

# The Chinese Internet Pharmacy Market Threat Assessment

August 2019

## Executive Summary

The retail sale of pharmaceutical products has been growing rapidly in China. In 2017, the retail market of the pharmaceutical products was over 50 billion USD.<sup>1</sup> The yearly growth in the past five years has been above eight percent. As the legitimate pharmaceutical market continues to grow, an underground market of unapproved, substandard, and falsified medicines is keeping pace.

This report examines the overall landscape of the illicit Chinese internet pharmacy industry by analyzing 3,139 top online search results generated from 36 search terms entered into three Chinese search engines. The insights gathered from this data show that government monitoring has been effective in limiting the number of illicit online sellers of pharmaceuticals, and shows opportunities for further regulation and enforcement of policies. It also highlights the risks faced by consumers in China who turn to the internet, seeking to find inexpensive or experimental treatments for cancer and other maladies.

Through the research, LegitScript and ASOP Global found that about half of all Chinese online pharmaceutical sellers are illicit. This number is much lower than what LegitScript observes globally. (In the global internet space, about 96 percent of internet pharmacy websites are operating illegally.) Though the number of illicit sellers is lower than the global average, Chinese patients are exposed to the same dangers as consumers in other countries.

Buying pharmaceuticals online illegally can expose patients to tremendous risk. Seeking treatments that are unavailable or considered expensive in China, patients gather in forums and on social networks to discuss unapproved medical treatments and sources of cheaper, generic medications.<sup>2</sup> Patients can buy prescription medications without a prescription, and the businesses illegally selling these medications online operate without regulatory oversight and pharmacy licenses. Patients could unwittingly buy falsified products, which may contain incorrect amounts of the active pharmaceutical ingredient, no active ingredient or the wrong active ingredient.

LegitScript also researched the role of industries that enable the online sale of medicines: domain name registrars, social networks, e-commerce platforms, online advertisers, and e-payment processors. Perhaps the most significant industry in this trade is social media. The study found that many illegal online pharmaceutical sellers utilize social media and e-commerce platforms to promote themselves and process transactions. The smartphone app WeChat was the preferred method of communication for two-thirds of all illicit pharmaceutical sellers in our dataset.

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<sup>1</sup> <http://images.mofcom.gov.cn/sczxs/201806/20180622090409090.pdf>

<sup>2</sup> [http://www.bjnews.com.cn/inside/2018/08/20/500180\\_2.html](http://www.bjnews.com.cn/inside/2018/08/20/500180_2.html)

The Chinese government has made strides to make legitimate medicines more accessible to patients, having expedited new medicine approvals, reduced import tariffs on anti-cancer medications, and included a larger number of medicines in health insurance coverage. The Chinese government and private sector have also done tremendous work to curb illicit online medicine sales. But these efforts also face challenges. For example, LegitScript predicts that the trend of illicit online drug sales over smartphone-based apps will continue. Enforcement efforts must evolve to respond to the illegal market's utilization of technology and social media.

The National Medical Products Administration (NMPA) is leading the construction of a robust system to monitor online pharmaceutical sales through websites and e-commerce platforms. The monitoring system's scope will expand to social media platforms and apps in the future. To make the process more efficient, data matching across different platforms will help build a complete profile of the online pharmaceutical sellers' operation to make illicit practices more easily identifiable.

While these efforts are admirable, it is also important to continue to raise public awareness of the risks of buying prescription medication from illicit online sellers. Many victims suffer from life-threatening diseases, and illicit medicines might well contribute to the worsening of their conditions.

The following report analyzes the threat of the Chinese rogue internet pharmacy market in 2019. The Alliance for Safe Online Pharmacies (ASOP) Global contracted with LegitScript to prepare this study as part of the ASOP Global China Initiative. ASOP Global's China initiative activities have included a 2015 report on the Chinese rogue internet pharmacy market, an October 2017 symposium in Beijing on combatting illegal online pharmaceutical sales, and a December 2018 delegation trip to Beijing. ASOP Global also met with China Food and Drug Administration, now China National Medical Products Administration (NMPA), during previous trips to Beijing. ASOP Global will coordinate with NMPA regarding the findings of this report.

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## I. Definitions and Terminology

### 1.1 The Term “Internet Pharmacy”

The term “internet pharmacy” in this report describes a website that has an interactive feature that facilitates, or has content that reasonably appears to intend to facilitate, the sale of prescription medicines in China. Websites that sell only over-the-counter (OTC) medicines online are classified as OTC pharmacies in this report, distinct from internet pharmacies.

The prescription medicines we analyze in this report include those that are registered in China, as well as generic or foreign versions that are approved in other jurisdictions. When those generic versions are shipped to a country where that product is not approved, it is considered an unlicensed/unregistered drug by the World Health Organization.<sup>3</sup> However, strictly speaking, in the Chinese market these generic products are considered “counterfeit drugs” because they are not properly registered in or imported to China.<sup>4</sup> Although all counterfeit drugs pose risks to patients, in this report we focus on life-saving prescription medicines and controlled substances, which pose a higher risk to patients when obtained outside of regulatory controls. People seeking out these products use them for various reasons: some to treat life-threatening diseases, others for illegal, recreational purposes.

Because of these elevated risks, websites are classified as “internet pharmacy” as long as the website facilitates the sale of medicines containing prescription-only active pharmaceutical ingredients or controlled substances, regardless of whether the substances are approved in China.

Of note, many websites we analyzed initially appear to be only informational in nature; having no interactive features to place orders or no prices displayed for the products. Nonetheless, these websites market themselves as agents to “purchase on your behalf.” For example, the websites display contact information enabling patients to place orders. Some list accepted payment methods or discuss the shipping methods available. Based on these factors, we consider these websites to facilitate the sale of prescription medicines and therefore meet our definition of an “internet pharmacy.”

Although this report focuses on internet pharmacy websites, LegitScript observes that Chinese internet pharmacies often operate simultaneously on multiple platforms, such as WeChat or Taobao. Transactions do not usually happen through the websites themselves, which are used more as a tool for promotion. Thus, analyzing websites and

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<sup>3</sup> <https://www.who.int/medicines/regulation/ssffc/definitions/en/>

<sup>4</sup> Article 48, Drug Administration Law, [http://www.npc.gov.cn/englishnpc/Law/2007-12/13/content\\_1383969.htm](http://www.npc.gov.cn/englishnpc/Law/2007-12/13/content_1383969.htm)

associated social media profiles across platforms helps reveal the complete picture of illicit operations.

FIG 1: EXAMPLE OF AN INTERNET PHARMACY THAT HAS NO PURCHASING MECHANISM BUT INSTEAD DISPLAYS CONTACT INFORMATION FOR CUSTOMERS TO PLACE AN ORDER.



## 1.2 The Term “Illicit”

LegitScript considers an internet pharmacy website to be illicit when it is intentionally or knowingly violating, or operating out of compliance with, applicable laws and regulations.

More specifically, for this study, we classified websites as illicit when one or more of the following criteria proved true: (1) the website is selling prescription medication or controlled substances without properly requiring a prescription; (2) the website is not a licensed pharmacy in China; or (3) the website is selling unapproved prescription medicines in China.

In general, prescription medicines are not allowed to be sold online in China. The government has repeatedly warned against buying prescription medicine online from abroad.<sup>5</sup> Medicines must be registered with the NMPA to be sold in China, and the importation of medicine is strictly regulated by the Chinese government. Individuals can

<sup>5</sup> <http://jianshang.cntv.cn/2014/03/13/ARTI1394676117235996.shtml>

bring small amounts of prescription medication into the country for personal use, but this typically refers to individuals personally carrying the medicine through customs.<sup>6</sup>

Additionally, multiple indictments have been issued against people who sell unapproved prescription drugs online.<sup>7</sup> See Section 2.4 for more details on how LegitScript designates websites as illicit based on violations of Chinese laws and regulations.

### 1.3 The Terms “Falsified,” “Substandard,” and “Unregistered/Unlicensed”<sup>8</sup>

- **Falsified:** Medical products that operators deliberately/fraudulently misrepresent in regard to identity, composition, or source.
- **Substandard:** Also called “out of specification,” these are authorized medical products that fail to meet quality standards, specifications, or both.
- **Unregistered/unlicensed:** Medical products that have not undergone evaluation and/or approval by the National or Regional Regulatory Authority (NRRRA) for the markets in which they are marketed/distributed or used, subject to permitted conditions under national or regional regulation and legislation.

## II. Methodology

This section describes LegitScript’s process in gathering data for evaluating the Chinese internet pharmacy market and how we classify websites by type and legitimacy in order to understand the risks presented.

Instead of trying to determine the total number of illicit drug sellers operating in the Chinese internet space, we focused on those that appear at the top of organic search engines results. These websites present a higher risk because Chinese patients are more likely to find them.

