

THE CHINESE ROGUE INTERNET PHARMACY MARKET

February 2015

ALLIANCE FOR SAFE ONLINE PHARMACIES REPORT:

The Chinese Rogue Internet Pharmacy Market

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1.0	Executive Summary.....	2
2.0	Definitions and Terminology	8
2.1	The Term “Internet Pharmacy”	8
2.2	The Term “Rogue”	8
3.0	Methodology.....	9
3.1	Technical Approach	9
3.2	Keywords and Search Terms	10
3.3	Classifying the Results by Website Type	14
3.4	Classifying the Results by Legitimacy	15
4.0	Applying Chinese Laws and Regulations.....	17
5.0	Findings	19
5.1	Proportion of Search Results That Are Internet Pharmacies	20
5.2	Non-Compliant Pharmacy Proportion of Search Results	21
5.3	The Nature of Legal/Drug Safety Problems	22
5.4	Search Terms That Returned the Most Rogue Internet Pharmacies	26
5.5	Chokepoints Assessment	27
6.0	Chinese Government Crackdown on Chinese Rogue Internet Pharmacies	36
6.1	The Objective.....	36
6.2	The Outcome.....	37
6.3	CFDA Partnership With Baidu	39
7.0	Analysis and Next Steps	43
7.1	Study Recommendations	47
8.0	Conclusion	48
9.0	Appendix: ICANN-Accredited Chinese Registrars	48

1.0 Executive Summary

In this study, the Alliance for Safe Online Pharmacies (ASOP)¹ and LegitScript² review Internet pharmacy practices in China with three primary questions in mind. First, what is the overall landscape and legitimacy of the Chinese Internet market selling prescription drugs and over-the-counter (OTC) medicines, commonly referred to as “Internet pharmacies”? Second, what is the nature of the threat and risk to patients in China buying drugs online? Third, what is the impact of the Chinese government’s campaigns to crack down on the illegal sale of drugs online and protect Chinese citizens?

Data and recent events suggest that these questions are timely. Illegal Internet sales are expanding globally and most quickly where pharmaceutical sales are high. It’s thus important to note that this is by no means exclusively a “China problem,” but a global one. Nonetheless, the following factors make China’s market ripe for review. China is one of the fastest-growing markets for pharmaceutical products: according to China’s Ministry of Commerce, the retail sale of drugs was 260.7 billion yuan (approximately USD42 billion) in 2013, representing 12 percent growth from the previous year.³ By 2020, China’s pharmaceutical market is expected to be the world’s second largest.⁴ Meanwhile, an estimated 300 million Chinese residents shopped online (for good and services generally; not merely drugs) in 2013 — a figure only expected to grow.⁵ Indeed, in 2012, the most recent year for which data are available, the (lawful) online sale of drugs reached 1.6 billion yuan (approximately USD257 million), representing quadruple growth as compared to 2011.⁶ But even this number constitutes less than one percent of China’s drug market. At the same time, the China Food and Drug Administration (CFDA) is considering public feedback on proposed regulation (entitled the *Internet Food and Drug Supervision and Administration Provision*) that would loosen the Internet-based sale of medicines, possibly

¹ The Alliance for Safe Online Pharmacies (ASOP) is a global nonprofit dedicated to protecting patient safety online. Learn more at www.safeonlinerx.com.

² LegitScript is a company that monitors healthcare products and Internet pharmacy websites with a focus on patient safety. Learn more at legitscript.com.

³ <http://sczxs.mofcom.gov.cn/article/dyplwz/bh/201406/20140600639859.shtml>

⁴ <http://sczxs.mofcom.gov.cn/article/dyplwz/bh/201305/20130500145831.shtml>

⁵ http://www.cnnic.net.cn/hlwfzyj/hlwzbg/hlwjbg/201403/t20140305_46240.htm

⁶ <http://finance.chinanews.com/jk/2013/08-20/5182115.shtml>

including prescription drugs.⁷ In addition, the growth of illegal Internet drug sales worldwide and the threat this poses to patient safety, the fact that China is both a major exporter and consumer for medicines, and the implementation of healthcare reform with a goal to increase access to medicines, also make this study timely. The intersection of all of these factors makes the China Internet pharmacy market important to understand for regulators, drug companies, pharmacies, and patients; it is for these reasons that the Alliance for Safe Online Pharmacies (ASOP) conducted this study.

In 2005, the Chinese government approved the first Internet pharmacy, yaofang.cn, and since then, approximately 180 other websites have been approved to sell OTC medicines online in China. Although not the focus of this report, it is important to note that the CFDA is currently reviewing public feedback regarding a proposed new regulation entitled the Internet Food and Drug Supervision and Administration Provision.⁸ This could, among other things, relax online prescription drug sales. As of January 2015, only over-the-counter (OTC) medicines may be sold online; the sale of prescription medicines via the Internet remains illegal. The authors understand that this policy could change as soon as spring 2015,⁹ but it has no bearing on the importance of this study. If anything, the liberalization of online prescription sales would only reinforce the point made herein—that strong enforcement measures are needed to combat illegal online drug sellers.

China is not immune from the challenges that every other country in the world faces regarding the Internet-based sale of prescription medicine: a thriving black market for online sales of prescription-only medication exists in China today, as it does elsewhere. Globally — as ASOP, LegitScript, the United States-based National Association of Boards of Pharmacy (NABP), the World Health Organization (WHO), and others have documented repeatedly with regards to the global market for medicines — the vast majority (about 97 percent) of Internet pharmacies operate illegally and unsafely.¹⁰ Worldwide, LegitScript estimates that only about 3 percent of Internet pharmacy websites operate in compliance with local laws and regulations

⁷ <http://www.sda.gov.cn/WS01/CL0783/100534.html>

⁸ <http://english.caixin.com/2014-09-25/100732994.html>

⁹ See <http://www.reuters.com/article/2015/01/09/us-china-pharmaceuticals-idUSKBN0KI0Y220150109>.

¹⁰ http://awarerx.s3.amazonaws.com/system/redactor_assets/documents/237/NABP_Internet_Drug_Outlet_Report_July2013.pdf

where they serve customers; this is consistent with NABP's findings as well.¹¹ Typical problems include:

- the dispensing of prescription drugs by entities or individuals that are not appropriately licensed pharmacies or pharmacists;
- the sale of prescription medicines without requiring a prescription or in-person medical exam; and
- the sale of substandard/spurious/falsely-labeled/falsified/counterfeit (SSFFC) and unapproved drugs.

The consequences of this behavior can be tragic. In 2011, for example, it was reported in the Huashang Morning News that a college student in Beijing suffered symptoms of anorexia and mental disorder after taking Qumei, a discontinued prescription weight-loss product that contains the drug sibutramine. Sibutramine is designated as a controlled substance in many countries, and has been banned by the CFDA since 2010. The drug was sold on taobao.com, a popular e-commerce website in China.¹² Also in 2011, a female patient died from respiratory failure after using the cancer treatment Velcade, purchased from an online source.¹³ Officials confirmed that the Velcade was counterfeit and lacked any bortezomib, the active pharmaceutical ingredient in Velcade.¹⁴ These are just a few documented examples of harms to Chinese patients that can result from unregulated Internet sales.

To assess the extent of China's rogue Internet pharmacy market, ASOP commissioned a study from Internet pharmacy research and safety advocacy group LegitScript. During the course of this study, LegitScript deployed queries for 75 search terms related to prescription drugs (such as “万艾可官网,” “代购印度易瑞沙,” and “买香港三唑仑”) on Internet search engines baidu.com, google.com.cn (operating as google.com.hk), and so.com. Each query returned an average of 10 to 12 search results per page, whereupon the first page of search results was reviewed. Altogether, the process resulted in 1,867 search results that formed the basis for this analysis. LegitScript assessed the results for content legitimacy and evaluated whether the

¹¹ http://awarerx.s3.amazonaws.com/system/redactor_assets/documents/179/NABP_Internet_Drug_Outlet_Report_Apr2013.pdf

¹² http://news.liao1.com/epaper/hscb/html/2012-08/07/content_289061.htm

¹³ The original news report did not specify whether the “online source” was an e-commerce website or an Internet pharmacy.

¹⁴ <http://gz.oeeee.com/a/20110107/960561.html>

websites from those results that sold prescription or OTC medicines online were operating in or out of compliance with applicable Chinese legal requirements.

To summarize our findings:

- Roughly 9 percent of the search results were Internet pharmacies of some sort — websites selling or facilitating the sale of pharmaceutical products. The remainders were informational or other websites.
- Of those results that were selling or facilitating the sale of prescription medicines online, an average of 93 percent were what LegitScript defines as “rogue”¹⁵ or “unapproved” pharmacies, based on a lack of compliance with applicable Chinese laws and regulations.

As a general matter, the problems uncovered in the Chinese Internet pharmacy search space are consistent with what ASOP has observed in other major markets around the world: Internet pharmacies are selling prescription drugs without requiring a prescription, selling unapproved and SSFFC prescription drugs, and lacking a pharmacy license in the jurisdiction to where drugs are shipped. Indeed, any online sale of prescription drugs at all is contrary to Chinese law. Contrary to a popular misunderstanding regarding rogue Internet pharmacies (namely, that these are websites selling only lifestyle drugs like Viagra), this analysis finds that rogue Internet pharmacies targeting China widely market controlled substances and illicit versions of lifesaving medicines such as cancer drugs.

In mid-2013, to address the rising problem of online drug sales, the Chinese government launched a six-month crackdown. The campaign — Two Strikes, Two Setups — targeted illegal Internet pharmacies as a component of the government’s National Drug Safety Strategy and a five-year plan to improve drug quality and complement broader healthcare reform goals. This analysis finds that the initiative had some positive impact in reducing the illicit availability of medicines online. However, ASOP also recommends the following best practices in order to increase the effectiveness of existing or future initiatives. ASOP’s recommendations include:

¹⁵ See discussion *infra* Section 3.4 (laying out how “rogue” pharmacies are defined).

- A. The Chinese government should work with domain name registrars¹⁶ and the registry of .cn¹⁷ to educate them about the dangers rogue Internet pharmacies pose. These Internet companies should update their terms and conditions accordingly, as most in the US, EU, and other regions have.
- B. The CFDA should consider creating a prescription drug database for the public that will assist in helping Internet users and Internet companies better understand which medicines, and which websites, are legally compliant.
- C. General improvements should be made to the CFDA certification system, such as requiring CFDA-approved Internet pharmacies to utilize a seal of approval that hyperlinks to the CFDA database for easy verification by customers. (This measure will be especially crucial if and when the sale of prescription medication by authorized online retailers becomes lawful.)
- D. China should continue its enforcement measures and perhaps adopt an annual crackdown campaign aimed at shutting down non-compliant websites.
- E. China should continue to cooperate closely with INTERPOL and its Operation Pangea, as well as other law enforcement agencies, in order to increase global efficacy in shutting down transnational organized crime networks that threaten public health.
- F. CFDA participates in the Asia-Pacific Economic Cooperation (APEC) Life Science Innovation Forum and the APEC Regulatory Harmonization Steering Committee (RHSC). Continued China support for RHSC safe medicine activities is recommended, including participation in the RHSC Internet Sales Working Group.

