise is highlighted also by credible open sources[35].

25. In China, an OCG was using mobile instant messaging services to sell illicit medicines and, in Ghana, two different WhatsApp market platforms were offering unregistered medicines for sale.

5.2.2 Inductive Inferences

The criminal enterprise business model for on line sales

Different organized crime networks, independent OCGs but also individuals are involved in production/transport/trade of illicit medicines using the internet. These persons reside probably in Eastern Europe, India, China, Canada, and Japan, as well as Russian and Spanish speaking countries, the UK and the USA. They sell illicit medicines and medical devices globally, but with regionally targeted approaches.

It is likely that the perpetrators are taking advantage of the lack of international unified legislation regulating medicines and medical devices and (in some cases) of the capability of LEAs to manage the increasing numbers of small parcels sent worldwide.

The primary targets are Western Europe and North America. The whole activity (only for small parcels) should probably generate profits of more than USD 70 million each year for the persons involved, with much higher total costs for the countries whose citizens are victims of this type of crime.

It is highly likely that the persons behind the websites used for advertising and selling illicit products have developed complex networks of websites and payment systems, dedicated to specific regions so that if one website or merchant account is shut down, the illicit activity can be continued using other websites and payment systems. Anchor sites are used for advertising illicit medicines. Registrars who are non-cooperative with LEAs are preferred.

Most of the production of these pharmaceuticals takes place legally or illegally in India and China, but smaller quantities are also likely to be produced legally or illegally in the USA, Thailand and other parts

[32] https://www.bbc.com/news/health-47072413, https://www.glasgow.gov.uk/index.aspx?articleid=23805, accessed 19 February 2019.
[33] https://www.psychiatryadvisor.com/home/topics/sleep-wake-disorders/prevalence-of-benzodiazepine-use-misuse-among-us-adults-analyzed/ accessed 19 February 2019.
[34] https://www.medscape.org/viewarticle/907762, https://www.drugabuse.gov/drugs-abuse/opioids/benzodiazepines-opioids, accessed 19 February 2019.
[35] https://www.drugcaucus.senate.gov/content/stopping-poison-pills-combatting-trafficking-illegal-fentanyl-china, accessed 11 February 2019.

of Asia while the vast majority of raw materials seems to be produced in China. Some of the medicines produced legally are not registered or authorized outside the country of production. However, they are shipped intentionally to other countries where they become illegal and they are seized, if detected.

It is highly probable that the final products are either shipped directly from the production country to the consumers or to intermediary storage locations, where under the cover of P.O. boxes, self-storage facilities and (ad-hoc) warehouses, they are redistributed to clients who most probably are ordering the products on line on websites available regionally or globally. The persons/companies moving illicit medicines operate networks of storage locations internationally, from where they are repackaging/reshipping the products.

The persons sending the illicit medical products are probably misusing private parcel carriers and national post services for transporting and concealing the content of the package, the origin of the illicit medicines, the sender and the recipient. Please see Figure 23 for details regarding the basic model of online sales and shipments, based on the information reported in Pangea XI.

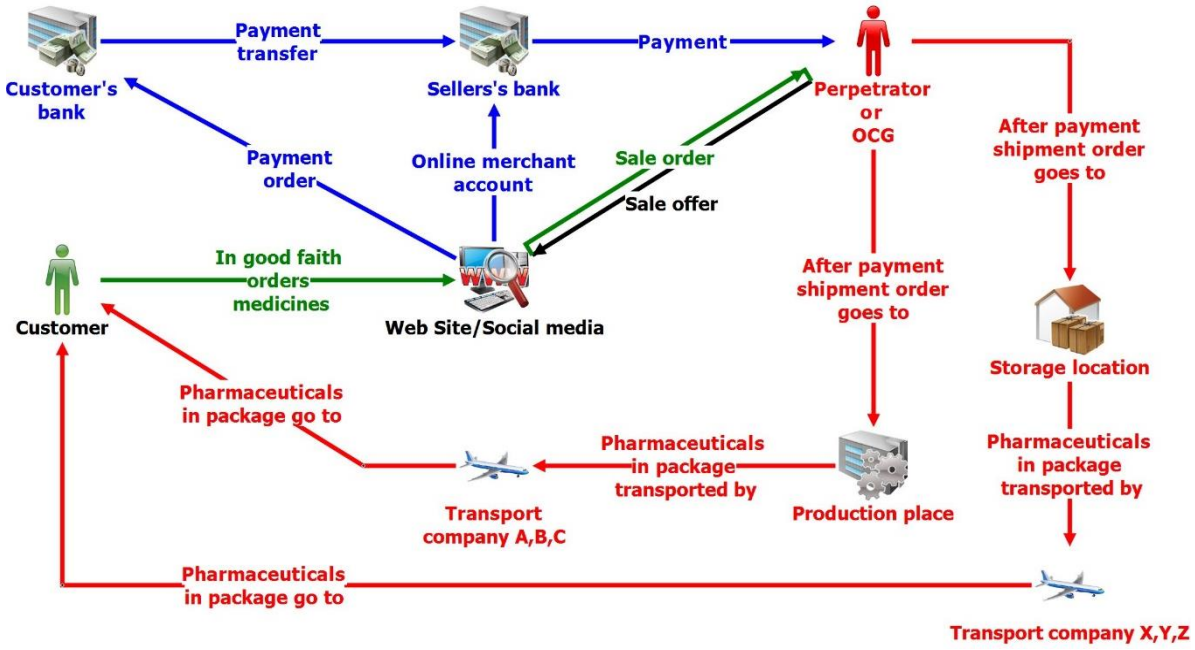


Fig.23 Basic model of online sales and shipment of illicit pharmaceuticals
(In green the sale order, in blue payment, in red shipment)

