

DarkNet

Tracking the underground
drug trade

Stuart Jackson, Insight Fellow 2016

epidemico

Deliverable 1

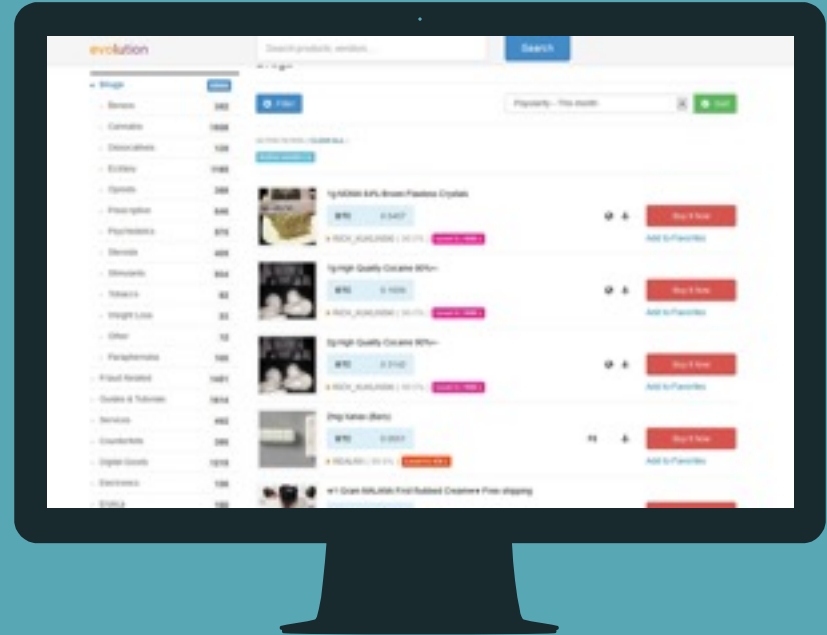
Clean and sort an archive of DarkNet drug sales listings, creating a relational database for use by the company.

Deliverable 2

Carry out descriptive analyses of the data, with a focus on metrics such as country of origin, product type, and price.

Dataset

- 'Agora' and 'Evolution' websites
- Operated early 2014 - mid 2015
- Drug and fraud-related products



<http://www.gwern.net/Black-market%20archives>



HTML

Python / R

MySQL

2 websites

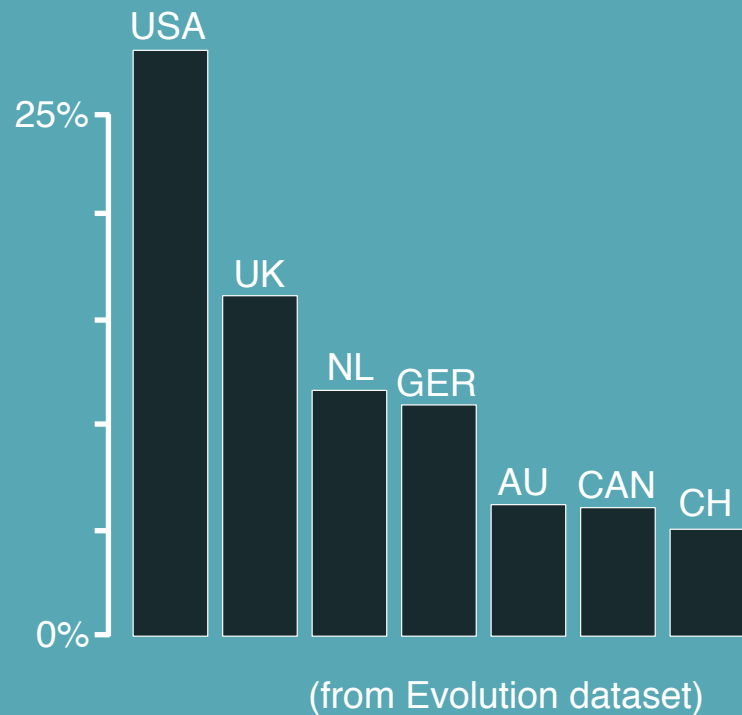
20GB HTML

2,451,927 listings

Date	Product	Origin	Vendor	Price
2014-04-27	15mg Adderall IR	United States	Asphyxiated	BTC 0.0119
2014-04-27	10x Valium	Austria	acab23	BTC 0.0447
2014-04-27	Diazepam 10 x 10mg	United Kingdom	ukmedsdiazepam	BTC 0.0357
2014-04-27	Methadone 40mg capsule x 2	Germany	CalmBlueOcean	BTC 0.1058
2014-04-27	Cocaine 1.7grams	Canada	carteldelnorte	BTC 0.4357
2014-04-27	10 0.25 mg Xanax	Italy	justxanax	BTC 0.0302

