Monitoring drug supply in Europe: concepts and techniques

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2nd Annual meeting COPOLAD II
13 November 2017

I plan to address

1. **Challenges to the interpretation of supply indicators**
2. **A conceptual framework and approach to improvement**
3. **Diversity of indicators and sources**
4. **The importance of networks**
5. **Concluding reflections**

Key challenges for measurement and analysis

Main uses of drug supply data

- Inform formulation, planning and implementation of strategies to prevent and disrupt drug production and trafficking by tracking trends, help ensure they remain on target

- Foster operational cooperation, inform the policy dialogue and provide a common basis for mutual understanding and discussion

- Support the quantification necessary for measuring impact and thus facilitate the debate on the extent to which measures can be shown to work

Key challenges for measurement and analysis

- 'Hidden' phenomenon

- Influence of operational priorities

- Robustness and consistency of data collection methods

- Issues of data comparability

- Variability in coverage

Driving themes for supply indicator development

A dynamic and systematic approach in line with Council Conclusions (2013)

- Focus on a minimum core data set for routine reporting to form a top-level European analysis
- Data quality needs to improve incrementally over time
- The system should be operationally coherent with, and add value to, national level activities (or it won't work)
- Identify opportunities presented by operational data collection for enhancing our understanding of drug supply patterns and trends

COUNCIL OF THE EUROPEAN UNION

EN

Council conclusions on improving the monitoring of drug supply in the European Union

ECONOMIC and FINANCIAL AFFAIRS Council meeting
Brussels, 15 November 2013

The Council adopted the following conclusions:

" THE COUNCIL OF THE EUROPEAN UNION

What did we do?

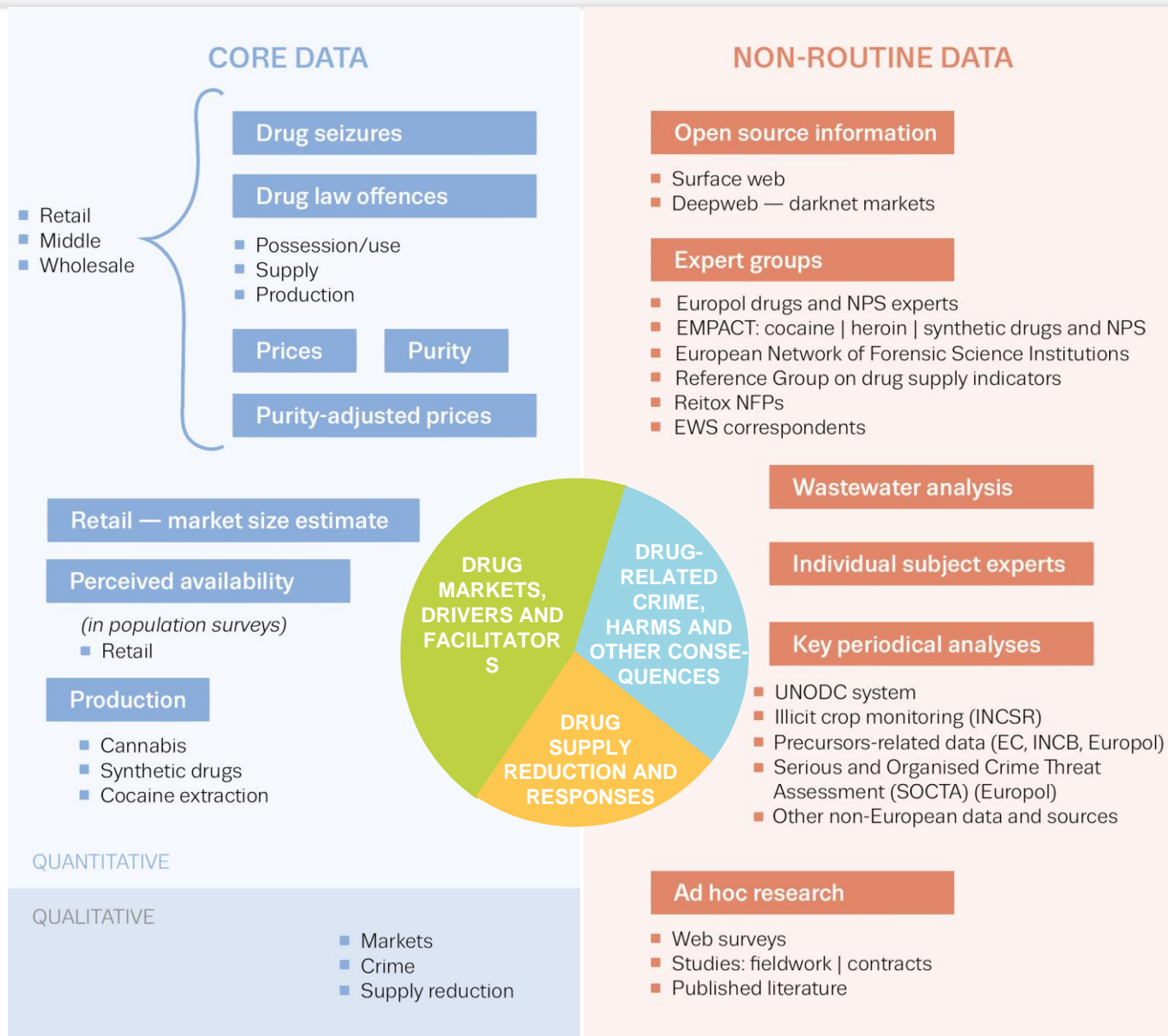| Conceptual framework for monitoring supply and supply reduction	Literature review	Internal consultation	Critical examination
	Late 2015		2-3 March 2017
	Key developments, scope	Draft framework, approach to improvement	Expanded framework, concept paper

Building on previous work

3 conceptual domains

- **Drug markets, drivers and facilitators**
  - Processes & actors
  - Market dimensions
  - Drivers
- **Drug-related crime, harms & other consequences**
  - Social and economic consequences
  - Environmental impacts
- **Drug supply reduction and responses**

Supply-side monitoring system: EMCDDA framework

CORE DATA

- Retail
- Middle
- Wholesale

Drug seizures

Drug law offences
- Possession/use
- Supply
- Production

Prices | Purity

Purity-adjusted prices

Retail — market size estimate

Perceived availability

(in population surveys)
- Retail

Production
- Cannabis
- Synthetic drugs
- Cocaine extraction

QUANTITATIVE

QUALITATIVE
- Markets
- Crime
- Supply reduction

NON-ROUTINE DATA

Open source information
- Surface web
- Deepweb — darknet markets

Expert groups
- Europol drugs and NPS experts
- EMPACT: cocaine | heroin | synthetic drugs and NPS
- European Network of Forensic Science Institutions
- Reference Group on drug supply indicators
- Reitox NFPs
- EWS correspondents