### 2.1 Technical Approach

In our data gathering, we endeavored to imitate what typical Chinese internet users would do when they go online to search for prescription medicine. LegitScript ran queries for 36 search terms or “keywords” on [baidu.com](http://www.baidu.com) (below as Baidu), [google.com.hk](http://www.google.com.hk) (below as Google), and [so.com](http://www.so.com) (below as 360 Search) in August 2018. We selected these three search engines because they represent the common search engines that Chinese customers use. To generate the same search results a Chinese

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<sup>6</sup> Article 39, Measures for the Import of Drugs.

<http://www.mofcom.gov.cn/article/b/f/200310/20031000134798.shtml>

<sup>7</sup> [http://www.legaldaily.com.cn/index/content/2018-08/31/content\\_7634759.htm?node=20908](http://www.legaldaily.com.cn/index/content/2018-08/31/content_7634759.htm?node=20908)

<sup>8</sup> <https://www.who.int/medicines/regulation/ssffc/definitions/en/>

customer would see, we used proxies based in mainland China and Hong Kong. We collected the data from the first three pages of organic and sponsored search results produced by each keyword. We then analyzed and classified the data to evaluate the products sold and the websites' overall legitimacy.

## 2.2 Keywords

In coordination with ASOP Global, we selected a combination of keywords related to controlled substances, common disease names, and popular life-saving drugs. Please see the keywords listed below.

Chinese Search	English Translation	Chinese Search	English Translation
买三唑仑	Buy triazolam	印度药代购	Buy Indian drugs
买 GHB 水	Buy GHB	抗癌药代购	Buy anti-cancer drugs
买芬太尼	Buy fentanyl	靶向药代购	Buy targeted drugs
买莫达非尼	Buy modafinil	代购丙肝药	Buy hepatitis C drugs
买阿普唑仑	Buy alprazolam	代购心血管药	Buy cardiovascular drugs
买地西泮	Buy diazepam	代购糖尿病药	Buy diabetes drugs
买力月西	Buy midazolam	代购艾滋病药物	Buy HIV drugs
强效安眠药	Strong sleeping pills	降压药代购	Buy blood pressure-lowering drugs
买春药	Buy aphrodisiac	乙肝药代购	Buy hepatitis B drugs
听话水	Obedient water	降胆固醇药代购	Buy cholesterol-lowering drugs
代购 Baraclude	Buy Baraclude	代购罗氏芬	Buy Rocephin
代购易瑞沙	Buy Iressa	代购立普妥	Buy Lipitor
代购 NovoPen	Buy NovoPen	代购 吉三代	Offering Purchase, EPCLUSA
代购 Crestor	Buy Crestor	印度代购 替诺福韦二代	Offering Purchase from India, TAF
代购 Tagrisso	Buy Tagrisso	Adcetris 香港	Adcetris HongKong
代购 Plavix	Buy Plavix	布伦塔克注射剂	Brentuximab injection
代购络活喜健压乐	Buy Norvasc	Entyvio 维多珠单抗	Entyvio vedolizumab
代购美罗华	Buy MabThera	买 Vedolizumab	Buy vedolizumab

## 2.3 Classifying the Results by Website Type

Below are definitions of the website types that we refer to in this report.

- Internet pharmacy: a website that has an interactive feature that facilitates, or has content that reasonably appears to intend to facilitate, the sale of drugs that contain prescription-only ingredients or controlled substances in China.

- OTC pharmacy: a website that sells OTC products online. OTC drugs are medicines allowed to be sold without a prescription. In China, licensed pharmacies are allowed to sell OTC medicine online.
- Third-party: a website whose primary purpose is to serve as a platform for third-party content (e.g., blog websites, e-commerce platforms).
- Hijacked: a website whose primary purpose is not to serve as a platform for third-party content but upon which marketing content for an internet pharmacy reasonably appears to have been injected or uploaded without consent and contrary to what reasonably appears to be the domain name registrant's intended purpose.

## 2.4 Classifying Results by Legitimacy

Below are definitions of the legitimacy types that we refer to in this report.

- Illicit: LegitScript classifies a website as illicit when it is selling or facilitating the sale of prescription medicine or controlled substances in a way that fails to comply with laws and regulations in China. Examples of illicit behavior include: (1) dispensing prescription medicine or controlled substances without properly requiring a valid prescription based on a prior in-person exam; and/or (2) dispensing prescription medicine without proper pharmacy licensure, as required in the patient's jurisdiction.
- Inapplicable/unverified: these websites are generally not problematic, based on our analysis. Inapplicable websites are mostly informational in nature and show no apparent intention to facilitate the sale of drugs. Unverified websites are licensed pharmacies selling OTC medicine online in China and comply with Chinese regulations.

## III. Applying Chinese Laws and Regulations

Below are some of the key laws and regulations that apply to the sale of prescription drugs online in China.

- Online sales restriction. It is illegal to sell prescription medicine online in China. According to Article 21, Interim Provisions on the Examination and Approval of Internet Drug Trading Services, companies offering internet drug transactions to individuals can only sell OTC drugs.<sup>9</sup>
- Prescription requirement. Within China, prescription medicine must be dispensed, purchased, and used with a prescription issued by a licensed doctor or a physician

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<sup>9</sup> <http://samr.cfda.gov.cn/WS01/CL0060/9432.html>



assistant (Article 2, Prescription and Non-prescription Medicine Administrative Provision).<sup>10</sup>

- Pharmacy licensure requirement. Entities that dispense medicines in China must be licensed with a Drug Supply Certificate approved by the local drug agency (Article 14, Drug Administration Law).<sup>11</sup>
- Medicine registration requirement. Medicines sold in China must be registered in China (Article 31, Drug Administration Law). Unapproved medicines are considered falsified drugs in China. Registered domestic and imported medicines can be verified in the NMPA database.
- Importation requirement. Drug importation is strictly regulated in China. The importation of medicines must be approved by the related administrative department under the State Council, and an import certificate is issued upon approval (Article 5, Measures for the Import of Drugs).<sup>12</sup> Individuals are permitted to import a small amount of medicines for personal use, but that usually refers to personally carrying the medicines across the border (Article 39, Measures for the Import of Drugs).
- Controlled substances. Within China, controlled substances are regulated as psychotropic drugs and narcotic drugs. Narcotic drugs and category I psychotropic drugs are not allowed to be sold in retail. Category II psychotropic drugs can be sold in retail with a prescription.<sup>13</sup>
- Telemedicine/internet hospital. Licensed medical institutions are allowed to conduct online examinations in China. Accordingly, an internet hospital must partner with a licensed medical institute. The doctors and nurse practitioners must be licensed in China. Online diagnoses can be made for recurring patients. However, first-time diagnoses are not allowed to be conducted online. In general, doctors are allowed to prescribe medication for common diseases and chronic diseases. Controlled substances are not permitted to be prescribed online (Regulation for Internet Diagnose and Regulation for Internet Hospitals).<sup>14</sup>

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<sup>10</sup> <http://samr.cfda.gov.cn/WS01/CL1031/24524.html>

<sup>11</sup> [http://www.npc.gov.cn/englishnpc/Law/2007-12/13/content\\_1383969.htm](http://www.npc.gov.cn/englishnpc/Law/2007-12/13/content_1383969.htm)

<sup>12</sup> <http://www.mofcom.gov.cn/article/b/f/200310/20031000134798.shtml>

<sup>13</sup> [http://www.gov.cn/gongbao/content/2016/content\\_5139413.htm](http://www.gov.cn/gongbao/content/2016/content_5139413.htm)

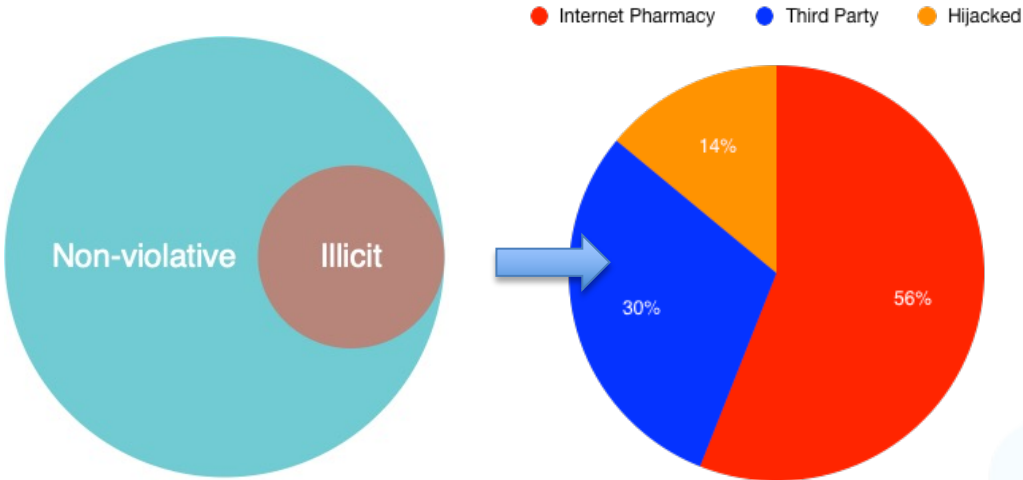
<sup>14</sup> [http://www.cac.gov.cn/2018-09/14/c\\_1123431844.htm](http://www.cac.gov.cn/2018-09/14/c_1123431844.htm)

## IV. Findings

### 4.1 Data Breakdown

After LegitScript classified the websites based on the criteria detailed in Sections 2.3 and 2.4, the data was further divided into illicit and non-violative categories. To summarize, 17 percent of the search results yielded illicit websites facilitating the sale of prescription medicine or controlled substances. Of the illicit results, 56 percent were internet pharmacy websites dedicated to illicit online drug sales.