In short, there are several additional actions the Chinese health authorities can take to improve the situation. At the same time, however, ASOP notes that this is fundamentally a global problem — China is by no means alone in facing the threat posed by illegal online drug sellers. Thus, efforts to truly restrict the activity of rogue Internet pharmacies in China will require an

¹⁶ A list of the ICANN accredited Chinese registrars is attached as an Appendix. For more information, please see <http://www.internic.net/alpha.html>.

¹⁷ <http://www.cnnic.cn/>

international approach involving cooperation between global health authorities around the world, and must incorporate Internet governance and enforcement mechanism options.

2.0 Definitions and Terminology

2.1 The Term “Internet Pharmacy”

The term “Internet pharmacy” or “网上药店” is used throughout the report to describe any website with an interactive feature that facilitates, or contains content that reasonably appears to intend to facilitate, the online sale of medicine in China. It is worth noting a slight disparity between our use of the term and the term as used in Chinese law. Namely, Chinese law prohibits prescription drugs from being sold online, and so the term “网上药店” (Internet pharmacy) as used by CFDA usually refers only to those websites that are selling OTC medicines online (because, by definition, a website selling prescription drugs is not legal, and thus cannot be considered an “Internet pharmacy” as permitted by law.)¹⁸

2.2 The Term “Rogue”

The English-language version of the report uses the term “rogue Internet pharmacy” to describe websites selling prescription drugs in violation of applicable laws and regulations. Although there is no precise translation of “rogue” in Chinese, we generally use the term “非法” in the Chinese-language translation of this report, which is typically translated as “illegal,” and for the purposes of this report should be construed as “intentionally/knowingly violating or operating out of compliance with applicable law and regulations.”

More details regarding how this report designates websites as rogue based on how they violate Chinese laws and regulations can be found in Section 3.4.

¹⁸ Article 21, Internet Medicine Transaction Service Approval Regulation. This regulation can be found online at <http://www.sfda.gov.cn/WS01/CL0060/9432.html>, and will be referenced later in this report.

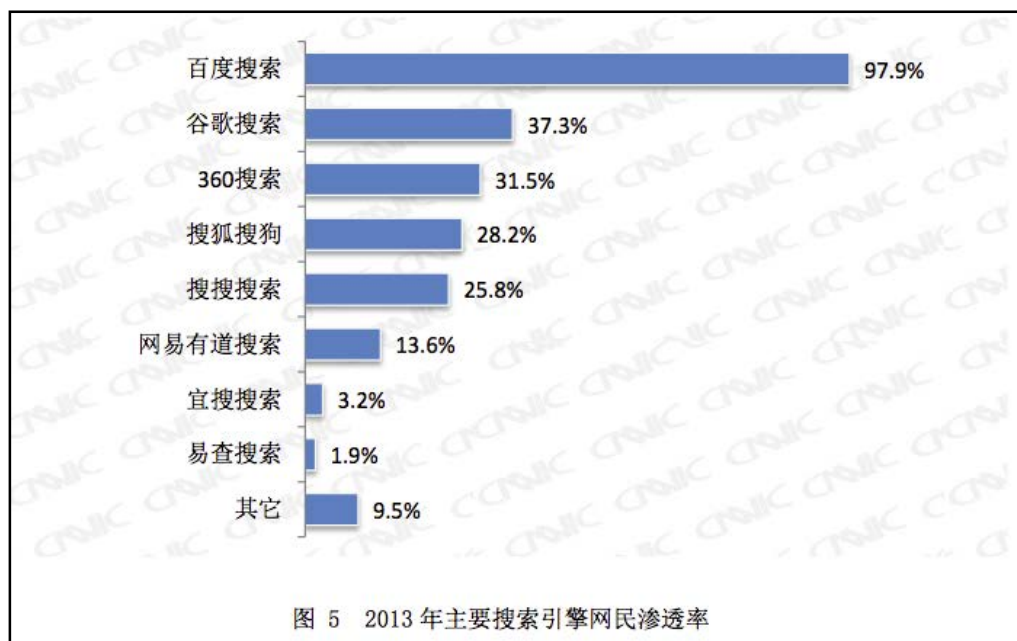
3.0 Methodology

This section describes the process used to gather and assess data for evaluating the Chinese Internet pharmacy landscape.

3.1 Technical Approach

On four occasions in 2014 — March 30, March 31, April 23, and May 1 — LegitScript ran queries for 75 search terms on baidu.com (below as Baidu), google.com.cn (operating as google.com.hk, below as Google), and so.com (below as 360 Search). All queries were conducted in Chinese. The choice of these three search engines was based on the 2013 Chinese Netizen Search Behavior Research Report,¹⁹ which indicated that Baidu is the No. 1 search engine, with 97.9 percent permeability; Google is at No. 2 with 37.3 percent permeability, and 360 Search is No. 3 with 31.5 percent permeability.

Fig 1: Search engine permeability (source: China Internet Network Information Center)



¹⁹ <https://www.cnnic.net.cn/hlwfzyj/hlwzbg/ssbg/201308/P020130820401357282653.pdf>

These 75 search term queries were run from LegitScript’s mainland China server and an IP address assigned to the Zhenzhou China IP address space. This was important because some search engines such as google.com.hk “geo-target” — that is, different content is displayed on the website depending on the location of the Internet users viewing the website, as determined by each user’s IP address. The chosen setup thus ensured that the data collected was representative of a search run by an Internet user in China.²⁰ Data from the first page of organic search results returned from each search term are included as an appendix to this report.

3.2 Keywords and Search Terms

LegitScript ran queries for 75 keywords and search terms, shown below:

Search Term (Chinese Simplified)	English Translation	Search Term (Chinese Simplified)	English Translation
网上买西力士正品	buy authentic Cialis online	网上买堕胎药	buy abortion pills online
网上买伟哥正品	buy authentic Viagra online	买进口补肾药	buy imported kidney medicines
西力士官网	Cialis official site	买进口壮阳药	buy imported Aphrodisiac
万艾可官网	Viagra official website	买进口性保健品	buy imported sexual dietary supplement
艾力达官网	Levitra official website	买蒙汗药	buy narcotic drugs
买香港三唑仑	buy Hong Kong Triazolam	买安乐死药	buy euthanasia drug

²⁰ Because Google’s server is not stable in mainland China, the sweep result from google.com.hk was much smaller than those from the other two search engines.

Search Term (Chinese Simplified)	English Translation	Search Term (Chinese Simplified)	English Translation
买进口三唑仑	buy imported Triazolam	代购处方药	personal shopper for prescription drugs
买力月西	buy Midazolam	买口服壮阳	buy intake sexual enhancement pill
买地西洋	buy Diazepam	买进口海乐神	buy imported Triazolam
代购印度易瑞沙	personal shopper for Indian Iressa	买拍肩粉	buy shoulder powder
代购印度格列卫	personal shopper for Indian Imatinib Mesylate Tablets	买曲马多	buy Tramadol Hydrochloride Capsules
代购印度特罗凯	personal shopper for Indian Erlotinib Hydrochloride Tablets	买赌博药	buy gambling drugs
网上买阿莫西林	buy Amoxicillin online	买听话药	buy obedient drugs
网上买头孢拉定胶囊	buy cefradine online	买乖乖水	buy obedient water
买安眠药	buy sleeping pills	买香港 GHB	buy Hong Kong GHB
买性保健品	buy sexual dietary supplement	买香港 g 水	buy Hong Kong g water
买成人用品	buy adult products	网上买非那雄胺片	buy Finasteride online
买春药	buy sexual enhancement drug	网上买保法止	buy Propecia online
买催情药	buy Induce oestrus medicines	网上买男性增大	buy male enlarge online

Search Term (Chinese Simplified)	English Translation	Search Term (Chinese Simplified)	English Translation
买迷魂药	buy Ecstasy drug	网上买迷魂烟	buy estacy cigarettes online
买迷药	buy Ecstasy drug	上哪买苍蝇粉	where to buy fly powder
代购吉非替尼	personal shopper for Gefitinib	买强力催情神仙水	buy strong Induce oestrus water
网上买便宜安眠药	buy cheap sleeping pills online	网上性药专卖店	online sexual drugstore
打胎药	abortion pills	买迷奸药	buy date rape drug
代购进口药	personal shopper for imported drugs	买昏迷药	buy coma drug
买美国进口药	buy imported drugs from the US	网上买迷奸粉	buy date rape powder
买壮阳药	buy Aphrodisiac	网上药店	online pharmacy
便宜网上药店	cheap Internet pharmacy	网上买便宜的处方药	buy cheap prescription drugs online
网上买流产药	buy abortion pills online	网上买立普妥	buy Liptor online
买麻醉药	buy Narcotic drugs	网上买精神药品	buy psychotropic drugs online
网上买清肺散结丸	buy Qing Fei San Jie Wan online	网上买速效救心丸	buy Su Xiao Jiu Xin Wan online
网上买消渴丸	buy Xiao Ke Wan online	网上买麝香保心丸	buy She Xiang Bao Xin Wan online

Search Term (Chinese Simplified)	English Translation	Search Term (Chinese Simplified)	English Translation
网上买药	buy drugs online	网上买丹参片	buy Dan Shen Pian online
网上买补肾药	buy kindey medicines online	网上买减肥药	buy diet medicines online
网上买前列通瘀胶囊	buy Qian Lie Tong Yu Jiao Nang online	网上买片仔癀	buy Pian Zai Huang online
网上买降糖片	buy Jiang Tang Pian online	网上买香港保婴丹	buy hong kong Bao Ying Dan online
网上买华蟾素片	buy Hua Chan Su Pian online	网上买男宝胶囊	buy Nan Bao Jiao Nang online
中药销售网	Chinese herbal medicine online store		

The following factors went into the keyword selection process.

- Queries were run for a variety of common prescription medicines. Because erectile dysfunction drugs are often targeted by counterfeiters who sell many other products as well, Viagra, Cialis, and Levitra were included as keywords. Terms for other common prescription medicines such as Amoxicillin and Propecia were also included.
- Search terms were created for controlled substances such as Triazolam, Midazolam, and Diazepam, as well as for high-risk cancer drugs such as Iressa and Tarceva.
- Queries were not limited merely to drug terms. Additional terms such as “buy sleeping pills” and “cheap Internet pharmacy” were selected, as they are indicative of other ways that Internet users tend to search for medications.
- Prescription-only herbal medicines were included, as they are popular in this market.

3.3 Classifying the Results by Website Type

Altogether, the queries yielded 1,800-plus search results, which were broken down into two primary classification categories: website type (that is, what type of products were being sold) and legitimacy.

Possible website types were:

1. Internet pharmacy (prescription drug). Any website that sold or facilitated the sale or dispensing of a prescription drug.
2. Internet pharmacy (OTC). Any website that sold or facilitated the sale or dispensing of an over-the-counter drug.
3. Dietary supplement. Any website that sold or facilitated the sale or dispensing of a dietary supplement or similar product.

4. Other. Any informational website or other website that did not directly sell or facilitate the sale of a prescription drug or dietary supplement.
5. Third-party. Any website whose primary purpose is to serve as a platform for third-party content (e.g., blog websites, e-commerce platforms).
6. Hijacked. Any website whose primary purpose is not to serve as a platform for third-party content, but upon which marketing content for another website type or product type reasonably appears to have been injected or uploaded without consent.