Wastewater analysis

Individual subject experts

Key periodical analyses
- UNODC system
- Illicit crop monitoring (INCSR)
- Precursors-related data (EC, INCB, Europol)
- Serious and Organised Crime Threat Assessment (SOCTA) (Europol)
- Other non-European data and sources

Ad hoc research
- Web surveys
- Studies: fieldwork | contracts
- Published literature

Pie chart:
- DRUG MARKETS, DRIVERS AND FACILITATORS
- DRUG-RELATED CRIME, HARMS AND OTHER CONSE-QUENCES
- DRUG SUPPLY REDUCTION AND RESPONSES

Approaches for improvement

- Improve existing data collections
- Expand the range and scope of the data collected
- Improve analysis

Improving existing data

Routine data (+15 years of monitoring)

Drug law offences

Seizures

Prices

Composition of tablets

Potency/Purity

Areas for improvement

- Developmental tasks
    - Expanded scope of reporting
    - Reporting by market level
    - Information on trafficking routes
- Focus on implementation and consolidation
- Improve availability & comparability
- Dividend in terms of analytical capability realised
- Streamline & coordinate with other agencies

Expanding the range and scope of data collected

Adding new data

- More demanding
- Greater resource implications
- Feasibility questions
- New opportunities and challenges

Production facilities (labs)

Cultivation sites

Drug-related violence (homicides)

Adding new sources

- Mechanisms to incorporate information on ad-hoc basis

- Assess if essential data becomes suitable for routine reporting

Darknet monitoring

DutchNews.nl

Cocaine seizures at Rotterdam port reach a record high

Crime | Society | January 17, 2017

Open source information

TURKISH CRIME FIGURE'S SON KILLE

Posted on Apr 26, 2015   by Zack Newmark

Monitoring drug-related homicide in Europe

The project

Aim/Questions	Methodology	Scope

1. Sources

2. Role of drugs

3. Obstacles

4. Overcoming Obstacles

The project

Aim/Questions	Methodology	Scope

1. Sources

2. Role of drugs

3. Obstacles

4. Implications

 Datasets

 Research literature

 Statistical authorities

The project

Aim/Questions	Methodology	Scope
1. Sources	Data sources	**30 countries**
2. Role of drugs	Research literature	
3. Obstacles	Statistical authorities	
4. Implications		**2000-2015**

Drug-related homicide

Psychopharmacological violence
- Primary/direct
- Intoxicated

Economic-compulsive violence
- Secondary/indirect
- Support costly drug use

Systemic violence
- Tertiary
- Intrinsic to involvement in drug market

Goldstein, 1985

Findings

| 1: Cause-of-Death | 2: Crime & Justice | 3: Homicide spec. (I) | 4: Homicide spec. (II) |

Findings

**Primary source:
Death certificates**

↓

International Statistical Classification of Diseases and Related Health Problems (ICD-10)

Prepared by all countries

Findings

| 1: Cause-of-Death | 2: Crime & Justice | 3: Homicide spec. (I) | 4: Homicide spec. (II) |

Primary source: Death certificates

↓

International Statistical Classification of Diseases and Related Health Problems (ICD-10)

Prepared by all countries

Primary source: Police files, Court files

↓

Police statistics, Court statistics
(registered crimes, trials, convictions, …)

Prepared by all countries
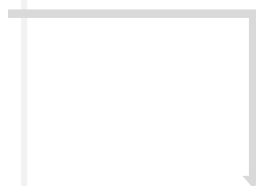
Findings

1: Cause-of-Death	2: Crime & Justice	3: Homicide spec. (I)	4: Homicide spec. (II)

Primary source: Death certificates

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International Statistical Classification of Diseases and Related Health Problems (ICD-10)

Police statistics, Court statistics (registered crimes, trials, convictions, …)

Information on age, gender, modus operandi, location, offender-victim relationship, …

Prepared by all countries

Prepared by all countries

Prepared by some countries

Findings

1: Cause-of-Death	2: Crime & Justice	3: Homicide spec. (I)	4: Homicide spec. (II)
Primary source: Death certificates	**Primary source: Police files, Court files**		**Primary source: Differs**
International Statistical Classification of Diseases and Related Health Problems (ICD-10)	Police statistics, Court statistics (registered crimes, trials, convictions, …)	Information on age, gender, modus operandi, location, offender-victim relationship, …	Information on age, gender, modus operandi, location, offender-victim relationship, …
Prepared by all countries	**Prepared by all countries**	**Prepared by some countries**	**Prepared by some countries**