**CHART:** RATIO OF ILLICIT/NON-VIOLATIVE RESULTS AMONG ALL SEARCH RESULTS; 56 PERCENT OF THE ILLICIT RESULTS WERE INTERNET PHARMACY WEBSITES.



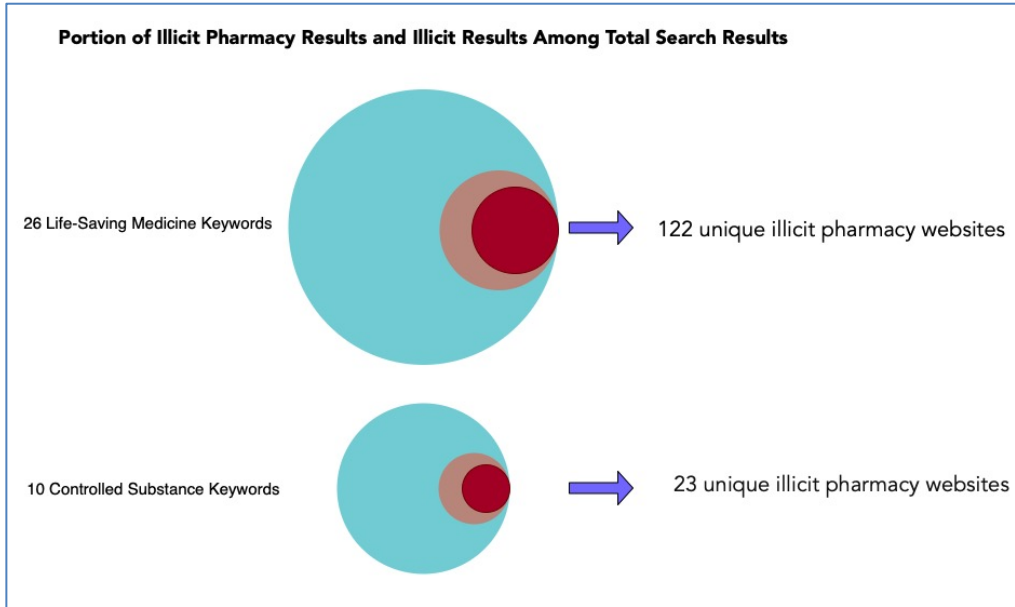
If we include lawfully operating online OTC pharmacies in the total number of active online drug sellers, one in two sellers in the Chinese search space are illicit. This is significantly better than the global trend. Only 3 percent to 4 percent of internet pharmacy websites operate legally on a global level.

When examining the results based on the two broad categories of searches — life-saving medicines and controlled substances — we find that the illicit websites that directly sell, or facilitate the sale of, products in one category generally do not sell products in the other category. In other words, websites selling life-saving medicines typically do not also sell controlled substances, and vice versa.

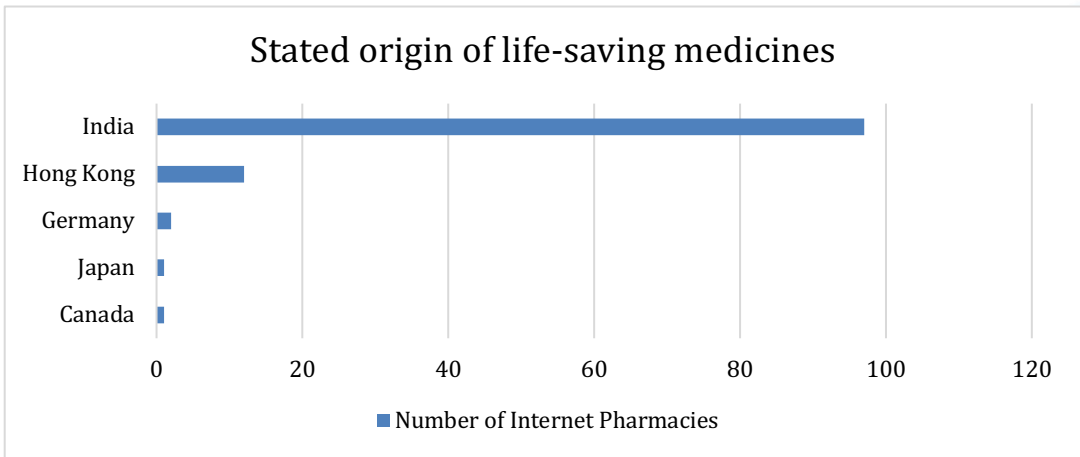
When further breaking down the results by search categories, the search terms for life-saving medicines generate more than twice as many illicit results as the controlled substances category.

The 26 searches for life-saving medicines returned a total of 2,261 results. Of those, 398 (18%) were illicit results. 233 (59%) of the illicit results were for illicit internet pharmacies, representing 122 unique illicit pharmacy domains. The 10 searches for controlled

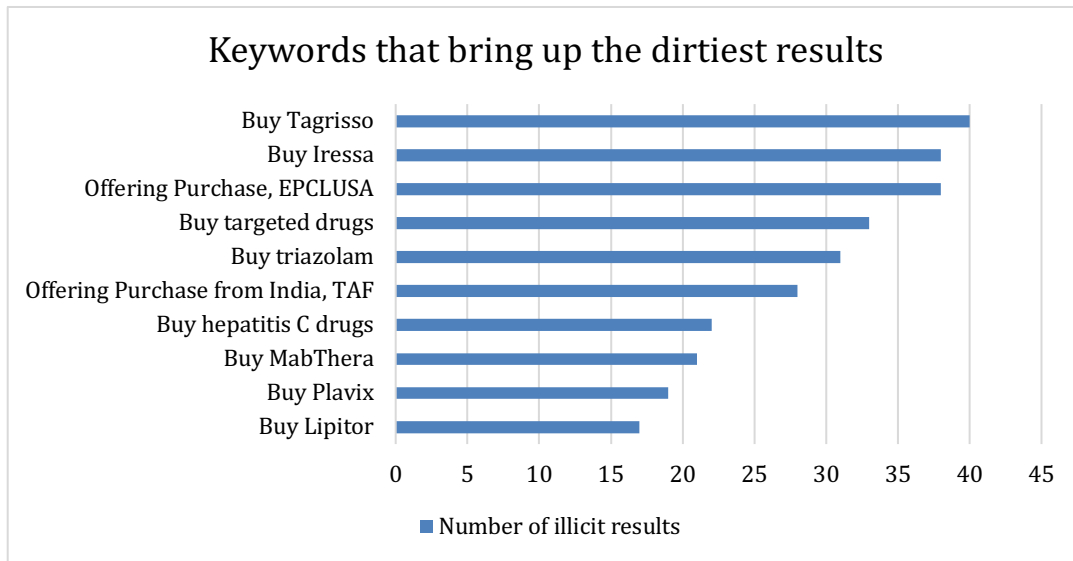
substances returned a total of 877 results. Of those, 128 (15%) were illicit results. 59 (46%) of the illicit results were for illicit internet pharmacies, representing 23 unique illicit pharmacy domains.



Among the internet pharmacies selling life-saving medicines, most claim to source the medicines from India:



The keyword that brought up the highest number of illicit search results was “Buy Tagrisso”:



## 4.2 Nature of Legal/Drug Safety Problems

Among the internet pharmacy websites LegitScript analyzed for this report, we identified three major safety risks: (1) websites selling controlled substances and prescription medicine without properly requiring a prescription; (2) websites selling unapproved versions of the prescription medicine; and (3) websites that are not licensed pharmacies in China or that claim to source product from a licensed pharmacy outside of China.

### 4.2.1 Selling controlled substances and prescription medicine without properly requiring a prescription

The majority of pharmacy websites in the search results were not properly requiring a prescription. None of the websites selling controlled substances required a prescription. Below are examples of Chinese internet pharmacies and descriptions of how patients place orders on them.