3.4 Classifying the Results by Legitimacy

Below are the criteria used to designate a website as legitimate or illegitimate. To make this determination, Chinese laws and regulations were applied. These laws are discussed in more detail in Section 4 of this report.

1. Legitimate/Unverified. These include any websites that sold or facilitated the sale or dispensing of medicines or regulated dietary supplements in a way that does not appear to violate Chinese laws.
2. Rogue/Unapproved. These include any websites that sold or facilitated the sale of prescription drugs, OTC medicines, and dietary supplements within or into China in a way that does not comply with Chinese laws and regulations. Common violations were the sale of prescription drugs with or without a prescription; the sale of prescription drugs by an unauthorized entity (i.e., an entity that was not appropriately licensed to dispense prescription drugs under Chinese law), or the importation of prescription drugs in a way that is not consistent with Chinese law. *(Note that in China, prescription medicines cannot be sold via the Internet, so any website that sells prescription medicines to individuals online was deemed to be illicit.)*

None of the drugs advertised on the analyzed websites were acquired or tested, as this was not crucial to our findings for the following reasons:

- First, in China, the sale of even genuine prescription drugs without requiring a prescription violates the law and is considered a serious health threat.
- Second, any drug sold in China is required to be registered with CFDA, and any unregistered medicine is considered counterfeit based on Article 48 of the Drug Administration Law of the People's Republic of China.²¹
- Third, CFDA also has strict rules about the registered drugs' packaging, and merely looking at the product pictures on some of the websites established that the drugs are not the CFDA approved versions. Fourth, the websites lacked proper registration with the CFDA to be a certified Internet pharmacy.

Fig 2: Legitimate version of Cialis vs. counterfeit version



3. Inapplicable. This designation was applied to informational websites and others that are not selling or facilitating the sale of any prescription drugs, OTC medicines, or dietary supplements.²²

²¹ Drug Administration Law of the People's Republic of China, which will be referenced later in this report simply as the Drug Administration Law, can be found online here: <http://www.sda.gov.cn/WS01/CL0064/23396.html>

²² Websites that offer medical-related information are required to obtain an Internet Drug Information Service Qualification Certificate, issued by the CFDA.

4.0 Applying Chinese Laws and Regulations

In assessing Internet pharmacy website legitimacy, Chinese laws and regulations pertaining to the practice of pharmacy and dispensing of prescription drugs were relied upon. The purpose of this section is not to summarize every applicable or relevant Chinese law or regulation, but instead to highlight those that are most important for the purposes of this study. These are as follows:

1. Prescription requirement. Prescription drugs must be dispensed, purchased, and used with a prescription that is issued by a licensed doctor or a physician assistant (Article 2, Prescription and Non-prescription Medicine Administrative Provision²³). Although there are no specific regulations on whether a face-to-face consultation is required for a patient to obtain a prescription, it is generally considered to be the only legal method, in light of the fact that prescription drugs cannot be sold online. Indeed, according to Article 12 of the Internet Healthcare Information Service Administrative Provision,²⁴ online diagnosis and treatment activities are not allowed.
2. Pharmacy licensure requirement. As in virtually all other countries, any entity that dispenses medicines must be appropriately licensed — in the case of China, with a Medicine Distributor License (Article 14, Drug Administration Law).
3. Online OTC pharmacy certification. In China, prescription medicines cannot be sold via the Internet, based on Article 21 of the Internet Medicine Transaction Service Approval Regulation. However, over-the-counter medicines are not *per se* unlawful. Any website that sells OTC medicines online is required to be approved and receive both an Internet Drug Information Service Qualification Certificate and an Internet Drug Transaction Service Qualification Certificate issued by the CFDA. Certified OTC Internet pharmacies can be verified in the CFDA database, under the Internet Pharmacy category.²⁵

²³ <http://www.sfda.gov.cn/WS01/CL0053/24524.html>

²⁴ http://www.gov.cn/flfg/2009-06/23/content_1347818.htm

²⁵ <http://app1.sfda.gov.cn/datasearch/face3/dir.html>

4. Medicine registration requirement. Any medicine sold in China must be approved and receive a registration number by the CFDA before manufacture (Article 31, Drug Administration Law). Registered domestic and imported medicines can be verified in the CFDA database, under the Domestic Medicines and Imported Medicines categories. However, many rogue Internet pharmacies ship generic prescription medicines into China that are not approved by CFDA. Such medicines are considered counterfeit drugs under Article 48 of the Drug Administration Law — irrespective of their actual chemical or biological composition — because they are either sold without inspection or imported without approvals.
5. Importation requirement. Drug importation is not *per se* illegal, but is strictly regulated. The importation of medicines must be approved by the related administrative department under the State Council, and an import certificate is issued upon approval. Individuals are permitted to import a small amount of medicines by adhering to described importation procedures (Article 39, Drug Administration Law).
6. CFDA Guidance/Prohibition against advertising. Prescription drugs can be advertised only in professional medical journals that are designated by the CFDA (Article 12, Prescription and Non-prescription Medicine Administrative Provision). A list of designated journals can be found in the CFDA database, under “List of Medical Journals Allowed to Have Prescription Medicine Advertisement.”

Finally, it is worth noting an additional element of criminality that, while not unique to China, is nevertheless more prevalent in the Chinese Internet pharmacy space (at least, as per LegitScript’s observation). Included in the definition of rogue Internet pharmacies are websites selling controlled substances not for medicinal purposes, but for illicit non-medical purposes, such as use as a “rape” or “robbery” drug meant to render a victim unconscious. Such uses, of course, violate a host of laws pertaining to rape, robbery, and other victim-oriented crime.

5.0 Findings

The findings of this study indicate that there are still challenges to be addressed in order to protect patients and consumers purchasing medication from online sources in China. Among the search results were a significant number of Chinese-language rogue Internet pharmacies engaging in the most egregious types of behavior, such as selling prescription drugs without a prescription and targeting Chinese citizens — a total of 132 websites out of 1,867 we reviewed (or 7 percent). This fraction looks small at the surface, but is extremely misleading. For when the dataset is restricted to Internet pharmacies only (rather than all websites), the proportion of those that were rogue or unapproved skyrockets to 93 percent.

Of course, this number is lower than the same found in other countries — a more positive finding of the study. Another positive result: a high percentage of CFDA-certified OTC pharmacies are generally compliant and not engaged in the illegal sale of prescription medicines, suggesting that the CFDA's certification program may be working. But while it is reassuring that China has a lower number of rogue Internet pharmacies than some other countries (in the US, for example, approximately 97% of Internet pharmacies are operating illegally), 93% is still considered high and constitutes a significant public health risk. China has demonstrated a commitment and willingness to tackle this challenge and the statistics could be improved with continued persistence.

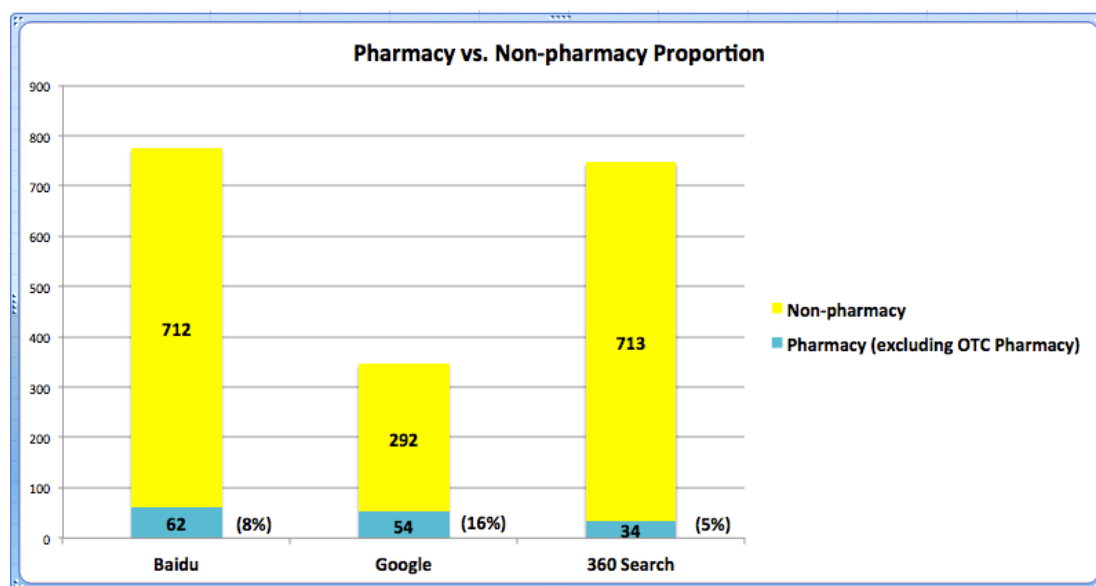
What kinds of drugs are the illicit websites selling? Although prescription lifestyle drugs such as Viagra and Cialis are prevalent, a good portion of rogue Internet pharmacies carry serious cancer medicines such as Iressa and Tarceva, as well as controlled substances such as Triazolam.

One finding of particular interest merits mention at this juncture. During the analysis, it became evident that the data obtained from two search engines — Baidu and 360 Search — were similar, while Google's search results differed significantly, in two respects. First, the sheer number of search results retrieved from Google were only about half of those obtained from Baidu and 360 Search (a total of 346 search results for Google, compared to roughly 740 to 775

for the other two search engines.) This difference was expected for a few reasons: (i) Google's server is not located in mainland China; (ii) Google may be blocked to some Internet users on the mainland; and (iii) searching on Google from a mainland China IP address will result in fewer, apparently throttled, results. Second, the proportion of legitimate search results on Baidu and 360 Search were significantly higher than those found on Google. This appears to be due to the CFDA's recent crackdown activity requiring search engines in China to modify their organic search results and show CFDA-certified Internet pharmacies at the top of the organic search results. (Please see Section 6.2 of this report for more detail on this initiative.)²⁶

5.1 Proportion of Search Results That Are Internet Pharmacies

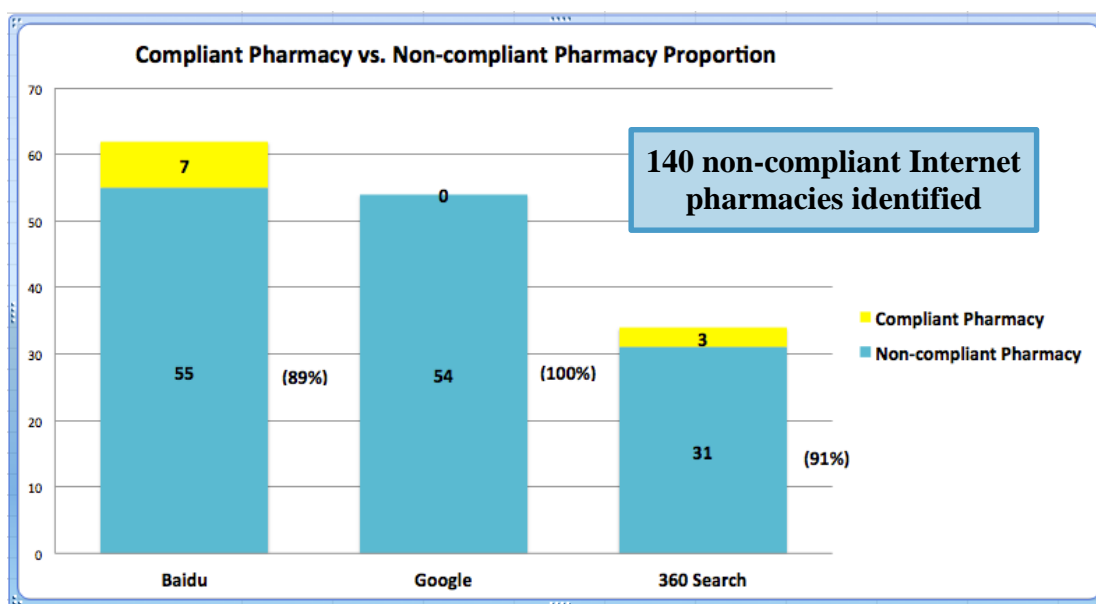
The following chart shows the Internet pharmacy proportion of each search engine query, illustrating what proportion of search results actually sell or facilitate the sale of prescription drugs (which is prohibited in China). The percentages of Internet pharmacies on each platform (whether legitimate or illicit) are 8 percent for Baidu, 16 percent for Google, and 5 percent for 360 Search, for a total of 150 search results.