Russian speaking OCGs

In Europe, Russian/Ukrainian speaking OCGs, possibly based in Ukraine and Russia (Kiev, Kherson, Moscow, Saint Petersburg) and/or Eastern Europe (Poland, Slovakia), are targeting mostly Western Europe, USA and Canada for selling illicit medicines. Most probably they are using networks of websites (such as PharmaCash Network – at least 357 websites), typically registered in Ukraine, Russia, Germany, Czech Republic, USA, Hong Kong(CN), Australia and India, at registrars which are reportedly reluctant to cooperate with LEAs. It is highly likely that the Russian speaking OCGs have connections (possibly persons, companies or storage locations) in several places in Europe and Canada from where they are shipping some of the products ordered online. Many of the medical items shipped are probably produced in India and in smaller amounts in China and the Republic of Moldova.

Other OCGs acting in Europe

The UK has been targeted especially with illicit benzodiazepines and EDs, mostly originating in India and China and the potential OCGs or individuals organizing the shipments are probably actual UK residents with connections in India, China and Arab countries. Some of the medicines are shipped

using P.O. boxes and self-storage facilities, form where they are further distributed into the UK, and possibly in other European countries.

Furthermore in Eastern Europe, it is likely that some of the persons selling (online) illicit medicines from India to other European countries might have connections in Poland as several products were shipped from Wroclaw and Warsaw areas to Italy and Switzerland, the shipping patterns suggesting a business-to-consumer model. Products from India rerouted through Poland and Switzerland might be arriving in other European countries as well.

In Spain, organized crime is involved in trafficking illicit medicines, especially EDs and possibly operating websites addressed to Spanish-speaking countries, including in South America. The Netherlands and in smaller measure Germany are likely the main transit hubs for illicit pharmaceuticals entering Europe, but also going eastwards to Asia and Middle East and westwards to the Americas.

The problem of erectile dysfunction medicines

Most of the ED medicines seized in Pangea XI might be produced legally or illegally in India, for the domestic market. However, several local companies, but also individuals ship these medicines to other countries where the medicines are unauthorized/unregistered/unapproved/unlicensed. The shipment patterns indicate that these companies are likely to use websites targeting Europe and North America mostly. Besides Indian companies or persons shipping unauthorized medication outside India, it is highly likely that criminal groups or individuals have taken advantage of the production capability of India and are buying EDs, from here which are then amassed in other countries (possibly Canada, Spain, Russia, Western and Eastern European countries) and are redistributed illegally on line and possibly off line, most probably at regional level.

EDs are becoming increasingly attractive for the criminals possibly because the market demand is growing, the allocation of resources from LEAs for detecting such products and the legal punishments for illicit deeds involving medicines are relatively low, in comparison to other crimes (terrorism, human being trafficking, narcotics trafficking just to name a few). In this regard, it is highly likely that parallel distribution systems outside pharmacies have been created for EDs and an indicator for this might be the high amounts of units sized in some instances in one shipment (e.g. more than 5,000 units), as in several cases reported by Estonia, Japan, Malaysia, Mali, Russia, South Africa, Spain or UK. In these countries, it is likely that OCGs and individuals are storing/repackaging and distributing the EDs at national level and possibly in neighboring countries.

Benzodiazepines

Regarding illicit benzodiazepines (sometimes used recreationally) these products were coming mostly from India, Sri Lanka and Luxembourg and were destined mainly to the UK and the Netherlands. However, it is possible that these medicines are reshipped also outside UK and Netherlands. In addition, the possibility of raw materials (for producing benzodiazepines) entering Europe and being pressed into pills and redistributed regionally cannot be totally ruled out.

Information also suggests that another source for benzodiazepines might be Serbia. In this context, it is possible that OCGs or individuals from the UK and Serbia, probably acting together are taking advantage of a production company near Belgrade (Galenika) from where they buy Diazepam legally or illegally and then they smuggle the pills into the UK and possibly the Netherlands, by vehicles but also using the postal system. In the UK and the Netherlands illicit distribution systems for these pills are implied.

In addition, diazepam from Cameroon seized in the UK might be an indication that the consumption/abuse of this substance outside the legal medical circuit in Europe is on the rise, market

demand which normally generates more illegal trafficking and various sources for these drugs are used.

In Central and South America, pharmaceuticals abused recreationally (benzodiazepines in Pangea XI seized in Peru and Chile and advertised on line in Argentina, Chile, Mexico) enter most probably in the area of Mexico and are distributed from here towards South America and possibly towards the USA.