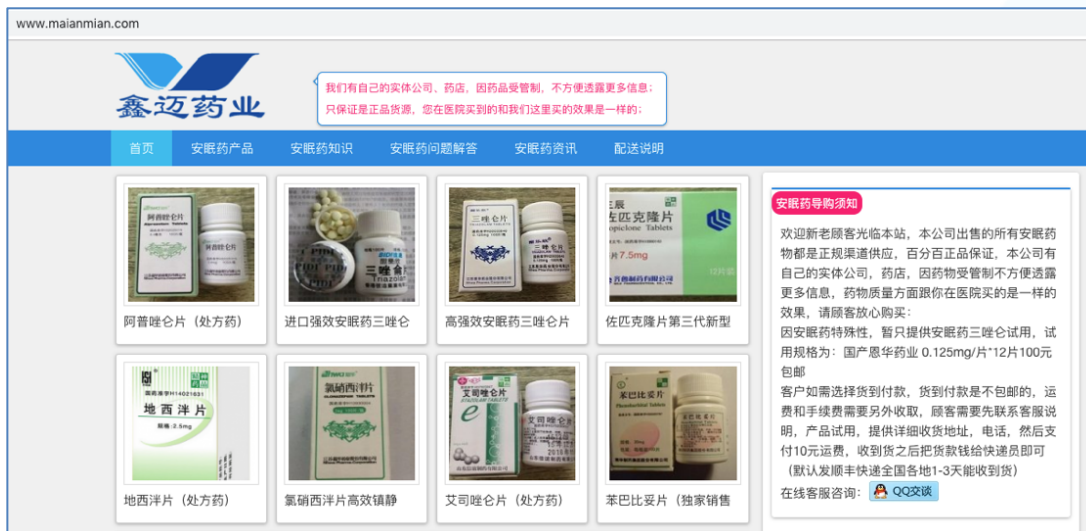
Many websites selling controlled substances are similar to the website depicted below, [88lyx.com](http://88lyx.com). This website sells controlled substances such as midazolam. Although the website appears to be almost entirely informational, it is marketed as a “midazolam wholesaler and internet store,” with contact information such as a WeChat ID and a mobile phone number. It does not mention that midazolam is a controlled substance, nor does it mention a prescription requirement.

FIG 2: AN INTERNET PHARMACY WEBSITE SELLING CONTROLLED SUBSTANCES



Another website, [maianmian.com](http://maianmian.com), states that the products it sells are controlled and that because of this the operators cannot disclose too much information. The website claims to be affiliated with a pharmacy, but it does not mention a prescription requirement. Customers can contact customer service to place an order.

FIG 3: MAIANMIAN.COM STATES THAT THE PRODUCTS IT SELLS ARE CONTROLLED SUBSTANCES.



Another typical Chinese internet pharmacy is [aruima.com](http://aruima.com). It is dedicated to selling prescription medication used to treat hepatitis C. It markets itself as an agent offering to purchase medicine from India on the behalf of Chinese customers. It claims to partner with Natco, a pharmaceutical company in India. It appears to deliver medicine

from India directly to patients in China and allows payment upon delivery. Similarly, the website does not mention a prescription requirement.

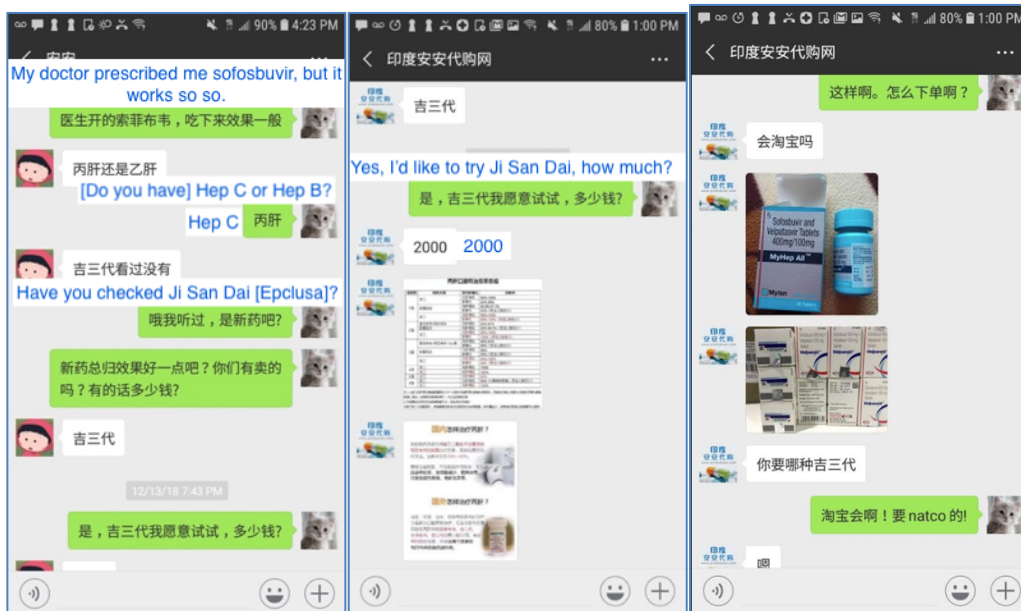
When LegitScript contacted operators via an undercover WeChat account, we were offered a generic version of the drug Epclusa from India. The operator told us they require patients to submit a diagnosis when placing the order, and payment is made via AliPay.

FIG 4: [ARUIMA.COM](http://www.aruima.com) SELLS GENERIC VERSIONS OF EPCLUSA



Another seller, Yindu AnAn, was willing to sell a generic version of Epclusa without requiring a prescription. The seller recommended using a generic version of Epclusa and shared a diagram to show the effectiveness of different combinations of the treatment for different types of hepatitis C. He did not specify that a prescription was required for the purchase. The payment could be made via AliPay.

FIG 5: ORDERING GENERIC VERSIONS OF EPCLUSA OVER WECHAT, A POPULAR MESSAGING APP IN CHINA



As illustrated by the above examples, Chinese internet pharmacy websites usually do not have online checkout mechanisms. The ordering typically happens over the phone. A prescription is usually not required to order the medicine.

#### 4.2.2 Selling unapproved versions of the prescription medicine

Almost all the medicines sold by the illicit internet pharmacies in the search results for this study are considered falsified medicines in China because the products are not approved by the NMPA. The medicines are sourced directly from India or other countries/regions. The fact that the medicines are unapproved is easily determined by images of the packaging: unapproved medicines do not carry Chinese registration numbers on the packaging and often have labels in languages other than Chinese.

Governments around the world implement rigorous regulations around medicine and its supply chain to ensure the quality of product. When medicines are sold outside of a regulated supply chain, the conditions of distribution cannot be guaranteed. Even properly manufactured medicines can degrade.<sup>15</sup> The World Health Organization (WHO) has repeatedly warned against substandard medicines, which can result from poor quality control during manufacturing or poor conditions during shipping.<sup>16</sup>

Many medicines sold by Chinese internet pharmacies are life-saving medicines that require a temperature-controlled environment from the minute the product leaves the

<sup>15</sup> <https://bpspubs.onlinelibrary.wiley.com/doi/pdf/10.1111/bcp.12298>

<sup>16</sup> <https://www.who.int/news-room/detail/28-11-2017-1-in-10-medical-products-in-developing-countries-is-substandard-or-falsified>

manufacturing facility until it is consumed by the patient. Medicines exposed to excessive heat or humidity might be less effective or even toxic.

Online drug sellers often argue that their products are genuine generic versions approved in India and thus are as effective as the brand versions sold by legitimate pharmacies in China. While the medicine may be sourced from a legitimate manufacturer, the bigger concern is that the medicines are supplied in a way that lacks proper government oversight.

Additionally, there is a high risk that medicines sold online are falsified products that are of lower quality. In multiple cases, medicines sold online were found to have decreased active pharmaceutical ingredients.<sup>17</sup> It was also reported that some Chinese citizens were found smuggling counterfeit medicines made in China into India and selling the medicines to Chinese patients as “Indian generic drugs.”<sup>18</sup>

#### 4.2.3 Selling via pharmacies that are not properly licensed in China

Many of the websites in our dataset do not appear to be operated by licensed pharmacies in China or in India. Indeed, some website operators are clear about it: marketing themselves as agents who buy medicine on behalf of patients, but are not medical professionals. Some websites operators claim to buy from licensed pharmacies in India or other countries, while others claim to source product from a licensed drug supplier. It would be difficult for patients to verify these claims.

In the data LegitScript collected, a few websites were affiliated with licensed drug wholesalers in Hong Kong. These websites did not have interactive features to enable online purchases, but provided WeChat contacts or mainland phone numbers so that mainland patients could inquire via phone.

While wholesalers in Hong Kong are allowed to sell to pharmacies, they are not permitted to sell to patients in mainland China directly. Some patients might think purchasing from a licensed wholesaler would be lower risk; however, according to LegitScript data, when internet pharmacy operators are willing to sell medications in a way that violates laws, the risk is higher that they are supplying the medicines in an insecure way. One illustrative example is the CanadaDrugs internet pharmacy network. This network was affiliated with a licensed pharmacy in Winnipeg, Canada, but marketed Canadian medicine at a lower cost to patients in the US, where drug prices are higher. In reality, the so-called Canadian medicines were sourced from suppliers all over the world. In April 2018, a US judge fined the network \$34 million USD for

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<sup>17</sup> [http://www.xinhuanet.com/fortune/2018-01/18/c\\_1122277577.htm](http://www.xinhuanet.com/fortune/2018-01/18/c_1122277577.htm)

<sup>18</sup> <http://www.chinanews.com/sh/2018/12-26/8713237.shtml>



“importing counterfeit cancer drugs and other unapproved pharmaceuticals into the United States.”<sup>19</sup>

LegitScript found that [1111hk.com](http://1111hk.com), which automatically redirected to [3333hk.com](http://3333hk.com) at the time of this report, is a licensed drug wholesaler in Hong Kong. However, it is selling generic prescription medicines from India, such as Sorafenib, which is not an approved drug in Hong Kong. All medicines sold in Hong Kong must be registered in Hong Kong; therefore, a licensed drug wholesaler in Hong Kong selling an unapproved drug from India is suspicious.