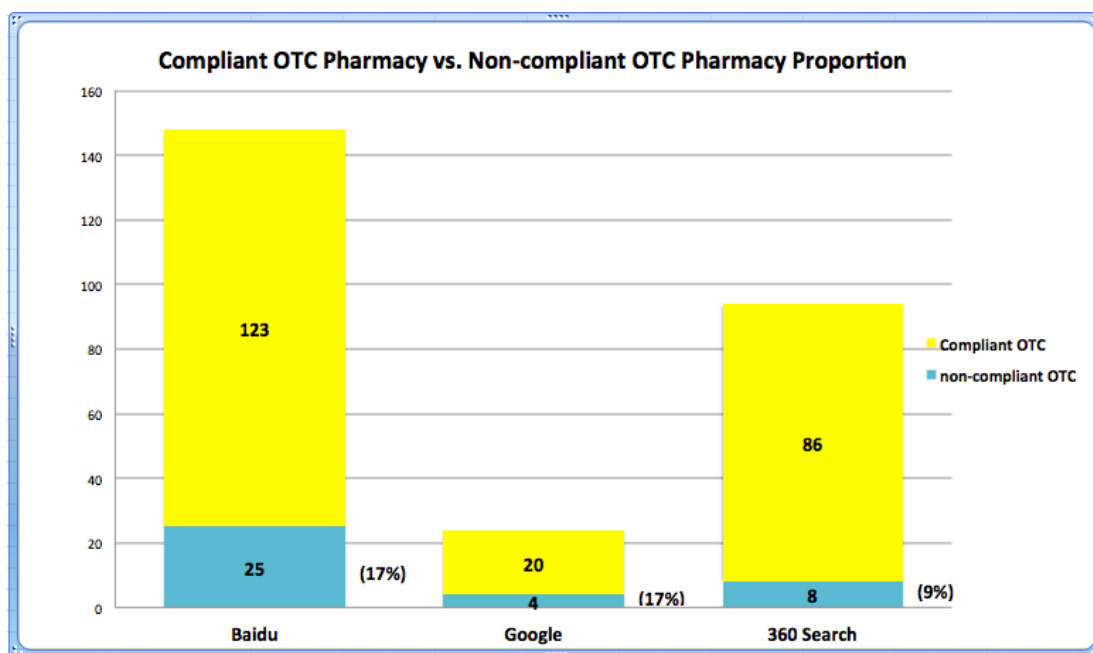
²⁶ <http://www.sda.gov.cn/WS01/CL1368/83374.html>

5.2 Non-Compliant Pharmacy Proportion of Search Results

Among the 150 search results that are identified as pharmacies, noncompliant (rogue and unapproved) Internet pharmacies occupy a significant portion, as shown in the following table. Although the online sale of prescription medicines is 100 percent illicit in China, some of the licensed brick-and-mortar Chinese pharmacies operate websites that are solely designed to provide information, with no goods offered for sale. This type of website is designated as an inapplicable Internet pharmacy, which is considered compliant for the purpose of this report. The percentages of illicit Internet pharmacies among all Internet pharmacies appearing on each search engine were 89 percent for Baidu, 100 percent for Google, and 91 percent for 360 Search. Across all three platforms, an average of 93 percent of the pharmacies were illicit.



One of the positive findings is that the 266 Internet OTC pharmacies from the search results are all certified by the CFDA. Although a majority of the OTC pharmacies seem to be compliant, we did identify some that are not completely following the CFDA's regulations, examples of which are provided in Section 7. The percentages of non-compliant OTC pharmacies among all OTC pharmacies appearing on each search engine were 17 percent for Baidu, 17 percent for Google, and 9 percent for 360 Search.



5.3 The Nature of Legal/Drug Safety Problems

The products found being offered by China's rogue Internet pharmacies and the nature of their violations give rise to serious patient safety concerns. The top three safety problems observed regarding Internet pharmacies in China are outlined below.

5.3.1 No Prescription Required

Most of the rogue Internet pharmacies that were found offer just an online order form, phone number, and QQ messenger number²⁷ for consumers to place orders; a prescription is neither required nor even mentioned anywhere on the websites. In short, these rogue Internet pharmacies sell prescription medicines without requiring a prescription, violating multiple medicine administration laws designed to protect patients.

5.3.2 Controlled Substances and Promotion of Criminal Acts

Perhaps more alarming, many of the rogue Internet pharmacies were found to sell prescription controlled substances with strong associated criminal suggestions. For

²⁷ Tencent QQ, popularly known as QQ, is an instant messaging software service developed by Tencent Holdings Limited. As of Dec. 31, 2012, the active QQ users amounted to 798.2 million while its peak concurrent users reached 176.4 million.

example: the website anm-isu.com is selling Triazolam, a prescription-only Grade I controlled substance in China. The description of this medicine on the website states:

Triazolam is a highly effective sleeping pill that is odorless. It is 30 to 50 times more effective than the normal sleeping pill. It has no taste and it can melt in beer, white wine, water, tea or any drinks. It dissolves fast, effects fast and it has no color after dissolving. It cannot be detected whether there is drugs in the drink. . . . [F]or addict, this can replace cocaine

In context, it's important to call this website what it is: an Internet pharmacy selling drugs “30 to 50 times more effective than the normal sleeping pill” designed to spike the drink of an unsuspecting victim, who may then become a victim of rape, robbery, or some other crime.

Fig 3: Triazolam listing on anm-isu.com

进口三唑仑/舒乐欣/海乐神

商品货号:	ECS000000
商品库存:	100
上架时间:	2013-03-19
商品点击数:	630
市场价格:	¥720元
本店售价:	¥600元
注册用户:	¥600元
用户评价:	★★★★★
购买此商品可使用:	600 积分
购买数量:	<input type="text" value="1"/>
商品总价:	¥600元

[加入收藏](#) [购买商品](#) [推荐此商品](#)

商品属性 PROPERTIES

详细介绍 DETAIL

真正进口三唑仑整瓶价600元(100片/瓶, 白色片, 香港产)

真正无色无味, 易溶易吸收
效果更强, 作用更烈, 超级好用 (数量不多, 欲购从速)
私下解说):三唑仑又名海乐神,舒乐欣.属于高效麻醉药,俗称mi药、蒙汗药、mihuen药,三唑仑片是无味高效安眠药。安眠镇静效果比普通安眠药强30到50倍,而且没有任何味道,可和啤酒、白酒、矿泉水、茶水任何饮料和饮品相溶。溶解快药效迅速、溶解后没有颜色、而且不察觉出有无药品在饮品中。能在5到20分钟令人快速昏睡,根据用药量的多少安眠效果在3到6个小时以上。但是长期服用会导致强烈的生理和心理依赖性或成瘾,吸毒者服用可代替海洛因减轻毒瘾。三唑仑请用于正当用途,否则一切后果自己负责!

商品相册 GALLERY

购买过此商品的人还购买过

Similarly, the same website can be seen below selling a euthanasia drug, potassium cyanide, which is a deadly toxin.

Fig 4: Potassium cyanide listing on anm-isu.com



Other Internet pharmacy websites, such as guaiguaisui.com, sell Triazolam in addition to other products that are suggested for criminal use against victims. One particularly egregious example is a product called Rape Powder DDK, which the website describes thusly: “Strong psychedelic effect in 3 minutes . . . [the victim will] lose consciousness for more than 6 hours, with aphrodisiac effects. Therefore, [the victim] will not refuse to make love and will cooperate with intercourse.”²⁸

5.3.3 Unapproved Prescription Medicines

A sizable portion of the rogue Internet pharmacies are promoting and selling cancer drugs such as Iressa²⁹ (also known as Gefitinib Tablets) and Tarceva³⁰ (also known as Erlotinib

²⁸ <http://guaiguaisui.com/goods.php?id=14>. Note that this website is currently parked.

²⁹ The registration information for Iressa can be found in the CFDA database here: <http://app1.sfda.gov.cn/datasearch/face3/base.jsp?tableId=36&tableName=TABLE36&title=%BD%F8%BF%DA%D2%A9%C6%B7&bcId=124356651564146415214424405468>

³⁰ The registration information for Tarceva can be found in CFDA database here: <http://app1.sfda.gov.cn/datasearch/face3/base.jsp?tableId=36&tableName=TABLE36&title=%BD%F8%BF%DA%D2%A9%C6%B7&bcId=124356651564146415214424405468>

Hydrochloride Tablets). Both are approved by the CFDA as imported drugs, but it is illegal for them to be sold over the Internet.

