



Using Open Source Intelligence (OSINT) to Map
the Production and Distribution of Fentanyl and its
Precursors / Analogues in China.

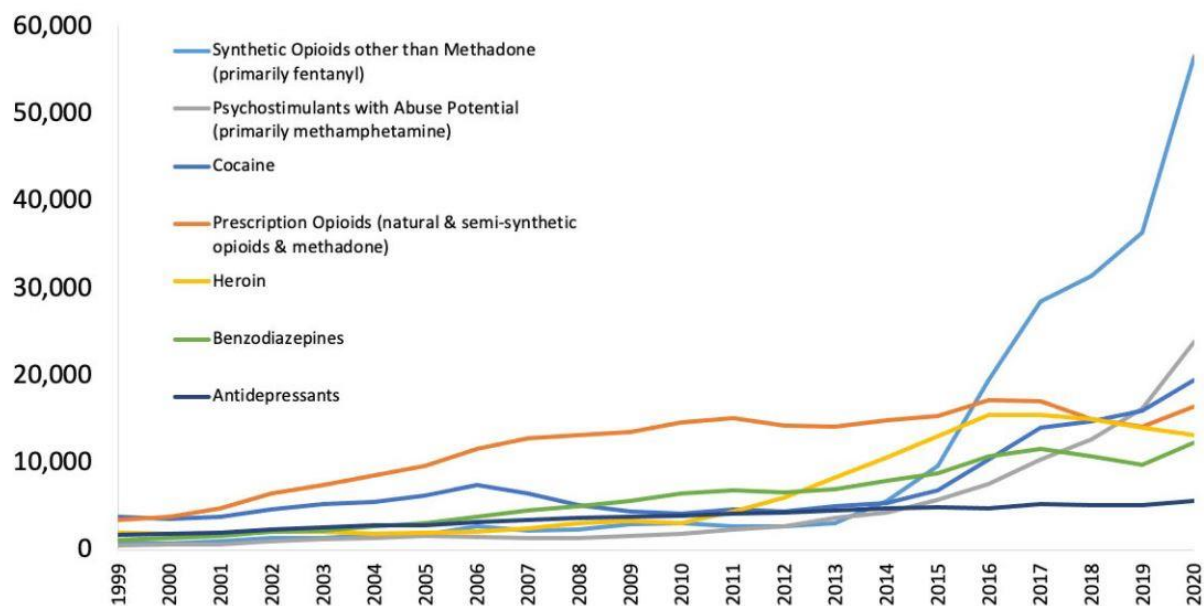


Submitted to Open Source Intelligence Exchange (OSIX)

A. PROBLEM STATEMENT

The Federal Commission on Combating Synthetic Opioid Trafficking has found that from June 2020 to May 2021, fentanyl and synthetic opioids accounted for two-thirds of the more than 100,000 deaths in the US from drug overdoses.ⁱ In 2017, a House of Representatives Subcommittee hearing warned that fentanyl will cause the next wave of the opioid epidemic as it is “50 times more potent than heroin and 100 times more potent than morphine,” yet the crisis remains worse than ever.ⁱⁱ

More recently, in 2019, the Pentagon and the Department of Homeland Security considered designating fentanyl as a weapon of mass destruction. And now, according to Families Against Fentanyl -- an opioid awareness organization -- fentanyl has become the leading cause of death in Americans aged 18-45 (surpassing, deaths from COVID-19, car accidents, and suicide).ⁱⁱⁱ Figure 1 below from the National Institutes of Health, National Institute on Drug Abuse illustrates the exponential growth of synthetic opioid overdose deaths.



*Includes deaths with underlying causes of unintentional drug poisoning (X40–X44), suicide drug poisoning (X60–X64), homicide drug poisoning (X85), or drug poisoning of undetermined intent (Y10–Y14), as coded in the International Classification of Diseases, 10th Revision. Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999–2020 on CDC WONDER Online Database, released 12/2021.

Figure 1: National Drug-Involved Overdose Deaths (1999-2020)^{iv}

As the global fentanyl crisis continues to spread, traffickers are circumventing restrictions involving the production and sale of the drug by manufacturing and selling fentanyl precursor chemicals and analogues. These precursors can be legally produced, sold, and distributed and later assembled in sophisticated illegal drug producing markets like Mexico with established

drug cartels and distribution channels into the US.^v Procurement of chemicals used to produce fentanyl and fentanyl variants often begins on the Internet where manufacturers advertise their products on platforms including chemical marketplaces and social media.^{vi}

Today, the People’s Republic of China’s (PRC) vast chemical industry is the primary source of fentanyl and other drug precursors, both licit and illicit, despite the Chinese Government’s increased scrutiny of domestic production.^{vii} The flow of fentanyl into the US, Canada, and other countries can be reduced by more effectively monitoring and regulating the entities at the start of the supply chain. This process begins with accurately identifying the key entities involved in illicit production and distribution of chemical precursors.