FIG 6: [3333HK.COM](http://3333hk.com) CLAIMS TO BE A LICENSED DRUG WHOLESALER IN HONG KONG BUT SELLS GENERIC PRESCRIPTION MEDICINES FROM INDIA THAT ARE NOT APPROVED IN HONG KONG.



FIG 7: THE LICENSES DISPLAYED ON [3333HK.COM](http://3333hk.com)



<sup>19</sup> [https://billingsgazette.com/news/state-and-regional/canadian-pharmacy-to-be-fined-millions-for-importing-counterfeit-cancer/article\\_62d30f12-8343-5d6b-98f0-57ed4e46319b.html](https://billingsgazette.com/news/state-and-regional/canadian-pharmacy-to-be-fined-millions-for-importing-counterfeit-cancer/article_62d30f12-8343-5d6b-98f0-57ed4e46319b.html)

Buying medicine online from a seller that is operating unlawfully increases the risks of receiving falsified medicine even when the seller claims to be a licensed pharmacy.

### 4.3 The role of third-party platforms in the ecosystem of online drug sales

As described above, Chinese internet pharmacy websites often serve as promotional tools, and transactions usually do not take place on the websites themselves. The drug sellers typically use search engines, social media, and forums to lure patients. The orders can then be placed over WeChat, and payment may happen online or offline. In this section, we evaluate the role third-party platforms play in the ecosystem of online drug sales. We focus on four popular platforms used by Chinese patients: Weibo, Baidu Tieba, WeChat, and Taobao.<sup>20</sup>

According to a PricewaterhouseCoopers report, 70 percent of Chinese consumers use social networks as a source of inspiration for purchases.<sup>21</sup> On social media, internet users can discover new products, validate a product's quality through reviews, and even purchase directly through a social channel.

The use of third-party platforms is particularly relevant for illicit online drug sales. Online prescription drug sales occur in an exclusively underground market. There is no authoritative source to validate products or sellers. Patients rely heavily on word-of-mouth reputations and reviews to find ostensibly reliable sources. The discreet and direct engagement provided by social media platforms also benefits drug sellers.

Additionally, although the NMPA has recently accelerated the approval of new drug applications, there is a gap between a new drug being sold abroad and becoming approved in China. Before new medicines are approved, some Chinese patients have already learned of new treatments available on the internet. Because the medicines are not yet approved in China, doctors cannot generally prescribe them. Thus, the internet is where patients can learn about and discuss the newest treatments. For example, long before Tagrisso was approved in China, it was already well known among Chinese patients, who exchanged information online about where to buy the drug and its effects. Note that posts regarding how to buy the drug can be seen from search results (as depicted in the screenshot below), but the posts are no longer accessible at the time of this writing.

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<sup>20</sup> <https://www.abacusnews.com/china-internet-report/>

<sup>21</sup> <https://www.pwccn.com/en/retail-and-consumer/publications/total-retail-2017-china/total-retail-survey-2017-china-cut.pdf>

FIG 8: DISCUSSION DATING BACK TO 2015 ON BAIDU TIEBA REGARDING TO HOW TO BUY AZD9291, A POPULAR ALTERNATIVE NAME FOR TAGRISSO. THE DRUG WAS NOT AVAILABLE IN CHINA AT THE TIME.



All major social media and third-party platforms have implemented rigorous monitoring systems to eliminate illicit online drug sales, but because these platforms have such high visibility to patients, they are ideal marketing tools for drug sellers. These platforms are used to (1) promote the sale of drugs; (2) validate the reliability of drug sellers; and (3) educate patients about the drugs for sale, which is why sometimes the articles published by these drug sellers seem purely informational, as opposed to showing intent to sell drugs. Below we illustrate how some of the most popular platforms are being used.

### 4.3.1 Weibo

Weibo is a microblogging website and one of the most popular social media platforms in China. As of Q2 2018, it had more than 400 million monthly active users.<sup>22</sup> Therefore, it is a popular marketing tool for internet pharmacy operators. Drug sellers often post their contact information, such as WeChat IDs, for patients to place orders.

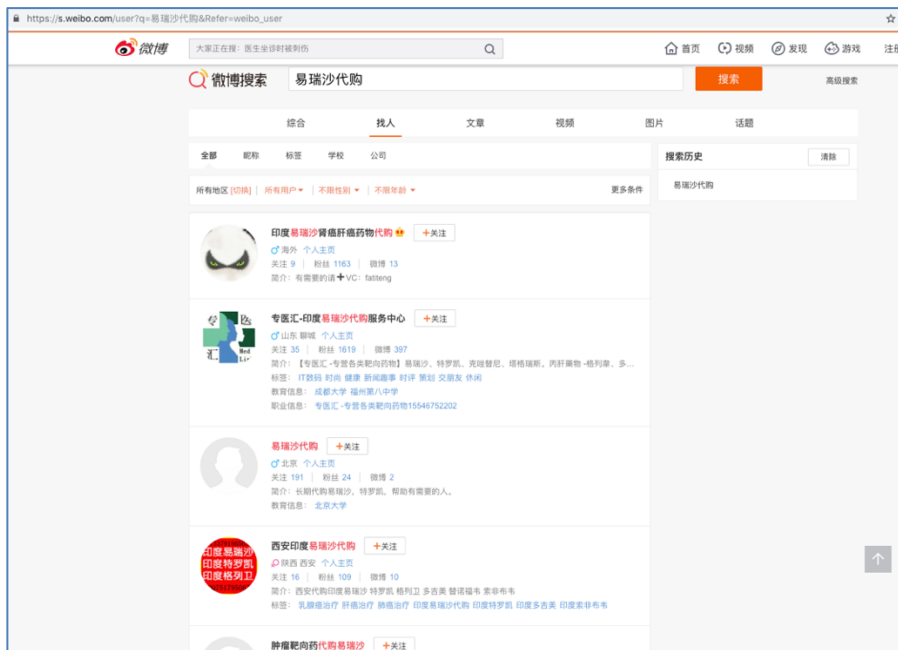
To demonstrate their reliability, some vendors also share videos of themselves buying drugs in an Indian pharmacy or images of receipts showing that drugs have shipped. Drug sellers also share blog posts about certain drugs or comparisons of treatments as a reference for patients.

<sup>22</sup> <https://www.investors.com/news/technology/weibo-reports-first-quarter-earnings/>

FIG 9: A WEIBO ACCOUNT PROMOTING INDIAN GENERIC PRESCRIPTION MEDICATIONS



FIG 10: WEIBO ACCOUNTS PROMOTING PRESCRIPTION DRUG SALE AFTER SEARCHING FOR "BUY IRESSA"



### 4.3.2 Baidu Tieba

Baidu Tieba is one of the largest online forums hosted by the Chinese search engine Baidu. It is a popular place for patients to discuss treatments and their fight against diseases. In 2016, Tieba was found to have sold the moderation rights of one of the disease forums to a top bidder.<sup>23</sup> This move received immense criticism, and Tieba has since implemented strict rules to prohibit commercial use of the forums.

Most of the disease-related forums do not allow promotion from drug sellers, but the forums are so popular among patients that drug sellers find ways to elude enforcement and promote themselves. For example, in a hepatitis C forum, a patient shared medical test results and asked if Epclusa would be a proper treatment.<sup>24</sup> While there were users who replied with their suggestions, there were also users who replied that they live in India and can be reached by messaging or users who simply said to message them. In some cases, the user ID was the same as the WeChat ID, which was associated with an online drug seller.

### 4.3.3 WeChat

WeChat was launched by Tencent as a messaging app in 2011. It is now a multi-function smartphone app that includes not only messaging capabilities but also social media and mobile payments. By 2018, it was one of the largest stand-alone mobile apps by monthly active users in the world. At one point, it reached 1 billion monthly active users.<sup>25</sup>

Illicit internet pharmacy operators use this platform primarily for three functions: (1) to serve as a primary contact method through the messaging feature; (2) for promoting their businesses through the social media feature; and (3) to accept payments via Tenpay, which is integrated into the app.

Of the illicit search results in LegitScript's dataset, 73 percent listed a WeChat contact ID. Looking at the illicit pharmacy websites alone, 86 percent of the results listed a WeChat contact.