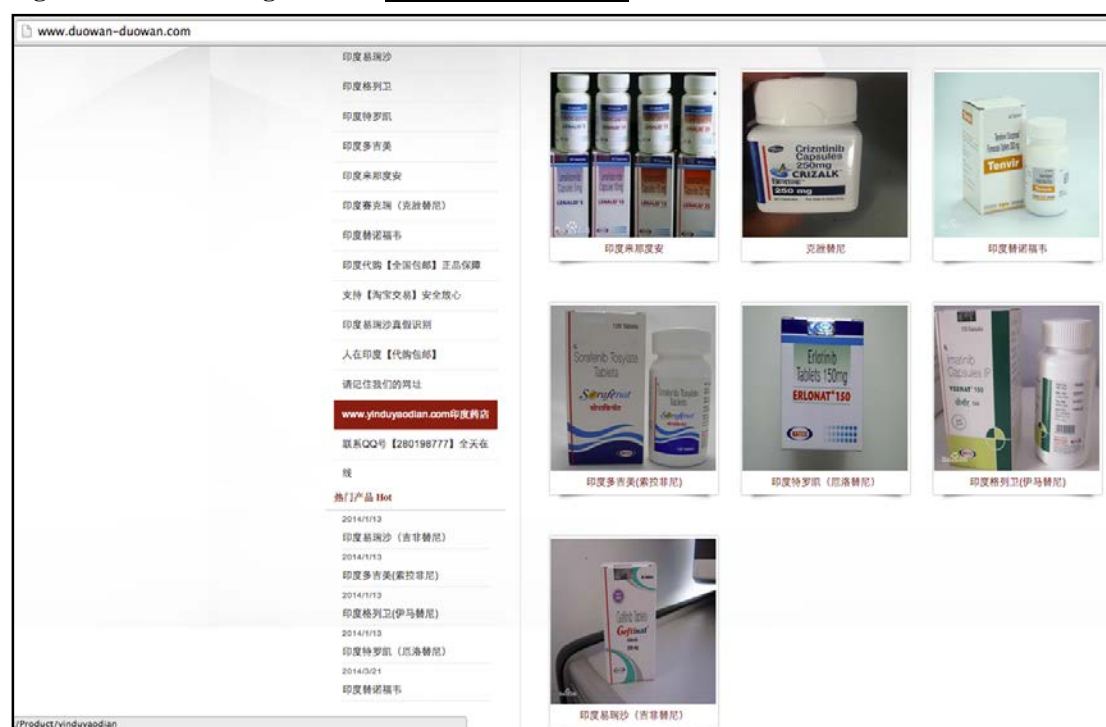
Based on these drugs' CFDA registrations, the genuine Iressa is manufactured by AstraZeneca UK Limited, located in the UK, and is packaged in Japan, while genuine Tarceva is manufactured by Roche S.p.A, located in Italy, and is packaged in Switzerland. However, the versions sold on rogue Internet pharmacies such as duowan-duowan.com are Indian knockoffs of the cancer drugs — not the approved version of the drugs — and are directly imported from India to Chinese individuals. Although these drugs claim to have the same active pharmaceutical ingredients as Gefitinib for Iressa and Erlotinib Hydrochloride for Tarceva, they are not registered or approved by the CFDA and are thus deemed counterfeits under Article 48 of the Drug Administration Law. During a media interview, a representative of Shenzhen China FDA stated that more than 75 percent of the cancer drugs purchased from overseas are not genuine.³¹

A recent news story highlights the risk involved in purchasing these drugs online. On May 12, 2014, an article in Qingdao News reported that a lung cancer patient was prescribed Iressa but could not afford the cost of the drug. In order to save his father, the patient's son purchased the Indian Iressa online. After a week of taking the Indian Iressa, the patient's symptoms worsened. A lab test on the generic Iressa found that starch represented the majority ingredient therein, with no more than 4 percent of the required level of active pharmaceutical ingredient present.³²

³¹ http://www.gd.xinhuanet.com/newscenter/2014-03/12/c_119738393.htm

³² http://news.qingdaonews.com/qingdao/2014-05/12/content_10450171.htm

Fig 5: Counterfeit drug listed on duowan-duowan.com



5.4 Search Terms That Returned the Most Rogue Internet Pharmacies

Based on the data collected, the search keywords that returned the most rogue Internet pharmacies were not the names of specific prescription medicines, but rather terms such as “买强力催情神仙水” (“buy powerful aphrodisiac fairy water”), a phrase used by people searching for products to boost sexual desire, with an average of 10.6 percent of returned queries counted as rogue Internet pharmacies. The search keywords that returned the second-most drug-related results were “买香港三唑仑” (“buy Hong Kong Triazolam”), with an average of 9.8 percent. Third place was a tie between “代购印度特罗凯” (“purchase on your behalf for Indian Tarceva”) and “西力士官网” (“official Cialis website”). As mentioned in Section 5.3.3, Tarceva is a prescription cancer drug. The Indian generic version of the medicine, which comprises most of what is sold by the rogue Internet pharmacies purporting to sell genuine Tarceva, is not approved by the CFDA.³³

³³ For the full list of the search keywords used for this report, see *supra* Section 3.2.

Search Keyword (Chinese)	Search Keyword (English Translation)	Count
买强力催情神仙水	buy powerful aphrodisiac fairy water	14
买香港三唑仑	buy Hong Kong Triazolam	13
代购印度特罗凯	purchase on your behalf for Indian Tarceva	12
西力士官网	official Cialis website	12

5.5 Chokepoints Assessment

The final set of data addresses what are known as “chokepoints” — that is, third parties that are not themselves criminal entities but provide a platform, whether knowingly or unknowingly, for rogue Internet pharmacies to conduct business. This report looks at three types of chokepoint platforms: online advertising programs, registrars, and payment processors.

5.5.1 Online Advertising Programs

This study identified rogue Internet pharmacies participating in paid advertising on two of the search engines, Baidu and 360 Search. There were no observed instances of rogue Internet pharmacies engaged in paid advertising with Google.

On May 14, 2014, a manual search was performed using the keyword “保婴丹” (“Bao Ying Dan”), a prescription herbal medicine in China, on Baidu, Google, and 360 Search. Among the results, two rogue Internet pharmacies were found to be advertising on Baidu: vip8040.com and idmo.cn (which redirects to xxw0471.com). In this particular case, the tactic taken by the rogue Internet pharmacy is a common one — displaying a domain name with innocuous content that was used to gain entry to the online advertising program, but that redirects to a rogue Internet pharmacy upon being clicked by the customer.

Fig 6: Advertisement for vip8040.com and idmo.cn on Baidu

www.baidu.com/#wd=保婴丹&rsrv_bp=0&tn=baidu&rsrv_spt=3&ie=utf-8&rsrv_sug3=1&rsrv_sug4=274&rsrv_sug1=1&rsrv_sug2=0&inputT=963

Baidu 百度 新闻 网页 贴吧 知道 音乐 图片 视频 地图 文库 更多»

保婴丹 百度一下 推荐: 用手机随时随地上百度

保婴丹 百度百科
保婴丹, 药品名称。属于儿科用药, 主要用于治疗小儿感冒, 肠胃不适等相关症状。保婴丹乃古法配方, 纯粹由天然中药精制而成, 对防治婴幼儿疾病, 使之活潑健康, 确有特殊效...
[介绍](#) [主治](#) [产品规格](#) [成分](#) [用法](#) [注意事项](#) [被召回事件](#) [两地区区别](#)
baika.baidu.com/2014-04-10

保婴丹(保婴丹) 说明书 作用 效果 价格 健康网

保婴丹(保婴丹), 保婴丹价格, 保婴丹功效, 余仁生(香港)有限公司生产, 功效: 痰热内闭, 外感风寒引起面赤耳热, 痰多气促睡眠不安, 腹痛吐泻, 夜啼惊跳。
www.jianke.com/produ... 2014-04-19 V2 百度快照

保婴丹是哪个牌子的比较好? 百度知道
5个回答 - 提问时间: 2011-05-23
最佳答案: 保婴丹做的最正宗的还是余仁生的, 毕竟历史悠久, 且是保婴丹的首创, 余仁生保婴丹是余仁生品牌的主打产品。 香港余仁生保婴丹始创于1879年, 乃古...
zhidao.baidu.com/question/271317415.html 2011-05-23
保婴丹功效 2个回答 2011-11-11
保婴丹效果如何? 2个回答 2011-12-28
[更多知道相关问题>>](#)

【保婴丹】保婴丹 保婴丹主治 摇篮育儿百科

保婴丹? 什么是保婴丹? 保婴丹主治? 注意事项? 保婴丹, 药品名称。属于儿科用药, 主要用于治疗小儿感冒, 肠胃不适等相关症状。
www.yaolan.com/zhishi... 2014-04-01 百度快照

保婴丹 今天妈咪群又传出一条震动的消息, 说保婴丹出问题了, 停...
保婴丹今天妈咪群又传出一条震动的消息, 说保婴丹出问题了, 停止生产了。 忙在网上搜了相关信息, 摘录如下(给一些常用这些药品的妈咪们参考): 保婴丹、 奇应丸、 ...
www.babytree.com/comm... 2012-11-15 百度快照 - 评价

保婴丹的最新相关信息
保婴丹使用不当伤肾 3天效果不显应及时停药 39健康网 5天前
保婴丹是很多妈咪“海淘”清单里的常客, 经常出现在网上去香港旅游的购物帖中。 很多妈咪认为它是名方, 效果好, 甚至把保婴丹当成保健药, 隔三差五就给宝...

保婴丹说明书, 余仁生(香港)有限公司 药品通

保婴丹用户点评 暂无用户对该药进行点评 保婴丹相关文章 更多文章 ·
保婴丹多为急诊用药 不可长期服用 保婴丹网上购买 网上药店 药品规格 价格 购买...

相关药品 展开

猴枣散 小儿感冒颗粒 惊风散 七厘散

小儿七星茶 王氏保赤丸 优卡丹 小儿氨酚黄那敏颗粒

相关食物 展开

七星茶 牛栏奶粉 美赞臣 牛初乳

推广链接
[保婴丹 全网唯一授权官方! 正..](#)
保婴丹认准唯一官方, 唯一授权正品网站 全国包邮 电话400-0560-795
www.vip8040.com V1
[香港余仁生保婴丹 全网唯一..](#)
香港余仁生保婴丹 认准唯一官方订购平台, 唯一授权大陆正品网站 全国包邮 货到付款
www.idmo.cn V1
[想在此推广您的产品吗?](#)
咨询热线: 400-800-8888
e.baidu.com

Both advertisements lead to rogue Internet pharmacies that sell Bao Ying Dan, a prescription-only drug, without requiring a prescription.

Fig 7: vip8040.com screenshot

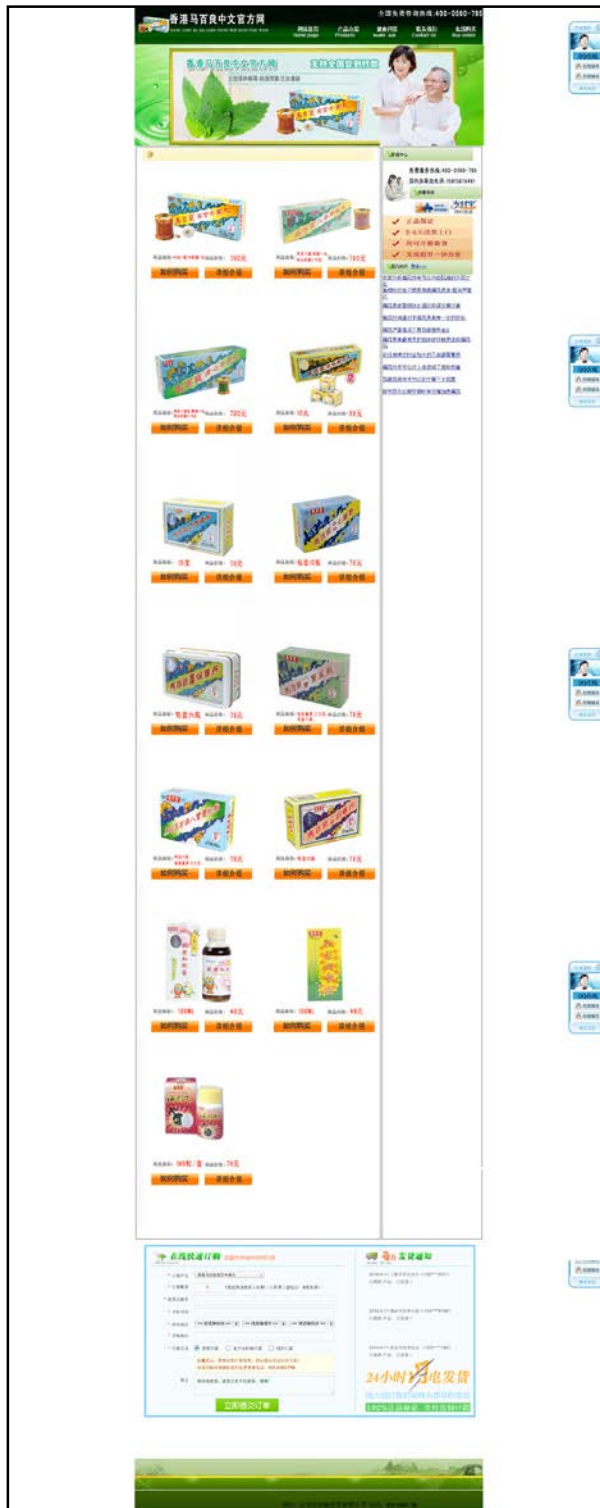


Fig 8: xxw0471.com screenshot

The screenshot shows the website for 'Baobao Dan' (保婴丹), a traditional Chinese medicine for infants. The page is designed with a green and white color scheme. At the top, there's a navigation bar with links to 'Home', 'Product Introduction', and 'Online Purchase'. A prominent banner at the top right displays the phone number 400-0560-795. The main content area is divided into several sections: a large image of the product box, a detailed description of the medicine's benefits for various infant ailments (such as fever, colic, and indigestion), and a list of ingredients. Below this, there are sections for 'Product Introduction', 'How to Buy', and 'Customer Service'. The footer contains a copyright notice for Beijing Fei Si Kang Trade Co., Ltd. and the same phone number.