Findings

Light blue: Studied countries

Findings

Light blue: Studied countries
Darker blue: Homicide specific data
Darkest blue: DRH data
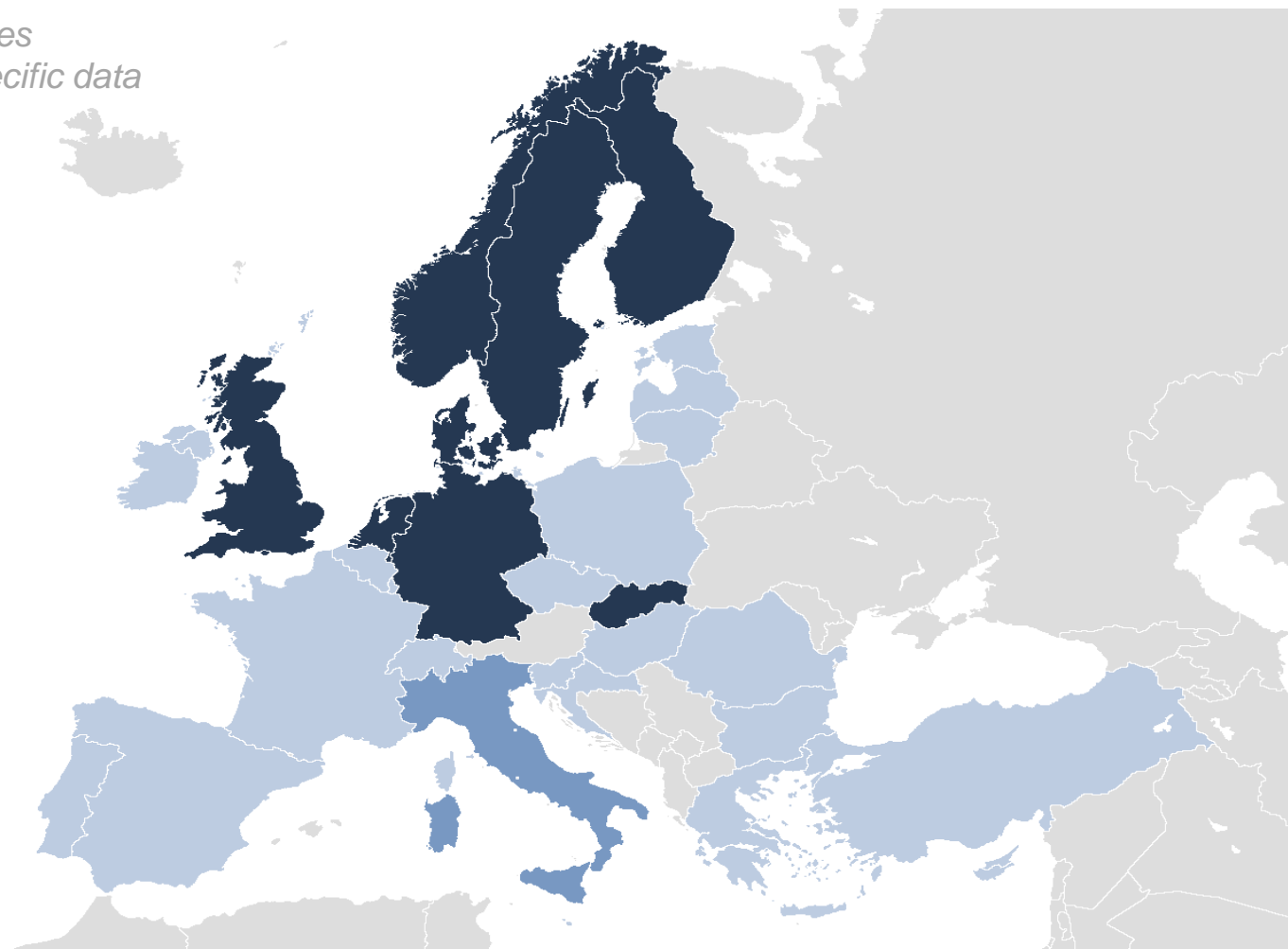
Findings

Some figures

🇩🇪	2000-2015: Steady 10% of **offenders** is drug user	🇸🇰	2000-2015: Annual count of intoxicated **offenders** $\leq$ 3
🇬🇧	2013-2015: 6% of **homicides** to obtain drugs or drug proceeds	🇫🇮	2003-2006: Intoxicated male and female **offenders**: resp. 22% and 19%
🇳🇴	2000-2015: Intoxicated **offenders** fluctuant: 40% (2006), 8% (2015)	🏴	2000-2015: Avg. homicide **suspects** under influence of drugs: 18%
🇳🇱	1998-2004: In 8% **dealer** killed user or vice versa	🇸🇪	2003-2006: Intoxicated male and female **offenders**: resp. 21% and 13%

Obstacles

1: Fragmentation

Court data

Police statistics

Cause-of-death statistics

Open sources (media)
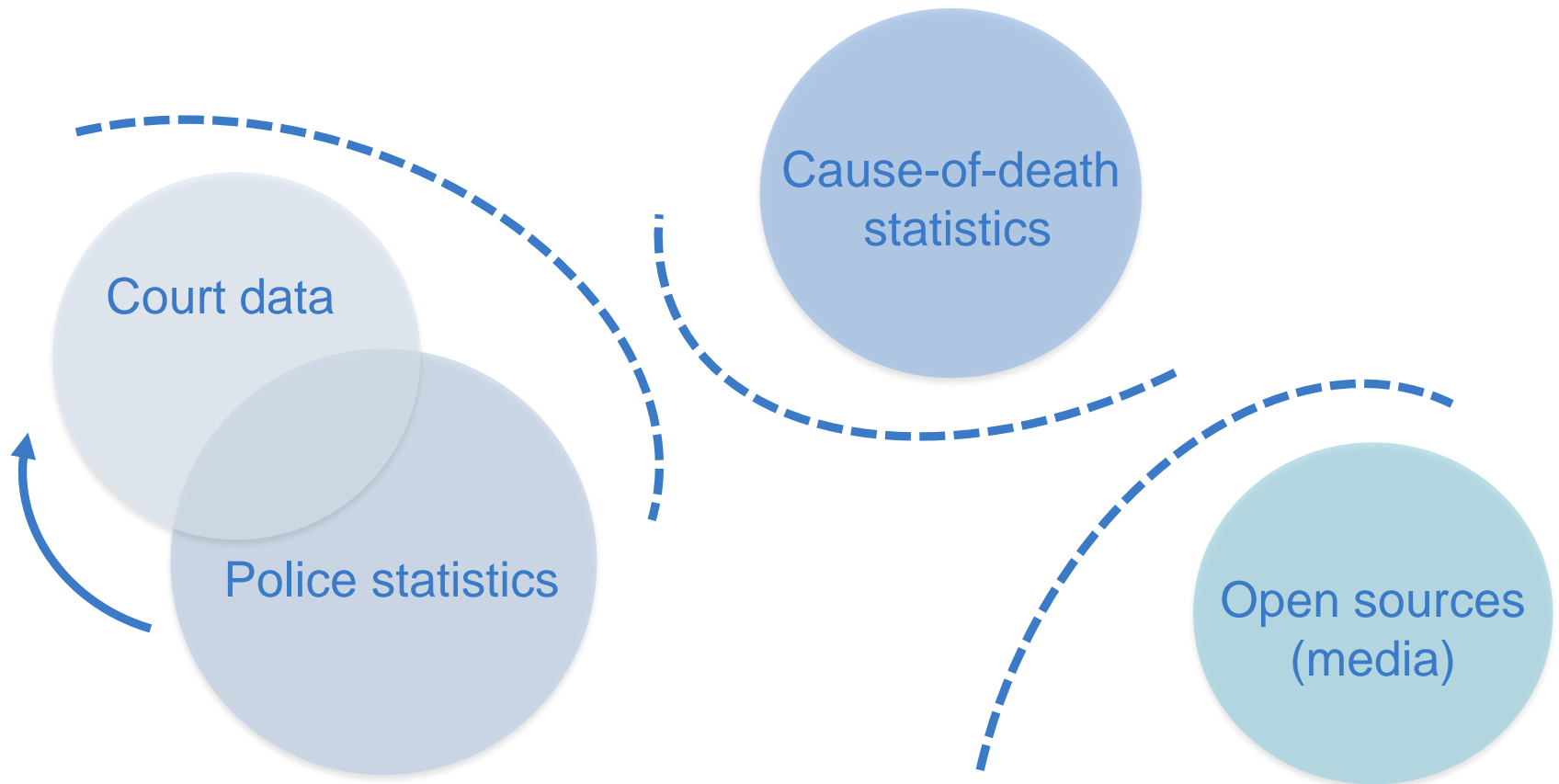
Obstacles

'**Drug-related homicide**'
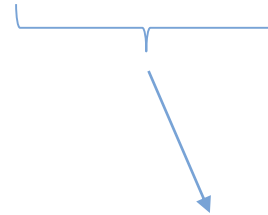
Definition
Differential use of definition
'homicide'