Although during Pangea no direct seizure could be connected with the organized crime in Mexico, when looking at the modus operandi, the number of pills seized (about 5,000 per shipment) and credible open source information[36] which connects Mexican crime syndicates with the illicit traffic of opioid pharmaceuticals (products containing fentanyl), it is possible that organized crime in Mexico is involved in counterfeiting/smuggling/selling of illicit benzodiazepines.

Central and South America

The web links used for selling illicit medicines in the region are mostly social media pages (Facebook) or online market places (eBay, mercadolibre), which indicate that residents of one country are selling the illicit medicines at national level in their residence country. However, the medicines sold through independent websites (other than social media and marketplaces) indicate that the shipments connected with online sales might be coming from Europe as several contact phone numbers are from Spain, UK and USA. Most probably, some of these websites are part of complex networks of websites selling illicit medicines.

Africa – an emerging market for online sales

In Africa, the results reported indicate that the general use of online distribution systems for illicit medicines is lower in comparison to other regions, and information from other INTERPOL operations (Afya, Heera and Porcupine) indicate that the main distribution channels in Africa are actually at street level in markets, shops or other locations. This implies bigger shipments which arrive in Africa most probably by vessels (containers), and are distributed locally by trucks.

Home-grown production takes also place in Africa and the main sources of illicit medicines seem to be in Ghana, Nigeria and Cote' d'Ivoire, while the raw materials, equipment and know-how are most probably brought from China and some from India.

Based on Pangea XI data, however, Ghana reported illicit medicines advertised through instant messaging services (WhatsApp) and it is likely that this type of distribution of illicit medicines will develop in the future. In addition, Ethiopia seems to be an entry point for medicines coming from Pakistan and India towards Africa, and possibly towards Europe. Mauritius continues to be a transit point especially towards Italy for illicit medicines coming from India (and China in Pangea X). Residents of Africa might be involved in selling medicines online in Europe, especially in French speaking countries.

Asia and South Pacific

The Asian region remains the main production place of the illicit medicines distributed worldwide, with sources in India and China as suppliers of the highest quantities of such products. Singapore was mentioned in many cases as origin of the shipment for illicit medicines, nevertheless it is unlikely that all the unauthorized substances shipped from Singapore come from local production and, based on the data from 2017 and 2018, it is likely that Singapore is the main distribution hub for pharmaceuticals produced in India by several companies.

[36] https://www.drugcaucus.senate.gov/content/stopping-poison-pills-combatting-trafficking-illegal-fentanyl-china, accessed 11 February 2019.

However, the fact that in many cases the sender on the package was a PO Box situated in Singapore, most probably in a free trade zone, can indicate repackaging activities and the possible involvement of local persons connected with companies producing the medicines in India and also with the websites advertising these medicines.

With a smaller turnover than Singapore, illicit medicines shipped from Hong Kong are manufactured mostly in China but also India and repackaging and storage locations might be also involved.

Although Asia is generally an origin area, smaller quantities of illicit medicines are sold online here too. Most probably the illicit pharmacies distributing medicines at national or regional level (for example in Japan, Singapore, Malaysia, Korea) are operated by nationals of these countries who most probably receive supplies from Bangladesh, Pakistan, India, China but also from Europe and North America.

Analysis's comment: Considering the structure of the data reported and the information gaps, in order for these hypotheses to be confirmed, they need to be tested, aspect which can be done in future editions of Pangea, other individual operations or targeted police actions by the participating countries.

6. INFORMATION GAPS

1. Geographically, during Pangea XI most of the reports were from Europe and North America. The Middle East and Africa (with a focus on Middle East) were less represented making the available information insufficient for a complete image about the illicit traffic of medicines in these regions, thus affecting the overall view.

2. Although the general volume of information is satisfactory, there is room for improvement in terms of using the reporting form, keeping in mind that the results of the analysis are directly proportional with the amount and quality of the data reported.

3. Detailed information regarding the persons involved in producing/transporting/selling illicit pharmaceuticals, the exact points of origin and routes used still need to be improved, in order to allow a realistic intelligence and risk analysis and to support investigations for tackling international illicit medicine trafficking in a more efficient way.

4. Details regarding the results of laboratory analysis of the substances seized need to be reflected more in the reports in order to give a better view regarding counterfeited products and about the nature and extent of the threat posed by these substances to the public.

5. Relevant financial information needs to be considerably improved in order to clearly detect money circuits, eventual connection of pharmaceutical crime with other types of crime (e.g. money laundering or financing other illicit activities).

7. RECOMMENDATIONS

As in previous years, participating countries expressed their willingness to take part in similar future operations, some recommendations have been made in order to improve investigative methods, collaboration and upcoming specific actions for similar operations that might be organized in the future.

7.1 Strategic recommendations

1. For greater involvement in combatting pharmaceutical crime in the framework of Operation Pangea, encourage more countries to join the fight against pharmaceutical crime, especially from the Middle East and Africa.

2. Continue to improve the exchange of information through the SPOCs and send personal data only using the INTERPOL National Central Bureaus in the participating countries.

3. Continue to seize parcels and close down websites, however in order to better tackle international organized crime it is recommended to concentrate on investigations, by targeting in a more consistent way persons, OCGs and criminal networks involved in producing/transporting/selling illicit medicines on line.

4. In addition to seizures at entry points, increase the investigative activities for identifying locations where illicit production, transshipment or storage activities take place, with a view at law enforcement measures targeting these locations.

