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A Systematic Analysis of Product Counterfeiting Schemes, Offenders, and Victims in the United States

Final Summary Overview

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**A SYSTEMATIC ANALYSIS OF PRODUCT COUNTERFEITING SCHEMES,
OFFENDERS, AND VICTIMS IN THE UNITED STATES
FINAL SUMMARY REPORT**

PURPOSE OF PROJECT

Despite being a serious global problem that harms consumers, businesses, and governments, little is known about product counterfeiting crimes. Although product counterfeiting is an emerging priority among law enforcement, policymakers, industry, and other stakeholders, scholars have not attempted to systematically learn about the risks and opportunities associated with these crimes. A major reason for this is the lack of available and reliable data for systematic research; both academics and practitioners have concluded that this hinders our understanding of product counterfeiting crime.

To begin to address these data limitations, the Product Counterfeiting Database (PCD) was developed with support from the National Institute of Justice (Award No. 2016-R2-CX-0052) as a source of data on product counterfeiting schemes, offenders, and victims assembled from open source information. Built upon established tenets of problem-oriented policing, routine activities theory, and situational crime prevention, the database serves as a foundation for developing evidence-based lessons on preventing, detecting, investigating, and responding to product counterfeiting. The PCD assesses multiple units of analysis associated with each product counterfeiting crime linked to the pharmaceutical, electronic, and food industries: 1) scheme, 2) individual offender, 3) business offender, 4) consumer victim, and 5) trademark owner victim. Unique identification numbers were assigned to each scheme and linked to each corresponding offender and victim record in the relational database. The PCD was systematically developed in three related stages: 1) identifying cases, 2) searching cases, and 3) coding cases.

PROJECT DESIGN AND METHODS

The first stage was a multi-tiered data collection effort to identify product counterfeiting criminal cases with indictments issued between 2000 to 2015. Criminal cases were identified from government and business records, scholarly and journalistic accounts and non-governmental organizational reports. An initial list of potential criminal cases was assembled from government and industry organizations that monitor product counterfeiting in the U.S. including: the Department of Justice; Department of Homeland Security (e.g. Immigration and Customs Enforcement, Customs and Border Protection); Federal Bureau of Investigation; Food and Drug Administration; U.S. Trademark Representative; U.S. Patent and Trademark Office; Interpol; World Trade Organization; World Health Organization; World Customs Organization; International Trademark Association (INTA); U.S. Chamber of Commerce; Business Action to Stop Counterfeiting and Piracy (BASCAP); Coalition Against Counterfeiting and Piracy (CACAP); Business Software Alliance (BSA); Counterfeiting Intelligence Bureau (CIB); Pharmaceutical Security Institute (PSI); World Intellectual Property Review; World Trademark Review; Securing Industry; and The Counterfeit Reporter. Each organization's website was examined to identify reports, briefings, case studies, case databases, press releases, speeches and any other documents related to product counterfeiting. When possible, keyword searches (e.g., "counterfeit" or "counterfeiting") of these websites were conducted to find other archived sources that no longer had direct web-links. Separately, keyword searches were conducted to identify relevant cases through newspaper articles and other sources. In addition, sources relevant to new cases identified during the search process were also reviewed. Using these processes, over 1,000 possible criminal cases of product counterfeiting from various industry sectors were identified; 196 had a nexus to the pharmaceutical, electronic, or food industries.

Each criminal case was treated as an individual case study identifiable by a unique number with a description containing information from case identification stage (e.g. offender name, criminal charges, location, timeframe, product type). This basic information was provided to student research assistants (“searchers”) who were responsible for using the key words and phrases provided to capture all freely available open-source information pertaining to each case using online databases (LexisNexis and Proquest, university library access) and search engines (Google, Yahoo, Bing, and NewsLibrary). The information uncovered included media accounts, government documents, court records (e.g. indictments, proceedings, appeals), blogs, books, industry and watch-group reports, and scholarly accounts. Searchers also checked additional websites for specific offender information, including the Bureau of Prisons inmate locator and individual state Department of Corrections (DOC) websites. The information was recorded verbatim in word processor files, while original documents (e.g. court records) were captured in Portable Document Format (PDF). Additional criminal cases uncovered during these searches were treated as separate cases, added to the database, and fully searched provided they met the PCD inclusion criteria.