Through recent research conducted by TextOre, Inc. (“TextOre”), fentanyl precursors such as the essential chemical 4-ANPP were found to be sold by chemical manufacturers in marketplaces like the Chinese chemical e-commerce platform Molbase [上海摩库数据技术有限公司].^{viii} Figure 2 below is a partial list of 4-ANPP suppliers on Molbase:

[N-Phenylpiperidin-4-amine](#)

CAS No. : 23056-29-3 Formula : C11H16N2 Molecular Weight. : 176.258 [Check Encyclopedia >](#)

Synonyms : N-phenylpiperidin-4-amine; 4-Piperidinamine, N-phenyl-;

Supplier : All (51) China Suppliers (27) Price Available (14) Contractor (11)

Recommended Supplier	Purity	Lead Time	Packing	Price	View
 Shanghai CRM Import and Export Trading C...	99%	7Day (s)	1kg	Request For Quotation	
 Career Henan Chemical Co	98%	3Day (s)	1kg	Request For Quotation	
 Shanghai Chengshao Biological Technology ...	95%	7Day (s)	1g	\$74.62	
 BIOSYNTH CARBOSYNTH	97%+	7Day (s)	1g	Request For Quotation	
 Hangzhou J&H Chemical Co., Ltd.	> 97%	7Day (s)	1kg	Request For Quotation	

[More Suppliers >](#)

Figure 2: 4-ANPP Suppliers on Molbase

Molbase lists 50 suppliers of 4-ANPP on the English version of the website and 24 on the Chinese version. The supplier that produces the highest purity 4-ANPP, Shanghai CRM Import and Export Trading Co. Ltd. [上海国政进出口贸易有限公司], exhibits signs suggesting that it is involved in illegitimate chemical sales.

First, while Shanghai CRM markets its chemicals on social media and chemical marketplaces, it was also found to market 4-ANPP adjacent to advertisements for a different producer’s fentanyl and its analogues on less mainstream sites.^{ix} As an example of this behavior, see the advertisement for 4-ANPP on the questionable website putfree.com (Figure 3 below):

Buy Carfentanil, Fentanyl, Etizolam, 1P-LSD, Diclazepam, 4-MMC Powder

50.00 Dollar US\$ Published date: 05/06/2020 Shanghai, Shanghai, shanghai, United States



5f-mdmb-2201

Putfree.com

we are Chinese specialized producers and exporters of Pharmaceutical Intermediates from China to all parts of the world with 100% quality products and services. Our product quality is 99.8 and our delivery is 100% guaranteed. We ship out after three days buyers place order and confirm product specifications

Whatsapp.....+8618757790931

WICKR..... Shannon8080

Email:

Factory Supply Tert-Butyl 4-Anilino... Pyridinecarboxylate CAS No. 125541-22-2

Health & Beauty world (world) 11/01/2021

100.00 Dollar US\$ wizr me: gzlizanne 8617621170008

wizr me: gzlizanne Whatsapp/Telegram/WeChat: +8617621170008 Product Info 1-Boc-4-(Phenylamino)piperidine. 1. Purity: 99.6% 2. CAS No: 125541-22-2 3. Light white powder 4. pharmaceutical intermediate. 5. USP/BP standard Mini Orde...

Figure 3: Shanghai CRM's Advertisement of 4-ANPP on Putfree.com

Second, on social media (e.g., Twitter, Reddit, LinkedIn, and Pinterest), Shanghai CRM advertises their chemicals with Chemical Abstracts Service Registry Numbers.^x The practice of using complex chemical nomenclature to obfuscate chemicals being sold was identified by C4ADS, a US-based nonprofit research organization, as a tactic used by traffickers to illegally sell controlled substances on the clear web.^{xi}

To highlight this, a Reddit post (Figure 4 below) from Shanghai CRM's affiliated account on January 16, 2022, advertises the sale of various compounds including "125541-22-2," which is 1-N-Boc-4-(Phenylamino) piperidine, a fentanyl precursor.^{xii}

