

## Illegal drug sales in the mirror of the dark web marketplace

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### Background:

Studies of the epidemiology of substance use are problematic by the disorder's nature and the illegal character of the substances' turnover. For safety, the illegal substances' markets had moved to the Internet, to the less transparent darknet part. The objective of this study was to get estimates for the Russian drug market using data collected at dark net market 'Hydra', get the amounts of drugs offered, the relative frequency of offers, and the regional distribution of the market activities. We analyze the relationship between estimates of the illegal drug market with traditional indicators of drug use disorders on the next stage.

### Methods:

We use two types of data: 1) Deep Web Black Market data; 2) Official Russian statistical indicators related to drug use. We

use Python program via VPN service to extract data. R software was employed for statistical analysis to build the maps of drug offerings and sales by the regions of Russia. We use the descriptive statistics and correlation analysis to compare the estimates with the state statistics.

### Results:

Using the estimates of sales for the drug classes in grams by region (per 100000 population), we mapped the data and found that there is a correlation with the registered drug users and drug-related deaths. There is no Hydra sales of opiates in some regions indicating that older supply channels are still active. Total drug sales and offers championed by cannabis, opiates/opioids, cocaine, amphetamines and the other drugs in smaller amounts. There is a significant correlation between the supply of opiates in regions of Russia and the official incidence of fatal drug poisoning ( $r = 0.41$ ;  $p = 0.003$ ), and the number of HIV positive injected drug users ( $r = 0.47$ ;  $p = 0.002$ ).

### Key messages:

- Analysis of the deep internet sales of drugs helps assess the situation with the illegal drug supply in the regions of Russia.
- Data on deep internet sales of drugs should not substitute the other sources of data.