Interestingly, the two websites are not competitors, but appear to be operated by the same person. There is text at the bottom of both websites claiming the copyright belongs to 北京非斯康经贸有限公司 (Beijing Fei Si Kang Trade Co., Ltd.), with the same phone number listed on each: 400-0560-795. According to the Baidu Credit Profile on Beijing Fei Si Kang Trade Co., Ltd., the company was verified by Baidu on October 21, 2013.

The company name suggests that it is located in Beijing, but both websites claim that the drugs they are selling are imported from Hong Kong. Furthermore, both vip8040.com's and xxw0471.com's home pages display the same fake storefront, a flower delivery service, which is a cover for their online drug sales. Note that the rogue content is accessible only by clicking the actual URL in Baidu's advertisement.

Fig 9: Baidu Credit Profile on Beijing Fei Si Kang Trade Co., Ltd.



Another manual search was performed for 希爱力 (Cialis) on the fourth-most-popular search engine in China, SoGou (sogou.com), which has an estimated 28 percent permeability in China. Of the search results (both organic and paid advertisements) on the first page, a total of 12 (almost half) link to rogue Internet pharmacies, and the rest go to websites that sell unregistered dietary supplements with medical claims, which are considered counterfeit medicines according to CFDA standards.

Fig 10: Search results for 希爱力 (Cialis) on sogou.com



5.5.2 Domain Name Registrars

Domain name registrars play a critical role in the global Internet infrastructure, and have the ability (and in many cases, the contractual responsibility under their accreditations) to investigate and respond appropriately to complaints of criminal activity by domain names registered with their companies. Over the past few years, LegitScript has notified approximately fifteen ICANN-accredited Chinese registrars of rogue Internet pharmacies in an effort to shut down domain names being used to illegally sell prescription medicines. Some Chinese registrars, such as Shanghai Yovole Networks, Inc., do not allow illegal Internet pharmacy activity and swiftly take action. Others, however, offer safe harbor for operators of rogue Internet pharmacies.

Two examples are TodayNIC³⁴ and BizCN,³⁵ which as of mid-2014, collectively sponsored an estimated 15 percent of the world's rogue Internet pharmacies (this is based on LegitScript's internal data) — a startling statistic given the fact that there are more than 1,500 domain name registrars or registries worldwide. At the time, LegitScript data indicated that TodayNIC was the world's largest "safe haven" for rogue Internet pharmacy domain name registrations, and BizCN was in the top 10, most recently in the No. 2 spot. As the final version of this report was being prepared, ICANN issued a formal breach notice³⁶ to TodayNIC due to the company's failure to take action against the over 2,500 rogue Internet pharmacies that LegitScript had reported to TodayNIC; over half of the rogue Internet pharmacies were subsequently shut down, and under half were (unfortunately) permitted to transfer to other domain name registrars against LegitScript's protest. Accordingly, as of the final version of this report, TodayNIC fell from its long-standing position as the top "safe haven" for rogue Internet pharmacy domain name registrations to hosting only a handful. Nevertheless, the recent history is relevant and instructive: these two registrars have allowed registrants to use domain names for illegal drug sales, and market their business overseas rather than domestically, resulting in rogue

³⁴ <http://www.now.cn>. TodayNIC has signed 2013 Registrar Accreditation Agreement according to <http://www.internic.net/registrars/registrar-697.html>.

³⁵ <http://www.bizcn.com>. BizCN has signed 2013 Registrar Accreditation Agreement according to <http://www.internic.net/registrars/registrar-471.html>.

³⁶ <http://www.icann.org/en/system/files/correspondence/serad-to-cao-10oct14-en.pdf>

Internet pharmacy operators in Russia, Eastern Europe, the Middle East, and elsewhere using two Chinese registrars as “safe haven” or “offshore” registrars.

Below is the registration information for TodayNIC and BizCN with China Internet Network Information Center (CNNIC).³⁷

Fig 11: TodayNIC registration information (source: CNNIC)

广东时代互联科技有限公司（原珠海市时代互联信息技术有限公司）
地址：珠海市香洲区柠溪路599号5栋1层
邮编：519001
电话：0756-3810520、3810500
传真：0756-2282526
email: lxlin@now.net.cn
公司网址: http://www.now.cn/

Fig 12: BizCN registration information (source: CNNIC)

厦门商中在线科技有限公司（原厦门东南融通在线科技有限公司）
地址：厦门软件园（二期）望海路61号
邮编：361008
电话：0592-2577888
传真：0592-2577111
email: tongyong@bizcn.com
公司网址: http://www.bizcn.com/

The critical role that registrars play in protecting the public health is illustrated by an example: viagrag.com, a website that throughout 2012 and 2013 was selling Viagra online to Chinese residents and purported to be the official website for the drug. The website was cited in a CFDA warning letter in October 2013 for selling the prescription

³⁷ <http://www.cnnic.net.cn/>

drug Viagra online.³⁸ Although the content itself was hosted in the United States, the domain name was registered with a Chinese registrar, Foshan Yidong Network Co., Ltd. The website continued to sell Viagra without a prescription online even after being published in CFDA's warning letter. In April 2014, LegitScript requested that the domain name registrar, Foshan Yidong, shut down and lock the domain name. The registrar promptly complied with that request. Subsequently, the domain name registrant wrote to the registrar asking to get the domain name back and claiming that he would not sell Viagra anymore. The registrar properly denied the request.

³⁸ <http://www.sfda.gov.cn/WS01/CL1661/93574.html>

6.0 Chinese Government Crackdown on Chinese Rogue Internet Pharmacies

In July 2013, the Ministry of Public Security of the People's Republic of China launched a campaign named "Operation Cloud," which focused on combating counterfeit drugs sold via the Internet. On December 14, 2013, The Ministry of Public Security announced that over 400 criminal networks were taken down, over 140 rogue Internet pharmacies were shut down, and over 1,300 suspects were captured during the Operation Cloud.³⁹ Also in July 2013, the CFDA initiated a half-year campaign called "Two Strikes, Two Setups" intended to combat the illegal manufacturing and sale of drugs, including the illegal online sale of drugs. To crack down on illegal online sales, CFDA worked with other government departments such as the State Internet Information Office, the Ministry of Industry and Information Technology (MIIT), the Ministry of Public Safety, and the State Administration for Industry and Commerce.⁴⁰ This section recaps the initiative and assesses CFDA's campaign success. At the same time, ASOP recognizes that CFDA and other Chinese enforcement authorities likely have greater information on this matter than any third party could, and will thus be providing them with sufficient opportunity to vet these findings.

6.1 The Objective

Two Strikes, Two Setups covered a wide range of issues to improve overall drug safety in China. A central objective of the campaign was to shut down the rogue Internet pharmacies that were illegally selling drugs and to arrest the website operators. This campaign focused on not only the illegal websites but also on CFDA-certified Internet pharmacies that publish false drug information or illegally sell prescription drugs. The government also focused on the major Internet companies such as search engines, portal websites, social media websites, and e-commerce platforms to ensure that they do not facilitate the illegal online sale of drugs.

³⁹ <http://www.mps.gov.cn/n16/n1237/n1342/n803715/3953620.html>

⁴⁰ <http://www.sda.gov.cn/WS01/CL0051/82398.html>

Another objective of the campaign was to explore a better mechanism to regulate online drug sales. It aimed to form a long-term cooperation with the related departments to effectively improve regulation.

Finally, the campaign aimed to improve public education about buying drugs online by raising awareness of illegal online sales of drugs and educating the public on how to choose legitimate Internet pharmacies.

6.2 The Outcome

By the end of September 2013, the CFDA had identified more than 2,000 websites selling drugs illegally in China. One-hundred ninety-four illegal domestic websites were sent to MIIT for enforcement, and 609 illegal overseas websites were the subject of notifications to authorities in other countries for enforcement. Some suspects selling counterfeit drugs online were also arrested.⁴¹

In January 2014, 10 CFDA-certified Internet OTC pharmacies were suspended due to the unlawful online sale of prescription drugs.⁴² These pharmacies were able to restore their licenses after becoming compliant, and few CFDA-certified Internet pharmacies currently sell prescription drugs online.

As per LegitScript data, the proportion of rogue or unapproved pharmacies for each search engine following the CFDA's actions was reduced to 10.3 percent for Baidu; 16.8 percent for Google; and 5.2 percent for 360 Search. Moreover, some search engines have implemented warnings that various websites may violate applicable laws and regulations. For example, while searching “买三唑仑” (buy Triazolam) on 360 Search, there is a warning message on top of the search results that says, “According to related law, regulation and policy, some search results are not shown below.”

⁴¹ <http://www.sda.gov.cn/WS01/CL1577/93296.html>

⁴² <http://www.gdda.gov.cn/publicfiles/business/htmlfiles/jsjzz/zscjg/201401/272694.htm>

Fig 13: Warning message on 360 Search



As noted earlier in this report, the data collected during this study identified the use of third-party websites such as [hmyy.tv](#), [t.qq.com](#), and [51sole.com](#) to sell or facilitate the sale of OTC or prescription drugs. As to these e-commerce and social media platforms, about 23.6 percent of the search results include rogue/unapproved content in the Baidu sweep, 15.8 percent in the Google sweep, and 17.7 percent in the 360 Search sweep.