5. Besides targeting websites and payment systems, create disruption strategies, involving international transport companies, as severing the delivery will probably have a high impact on selling illicit medicines online. This will discourage the miss-use of international transport systems for illicit activities.

6. Develop the contacts with private partners (online platforms, payment service providers, social media platforms and the industry) in order to get them more involved in the fight against illicit medicines.

7. Encourage the LEAs in member countries to use the e-learning courses available on IIPCIC regarding IPR or the basic elements of conducting online investigations.

8. Encourage countries to share any risk assessment and selection techniques used at postal hubs, in order to share best practices with the participating countries (e.g. origin of shipment, companies, sender, recipient etc.).

9. Encourage innovative ideas to further the effectiveness of global public awareness campaigns, for example through the following measures:

    - Enhance traditional coordinated media releases and increase number of interviews through a variety of media platforms;
    - Use social network platforms to reach larger audiences;
    - Develop pilot projects on awareness-raising with the support of university research programs focused on pharmaceutical crime and related issues;
    - Identify cases when persons were harmed by illicit pharmaceuticals and publicly describe the mechanisms that lead to the harmful situation.

7.2 Operational recommendations

1. It is recommended that participants in Pangea XII gather statistics regarding seizures involving illicit medicines covering the interval June 2018 – June 2019 and send these statistics to INTERPOL Illicit Goods and Global Health Programme before 31 of August 2019[37].

2. Modify the reporting template in order to collect more information about the persons involved, thus making a better use of the Illicit Markets Analysis File[38] to support investigations.

3. Increase the intelligence gathering regarding possible storage locations where illicit medicines ordered online might be deposited (especially in Europe and North America, but also in other regions) with the intention of reshipping. Target these locations (especially companies operating P.O. boxes or self-storage facilities including in free-trade areas) with law enforcement controls.

4. Through cyber-crime investigations, concentrate on identifying the Internet Service Providers used for operating illicit websites in order to have a better understanding of the locations where these persons might be and obtain other intelligence leads.

5. Where applicable, the participants are encouraged to do test buys from websites (especially for networks of websites) selling illicit medicines to detect precisely the locations from where the medicines are shipped and the types of substances involved.

6. Controlled deliveries are also recommended, in order to have a better chance to identify and arrest suspects.

7. For avoiding legal disputes, countries should only provide websites to payment providers that have been proved to be operating illegally so that the payment providers can be confident in taking action against these particular websites.

8. It is recommended that countries report feedback on the results of laboratory/forensic analysis of the substances seized (if the case), which would be useful to determine the precise proportion of counterfeit medicines that were seized and the threat for public health.

8. PUBLIC AWARENESS

8.1 Public awareness campaigns

During Operation Pangea XI, 13 countries[39] undertook 255 public awareness campaigns (compared to 237 last year), as part of the operation. Below are a few examples of the public awareness campaigns that were conducted across the world during Operation Pangea XI.

Many public awareness campaigns undertaken by participating countries used the mass media to highlight their message. Several media formats, including TV, radio, print and the Internet, were used to transmit a consistent message to the public on the dangers of purchasing medicines online, and the broader health issues related to the use of counterfeit medicines. Several countries published joint press releases that were used as a platform for further interview requests by the media.

While targeting criminal and cyber elements and seizing medicines are essential components in the battle against the supply of counterfeit and illicit medicines and medical products online, public

[37] In this regard, INTERPOL's Illicit Goods and Global Health Programmme will provide in due time a template for data collection, for an unitary approach. The results reported during the Pangea XI Week of Action should be included, for a complete view of the operational situation.
[38] The Illicit Markets Analysis File is a temporary database holding police and non-police data and it is used primarily for analysis and detecting organized crime and finding conections between crime areas.
[39] Canada, Denmark, Greece, Hungary, Ireland, Malaysia, Maldives, Norway, Singapore, Switzerland, United Kingdom, United States, Russia.

awareness campaigns, like those mentioned above, also play a vital role in tackling the demand through alerting the general public to the dangers of buying medicines online.

Canada

During Pangea X, the Canadian border authorities distributed more than 4,445 "It's Your Health" pamphlets on the risks of buying Drugs, Natural Health Products, or Medical Devices online. In addition, more than 57 warning letters of related to the risk of purchasing suspected counterfeit drugs were sent.

Amongst other proactive measures taken by the Canadian authorities, compliance promotion and education letters were sent to twelve popular online marketplaces specifically: The Shopping Channel, Etsy, Shop.ca, Kijiji, Newegg, Craigslist, Groupon, Walmart, Costco, Dollarama, Dollar Tree, and Well.ca. These letters are intended to provide companies with information on the regulatory requirements to help them make informed decisions about the health products that they choose to sell and advertise.

Denmark

Following the Danish Operation Pangea press release on 25 September, the Danish Medicines Agency launched several information initiatives, including social media activities, interactive cartoon stories for school children, gifs (short animated film clips) to be used on websites and a short information film about the risks of buying medicines online.