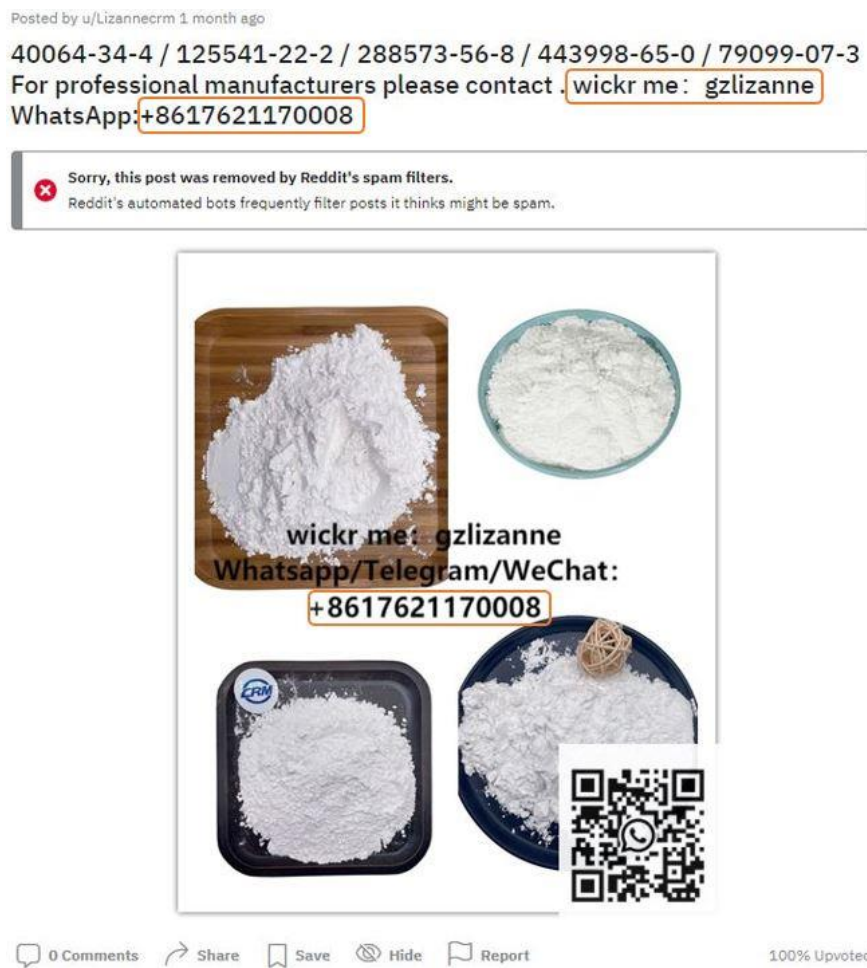


Figure 4: Shanghai CRM's Advertisement of Fentanyl Precursors for Sale on Reddit

Lastly, Shanghai CRM displays its encrypted messaging user IDs for Wickr, WhatsApp, Telegram, and WeChat, which provide increased anonymity for sales – behavior that precursor chemical dealers typically mimic. To remove further doubt, the phone number listed on both Figure 3 and Figure 4 (+8617621170008) is also listed on Shanghai CRM's website, confirming that the company is responsible for both of these advertisements.^{xiii}

Shanghai CRM is one of many Chinese suppliers of 4-ANPP and there are thousands of chemical manufacturers across the PRC producing precursor chemicals applicable for narcotics beyond just fentanyl. Therefore, it is vital to identify and track the manufacturers of these precursors and their distribution channels to stem the flow of dangerous chemicals around the world.

B. PROPOSED SOLUTION

To help combat this national and ever-growing tragedy, the production of fentanyl abroad should be tracked and monitored by leveraging OSINT and those subject matter experts that can harvest, translate, and analyze relevant information.

- Use OSINT platforms such as the Zignal Labs' Narrative Intelligence Cloud and Fivecast ONYX to cull through the Chinese information environment and identify major trends, sources, and actors worthy of further investigation.
- Deploy a combination of seasoned geopoliticians and language-enabled SMEs with advanced analytical toolsets to capture and analyze the information on fentanyl and fentanyl precursor production and distribution.
- Focus research on the clear web (i.e., public websites indexed by search engines), leveraging sites such as chemical marketplaces and other e-commerce websites, chemical manufacturers' websites, and social media in multiple languages with Chinese as a key target language. Zignal's Narrative Intelligence Cloud can be a powerful tool as it has the capacity to aggregate edited media, blogs, forums, and social media platforms including Facebook (public only), Twitter, Reddit, Sina Weibo, and VK to expedite the research process. Additionally, Fivecast ONYX allows mapping of major players on social media to discover connections between entities while also providing access to WeChat, the Chinese multi-purpose instant messaging, social media, and mobile payment that became the world's largest standalone mobile app in 2018.
- Research the production and distribution of major fentanyl precursors such as 4-Anilinopiperidine, benzylfentanyl, norfentanyl, and fentanyl analogues such as acetylfentanyl, furanylfentanyl, and carfentanil to identify major players at the beginning of the supply chain.