Most of the illicit pharmacies did not have an online checkout mechanism. In many instances, the only way to order prescription medicine was to contact the sellers via WeChat or phone. WeChat groups are also a popular method for drug sellers to market themselves.<sup>26</sup>

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<sup>23</sup> <http://legal.people.com.cn/n1/2016/0119/c42510-28065762.html>

<sup>24</sup> <http://tieba.baidu.com/p/5991191211>

<sup>25</sup> <https://technode.com/2018/03/05/wechat-1-billion-users>

<sup>26</sup> [http://dz.jjckb.cn/www/pages/webpage2009/html/2016-05/13/content\\_18736.htm](http://dz.jjckb.cn/www/pages/webpage2009/html/2016-05/13/content_18736.htm)

FIG 11: A DRUG SELLER LEAVES WECHAT ID IN PROMOTION.



WeChat is a powerful digital marketing tool. Moment, the social media platform integrated into WeChat, allows users to share photos, videos, and texts with their followers. Another social media function is Official Accounts. Any individual or business can register for official accounts, and users can subscribe to receive updates.

Drug sellers utilize these two functions to engage with patients. The advantage of Moment and Official Accounts is that they are intimate tools. If a patient follows the sellers on Moments, photos with captions will be shown along with photos from the patient’s friends and family. Potential patients are targeted precisely. Once a patient’s interest is piqued, he or she can chat with posters immediately. The process is seamless.

Official Accounts work similarly to newsletters as users can share lengthier messages than on Moments. Drug sellers usually use this function to inform patients about the efficacy of the product, compare treatments, or ostensibly educate patients on how to distinguish genuine from falsified medicine. These posts can make the drug sellers appear professional or legitimate. The articles may appear to be informational, but they exist to engage with patients and entice them to make a purchase.

FIG 12: SAMPLE POSTS FROM WECHAT MOMENT AND OFFICIAL ACCOUNT



WeChat can also serve as a payment method. The payment tool Tenpay, which is owned by Tencent, is integrated into WeChat by default. Tenpay does not seem to be commonly listed as a payment method on internet pharmacy websites analyzed in this report, but LegitScript occasionally sees it being used in other research.

FIG 13: EXAMPLE OF AN INTERNET PHARMACY WEBSITE ACCEPTING TENPAY AND ALIPAY



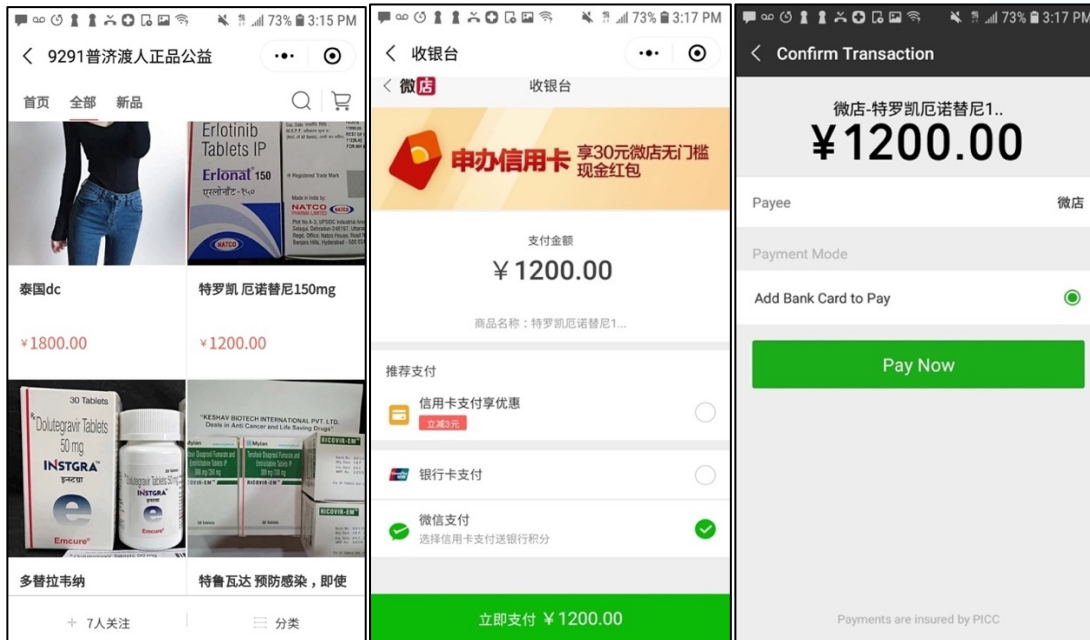
LegitScript also has observed that patients will transfer money directly to the drug sellers in WeChat.

FIG 13: DRUG SELLER SHOWING A SCREENSHOT OF RECEIVING PAYMENT OVER WECHAT AND SENDING OUT PRODUCT



WeChat has attempted to expand into e-commerce. Patients can access shops by installing third-party programs in WeChat. For example, Wei Dian is a popular e-commerce program on WeChat. (Tencent is one of the company’s investors.) Wei Dian has previously taken down listings that sell unapproved medicine from India, but other drug sellers continue to sell on the platform.

FIG 14: EXAMPLES OF PRODUCT SOLD ON WEI DIAN





### 4.3.4 Taobao

Taobao is the most popular e-commerce platform in China.<sup>27</sup> According to Taobao policy, the sellers are not permitted to sell prescription drugs, controlled substances, or counterfeit drugs on the platform.<sup>28</sup> The platform has been removing listings for illicit drugs, yet the drug sellers are able to use generic listing descriptions or images to avoid detection.

FIG 15: A TAOBAO LISTING SELLING AMLODIPINE, BUT DESCRIBING THE PRODUCT AS A BLOOD PRESSURE-LOWERING DRUG



During our analysis, we observed sellers using transaction laundering techniques to sell drugs on the platform. Transaction laundering in these cases refers to transactions that are processed for innocuous products to mask the real transaction for illicit drugs. The vendor below sells the Indian generic version of Epclusa. LegitScript was directed to the listing for the drug on Taobao, which was for Indian black tea. The tea was priced at 1 RMB. The patients are directed to order the equal value to the drug and make the payment via AliPay. Note that when LegitScript subsequently searched for the black tea listing at a later date, the listing appeared to be dysfunctional.

<sup>27</sup> <https://36kr.com/p/5072044.html>

<sup>28</sup> <https://rule.taobao.com/detail-1070.htm?spm=a2177.7231205.0.0.163917eajSgD1c>

FIG 16: A TAOBAO LISTING SHOWING INDIAN TEA BUT PROCESSING PAYMENT FOR GENERIC VERSIONS OF EPLUSA, A PRESCRIPTION MEDICATION



Although not the focus of this report, LegitScript is also aware that some vendors sell prescription medication in powder form on third-party business-to-business (B2B) platforms. There have been multiple news reports about Chinese patients buying drugs in raw powder form to make the finished products themselves.<sup>29</sup>

LegitScript searched for cediranib, an active pharmaceutical ingredient reported in one news story,<sup>30</sup> and found several vendors selling it in bulk powder form. All of them claim to be pharmaceutical suppliers, but do not appear to be licensed, according to the NMPA database.

<sup>29</sup> <https://www.nytimes.com/2018/11/11/business/china-drugs-smuggled-homemade.html>

<sup>30</sup> [https://www.guancha.cn/society/2018\\_07\\_14\\_464120\\_1.shtml](https://www.guancha.cn/society/2018_07_14_464120_1.shtml)

## 4.4 Choke Points

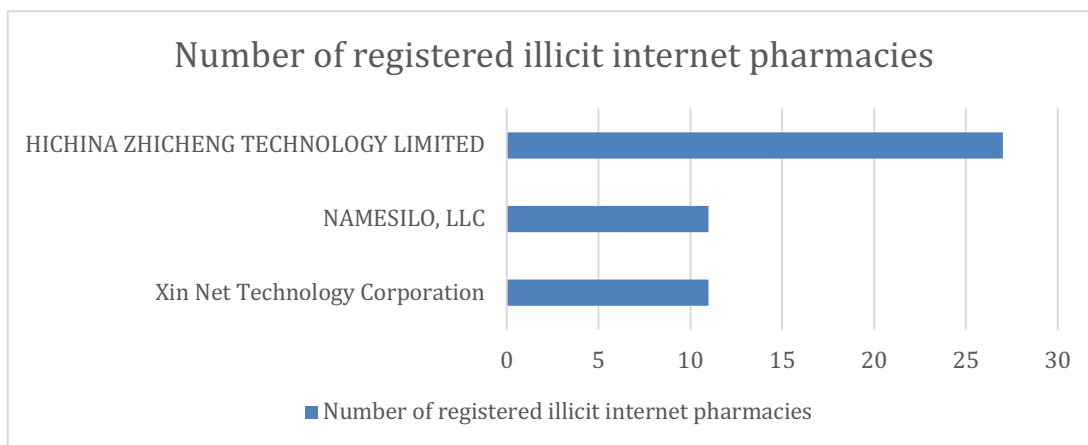
In this section, LegitScript looks into other infrastructure that facilitates the online sale of prescription medicine: (1) payment processors; (2) registrars and internet service providers (ISPs); and (3) online advertising.