Obstacles

'Drug-related homicide'

Unit of analysis
Event <> Offender <> Victim

Specific output
E.g. 🇩🇪 drug user <> drug intoxication 🇳🇴

E.g. 🇬🇧 dealer kills dealer <> user kills dealer 🇳🇱

Definition
Differential use of definition 'homicide'

Overcoming obstacles

to monitor drug-related homicide on the European level…

Build a consortium of data providers to implement a platform for the collection and analysis of data on drug-related homicide in Europe

- EMCDDA – EHM
- Uniform definitions and coding

Open source information

OSINT

Open Source INTelligence

'Is an information processing discipline that involves finding, selecting, and acquiring information from publicly available sources and analyzing it to produce actionable intelligence.'

What did we do?

- EC-JRC collaboration
- EMM tool pilot
- March – Sept 2017
- Thematic scope: heroin & cocaine large seizures
- Key terms & sources
- LE and media websites
- Strategic insights

OSI heroin and cocaine seizures

~ 6 m (end March – mid Sept 2017)

n=29

n=67
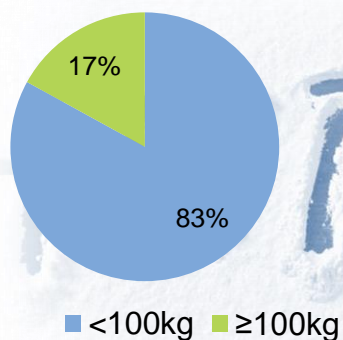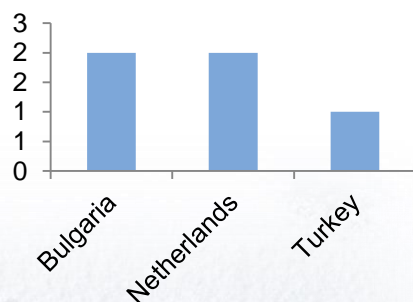
Total weight: 3.3 tons
Big seizures total weight: 2.8 tons
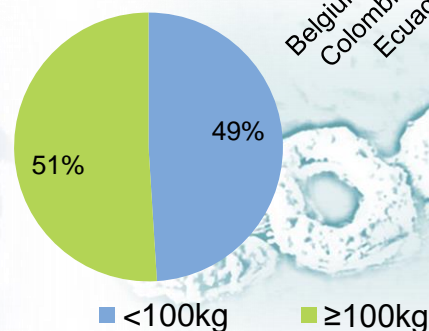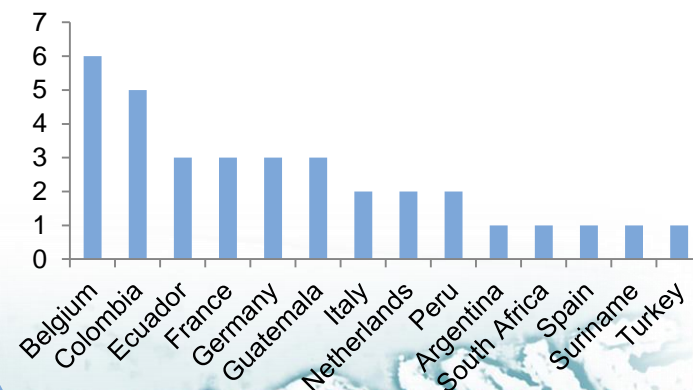
Total weight: 38.7 tons
Big seizures total weight: 38.2 tons

M.O. heroin seizures

~ 6 months
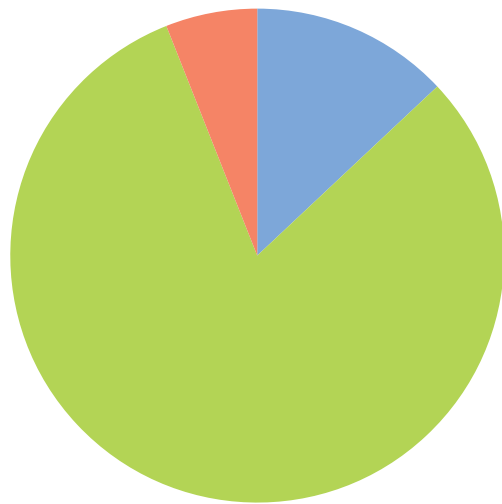
■ AIR ■ LAND ■ SEA
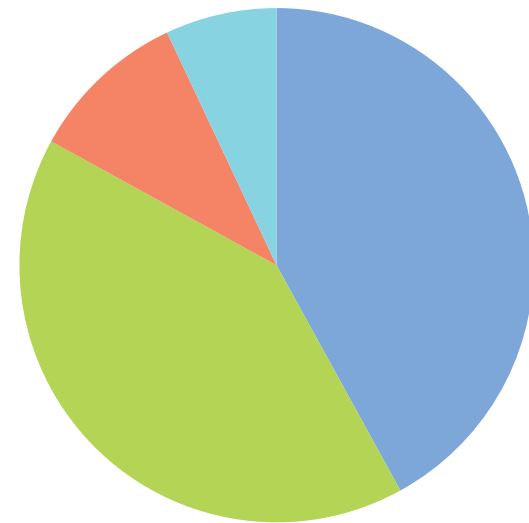
■ ON PRIVATE PREMISES/DWELLING
■ VEHICLE (PRIVATE/PUBLIC)
■ AIRCRAFT
■ BOAT