The Danish Medicines Agency, in cooperation with the Danish Competition and Consumer Authority, the Danish Safety Technology Authority, the Danish Patent and Trademark Office, European Consumer Centre Denmark, the Danish Consumer Ombudsman, the Danish Customs Agency, the Danish Veterinary and Food Administration, the Crime Prevention Council, the Poison Control Hotline, the Danish Business Authority, Nævnenes Hus and the Danish State Prosecutor for Serious Economic and International Crime, will launch a website with advice on how to stay safe when shopping online. The website will include links to each of the organizations.

Greece

The Greek Cyber Crime Police in cooperation with the National Organization for Medicines created videos and text images that were posted in social media (Facebook, Instagram, Twitter and YouTube), warning about the emerging dangers of the internet purchases of illicit pharmaceutical products from unauthorized websites. Informative sessions on the subject were organized in schools, colleges and other organizations where more than 5000 people attended and an interview was given to the media[40] regarding the dangers of illicit medicines.

Hungary

The authorities in Hungary have published a video regarding the activities carried out during Pangea[41] in conjunction with Europol who deployed a mobile office in order to assist in spotting the illicit medicines. In addition, the clip contained key safety messages regarding online medicines.

Ireland

Irish authorities have carried out a public campaign called “Zero Gains” aimed at advising people of the dangers and side effects of using Anabolic Steroids.[42]

[40] https://www.youtube.com/watch?v=pRajNQZUTxk , https://www.facebook.com/CyberAlertGR/posts/946140212261238?__tn__=-R accessed 11 February 2019.
[41] https://www.youtube.com/watch?v=kChqz_Bc_xQ&feature=youtu.be, accessed 11 February 2019.

Malaysia

Malaysia carried out the most complex actions, During Pangea X in order to raise awareness of the public regarding illicit medicines, involving 104 different awareness actions, through a wide spectrum of mass communication channels, including a door-to-door "Know your Medicine Campaign". The Malaysian authorities have used Facebook, Instagram, Twitter, Telegram Channel, Radio talks, interinstitutional dialogues and seminars, on line/posters, exhibitions and even WhatsApp in order to raise the awareness of various social groups regarding illicit medicines.

In addition, campaigns targeting rural shop owners, radio talks regarding cosmetics containing poisonous substances or education campaigns for retailers regarding the unregistered/adulterated health products sold online were only some of the actions taken for raising awareness under the framework of Pangea XI.

Maldives

The authorities here have carried out an Awareness Session on Importing Drugs, Handling drugs & Anti-biotic usage on Departure Hall of Velana International Airport, targeting to Departing Passengers.

Norway

Norwegian authorities carried out an online campaign (on Facebook, using the European logo) with the aim of helping people to buy safe medicines using the internet.

Russia

According to the information reported, Russia carried out a number of 86 public awareness campaigns.

Singapore

The Health and Sciences Authority in Singapore carried out two information campaigns, one involving a video published on YouTube[43] and the other using the official website[44], regarding the dangers of buying medical products on line.

Switzerland

The Swiss authorities enclosed warning information leaflets into all inspected parcels which were not seized containing medical products purchased on the internet.

United Kingdom

In the UK, representatives of the Health Regulatory Agency were accompanied by a BBC crew on a raid carried out during the WoA, for law enforcement purposes, in order to present to the public the dangers of buying illicit medicines.

United States

US Food and Drug Administration issued warning letters to seven networks and to the registries and registrars associated with these networks that own and/or operate rogue online pharmacies

[42] https://www.zerogains.ie, accessed 11 February 2019.
[43] https://youtu.be/dmjl_bSqJgA, accessed 11 February 2019.
[44] www.healthdangers.sg, accessed 11 February 2019.

representing a total of 465 websites. It is worth reminding that the investigation started by the USA during Pangea V and finalized during Pangea XI, was initiated by sending warning letters to a network of websites selling illicit pharmaceuticals.

In addition, just before the WoA, the US Food and Drugs Administration testified in front of the US Senate regarding the use of internet[45] for selling illicit medicines and medical devices.

8.2 Media coverage

One of the primary objectives of Operation Pangea is to raise awareness of the dangers of counterfeit and illicit medicines sold online to the public. Indeed, tackling the issue of the supply of counterfeit and illicit medicines sold via the Internet will not be solved by enforcement action alone. It requires the public's attention and education regarding the dangers of purchasing medicines from unregulated and illegal online pharmacy websites. (For details, please see Appendix IV).

9. CLOSING POINTS

Pangea XI showed that the authorities have constantly adapted their actions to the "criminal market" and managed to cause serious disruption for the illicit medicines trade. In response, the criminals are taking complex measures for avoiding detection of LEAs, which makes Operation Pangea a very important tool in combating the threat of illicit medicines sold online especially because of its global reach.

Shutting down websites, initiation of investigations and subsequent arrests sent a strong message to criminals that agencies throughout the world are monitoring them closely and working toward protecting public health.

Operation Pangea XI confirmed some of the trends observed last year and took steps into enhancing the view on the illicit medicines phenomenon by looking at a wider time period. In addition, extracting intelligence from the information available this year, provided the LEA personnel involved with intelligence leads and more relevant data for analysis and legal measures at national level.

As in previous years, Pangea XI resulted in the further intensification of cooperation between intergovernmental agencies and INTERPOL, Europol and the WCO.