### 4.4.1 Payment processors

Cash on delivery is still one of the most commonly used payment methods among Chinese internet pharmacies. AliPay, the most popular online payment method in China, is also commonly used by illicit online drug sellers in China. As mentioned above, some of the transactions are laundered under the guise of innocuous products. LegitScript also identified Tenpay as a payment method utilized by Chinese online drug sellers.

### 4.4.2 Registrars and ISPs

According to LegitScript data collected for this report, the top three registrars used by the illicit internet pharmacies are Alibaba/HiChina, NameSilo, and Xin Net. Among these, LegitScript considers NameSilo one of three US-based safe-haven registrars for illicit internet pharmacies.



LegitScript has repeatedly reached out to these three registrars to request that illicit pharmacy domain names are suspended and locked. In most instances, these registrars have not taken action after our requests. All three registrars have signed the 2013 Registration Accreditation Agreement (RAA),<sup>31</sup> which requires registrars to disallow illegal activity.<sup>32</sup> Globally, major registrars, such as GoDaddy and eNom, have been voluntarily suspending domain names found to be involved in illegal activity.

<sup>31</sup> The RAA is the contract that governs the relationship between the Internet Corporation for Assigned Names and Numbers (ICANN) and its accredited registrars.

<sup>32</sup> <https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en>

Additionally, the Regulation for Chinese Internet Domain Names states that domain names should be enforced if used in violation of Chinese laws and regulations.<sup>33</sup>

Providing registration or hosting services to websites that illegally sell pharmaceuticals is a legal liability, and also damages the registrars' brands. LegitScript has observed a global trend of illicit internet pharmacies clustering at registrars that are known to be comparatively tolerant of illicit online drug sales.

More than half of illicit pharmacies in our dataset are registered with Chinese registrars, and 15 percent are registered with a US registrar. Hong Kong is the most popular ISP hosting country among illicit pharmacies (41 percent). China and the US are the second- and third-most popular countries (16 percent and 17 percent, respectively).

In regard to top-level domains (TLDs) used by illicit internet pharmacies in our dataset, .com is the most commonly used (81 percent); 11 percent utilize the .cn registry.

#### 4.4.3 Advertising

Most of the advertising we observed on the three search engines do not include illicit online drug sellers. We observed only one illicit internet pharmacy website advertising on Google. It marketed generic prescription medicine from India and targeted patients worldwide, including China. It has since been enforced and is no longer advertising.

On [so.com](http://so.com), the data showed one website promoting prescription medicines for hepatitis C on its landing page and in its ad title. The website was a medical tourism website helping patients get prescription medication by traveling abroad, or through telemedicine. Advertisements for prescription medicine are generally prohibited in China; they are only allowed in professional medical publications.

On [sogou.com](http://sogou.com), another popular search engine in China, searching “印度药代购” (“buy Indian drugs”) yielded results showing advertisers that market Indian generic medicines. Both advertised websites, [aa.hk70272.cn](http://aa.hk70272.cn) and [dg.zpyuheng.com.cn](http://dg.zpyuheng.com.cn), claim to purchase products for customers from India without specifying what kind of products are sold on the websites. Further research indicates these websites sell generic medicines from India to Chinese patients. The WeChat contact ID listed on [aa.hk70272.cn](http://aa.hk70272.cn), “yindu1368,” is also listed on [zhongyat.cc](http://zhongyat.cc), which is more explicit about buying prescription medicine for patients in China. This website states it can ship the drugs from India or from its warehouse in China.

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<sup>33</sup> <http://www.miit.gov.cn/n1146295/n1146557/n1146624/c3554612/content.html>

FIG 17: ADVERTISEMENTS FROM ONLINE DRUG SELLERS ON [SOGOU.COM](http://www.sogou.com)



## 4.5 Medical Tourism

In our assessment, we noticed a few websites that market medical tourism, which is a long-standing practice in China. Some Chinese patients go to the US or Canada to seek out treatment options that are unavailable in their homeland. We noticed a few websites promoting medical tourism to India for more affordable treatments. This business model itself is not problematic; however, the websites further offer to connect patients with doctors in India through telemedicine and to deliver prescription medication to Chinese patients from a licensed Indian pharmacy they partner with.

According to China's drug importation law, it is permissible for patients to bring prescription medicine for personal use into China, but filling prescriptions via telemedicine falls into a gray area, according to Chinese regulations.

According to the newly released telemedicine regulations, only medical institutions and doctors licensed in China can perform telemedicine in China. First-time diagnoses must be conducted face-to-face. Medications may be prescribed via telemedicine only for returning patients.<sup>34</sup>

Currently, there is no regulation regarding telemedicine conducted internationally. However, the fact that Indian generic drugs would be prescribed via a telemedicine consultation with a doctor located outside of China and shipped to patients in China is a questionable practice. The drugs are essentially unapproved in China and are shipped from a pharmacy that is not licensed in China.

LegitScript finds that there are companies of different scales in this field. Some websites appear to have a somewhat diverse portfolio. For example, [huayinyiliao.com](http://www.huayinyiliao.com) offers

<sup>34</sup> [http://www.cac.gov.cn/2018-09/14/c\\_1123431844.htm](http://www.cac.gov.cn/2018-09/14/c_1123431844.htm)

medical tourism to international hospitals around the world and promotes Indian hospitals and Indian medicines as part of its services. Huayin Yiliao is co-owned by Beijing Jin Tai Heng Ye International Travel Co., Ltd., which claims to be a state-owned Chinese company. On the other hand, websites such as [indianyiliao.com](http://indianyiliao.com) and [cnhzm.com](http://cnhzm.com) promote Indian generic medicines more prominently. [cnhzm.com](http://cnhzm.com) provides very limited information about the company itself.

Some websites also prominently promote access to prescription drugs through telemedicine, such as [meikcare.com](http://meikcare.com) and [globalnewmeds.com](http://globalnewmeds.com). These websites serve as middlemen to connect patients with hospitals in India and other countries, claiming that prescription drugs are shipped directly from Indian pharmacies and that the website is not directly involved in the drug sale.

Because it falls into a legal gray area, the operation of such websites lacks government oversight. Patients are led to believe they are being treated by licensed doctors abroad, but it is difficult to verify the websites' credentials, or that the prescription drugs are indeed being shipped from a licensed pharmacy in India.

During an undercover chat with Huayin Yiliao, a LegitScript analyst inquired about the product Epclusa via telemedicine. The customer service representative readily shared a WeChat contact for an Indian pharmacy. We later confirmed that the Indian pharmacy was willing to ship prescription medicines without requiring a prescription. Similarly, the website [globalnewmeds.com](http://globalnewmeds.com) also turned out to be willing to ship prescription medicines to China when contacted through online chat.

FIG 18: [GLOBALNEWMEDS.COM](http://GLOBALNEWMEDS.COM) CONNECTS CHINESE PATIENTS WITH SOURCES ABROAD TO BUY PRESCRIPTION MEDICATION.



Telemedicine technology has advanced tremendously around the world, but prescribing and dispensing the best treatment for a life-threatening disease will likely always take more documentation than a medical diagnosis. Businesses that facilitate unchecked sales of prescription drugs via telemedicine create unknowable risks for patients.

## 4.6 High-Visibility Networks

The internet pharmacies in our sample act independently for the most part; that is, LegitScript identified no known connections to established internet pharmacy networks. This tracks with what LegitScript usually sees in Chinese results. In the US market, only about 3 percent of internet pharmacies are independent. By contrast, in China, about 70 percent of internet pharmacies appear to be independent, judging by the information displayed on the website or associated domain name system (DNS) and Whois records.

Nevertheless, we identified small networks in the dataset. Below are highlights of the networks with high visibility.

- **海外药业.** Network size: 13 online websites.

The websites in this network sell controlled substances, such as midazolam, and products marketed as gambling drugs. The network lists WeChat, QQ, and mobile phone information.

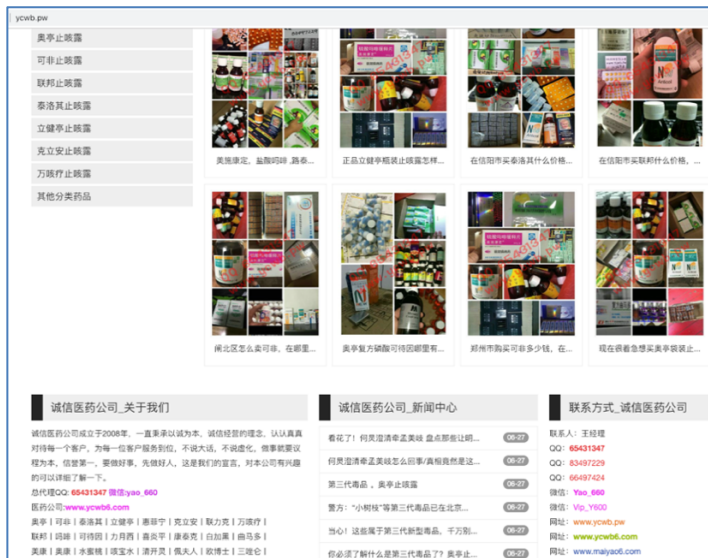
FIG 19: SAMPLE WEBSITE IN THE NETWORK SELLING CONTROLLED SUBSTANCES



- **诚信医药公司.** Network size: 8 online websites.