Concealment: predominantly in private storage 44%

Heroin seizures

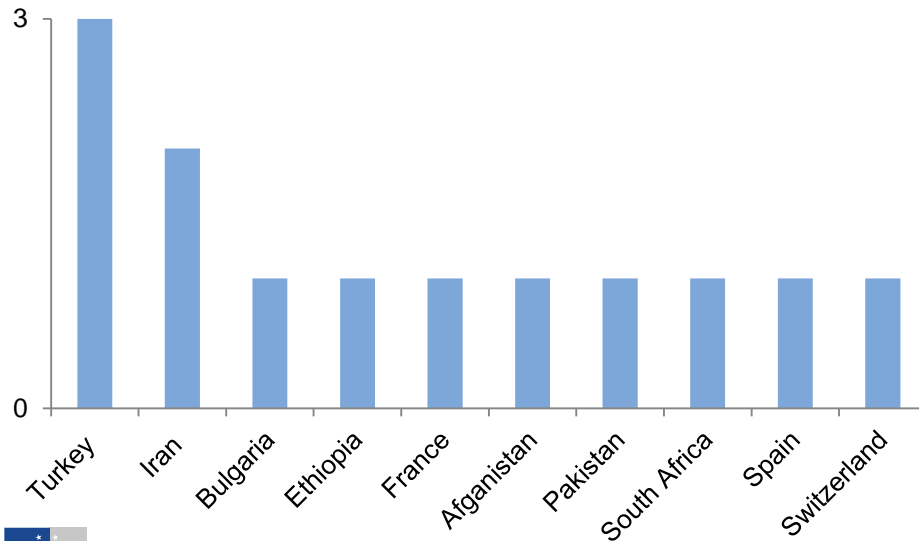## Origin
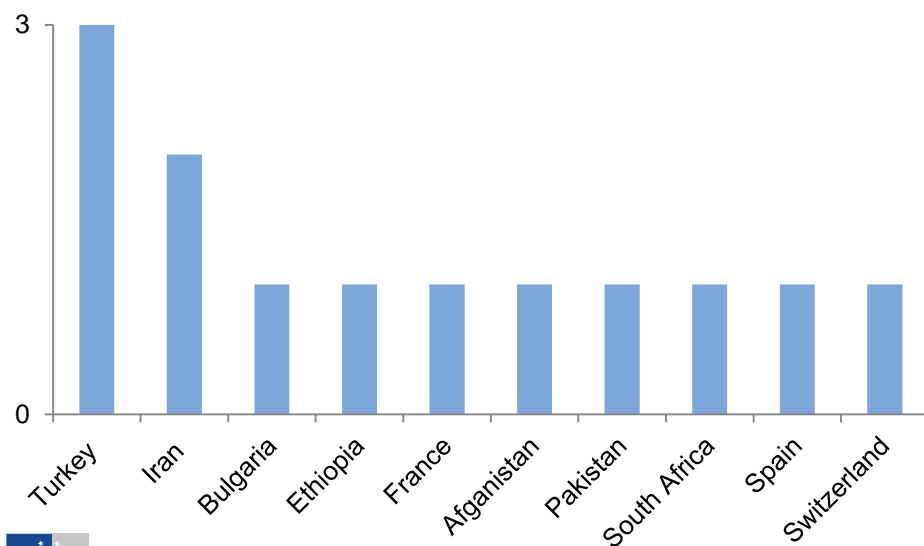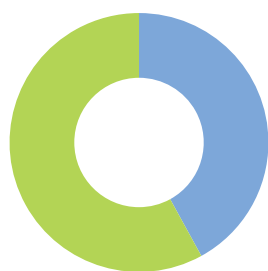
Destination

- YES
- NK

Heroin seizures

Origin

Transit

Destination

- YES
- NK

Origin (bar chart): Turkey, Iran, Bulgaria, Ethiopia, France, Afganistan, Pakistan, South Africa, Spain, Switzerland

Destination (bar chart): Italy, Bulgaria, Malta, the Netherlands, Poland, Spain, Turkey
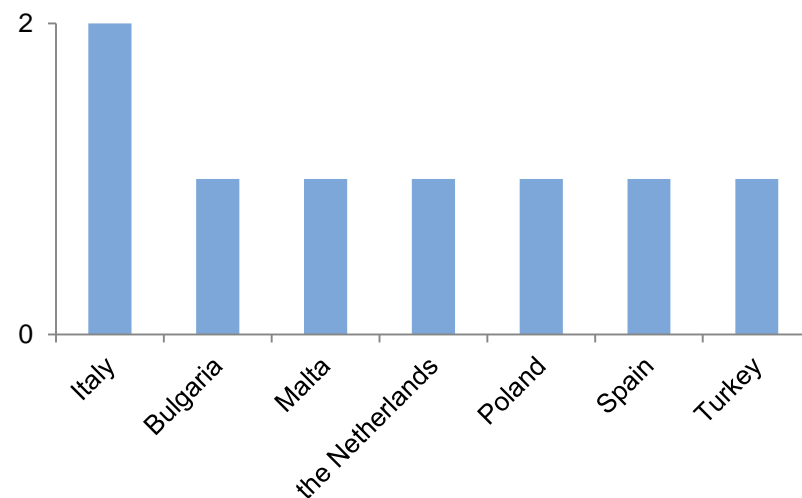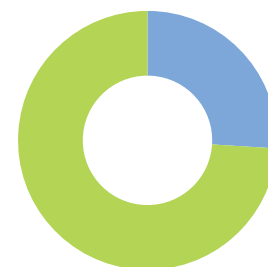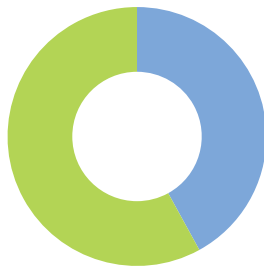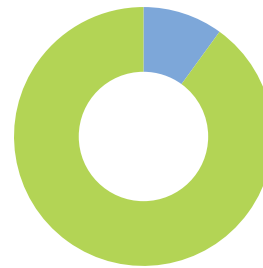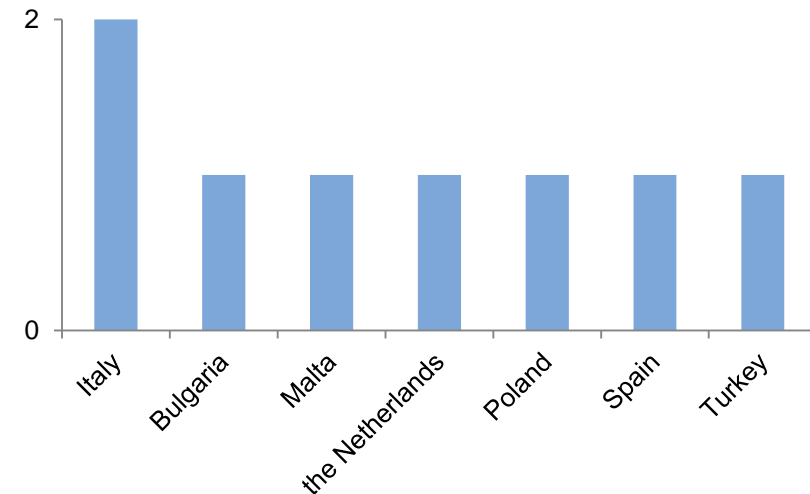
M.O. cocaine seizures