The 2018 edition of Pangea underlined once again the importance of the WoA and helped to enhance collaboration at the national level, namely between police, customs and DRAs. Moreover, the relations fostered among the participants will endure beyond the week-long operation, creating a solid international working group dedicated to countering the illicit sale of medicines and medical products online.

Finally, Operation Pangea XI was a success in terms of raising the public's awareness of this criminal phenomena. Once again, the media coverage following the operation helped to emphasize the threat to public health that is posed by illicit medicines sold online to millions of potential customers.

Considering all the above-mentioned information, Operation Pangea should be continued, enhanced and adapted to the realities of the crime phenomenon targeted.

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[45] https://www.drugcaucus.senate.gov/content/stopping-poison-pills-combatting-trafficking-illegal-fentanyl-china, accessed 11 February 2019.

APPENDIX I – SAMPLE LIST OF ILLICIT WEBSITES IDENTIFIED

Sample list of the illicit websites identified, as reported by the participating countries.

Reporting Country	Domain name
Argentina	cordobacapital.olx.com.ar/
Argentina	1-pharm.com
Argentina	ventadepastillascytotecargentina.com
Argentina	pastillascytotecargentinaventasseguras.com
Argentina	gyorplusz.hu/
Austria	membel.group/
Canada	onlinepharmaciescanada.com
Chile	misotrolsantiago.cl
Chile	cl.infoanuncios.com/
Chile	https:facebook.com/
Chile	vchilenaturista.cl/
Czech Republic	kamagra-eshop.cz/
Czech Republic	rxstore.ml/
Czech Republic	lekarnuonline.com/
Czech Republic	onlinedrugsnorx.com/
Czech Republic	nejlevnejsigenerika.net/
Denmark	rxonline.eu/
Denmark	købviagra.net
Denmark	europe-pharm.com
Denmark	apotekidanmark.com
Denmark	viagracialislevitrarx.com
Estonia	steroidid-eestis.bulking.space/
Estonia	roids4you.com/et/
Estonia	apteka-my.ru/
Estonia	kiisuke.com/
Estonia	kuldnebors.ee/80193441
France	solution-medstore.com/fr/
France	121doc.com/fr/
France	euroclinix.net/fr/
France	dokteronline.com/fr
France	solution-medstore.com/fr/
Ghana	Buy and Sell- WhatsApp market platform
Ghana	Your shop - WhatsApp market platform)
Greece	eu-meds.net
Greece	diaremediumellada.com/
Greece	myproperfeet.com
Greece	onycosolveellada.com/
Greece	joinnewlevelblog.com/
Iran	divar.com
Iran	divar.ir
Iran	sheypoor.com
Iran	tofo.me
Iran	pictasite.com

Ireland	canadian-pharmacy-24.com
Ireland	euro-pharm-24h.com
Ireland	1-pharm.com
Ireland	drug-24h.com
Ireland	365worldstorerxm.com
Japan	mercari.com/
Japan	maryjane420weed.com
Japan	page.auctions.yahoo.co.jp
Japan	andaluce.com
Japan	pets-drugstore.com
Latvia	stavus.org
Malaysia	okcantiq.blogspot.com/
Malaysia	gurukuat2u.com/
Malaysia	santaisantai.com/
Malaysia	aziebeautydahouse.blogspot.com/
Malaysia	pillgugurcytotec.blogspot.com/
Mexico	articulo.mercadolibre.com.mx
Mexico	bajarfacil.com/
Mexico	cosmos.com.mx/
Mexico	adelgazarmasrapido.com
Mexico	clinicaesteticasuarez.com/
Netherlands	deapothekers.com
Netherlands	anabolen-kopen.net
Netherlands	ritalinkopenonline.com
Netherlands	service-apotheek.com
Netherlands	deapothekers.com
New Zealand	schickersunichem.co.nz
New Zealand	viagrakiwi.com
New Zealand	medicineexpress.co.nz
New Zealand	viagra-online.co.nz
New Zealand	buy-steroids.co.nz
Norway	vitalhudklinikk.no
Russia	sportsteroidrus.net
Russia	baza1r.ru
Russia	pharmsport.top
Russia	lyricabezrezepta.skynell.biz
Russia	black24x7.onlinewebshop.net
Singapore	shopee.sg
Singapore	sg.carousell.com
Singapore	qoo10.sg/
Slovakia	kompava.sk/
Slovakia	biceps.sk/
Slovakia	sypacky.sk/
Slovakia	steroidabuse.org/
Slovakia	anabolicjim.com/
South Korea	ddo401.com/
South Korea	ogo110.com/

South Korea	siv301.com/
South Korea	soo666.com/
South Korea	xtx211.com/
Spain	sale-pharm.com
Spain	anabolic-pharma.org
Spain	esteroides24.com/
Spain	esteroides-espana.com/
Spain	sale-pharm.com
Switzerland	schweiz-liebe.com/
Switzerland	sildenafilschweiz.com/
Switzerland	onlineapothekeschweiz.com
Switzerland	apotheke-ch.com/
Switzerland	schweiz-ed.com/
UK	sleepingpilluk.com
UK	discounthealthproducts.com
UK	uksleeping-pills.com
UK	sibutril.com
UK	kamagratablets.com
USA	canadianpharmacyking.com
USA	canadadrugsonline.com
USA	canadapharmacyonline.com
USA	CanadaMedship.com
USA	CanadianPharmacyKing.com

APPENDIX II – NETWORKS OF WEBSITES SMAPLE LIST

This is just a sample list of several networks of websites, suspected of selling illicit medicines. This is shared as intelligence only and the information cannot be used in any judicial proceeding, unless verified and confirmed according to national legislation.

