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Estimating the size of the of illicit drug market
A critical review

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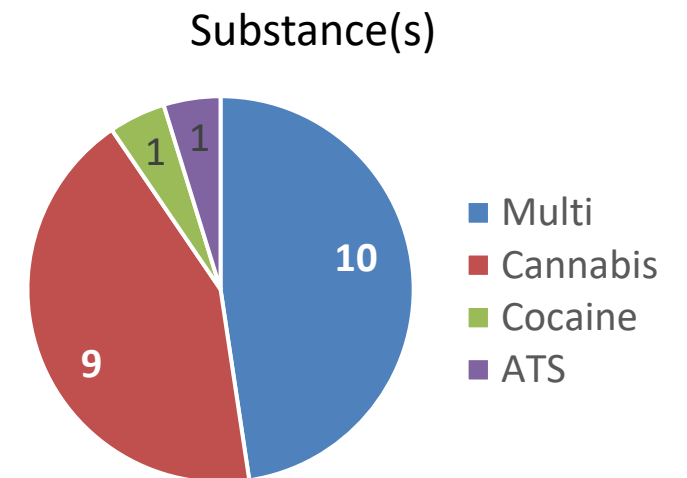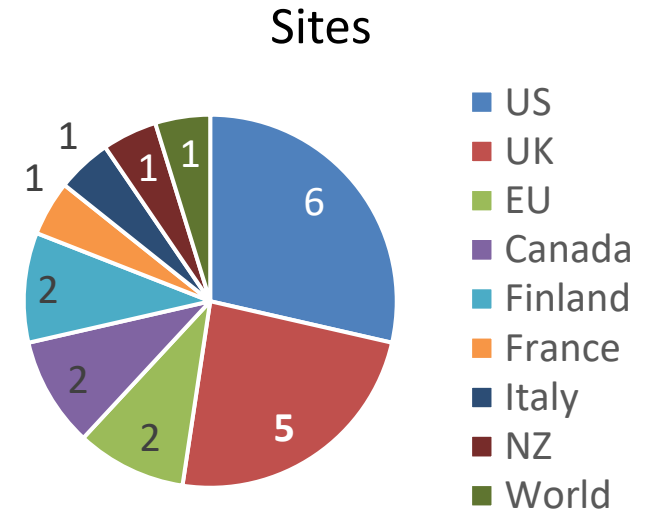
PREVENTION | HELP | RESEARCH

Background

- EMCDDA market size estimates
- Mandate: recommendations for future estimates
- Method (and outline of this presentation):
    1. Literature review
    2. Case study (Vaud, Switzerland)
    3. Experts 'consultation

European Monitoring Centre
for Drugs and Drug Addiction

TECHNICAL REPORT

Estimating the size of the main
illicit retail drug markets in Europe:
an update

December 2019

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Literature review

- Studies that produced an estimate of the size of any drug market

- 21 results identified

- Methodologies:

  - **Demand-side**

    - No. of users * av. days of use * amount used per day

    - No. of users * average expenditures

  - **Supply-side**

    - Amount produced – (seizures + losses)

    - Seizures / seizure rate

    - No. of dealers * av. No of doses sold

  - **Others**

    - Wastewater (1), Forensic approach (1)

Sites

■	US
■	UK
■	EU
■	Canada
■	Finland
■	France
■	Italy
■	NZ
■	World

Substance(s)

■	Multi
■	Cannabis
■	Cocaine
■	ATS

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Literature
Key learnings

Demand-based estimates

- Best approach, but need for improvements

  - "Hidden population" : Identify them, find prevalence data and data on quantities that are used

  - Acknowledgment of misreporting (non/under/over) of drug use in surveys, including GPS

  - Classification of drug users in relevant categories (homogenous and matching existing data on quantities)

  - Assess average quantities for each group → EMCDDA European Web Survey on Drugs
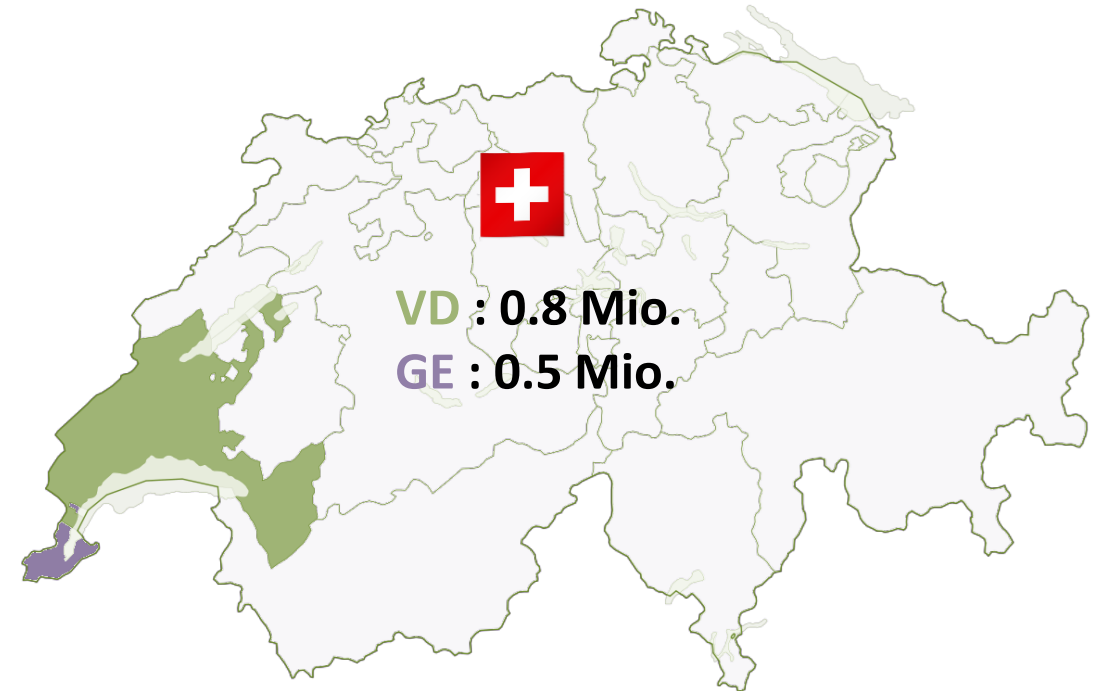
  - Transparency