Example drug listings from the Evolution dataset

Country of Origin



■ Frequency of 'Shipped From' tag

Increasing Benzodiazepine Prescriptions and Overdose Mortality in the United States, 1996–2013

Marcus A. Bachhuber, MD, MSHP, Sean Hennessy, PharmD, PhD, Chinazo O. Cunningham, MD, MS, and Joanna L. Starrels, MD, MS

Objectives. To describe trends in benzodiazepine prescriptions and overdose mortality involving benzodiazepines among US adults.

Methods. We examined data from the Medical Expenditure Panel Survey and multiple-cause-of-death data from the Centers for Disease Control and Prevention.

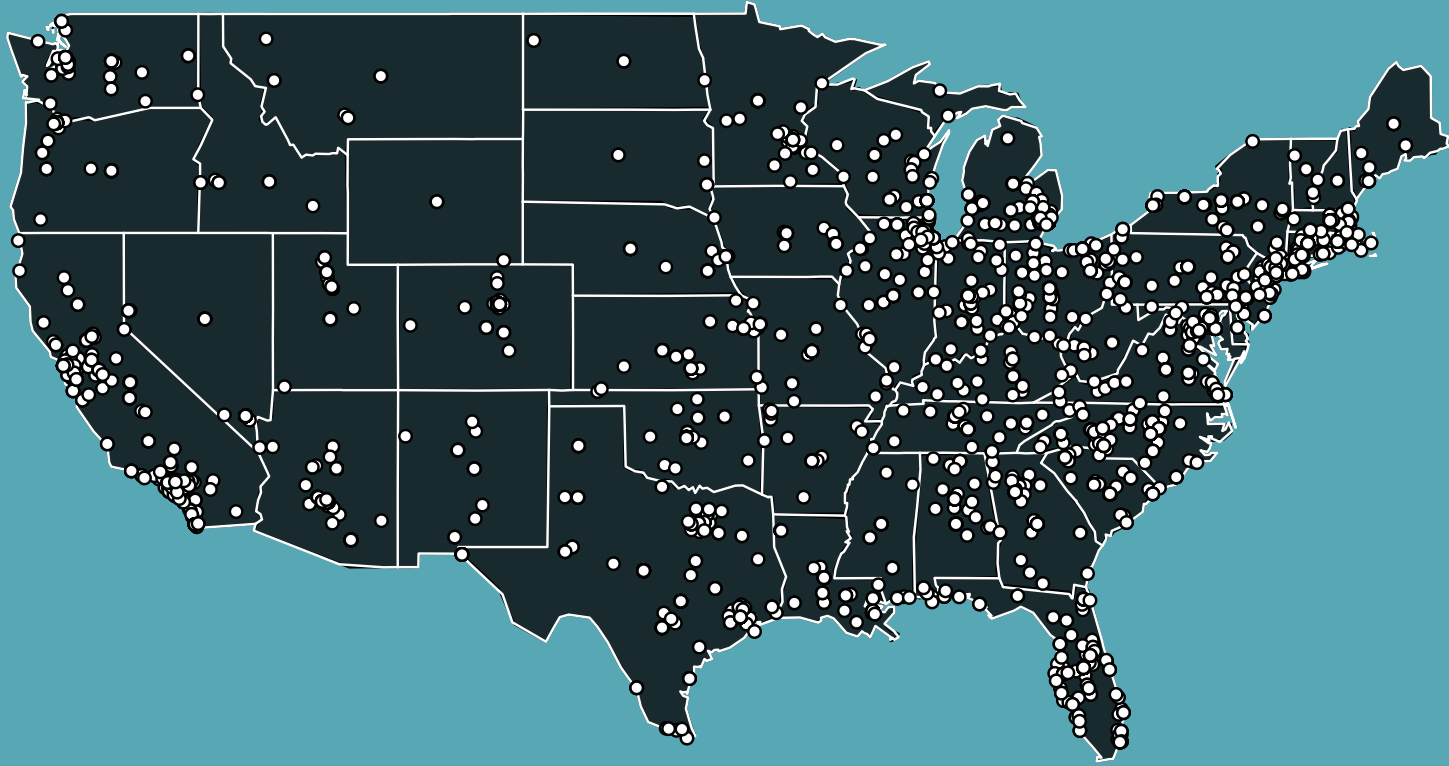
Results. Between 1996 and 2013, the percentage of adults filling a benzodiazepine prescription increased from 4.1% (95% confidence interval [CI] = 3.8%, 4.5%) to 5.6% (95% CI = 5.2%, 6.1%), with an annual percent change of 2.5% (95% CI = 2.1%, 3.0%). The quantity of benzodiazepines filled increased from 1.1 (95% CI = 0.9, 1.2) to 3.6 (95% CI = 3.0, 4.2) kilogram lorazepam equivalents per 100 000 adults (annual percent change = 9.0%; 95% CI = 7.6%, 10.3%). The overdose death rate increased from 0.58 (95% CI = 0.55, 0.62) to 3.07 (95% CI = 2.99, 3.14) per 100 000 adults, with a plateau seen after 2010.