Network	Domain name
PharmaWeb Canada Network	canada2u.net
PharmaWeb Canada Network	1stcanadianpharmacy.net
PharmaWeb Canada Network	canadadrugprices.net
PharmaWeb Canada Network	order-cancer-drugs.net
PharmaWeb Canada Network	drugsforcancertreatment.net
PharmaWeb Canada Network	canada-border-pharmacy.com
PharmaWeb Canada Network	canada-discount-pharmacy.com
PharmaWeb Canada Network	canadian-drugstore-pharmacy.com
PharmaWeb Canada Network	canadian-mailorder-pharmacy.com
PharmaWeb Canada Network	buy-drugs-canada.com
PharmCash Network	generic4alglobal.com
PharmCash Network	generic-4all.com
PharmCash Network	generic4all.fr
PharmCash Network	generic4all.us
PharmCash Network	generic4allavis.net
PharmCash Network	generic4allbe.com
PharmCash Network	generic4alleurope.com
PharmCash Network	generic4allfrance.com
PharmCash Network	generic4allfrance.fr
PharmCash Network	generic4allgermany.com
RxProfits Network	rx1.store
RxProfits Network	rx-discounter.com
RxProfits Network	rx-discounters.com
RxProfits Network	rxdrugnetwork.com
RxProfits Network	rx-help.com
RxProfits Network	rxmedsnet.com
RxProfits Network	rxpharmacystore.com
RxProfits Network	rxdrugnetwork.com
RxProfits Network	america-rx.com
RxProfits Network	australianpills.com
TeraPharm Network	comprarenlinea.es
TeraPharm Network	farmacia-24h.it
TeraPharm Network	franceachat.fr
TeraPharm Network	healmepills.net
TeraPharm Network	my-medstore.pw
TeraPharm Network	salebuy.us.org
TeraPharm Network	tadacipcanada.com
TeraPharm Network	tadalafilnewzealand.com
TeraPharm Network	viagraprofessionalaustralia.com
TeraPharm Network	awc-of-berlin.de
Medstore.biz Network	singtothedawn.com

Medstore.biz Network	quality-rx.com
Medstore.biz Network	cheap-medications.biz
Medstore.biz Network	med-online.biz
Medstore.biz Network	pharmacyexpressonline.com
Medstore.biz Network	rxcarrier.com
Medstore.biz Network	med-suppliers.biz
Medstore.biz Network	medformula.com

APPENDIX III – LIST OF THERAPEUTIC CATEGORIES

Sub-Therapeutic Categories

ANTI-CANCER AGENTS
Anti-Cancer Agents Miscellaneous

ANTI-INFECTIVE AGENTS
Anti-bacterial/Antibiotic
Anti-fungal
Anti-malarial
Anti-parasitic
Antiseptic and germicide
Anti-tuberculosis
Anti-viral (e.g. HIV)
Vaccines
Anti-infective Agents Miscellaneous

BLOOD AGENTS
Blood Agents Miscellaneous

CARDIOVASCULAR AGENTS
Anti-hypertension
Beta blocking
Cardiac therapy
Cholesterol medication
Vasodilator
Cardiovascular Agents Miscellaneous

DERMATOGICAL AGENTS
Dermatological Agents Miscellaneous

EAR AND EYE AGENTS
Ophthalmological (eye)
Otological (ear)

GASTROINTESTINAL AGENTS
Antidiarrheal
Appetite stimulant
Digestive enzyme
Laxative
Gastrointestinal Agents Miscellaneous

HAIR LOSS AGENTS
Hair Loss Agents Miscellaneous

HEALTH SUPPLEMENTS
Herbal products
Minerals
Nutritional products
Vitamins
Health Supplements Miscellaneous

HORMONE AGENTS

Growth hormones
Sex hormones
Thyroid therapy
Hormone Agents Miscellaneous

IMMUNOLOGICAL AGENTS
Immunostimulant
Immunosuppressive
Immunological Agents Miscellaneous

MEDICAL DEVICES
Breathing apparatus
Catheter
Condoms
Contact lenses
Defibrillator
Dental equipment
Dressings
Implanted devices
Stethoscope
Surgical equipment
Syringes
Testing kits
X-ray devices

METABOLIC AGENTS
Anabolic steroid
Anorexiant (slimming medication)
Anti-diabetic
Metabolic Agents Miscellaneous

MUSCULO-SKELETAL AGENTS
Anti-gout
Anti-inflammatory/Anti-rheumatic
Bone disease medication
Muscle relaxant
Musculo-Skeletal Agents Miscellaneous
Analgesic (painkiller)

NERVOUS SYSTEM AGENTS
Anti-alzheimer
Anesthetic
Anti-convulsant/Anti-epileptic
Anti-parkinson
Hypnotic and sedative
Nervous System Agents Miscellaneous
Analgesics