~ 6 months

Legend (left pie): AIR, LAND, SEA

Legend (right pie): CONTAINERS, VEHICLE (PRIVATE/PUBLIC), AIRCRAFT, ON PRIVATE PREMISES/DWELLING, BOAT, INDUSTRIAL/COMMERCIAL FACILITIES, OTHER
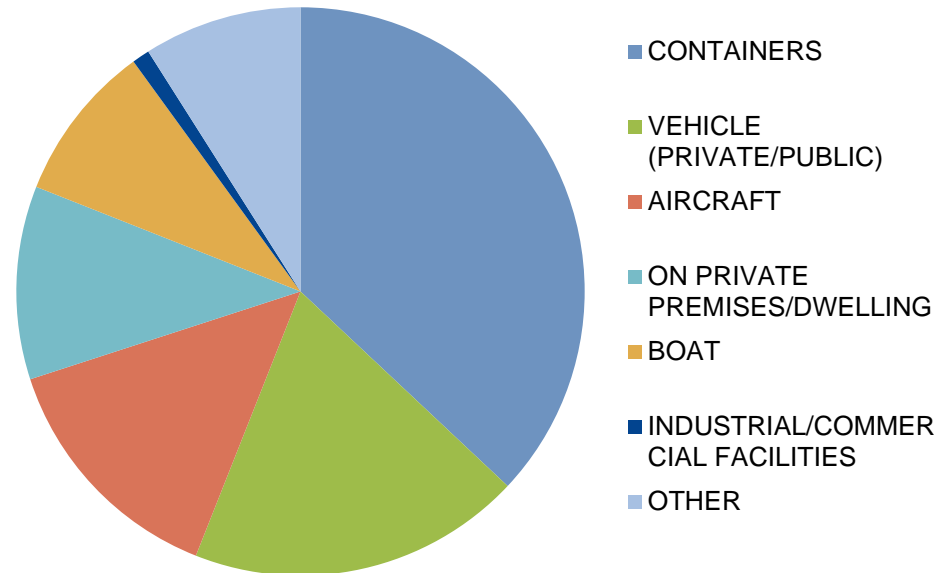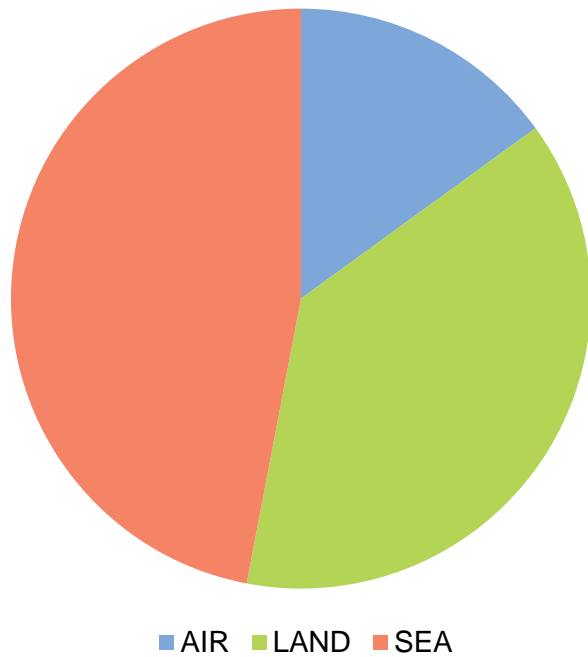
Concealment: predominantly containers/among goods 45%
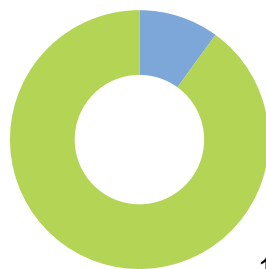
Cocaine seizures: origin, transit and destination

Cocaine seizures: origin, transit and destination
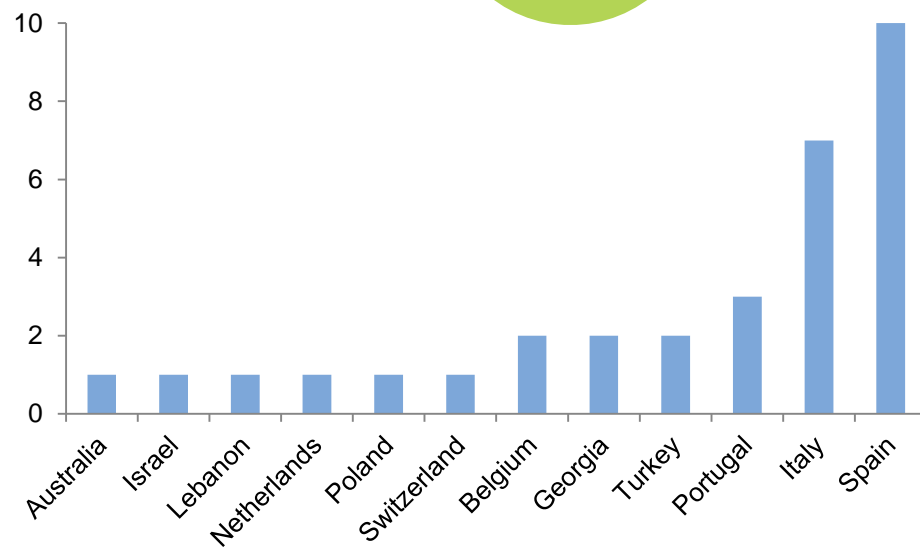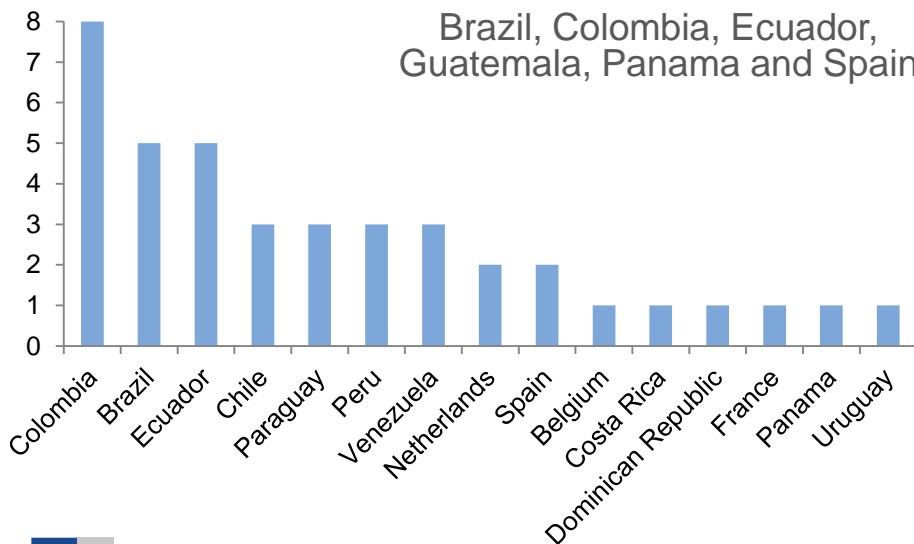