Conclusions. Benzodiazepine prescriptions and overdose mortality have increased considerably. Fatal overdoses involving benzodiazepines have plateaued overall; however, no evidence of decreases was found in any group. Interventions to reduce the use of benzodiazepines or improve their safety are needed. (*Am J Public Health.* 2016;106:686–688. doi:10.2105/AJPH.2016.303061)

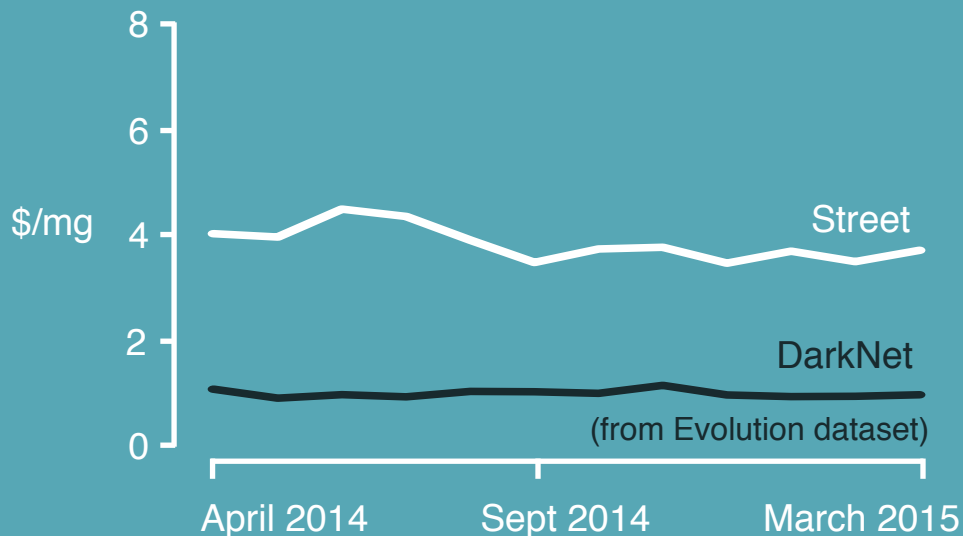
coded (T42.4). This captures all overdose deaths determined by the physician, medical examiner, or coroner to involve a benzodiazepine, including those involving other medications or illicit drugs.

To describe trends over time, we used the Joinpoint Regression Program (Version 4.2.0.2; Statistical Research and Applications Branch, National Cancer Institute, Rockville, MD). We summarized trends between joinpoints by calculating an annual percent change. We summarized overall trends by calculating the average annual percent change over the entire study period. A full description of the study methods is provided in the Appendix (available as a supplement to the online version of this brief at <http://www.ajph.org>).

Alprazolam ('Xanax') street purchases
Data from <http://www.streetrx.com>



Product Type



- Price behavior for Alprazolam ('Xanax')

Summary

Deliverable 1

I cleaned and sorted an archive of DarkNet drug sale listings, providing a valuable resource for Epidemico and clients.

Deliverable 2

I carried out descriptive analyses of the data, with a focus on metrics such as country of origin, product type, and price.

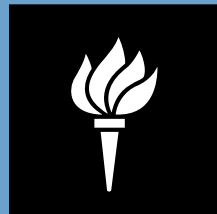
Next steps

I'd like to develop an algorithm for detecting anomalies in market behavior e.g., emergence of novel pharmaceuticals.

<http://www.projectdarknet.com>

About me

PhD in Neural Science



NYU



In my spare time I like to hike, and
occasionally I play music around town.

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