A review strategy was established to ensure completed search files were as exhaustive as possible. Searchers were trained on all practical aspects of conducting effective open-source searches (e.g., how to identify all potential search terms and structure them to maximize search results and completeness), reviewing open-source materials for new/relevant information, and recording the information. As a check on reliability after the initial training, searchers were provided a set of two “practice” cases previously searched by the PI, who also reviewed the results and provided feedback on necessary revisions to improve the outcomes of subsequent searches. The PI closely monitored the search results to ensure all relevant information was

recorded correctly and conducted quality checks by randomly replicating searches. Any new information found from these quality checks or became available after the search was initially conducted was also captured. The number of unique sources per case varied substantially; some had only a few while others had hundreds. In total, thousands of individual sources were captured and reviewed as part of the coding process.

Student research assistants (“coders”) were then assigned individual cases to code and provided with all the material uncovered through the open-source search. Coders first reviewed the sources and created a listing and timeline of exactly how many (and which) schemes, offenders, and victims met the PCD inclusion criteria. If the original search materials were incomplete or information was missing, coders conducted “targeted follow up searches” to fill in missing values (if possible). If an assigned case did not appear to meet the inclusion criteria, it was sent back to the PI to make the final inclusion decision. The PI thoroughly reviewed and made corrections to the coding where necessary and appropriate to ensure the thoroughness, accuracy, and consistency of the data.

DATA ANALYSIS AND FINDINGS

SCHEMES

The scheme is the main unit of analysis, representing the overall operation of the crime and components necessary to carry it out. Schemes are characterized by specific offenders (i.e. individuals and businesses), criminal activities/techniques (i.e. what the offenders actually did to carry out the crime), objectives, locations, time periods, and victims (i.e. consumers and trademark owners). Schemes coded in the PCD met specific inclusion criteria. First, the scheme involved illegal activities related to the counterfeiting of trademarked physical goods and/or packaging (though they can involve any number of different criminal violations). Second, the

scheme was carried out in identifiable locations during a specified time period as opposed to a vague allegation (e.g. rumors/hearsay/unsubstantiated allegations). Product counterfeiting schemes are not typically restricted to specific spatial and temporal coordinates (as is often the case with violent incidents) but are instead committed over a prolonged period of time (for which it is often possible to identify start and end dates, e.g. from 2002 to 2007) and involve multiple locations inside, and often outside, U.S. borders. Situations involving different offenses, techniques, goals, offenders, time periods, and locations were typically coded as distinct schemes. Third, the scheme (or any portion of it) was committed in the U.S. and led to a criminal indictment in a U.S. court between 2000 and 2015 (civil or administrative court proceedings were not included). These criminal activities may amount to a number of distinct offenses punishable in multiple jurisdictions (federal, state, local and other countries). The scheme was coded even if the prosecutor later dropped the charges or the jury eventually acquitted the defendant (distinct variables captured this information).

Of the 196 distinct identified schemes meeting these inclusion criteria, most involved counterfeit pharmaceuticals (64%), while 31% were counterfeit electronics and only 5% counterfeit foods. This is not entirely surprising as food crimes typically involve adulteration or misbranding (e.g. false claims, labeling) as opposed to trademark violations. Counterfeited foods were mostly baby formula and supplements, but also counterfeit cheese, seafood, and wine. The proliferation of counterfeit erectile dysfunction drugs in particular accounted for much of the disproportionate number of pharmaceutical schemes, while counterfeit electronics were typically computer hardware and components. In addition to pharmaceuticals, electronics, and food, many other products were also counterfeited, including cigarettes, apparel/accessories, luxury goods (e.g. handbags, watches), health/beauty items (e.g. shampoo, brushes), cell phone accessories,

toys, and sports equipment. There were also numerous instances of copyright infringement, including piracy of software, movies, music, and protected technologies.