Origin

Transit

Destination

- YES
- NK

Brazil, Colombia, Ecuador, Guatemala, Panama and Spain

Potential advantages

Contextual information

- Method of concealment
- Trafficking m.o.
- Type of drug trafficker

Improved timeliness

- Emerging drug dealing locations
- New selling/trafficking methods

Improved flexibility

- Highlight fluctuations
- Identify detail in broader pattern

Limitations

- Information overload

- False positive results

- Likely biased towards bigger seizures

- Does not address a fundamental challenge with seizures data related to police priorities setting

…potential as an additional source

Improve analysis

Improving analysis

- Developing new tools and analytical approaches

- Triangulation and cross-indicator analysis

- Making use of contextual and other data

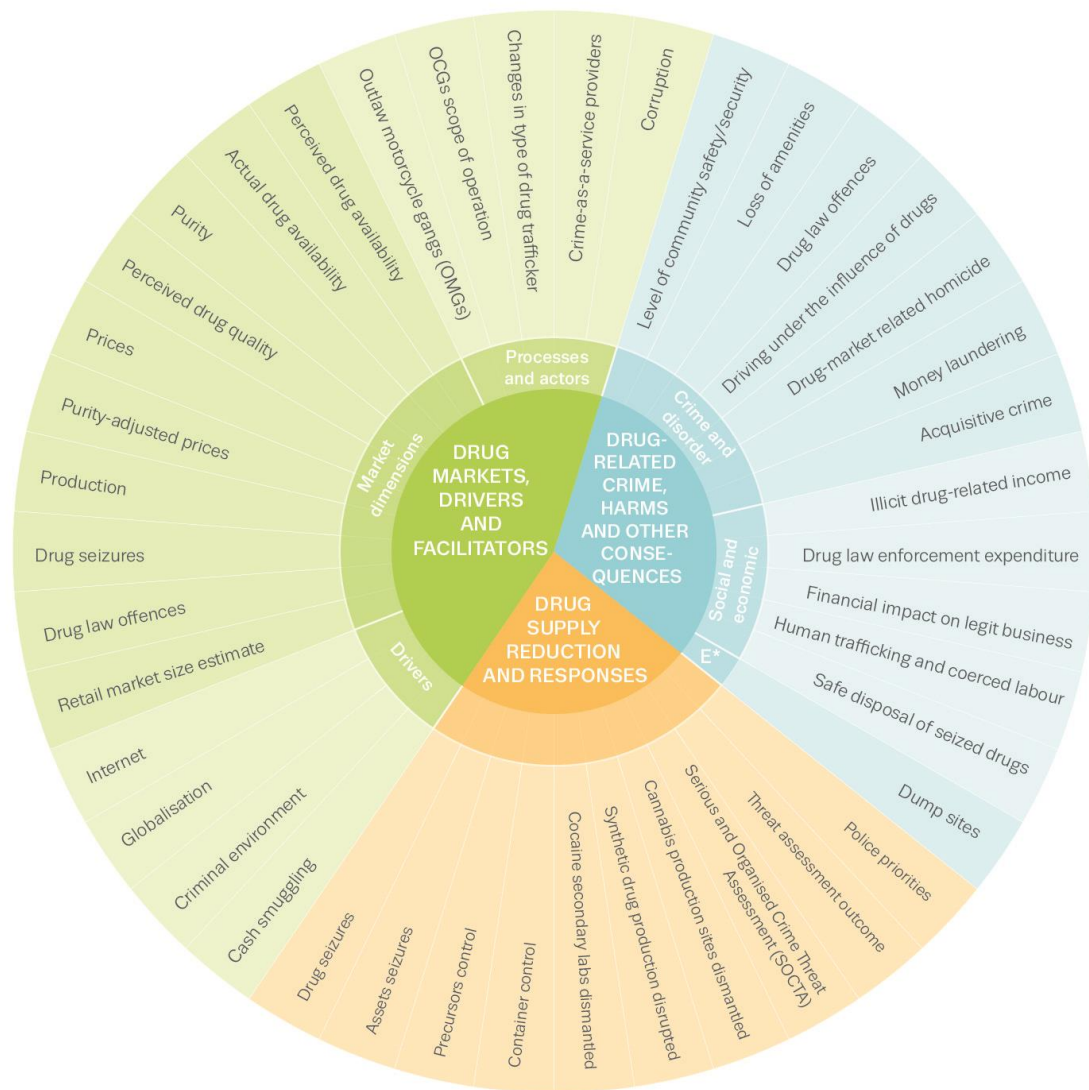- Documenting limitations and caveats

Some current discussions

Data sources for new areas in crime domain – establishing a drug link

- Links to other crime areas
- Enablers: corruption, financial impact

Need to prioritise

Thematic areas, domains & potential indicators

E* = environmental

…and dilemmas

How to harvest data en masse with less burden

What new data processing and analytical tools?

Concluding reflections

- Different data sources provide different pieces of the jigsaw which is the picture of drug supply

- Data gaps and inconsistencies may be inevitable and often fluctuating

- All data sources have limitations so triangulation and cross-indicator analysis is essential

- It is increasingly important to consider overlaps between drugs and other crime areas

- It is critical that next steps are supported by expert networks –further data quality improvement & access to research, intelligence and contextual information to inform future analysis

Thank you
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youtube.com/emcddatube