The websites in this network sell controlled substances and cough syrup, and list WeChat and QQ contact information.

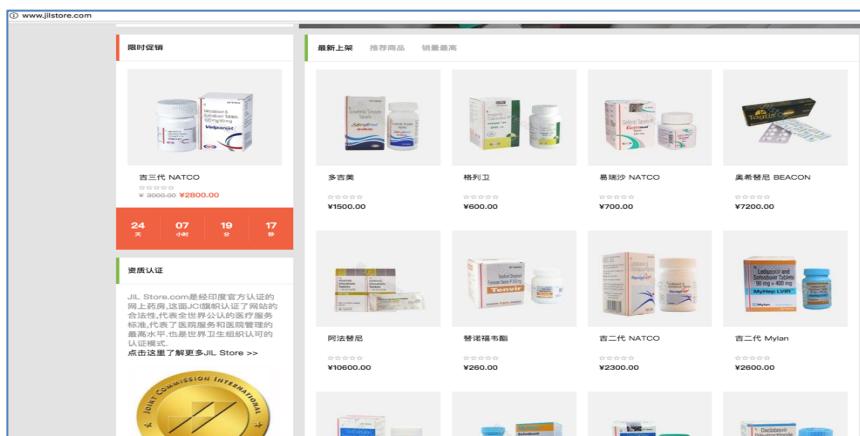
FIG 20: SAMPLE WEBSITE IN THE NETWORK SELLING CONTROLLED SUBSTANCES



- **Jil Store.** Network size: 16 online websites.

Most of the websites in this network look purely informational when users enter the domain names directly in a web browser. However, if patients find the websites through search engines and click on the search results, they will be redirected to the website [jilstore.com](http://jilstore.com), where customers can place orders for prescription medication. Jil Store claims to be a partner with Medanta medical group in India. Patients can pay with AliPay or Tenpay.

FIG 21: ALMOST ALL THE WEBSITES IN THE NETWORK REDIRECT TO [JILSTORE.COM](http://JILSTORE.COM).



- **药代邮.** Network size: 17 online websites.

This network appears to ship prescription medicines from India to China. It claims to belong to Hvukes Pharmaceutical, a pharmaceutical supplier in India, although LegitScript found no further open-source information about the company. This network requires users of its member websites to provide medical diagnoses while placing their



orders. Operators also appear to be looking for affiliates to expand their business.<sup>35</sup> Network websites list WeChat, QQ, email, and phone number as contacts, and accept AliPay and PayPal.

FIG 22: SAMPLE WEBSITE FROM THE NETWORK



- **印度库玛药房.** Network size: 16 websites.

This network operates websites under the name Kuma Pharmacy. It requires patients to provide a medical diagnosis when placing their orders and lists WeChat, QQ, and a phone number.

FIG 23: SAMPLE WEBSITE FROM THE NETWORK



<sup>35</sup> <https://maiyr.com/ydg/20140619001.html>

## V. Trends and Challenges for Enforcement

### 5.1 Drug sale over mobile apps will continue

According to market research, there were an estimated 410.2 million smartphone-based online shoppers in China in 2017, the last time frame for which data is available. Many online drug sales occur on mobile apps. Mobile apps are discreet, which makes scrutiny a challenge. We expect this trend to continue.

The mobile space is challenging for enforcers in several ways. LegitScript has observed that websites can appear non-violative at first glance, but illicit transactions happen on the mobile side. For example, [apollopharmacy.in](http://apollopharmacy.in) claims to be the official website of Apollo Pharmacy, a licensed pharmacy in India. The website states it ships only within India and requires users to provide prescriptions when ordering prescription medication. Yet there is an open secret among Chinese patients that if users ask customer service, the website operators will provide a WeChat contact ID to facilitate the shipping of prescription drugs to China.<sup>36</sup>

Sometimes websites advertise a service to buy products for customers in China. An example is [yindudaigou.cn](http://yindudaigou.cn). The website claims to be reliable and offer genuine products; it even shows pictures of brick-and-mortar pharmacies. However, it does not disclose what specific products are sold. By tracing the WeChat contact ID provided on the website, LegitScript found an affiliated website, [medicine-centre.com](http://medicine-centre.com). This website is explicitly selling drugs but does not make clear what kind of drugs are being sold. In an undercover WeChat session, we confirmed that it would ship Gefinat, an Indian version of Iressa, to China without requiring a prescription, and that payment could be made via AliPay.

FIG 24: [YINDUDAIGOU.CN](http://YINDUDAIGOU.CN) DISPLAYS GENERIC INFORMATION.



<sup>36</sup> [http://med.sina.com/article\\_detail\\_103\\_1\\_48532.html](http://med.sina.com/article_detail_103_1_48532.html)

FIG 25: [MEDICINE-CENTRE.COM](http://www.medicine-centre.com) PROMOTES THE SALE OF MEDICINE, SHOWING A STORE FRONT.



Placing orders via messaging is not secure. Patients disclose their shipping information and contacts through the chat, and sometimes disclose their diagnoses or lab test results as well. Consumers risk exposing their private health data and identifying information to unknown third parties, such as hackers, when sharing this information on insecure channels.

Placing orders via messaging also creates new challenges when it comes to protecting patients' rights. The transaction happens informally over chat and does not generate receipts or contracts.

## 5.2 Challenges for Enforcement

The Chinese government and private sectors have done tremendous work to stop online drug sellers. In 2018 alone, there have been at least three major indictments against people selling drugs from India. The Chinese government has also been part of Interpol's Operation Pangea, which combats the illegal online sale of drugs globally. Chinese internet companies also have rigorous policies and monitoring in place for online drug sales.

However, the challenges in enforcing drug laws in the online space are complex. The ephemeral nature of communications conducted via smartphone apps complicates detection by law enforcement. Often, illicit drug sales happen across multiple jurisdictions; products are sourced from a foreign country and sold all over China. Thus, it would require cooperation of law enforcement across national boundaries. More

generally, the anonymity of the internet also makes it more difficult to enforce drug laws: domain name registration information might have privacy-protected Whois information, WeChat does not require genuine ID for registration, and so on. All these factors make it harder to identify and track the operators of illicit online businesses.

The Chinese government understands the new challenges it is facing. In response, NMPA is building a more robust online monitoring system. Earlier in 2018, it published a public bidding for a monitoring system targeting internet drug information and sales. According to the bidding document, the system will first focus on drug sales on websites and third-party e-commerce platforms and then expand to social media platforms and mobile apps.<sup>37</sup>

Such a monitoring system would identify problematic drug sellers more efficiently. The best system may be one that targets not only traditional areas such as websites and e-commerce platforms, but also social media and mobile apps.

Enforcement would be most efficient if the system matched the data collected on different platforms so as to complete drug sellers' profiles and identify their illicit activities. Because so many transactions happen over mobile messaging, it may also require human input to document sellers' intention to sell and to obtain evidence of illicit sales.

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<http://samr.cfda.gov.cn/directory/web/WS01/images/uL28jEuzfjC59KpxrfQxc+ius29u9LXvOCy4s+1zbPP7sStOjzM7EvP4ucGRm.pdf>

## VI. Conclusion

In this report, LegitScript evaluated the landscape of the illicit internet pharmacy market in China through search engine data. In general, 57 percent of online drug sellers are operating unlawfully in China (if we include legitimate online pharmacies that only sell OTC products online in the total). This percentage is much lower than the global level, which shows that the measures the Chinese government have taken over the past few years are effective.

However, the risks of illicit online drug sales in the Chinese market are the same as in the rest of the world. Prescription medication and controlled substances are sold online without requiring a prescription. Unapproved medicines are sourced from unlicensed sellers. These practices put patients' health at risk.

Chinese illicit drug sellers are unique in that there is a heavy reliance on third-party platforms, such as WeChat, to complete transactions, instead of processing the orders directly through their own websites. These transactions often happen over chats that take place on mobile phones. Illicit drug sellers in China also often utilize multiple platforms, such as social media or e-commerce, for different aspects of their businesses (e.g., marketing, order placing, and payment processing). These factors make it challenging for law enforcement to identify problematic sellers.

The Chinese government and private sector have made efforts to curb illicit online drug sales, but LegitScript predicts the ratio of illicit online drug sales in China to remain at the current level based on the trends we observed in the Chinese market and globally. The fact that sellers conduct a big portion of their business across multiple platforms and often on smartphone apps will also continue to pose challenges for law enforcement.

The Chinese government has realized the new challenges of the online drug market. A more robust monitoring system for websites and third-party e-commerce platforms (with possible expansion to social media platforms and apps) will soon be implemented. Data matching across different platforms may make it easier to identify the whole profile of illicit drug sellers and make enforcement more efficient. Continuous public education about illicit online drug sales would help patients better understand the risks involved in buying prescription medication online.

LegitScript appreciates the opportunity to have conducted this analysis for the Alliance for Safe Online Pharmacies Global.