In total, \$633.7 million in illicit revenue was derived from these schemes, although there was a tremendous range in the amount obtained per scheme ($M=\$5.8$ million, $SD=\$12.6$ million, $n=81$ missing). Over 8.6 million counterfeit items were seized with a market value of over \$158.8 million. Most schemes were transnational and long-term, having been carried out in at least one non-U.S. country (68%) over an average of 3.5 years ($SD=2.5$, $n=32$ missing), although 65% occurring only in a single U.S. state. Most involved legitimate businesses with physical (e.g. brick and mortar) locations (53%) while 44% included Internet sales of counterfeits. Nearly all of the cases were prosecuted in federal court (91%), although 27% resulted from collaborative investigations among federal, state, and local law enforcement and regulatory agencies and 10% were aided by foreign authorities. In addition, these investigations lasted an average of 16.9 months ($SD=21.0$, $n=86$ missing) and 38% involved undercover operations.

OFFENDERS

Offenders were differentiated between individual persons and business entities. An individual offender includes anyone who was indicted in a U.S. court for their participation in activities related to, or in furtherance of, a product counterfeiting scheme meeting the PCD inclusion criteria outlined above. Each scheme is associated with a coded individual offender. Crimes where only a business was indicted but not an individual were not included in this study.

Individual offenders ($N=551$) were mostly white (56%, $n=123$ missing), male (85%, $n=2$ missing), U.S. citizens (82%) averaging 39.2 years of age ($SD=10.7$, $n=103$ missing) when their schemes commenced and 42.2 years of age ($SD=11.2$, $n=56$ missing) when their schemes desisted. To further their product counterfeiting schemes, they fulfilled a wide array of different

roles, including production, import from foreign suppliers, distribution, warehousing/storage, tampering, repackaging, relabeling, theft (for resale), direct sale to consumers (including usage of counterfeit drugs on patients), and support roles, such as bookkeeping and financial facilitation (e.g. laundering money), among others.

Individual offenders were also involved in a number of other types of crime. In fact, fewer offenders were charged with intellectual property (e.g. trademark counterfeiting) crimes (54%) compared to other types of offenses (76%), including: racketeering; money laundering; trafficking stolen goods; illicit drug trafficking (e.g. cocaine, marijuana, fentanyl, and controlled prescription drugs); various types of fraud (e.g. mail, wire, document, bank, immigration) including defrauding the government (e.g. tax evasion, fraudulent billings to Medicare/Medicaid; fulfilling government contracts with counterfeits); identity theft; possession of illegal weapons; and misbranding and/or adulterating consumer goods. Several links to terrorism (financing), organized crime, and violent crime were also identified. Most offenders were convicted (90%, $n=66$ missing) and sentenced to a period of incarceration (67%, $n=99$ missing) or probation (22%, $n=99$ missing), along with orders to pay a fine and/or restitution to victims (62%, $n=155$ missing). In addition, 5% ($n=60$ missing) remained fugitives (and therefore were not convicted) and 3% ($n=60$ missing) were deported from the U.S.

Unlike individual offenders, business offenders ($N=310$) did not need to be indicted to be coded. Instead, business offenders simply needed to be involved in the commission of the scheme. A business offender was defined as a legally recognized business organization which the open source information indicates: 1) was designated to provide goods and/or services to customers; (2) was owned and/or operated by at least one offender (indicted or unindicted co-conspirator) involved in the scheme; and (3) had some role (even if marginal) in the preparation

or execution of the scheme. These business offenders fulfilled similar types of roles, 87% were owned and/or operated by an indicted individual offender, and 37% were identified as shell companies (e.g. existed largely on paper with little or no legitimate, non-criminal business activities). Although individual offenders were more likely to be subject to criminal proceedings, 14% of business offenders were indicted and 9% were convicted ($n=3$ missing) of charges similar to those of individual offenders.