flickr.com/photos/emcdda

Drug affordability — a potential tool for comparing illicit drug markets
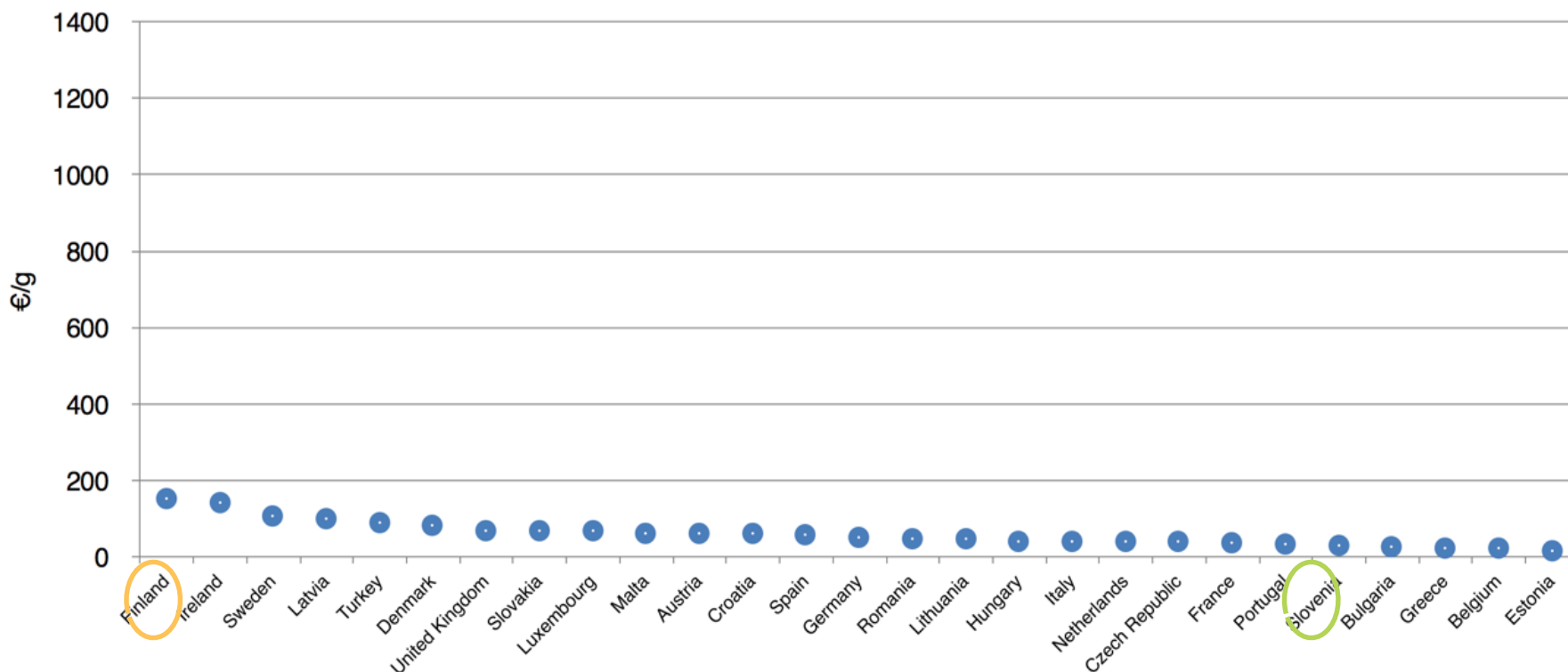
Retail price & purity, 2015

Adjustment for purity

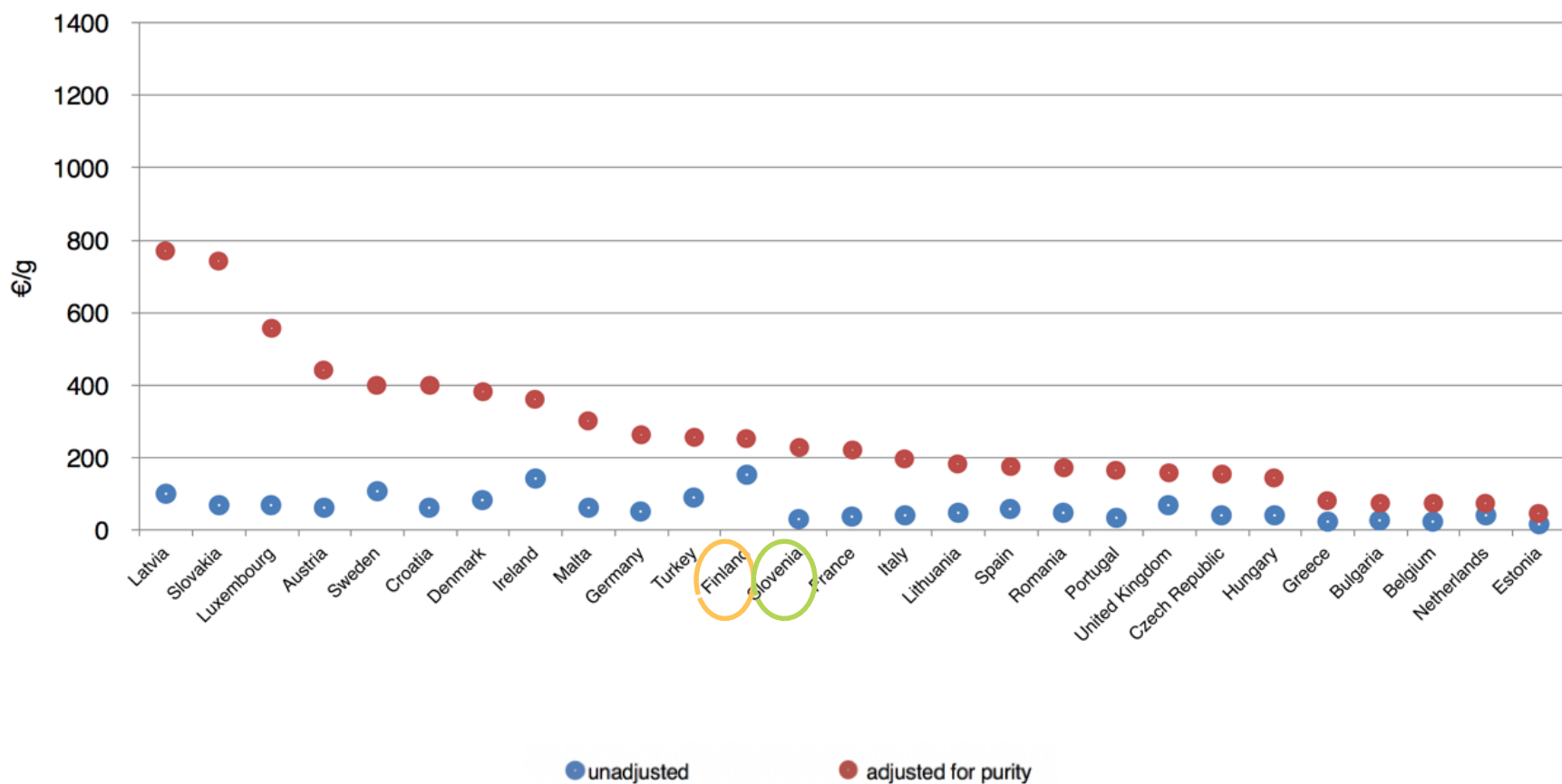PAP_c = primary price$_c$ x 100/reported purity$_c$

Adjustment for economy

$Affordability_c$ = PAP$_c$ x PLI EU/PLI$_c$

$$PLI_c = PPP_c / XR_c$$

Retail heroin primary (unadjusted) price (2015; €/g)

Retail heroin price adjusted for purity (2015; €/g)

Retail heroin affordability (purity and PLI adjusted price) (2015; €/g)