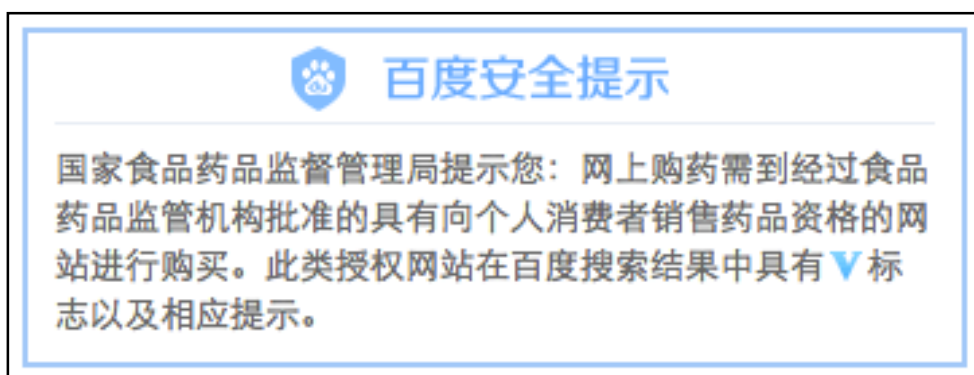
Another highly beneficial result of the CFDA's anti-rogue Internet pharmacy campaign was the publishing of multiple news stories regarding the danger of illegal online drug sales and how to identify legitimate Internet pharmacies.

6.3 CFDA Partnership With Baidu

In February 2013, CFDA (formerly State Food and Drug Administration⁴³) formed a strategic partnership with Baidu, China's largest search engine, to combat the sale of counterfeit drugs. CFDA gave Baidu access to its database of approved drugs, drug pamphlet samples, and certified Internet OTC pharmacy registrations,⁴⁴ and Baidu returns expanded information to Internet users based on the CFDA's information.

For example, when searching the phrase “买药” (“buy medicines”) on baidu.com, a warning message next to the search results on the right-hand side appears, stating: “CFDA reminder: consumers should go to CFDA certified Internet pharmacies to buy drugs.” As shown in the following image, some of the organic search results have a blue “V,” and Baidu's verification information of the website will show up by clicking on the blue “V.”

Fig 14: Baidu warning message



⁴³ In March 2013, China Food and Drug Administration (CFDA) was founded on the basis of the State Food and Drug Administration. CFDA was elevated to ministerial level and directly under the State Council of China. It is in charge of the overall safety management of food, drugs, dietary supplements, and cosmetics.

⁴⁴ <http://gongyi.baidu.com/yanguangxingdong/2013-03-11/1363959541.html>

Fig 15: Search result on Baidu with “V” sign



Following the Baidu partnership, search engines such as 360 Search and chinaso.com also received access to the CFDA database to help promote the legitimate online sale of drugs.

Although these results indicate that the CFDA's initiative had some favorable results, it is important to note that rogue Internet pharmacies continue to find a way to show up in search results. For example, on May 14, 2014, a random search of the keyword “希爱力” (Cialis) on Baidu turned up the search result shown in the following image.

Fig 16: Search results for 希爱力 (Cialis) on baidu.com



The second search result highlighted above goes to yxlinde.com, a rogue Internet pharmacy that is illegally selling Cialis online without requiring a prescription, as shown in the next image.

Fig 17: baidu.com screenshot



This illustrates that even when a search engine attempts to promote legitimate search results, Internet search results can still display rogue Internet pharmacies. Because of this, long-term, constant monitoring is required.

7.0 Analysis and Next Steps

As noted in the introduction, this analysis primarily looked at three issues: the overall landscape of the Chinese Internet pharmacy market; the nature of the threat; and the impact of the CFDA's "Two Strikes, Two Setups" campaign aimed at reducing the supply of, and demand for, illicit medicines sold online. We summarize each of our findings in turn below.

Overall Landscape

As to the first point, no country, including China, is exempt from being targeted by rogue Internet pharmacy operators. At 93 percent, nine in 10 Internet pharmacies that appeared in search results analyzed were operating illegally. With the sole exception of Google Advertising,⁴⁵ we saw this in both unpaid search results across all search engines, and in the search engines' paid advertising programs as well.

Nature of the Threat

In terms of the mostly commonly sold drugs that were found online, it should come as no surprise that erectile dysfunction drugs are among the most prevalent. However, it does not stop there: many of the rogue Internet pharmacies were found selling cancer medications such as Iressa, used to treat late-stage cancer. A counterfeit version of this injectable medication would not be considered sterile. Moreover, if placebo is used in a counterfeit version of this drug, the life-threatening illness it treats presents extreme risk to the patient receiving a counterfeit dosage. Similarly, selling controlled substances such as Triazolam and date rape drugs adds another dimension to the problem of rogue Internet pharmacies: some Internet pharmacies cater to customers who aim to victimize others. Those Internet pharmacies marketing Triazolam and other controlled substances, especially those marketed as rape drugs, are arguably encouraging the commission of further crimes. In this way, the rogue Internet pharmacy market poses a threat not only to its immediate customers, but also to third parties who may become victims of violent or sexual crime.

⁴⁵ In the interest of full disclosure, please note that LegitScript performs Internet pharmacy monitoring for Google in several countries, including China, to ensure that the advertising platform remains clean.

In considering the nature of the threat, it is worth referencing who operates the rogue Internet pharmacies targeting Chinese citizens. The websites' product descriptions and references to criminal activities are well written in native Chinese, an indication that the operators are themselves Chinese. Additionally, most medicines sold on the websites are packaged in Chinese and are delivered domestically, further indicating that the websites are operated in China rather than by a foreign entity.

Effectiveness of CFDA Initiative

The evidence suggests that the CFDA's initiative, in partnership with other agencies, to target rogue Internet pharmacies has been effective. As with any first initiative, there are ways to improve effectiveness, especially when dealing with entities participating in illicit practices. The following examples note a few ways in which criminals have bypassed the CFDA's attempts to address the rogue Internet pharmacy threat.

First, it is important to note that in many (and perhaps all) cases, the CFDA focused on notifying content hosting providers, not domain name registrars. To explain this, a website can be thought of (for the purposes of this explanation) as having two parts: the domain name (e.g., legitscript.com or cfda.gov.cn), and the content that it points to, which resides on a server often operated by a different company than the one used to register the domain name itself. When a content hosting provider (but not domain name registrar) is notified about a rogue Internet pharmacy and deletes the content, a rogue Internet pharmacy operator typically has a backup copy ready and can deploy it on another server. For this reason, notifying content hosting providers about rogue Internet pharmacy content tends to be ineffective. Later in this section, the benefit of notifying domain name registrars instead is explained.

Second, some websites that were certified as informational websites only, with an Internet Drug Information Service Certificate, were, in fact, found to be quietly facilitating the sale of medicines without being CFDA-certified to do so. However, it is worth wondering whether their status as certified to provide Internet drug information results in Internet users trusting these websites, while not understanding that the websites are not operating legitimately by facilitating the sale of drugs.

Consider an example. The website 39.net has an Internet Drug Information Service Certificate, shown below, issued by the CFDA. The subdomain (a page within the website) ypk.39.net duly displays information about pharmaceutical products. However, if one clicks “龙虎人丹,” which is an OTC red logo product, it will not only show the information about the drug but also direct the consumers to other websites, jianke.com, baiji.com.cn, and j1.com, which sell the drug. In this case, all of the redirected websites are CFDA-certified Internet pharmacies, so the health risk would appear to be low. But the facilitation of drug sales in this way by 39.net, which is only certified to provide information, would appear to be inconsistent with CFDA requirements.

Fig 18: 39.net certification information

互联网药品信息服务	
证书编号	(粤)-经营性-2012-0002
服务性质	经营性
机构名称	广州启生信息技术有限公司
法定代表	杨飞
有效截至日期	2017-01-10
地址和邮编	广州市天河区珠江东路13号第10、11层
网站域名	网站主服务器所在地址：北京市朝阳区建国路112号惠普大厦2层;39health.com/39.com/39.net /seedit.com;219.238.238.35-66(39健康网/播种网)
发证机关	广东省食品药品监督管理局
有效起始日期	2012-01-11
网站负责人	顾晶

Fig 19: Drug listing on ypk.39.net, a subdomain within 39.net



Fig 20: ypk.39.net directs the customers to buy medicines from a CFDA-verified Internet OTC pharmacy



To provide another example, consider the website 818.com, which is also certified by the CFDA as an Internet Drug Information Service website, but is facilitating the sale of medicines online. Our review of the website indicates that an astounding 475 pharmacies are selling through 818.com. Moreover, some of the 475 pharmacies that are listed on 818.com are certified for selling medicines, while some are not. Although all of the pharmacies appear to be licensed brick-and-mortar pharmacies in China, the way 818.com operates is technically violating Internet Drug Information Service Provisions and illustrates a potential loophole.

Fig 21: 818.com certification information

互联网药品信息服务	
证书编号	(沪)-非经营性-2014-0020
服务性质	非经营性
机构名称	上海八亿八医药信息有限公司
法定代表	曾昶
有效截止日期	2019-04-09
地址和邮编	上海市虹口区四平路311号甲座1806室200081
网站域名	中国电信杭州分公司滨江机房-杭州市滨江区聚园路8号;www.818.com;122.224.80.210(818医药网)
发证机关	上海市食品药品监督管理局
有效起始日期	2014-04-10
网站负责人	张博

7.1 Study Recommendations

In light of the above, here are some recommended actions to further reduce the threat of Chinese rogue Internet pharmacies and improve the public health.

7.1.1 Chokepoint Strategy

First, the nature of Internet compliance, for better or for worse, is primarily focused on domain name registrars, rather than server companies that host content. By simply notifying content hosting companies about websites selling, for example, drugs used to commit rape and robbery, even if the content is deleted by the hosting company, the website can be operational within minutes unless the domain name registrar is also notified and takes action to suspend the domain name. Indeed, Internet users do not access content by typing an IP address into a browser; rather, they type in a domain

name. Making the domain name inoperable effectively cuts the ability of Internet users, such as those seeking to buy rape or robbery drugs, to find or access the content.

Second, the delivery companies are another important chokepoint that should be made aware of the risk posed by rogue Internet pharmacies. To explain this, Article 9 of the Internet Medicine Transaction Service Approval Regulation states that Internet OTC pharmacies should provide their own logistics for delivery. CFDA has recently published a reminder on online medicines consumption, which requires the drugs to be delivered by the pharmacy staff.⁴⁶ This is an entirely reasonable, good policy. However, rogue Internet pharmacies simply ignore this, and from what has been observed, use regular delivery companies and offer payment upon delivery. This makes the delivery companies a facilitator (possibly unwittingly) of the illegal sale of drugs. Accordingly, the CFDA should consider requesting that delivery companies implement a monitoring system so that they will not be taken advantage of by the criminals.

7.1.2 Establish a Better Drug Database

A second area of recommendation pertains to the CFDA's prescription drug database. Like many drug safety agencies around the world, CFDA has a website that provides a drug database to the public. Consumers can search whether a drug is registered for sale in China. However, the drug registration information does not include whether this drug is OTC or prescription-only. Generally, if a drug is registered with the CFDA and it is not found under OTC pamphlet lists, it is assumed to be a prescription-only drug, but there is no clear indication. It's therefore suggested that this information be clearly displayed in every drug registration within the CFDA database, which would provide further clarity as to whether an Internet pharmacy is operating illegally (since the sale of prescription drugs, under current Chinese law, is *per se* illegal).

⁴⁶ <http://www.sfda.gov.cn/WS01/CL1033/99374.html>

7.1.3 Improve the Packaging Requirement for Prescription Drugs

A positive move by the CFDA has been to impose strict packaging requirements on OTC drugs. Namely, a green OTC logo is required for OTC medicines that can be sold in supermarkets, hotels, and general stores. A red OTC logo is required for OTC medicines that can only be sold in pharmacies. Consumers can purchase red logo OTC medicines without a prescription, but are recommended to consult a pharmacist before doing so.