VICTIMS

Victims were defined as trademark owners and individual consumers directly harmed as a result of a product counterfeiting crime scheme. Organizations impacted in other ways, such as unknowingly purchasing or selling counterfeit products (e.g. retailers, government agencies, and other non-governmental organizations), law enforcement expenditures, and lost tax revenue were not accounted for as victims in this study.

There were 146 trademark owner victims disproportionately concentrated in the electronics industry (58% compared to 27% pharmaceutical). The most prominently identified harms were over \$704.7 million in total monetary losses, including losses beyond the illicit profits directly obtained by offenders through their criminal schemes, such as damage to brand reputations, loss of customers and contracts, and costs of brand protection, litigation, and enforcement. Like illicit revenue from the schemes, there was tremendous variation in the monetary losses suffered by each trademark owner ($M=\$5.6M$, $SD=\$12.2M$, $n=21$ missing). Much of this variation can be attributed to the correlation between monetary losses and the number of schemes the trademark owner was victimized by ($r=0.72$), as over half were victimized by only a single scheme, two pharmaceutical companies were each victimized by over 50 schemes, and one electronics company suffered a disproportionate monetary loss (\$91.4

million). After removing these outliers, this variation decreased substantially ($M=\$4.1M$, $SD=\$6.4$ million, $n=21$ missing, $n=3$ dropped).

Compared to trademark owner victims, little information was available on consumer victims. In fact, specific information was found on only 54 consumers victimized by 15 product counterfeiting schemes. When information on individual consumers was identified, it was generally in the form of vague estimates of the number of victims (7200 total from 21 schemes) or the general impacts on victims. More detailed assessments of specific harms were identified in a few cases, including 20 known deaths resulting from injecting counterfeit pharmaceuticals or food that were purchased from retail store, consumed at social gatherings, or received as part of treatment from a physician. Although assessing victimization from product counterfeiting crimes remains a major challenge, this study provides a solid starting point for future research.

IMPLICATIONS FOR CRIMINAL JUSTICE POLICY AND PRACTICE IN THE UNITED STATES

The development of the PCD and this preliminary descriptive assessment of these data provide the foundation for additional research. Several manuscripts are currently in production representing the initial products of these efforts. First, an inter-industry comparative study will focus on the similarities and differences in these characteristics across the pharmaceutical, electronic, and food industries. Second, a descriptive overview specific to the pharmaceutical industry will provide a more in-depth look at the various characteristics of these schemes, offenders, and victims. Third, a social network analysis will examine the relational connections between offenders and the roles those offenders occupied in a counterfeiting criminal network.

There are several limitations to this study centering around the open source data collection approach. Namely, the PCD is limited to information freely and publicly available. Consequently, there is an inherent “dark figure” of product counterfeiting crimes that cannot be

captured and analyzed. In particular, highly publicized cases are more likely to be represented, as are federal cases where information is more readily available. Most state cases could only be found by reviewing the court and correctional records of individual offenders, which require data collection strategies and efforts outside the scope of the current study. Information was difficult to find for a number of variables, including consumer victims, impacts on and responses from trademark owners, and outcomes of many investigations and prosecutions. However, because of the systematic methods utilized, the PCD at a minimum captures the vast majority of publicly identifiable criminal product counterfeiting cases, representing an advancement over previously available data sources on these crimes.

Despite these limitations, given that product counterfeiting data are typically restricted, unavailable, or nonexistent, this study offers a major contribution by providing a critical first step toward the development of an empirical foundation and evidence-driven baseline for analysis by capturing crimes for which information is publicly available. It provides a benchmark and deepens the understanding of the harms caused by product counterfeiting crimes, the offenders committing them, and the law enforcement agencies working to address them. Research and field experience contend that the most effective approaches to addressing crime problems are those that are strategic, proactive, and comprehensive, using evidence and analysis to shrink criminal opportunities, such as by increasing the efforts necessary to successfully carry out product counterfeiting schemes and the risk of being apprehended. By establishing this foundation of data, additional empirical analysis and evidence-based lessons can be generated to inform these anti-counterfeiting strategies.