Supply-side approaches

- Production-based: complex models, sometimes not data driven (-), world scale estimates (cocaine/heroin) (+)

- Seizure-based: simplistic, no scientific basis

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Case Study
Marstup (Vaud, Switzerland)

VD : 0.8 Mio.
GE : 0.5 Mio.

- Inter-disciplinary project
- 3 institutions
  - 2 public health research institutes
  - 1 forensic sciences institute
- 3 years, 3 types of drugs (Opioids, Stimulants, Cannabis)
- 2 different cantons (Vaud and Geneva)
- **2 estimates**
  - **Demand-based and wastewater-based**
- Multiple data sources

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Case Study
Selected results (1/3)

Yearly estimates for canton Vaud

	Heroin	Cocaine	Ecstasy (pure)	Amphetamine	Cannabis
Demand-based estimates	269.7 kg [174.0 – 389.6]	323.2 kg [218.6 – 451.3]	18.5 kg [12.1 – 26.4]	74.3 kg [44.9 – 112.1]	3'774 kg [3'293 – 4'281]
Wastewater-based estimates	118 kg [18 – 269]	537 kg [429 – 664]	39.9 kg [24.9 – 57.4]	46.3 kg [31.8 – 71.6]	5'993 [1'404 – 10'932]

Case Study
Selected results (2/3)

Relative differences between WW-based and demand-based estimates

	Heroin	Cocaine	Ecstasy (pure)	Amphetamine	Cannabis
Vaud	- 56%	+66.2 %	+ 116%	- 37.7 %	+ 58%
Geneva	- 43.3%	+266 %	+192 %	-80 %	Not studied

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Case Study
Selected results (3/3)

Importance of heavy users

Case Study
Key learnings

- High added value brought by the use of two distinct methods
  - Helps identifying the pitfalls
  - Highlights the challenges
- Underestimation with demand-based approach, even with corrections for underreporting
  - Need for better data to estimate the number of regular users and the quantities they use
- Caution ! (calculations and communication)

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Experts's consultation

- **Alina Arucsandei**, **Sascha Strup** and **Laimonas Vasiliauskas**, Europol, The Hague, Netherlands

- **Beau Kilmer**, RAND Corporation, Santa Monica, USA.

- **Margriet Van Laar**, Trimbos Institute, Utrecht, Netherlands

- **Stéphane Legleye**, Insee, Paris, France

- **Viktor Mravčík**, Czech National Monitoring Centre for Drugs and Addictions, Prague, Czech Republic

- **Kamran Niaz**, UNODC, Vienna, Austria

- **Stanislas Spilka** and **Julien Morel-Darleux**, Observatoire français des drogues et des toxicomanies, OFDT, Paris, France

- **Jiří Vopravil**, Household Survey Department for the Czech Statistical Office, Prague, Czech Republic

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Experts's consultation

5 questions about:

1. Methods

2. Populations

3. Prevalence

4. Quantities

5. Uncertainty

Experts' consultation
Key learnings (demand-based)

- Uncertainties around misreporting and undercounting drug users

- No ready-made solutions

- Need to compare different methods

  - Network scale up as an alternative to GPS

  - Timeline follow-back, random mixed-mode experiments or mixed-mode panel exp. to help addressing misreporting issues

  - Refine group classification (e.g. last year users)

- Need for transparency

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Conclusions
Estimates at EU level

- Very challenging task!

- Demand-based approach to be preferred.

- Break down at national level, local studies to better understand the limits and refine the approaches

- Supply-side to check credibility, WW promising tool

Demand-based estimates improvements

- Better counting users, include hidden population, focus on heavy users

- Improve estimates on drug use, assess underreporting and conduct surveys targeting different user groups

- Refining the stratification of user groups

- Better acknowledgment of incertitude

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Thank you for your attention !

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