C. CONCLUSION

The fentanyl market is pervasive and ever growing. There are toolsets that allow us to shine a light on its production, distribution, and illegal use. These tools and associated OSINT can help governments at the national and local level develop and manage an effective response to the global fentanyl crisis.

D. TEXTORE & PARTNERS

About TextOre, Inc.

Founded in 2000, TextOre, Inc. is a leader in open-source intelligence (OSINT) for geostrategic and geopolitical issues in East Asia, Eastern Europe, the Middle East, Africa, and Latin America. Our primary focus is foreign media exploitation (specializing in Chinese and Russian) leveraging advanced analytics and subject-matter experts (SMEs) to quickly synthesize relevant information on foreign militaries, political entities, government leadership, research institutes, university programs, criminal enterprises, and other actors vital to our national, regional, and local interests.

TextOre's SMEs also specialize in Arabic, Farsi, French, German, Italian, Spanish, and Japanese, with surge capabilities in most other international languages spoken. Our SMEs transform OSINT into actionable insights that enable the U.S. Government and NGOs to gain an advantage in the information ecosystem, particularly in mission-critical environments.

About Zignal Labs' Narrative Intelligence Cloud

Zignal's Narrative Intelligence Cloud analyzes billions of digital stories in real time to help customers discover and manage the narratives that can help or harm them. Used by the world's largest companies and public sector organizations, Zignal's NLP and ML learning algorithms identify risks and opportunities as they emerge, providing insight into how to contend with the narratives that matter. With Narrative Intelligence Cloud, users detect and mitigate narrative-borne threats, and capitalize on narrative-borne opportunities, identifying the specific topics, people, and networks that drive the lifecycle of the narrative in the target ecosystem.

About Fivecast ONYX

Fivecast ONYX is a threat intelligence framework that combines broad data collection across the Surface, Deep, and Dark Web with AI-enabled risk detectors to build a rich intelligence picture around transnational organized crime groups and individuals. Fivecast ONYX deploys automated collection and risk assessment of masses of multi-media data, enabling analysts to uncover threats regardless of a group's organizational structure, reach or influence across multiple countries. The solution enables the identification of previously unknown actors through a built-in Persons of Interest (POI) search, data triage in over 100 languages, and delivers a customizable risk detection framework to detect a wide range of content relevant to investigations in multi-media data.

E. SOURCES

ⁱhttps://www.rand.org/content/dam/rand/pubs/external_publications/EP60000/EP68838/RAND_EP68838.pdf

ⁱⁱ<https://www.govinfo.gov/content/pkg/CHRG-115hhrg25507/html/CHRG-115hhrg25507.htm>

ⁱⁱⁱ<https://www.cnn.com/2019/04/21/politics/dhs-fentanyl-wmd/index.html>

^{iv}<https://nida.nih.gov/drug-topics/trends-statistics/overdose-death-rates>

^vhttps://www.uscc.gov/sites/default/files/2021-08/Illicit_Fentanyl_from_China-An_Evolving_Global_Operation.pdf

^{vi}<https://sgp.fas.org/crs/row/IF10890.pdf>

^{vii} https://www.uscc.gov/sites/default/files/2021-08/Illicit_Fentanyl_from_China-An_Evolving_Global_Operation.pdf

^{viii}http://www.molbase.com/cas/search?search_type=text&keyword=N-phenylpiperidin-4-amine

^{ix}https://webcache.googleusercontent.com/search?q=cache:qUc8_f9DzTAJ:https://www.putfree.com/services/health-beauty/buy-carfentanil-fentanyl-etizolam-1p-1sd-diclozapam-4-mmc-powder_i20949+&cd=1&hl=en&ct=clnk&gl=us

^x<https://twitter.com/Lucy58326551>; <https://www.pinterest.com/da3c2db9777639073dee0187e11684/>;

<https://www.linkedin.com/in/%E5%AF%92%E6%B6%B5-%E7%8E%8B-631b12219/>;

<https://www.reddit.com/user/Lizannecrm/>

^{xi}https://static1.squarespace.com/static/566ef8b4d8af107232d5358a/t/5fb3077189409576d229502a/1605568376184/Lethal_Exchange_S

^{xii}https://www.reddit.com/user/Lizannecrm/comments/s5qxlv/40064344_125541222_288573568_443998650_79099073/; <https://comptox.epa.gov/dashboard/chemical-lists/FENTANYLS>

^{xiii}<https://shanghaicrm.com/>