In the same vein, it's suggested that the CFDA consider requiring some sort of attention-catching logo on the packaging for prescription drugs, such as "Rx," which is commonly known around the world. This will assist in helping consumers, as well as stakeholders, know whether a drug being sold requires a prescription or not. Also, to the same point, the lack of such packaging would quickly be an indicator that the drugs are unapproved versions unlawfully imported from elsewhere in contravention of Chinese drug safety laws.

7.1.4 Improve the CFDA Certification System

It's suggested that the CFDA consider requiring CFDA-certified Internet pharmacies to display a logo that hyperlinks directly back to the CFDA database, so that Internet users can immediately verify whether the website is approved or not. This will reduce the incidence of rogue Internet pharmacies displaying a fake CFDA license, because clicking on a fake license would quickly result in Internet users being able to see that the website in question is not, in fact, approved by the CFDA. If, as appears to be possible under the proposed Internet Food and Drug Supervision and Administration Provision, prescription drug sales will be approved for the Internet, this hyperlinked logo system will be an even more important tool for China-based Internet users to verify legitimacy.

While such a certification system would serve as an admirable step in the right direction, the imminent launch of the .pharmacy gTLD provides a unique opportunity for China to go even further in protecting Chinese patients from fake medicines. It's therefore recommended that CFDA encourage CFDA-certified Internet pharmacies to obtain a .pharmacy domain name from the National Association of Boards of Pharmacy (NABP). Utilization of the .pharmacy domain would allow consumers to immediately know that

such pharmacy has been fully vetted and is validly operating in China. Logos and related hyperlinks can be falsified, but a domain name cannot. Thus, a .pharmacy domain name is the only foolproof way to ensure a site has been vetted and is validly operating. Given the confluence of factors at work in the Chinese pharmaceutical market right now — extremely rapid growth, strong CFDA enforcement measures and successes, and the pending liberalization of online prescription drug sales — the timing of .pharmacy’s launch (domains will be available beginning June 3, 2015) appears quite fortuitous if CFDA wishes to take advantage.

7.1.5 Continue and Improve Upon Existing Enforcement Measures

The recent Chinese enforcement measures detailed above have proven effective, and it’s important that the gains from these efforts not fade. It’s therefore recommended that the CFDA and other relevant authorities continue to implement their campaigns against illegal online drug sellers. Additionally, Chinese authorities should consider adopting an annual crackdown campaign aimed at shutting down non-compliant websites. Illegal online drug sellers are stubbornly persistent, and regular, sustained measures are required to keep them at bay.

7.1.6 Continue to Participate in International Enforcement Operations

In a similar vein, it’s suggested that China continue to cooperate closely with INTERPOL and its Operation Pangea program. Operation Pangea is an international week of action tackling the problem of illegal online drug sellers. The annual operation, coordinated by INTERPOL, brings together law enforcement authorities and private entities from around the world to help stamp out rogue websites. Consistent and continued participation from world powers like China is vital to these efforts.

Given China’s own recent successes with shutting down rogue domestic sites, Chinese authorities should embrace a meaningful role in Pangea and similar actions. The knowledge and expertise acquired by Chinese law enforcement through programs like Operation Cloud and Two Strikes, Two Setups could be of great value to an international coalition like Operation Pangea. From China’s perspective, INTERPOL support could provide the perfect opportunity to, for example, target rogue Chinese registrars that

function as safe havens for illegal online drug sellers worldwide.⁴⁷ Continued cooperation between the Chinese authorities and INTERPOL is thus key to increasing global efficacy in shutting down transnational organized crime networks that threaten public health.

7.1.7 Continue Support for APEC Safe Medicine Activities

Finally, the CFDA currently participates in the Asia-Pacific Economic Cooperation (APEC) Life Science Innovation Forum and the APEC Regulatory Harmonization Steering Committee (RHSC). Transnational alliances such as these are crucial to protecting public health. It's therefore highly recommended that China continue its support for RHSC safe medicine activities. In particular, participation in the RHSC Internet Sales Working Group is encouraged to help fight the problem of illegal online drug sellers.

⁴⁷ See discussion *supra* Section 5.5.2 (explaining why “safe haven” registrars must be stamped out).

8.0 Conclusion

For this report, the Alliance for Safe Online Pharmacies (ASOP) and LegitScript sought to assess the state of the Chinese Internet pharmacy market, particularly with respect to understanding the prevalence of rogue Internet pharmacies, the nature of their illicit activities, and the types of drugs they most frequently market.

This initial assessment concludes that rogue/unapproved Internet pharmacies constitute about 93 percent of the market in China. The ratio is only slightly lower than what has been observed in the US and in EU countries, demonstrating that all markets have an unacceptably high ratio that threatens the public health of their citizens. As in other countries, the stereotype of rogue Internet pharmacies as selling only lifestyle drugs is false: illicit versions of cancer medications and other lifesaving drugs were seen being sold online. Indeed, the most chilling fact observed in this research related to the products being sold by Chinese rogue Internet pharmacies: in addition to counterfeit drugs, controlled substances are being sold with marketing language that suggests criminal purposes for the drugs targeted at victims.

China is a fast-growing country in all respects, including the demand for medicines. With the Internet business booming for the past decade, illicit Internet pharmacies are also growing at roughly the same pace. Simply put, if the Chinese government hopes for the legitimate Internet pharmacy market to grow, it must also expect that the rogue market will grow in tandem with it and take countermeasures. On the positive side, the Chinese government is aware of the illicit Internet pharmacy issue and has been putting a lot of effort into trying to control the situation, and it seems that some of these measures have had an effect, with some degree of a reduction in rogue Internet pharmacies following the CFDA's actions.

There are several ways that the CFDA can augment its recent efforts: educating the domain name registrar community and delivery systems in China; improving the content and format of information provided by the CFDA; imposing stricter packaging requirements for prescription drugs; requiring CFDA-approved Internet pharmacies to hyperlink to the CFDA's database; and encouraging CFDA-approved Internet pharmacies to obtain .pharmacy domain

names. Additionally, China should continue with the strategies that have worked thus far: strong enforcement efforts on the domestic front; continued participation in INTERPOL's Operation Pangea; and engagement in transnational alliances through APEC.

Although not the focus of this report, it is important to note that the CFDA is currently reviewing public feedback regarding a proposed new regulation entitled the Internet Food and Drug Supervision and Administration Provision. This could, among other things, liberalize online prescription drug sales. While there may be public health benefits to increasing Internet-based access to prescription medicines, whatever problems have been observed in the online OTC drug space are likely to be magnified several times over in the prescription drug space, with the added problem of no-prescription-required sales of prescription drugs — already a problem in China, but one that may become slightly murkier if prescription drug sales on the Internet are no longer *per se* illegal.

Will the rogue Internet pharmacy market in China ever reach zero? No, and nor will it in any other country — there will always be miscreants trying to make a fast yuan at the expense of public health. But a dramatic reduction in the number and ratio of rogue Internet pharmacies is achievable, in China and elsewhere. With China's spectacular economic growth, the Chinese Internet market for prescription drugs can reasonably be expected to show some growing pains. But this is also an opportunity for the CFDA to implement, early on, strong policies and best practices that set the stage for steady, strong growth of the legitimate Internet pharmacy market while stifling the growth of illegal online pharmacies.

9.0 Appendix: ICANN-Accredited Chinese Registrars

! #1 Host Israel, Inc.

35 Technology Co., Ltd.

Alibaba Cloud Computing Ltd. d/b/a
HiChina (www.net.cn)

Beijing Guoxu Network Technology Co.,
Ltd.

Beijing Innovative Linkage Technology Ltd.
dba dns.com.cn

Beijing Midwest Taian Technology Services
Ltd.

Beijing RITT - Net Technology
Development Co., Ltd

Beijing Sanfront Information Technology
Co., Ltd

Beijing Tong Guan Xin Tian Technology
Ltd (Novaltel)

Beijing Wangzun Technology Co., Ltd.

Beijing ZhongWan Network Technology Co
Ltd

Beijing Zhuoyue Shengming Technologies
Company Ltd.

Beijing Zihai Technology Co., Ltd

Bizcn.com, Inc.

Chengdu Fly-Digital Technology Co., Ltd.

Chengdu West Dimension Digital
Technology Co., Ltd.

China Springboard, Inc.

ChinaNet Technology (SuZhou) CO., LTD

CyanDomains, Inc.

DNSPod, Inc.

DOMAIN NAME NETWORK PTY LTD

DOMAINNAME BLVD, INC.

DomainName Bridge, Inc.

DomainName Driveway, Inc.

DOMAINNAME FWY, INC.

DomainName Parkway, Inc.

DomainName Path, Inc.

DomainName Route, Inc.

DotMedia Limited

eName Technology Co., Ltd.

EU Technology (HK) Limited

FLAPPY DOMAIN, INC.

Foshan YiDong Network Co., LTD

Fujian Domains, Inc.

Fujian Litian Network Technology Co.,Ltd

Guangdong JinWanBang Technology
Investment Co., Ltd.

GuangDong NaiSiNiKe Information
Technology Co Ltd.

Guangzhou Domains, Inc.

Guangzhou Ehost Tech. Co. Ltd.

Guangzhou Ming Yang Information
Technology Co., Ltd

Hangzhou AiMing Network Co., LTD

Hangzhou Dianshang Internet Technology
Co., LTD.

Hangzhou Duomai E-Commerce Co., Ltd

Hangzhou E-Business Services Co., Ltd.

HazelDomains, Inc.

Hebei Guoji Maoyi (Shanghai) LTD dba
HebeiDomains.com

Henan Weichuang Network Technology Co.
Ltd.

HiChina Zhicheng Technology Limited

HooYoo Information Technology Co. Ltd.

Internet Domain Name System Beijing
Engineering Research Center LLC (ZDNS)

Jiangsu Bangning Science & technology Co.
Ltd.

KQW, Inc.

MAFF AVENUE, INC.

MAFF Inc.

Media Elite Holdings Limited

Nanjing Imperiosus Technology Co. Ltd.

Number One Web Hosting Limited

PocketDomain.com Inc.

Premierename.ca Inc.

Service Development Center of the State
Commission Office for Public Sector
Reform

Shanghai Best Oray Information S&T Co.,
Ltd.

Shanghai Meicheng Technology
Information Development Co., Ltd.

Shanghai Oweb Network Co., Ltd

Shanghai Yovole Networks, Inc.

Shenzhen Esin Technology Co., Ltd

Shenzhen HuLianXianFeng Technology
Co.,LTD

Threadagent.com, Inc.

Tianjin Zhuiri Science and Technology
Development Co Ltd.

Todaynic.com, Inc.

Tong Ji Ming Lian (Beijing) Technology
Corporation Ltd. (Trename)

West263 International Limited

Xiamen ChinaSource Internet Service Co.,
Ltd

Xiamen Dianmei Network Technology Co.,
Ltd.

Xiamen Domains, Inc.

Xiamen Nawang Technology Co., Ltd

Xin Net Technology Corporation

Zhengzhou Zitian Network Technology Co.,
Ltd.