PSYCHOTHERAPEUTIC AGENTS
Anti-depressant
Anti-psychotic
Drugs to treat addiction
Psychotherapeutic Agents Miscellaneous

UROGENITAL AGENTS

Contraceptive
Diuretic
Erectile dysfunction
Renal medicine (kidneys)
Urogenital Agents Miscellaneous

RESPIRATORY SYSTEM AGENTS
Anti-asthmatic
Anti-histamine/Anti-allergy
Anti-smoking
Cough and cold medication
Decongestants
Throat medication
Respiratory System Agents Miscellaneous

UNKNOWN AGENTS
Unknown Agents Miscellaneous

VETERINARY AGENTS
Veterinary Agents Miscellaneous

APPENDIX IV – GLOBAL PRESS RELEASE

Achieving broad media coverage of Operation Pangea is an unquestionably vital aspect in the success of the Operation. Therefore, the participating countries involved in Operation Pangea XI were encouraged to publish their own media releases, simultaneously with that of INTERPOL, WCO, Europol and other partners to the Operation on 23 October 2018. The text of the press release is listed below.



The Official Press Release - Extract from INTERPOL's website

"SINGAPORE – Fake cancer medication. Counterfeit pain pills. Illicit medical syringes. These are just some of the potentially life-threatening medicines and goods seized during INTERPOL's Operation Pangea XI.

Police, customs and health regulatory authorities from 116 countries targeted the illicit online sale of medicines and medical products, resulting in 859 arrests worldwide and the seizure of USD 14 million worth of potentially dangerous pharmaceuticals.

Focusing on delivery services manipulated by organized criminal networks, the operation saw 3,671 web links closed down, including websites, social media pages, and online marketplaces.

Almost one million packages were inspected during the week of action (9 – 16 October), with 500 tonnes of illicit pharmaceuticals seized worldwide.

These included anti-inflammatory medication, painkillers, erectile dysfunction pills, hypnotic and sedative agents, anabolic steroids, slimming pills and medicines for treating HIV, Parkinson's and diabetes. More than 110,000 medical devices including syringes, contact lenses, hearing aids and surgical instruments were also seized.

Criminal networks disrupted

While more packages were seized this year than in previous Pangea operations, the number of medicines seized was lower. INTERPOL Secretary General Jürgen Stock said this is a sign that the operations are achieving their goals.

“The actions of the police, customs, and health regulatory agencies working together have forced the criminals operating illicit online pharmacies to change their modus operandi.

“Criminals are now shipping packages containing smaller numbers of pills and tablets to try and avoid the more stringent checks which have become routine in many countries as a result of the Pangea operations. However, this year’s results again show the successes achieved globally in stopping potentially lethal products from reaching unsuspecting customers,” said Mr Stock.

Authorities in Poland discovered counterfeit contraceptive pills hidden inside DVD packages, while in Ireland, illicit sleeping pills were found concealed inside a hollowed-out book.

Criminals also attempted to evade detection by falsely labelling shipments as genuine items. For example, more than 4 million unmarked ibuprofen pills were seized in Argentina after they were declared as sample items, and the UK recovered some 150,000 powerful sleeping pills in shipments labelled as clothing, bedding and food.

International collaboration

Counterfeit medical devices confiscated during the operation included 737 expired cardiac surgery instruments smuggled into the Former Yugoslav Republic of Macedonia.

“The public must have confidence that the medicines they are taking are both safe and effective. The criminals involved in selling counterfeit medicines must be identified and brought to justice in order to keep our citizens safe. We are proud to be a part of Operation Pangea XI which has made this a reality,” said Gjoko Tanasoski, Director General of the Customs Administration of the Former Yugoslav Republic of Macedonia.

INTERPOL coordinated the operation with support from the World Customs Organization (WCO), the Permanent Forum of International Pharmaceutical Crime (PFIPC), the Heads of Medicines Agencies Working Group of Enforcement Officers (WGEO), Europol, the Pharmaceutical Security Institute (PSI), as well as Twitter, Facebook and payment card companies.

“The Internet has become a major source of unsafe medicines, and international collaboration is critical to protecting the public from these dangers. Customers, sellers, and payment providers are often located in different corners of the world, highlighting the importance of global cooperation to tackle a criminal activity that has no respect for borders,” said Derek Fitzgerald, Manager of the Compliance Branch of Medsafe, the New Zealand Medicines and Medical Devices Safety Authority.

The operation also raised public awareness of the potential dangers associated with buying pharmaceuticals online through videos, brochures, exhibition and talks at hospitals and schools.”

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ABOUT INTERPOL

INTERPOL is the world's largest international police organization. Our role is to assist law enforcement agencies in our 194 member countries to combat all forms of transnational crime. We work to help police across the world meet the growing challenges of crime in the 21st century by providing a high-tech infrastructure of technical and operational support. Our services include targeted training, expert investigative support, specialized databases and secure police communications channels.

OUR VISION: "CONNECTING POLICE FOR A SAFER WORLD"

Our vision is that of a world where each and every law enforcement professional will be able through INTERPOL to securely communicate, share and access vital police information whenever and wherever needed, ensuring the safety of the world's citizens. We constantly provide and promote innovative and cutting-edge solutions to global challenges in policing and security.

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