



European Monitoring Centre
for Drugs and Drug Addiction

Euro-DEN Plus

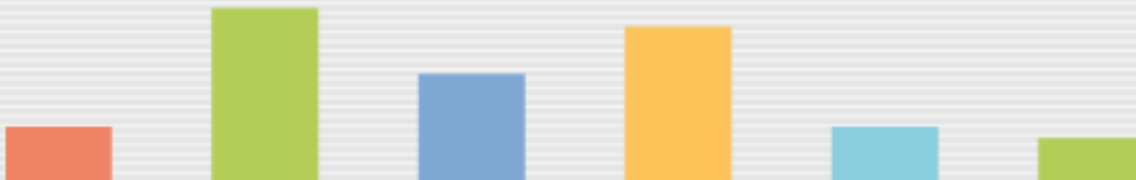
Surveillance of drug-acute toxicity presentations at hospital emergency services

EU4MD Side-event – DRD annual expert meeting 13-15 October 2020

Isabelle Giraudon

On behalf of the EMCDDA supported project European Drug Emergency Network Plus (Euro-DEN Plus)

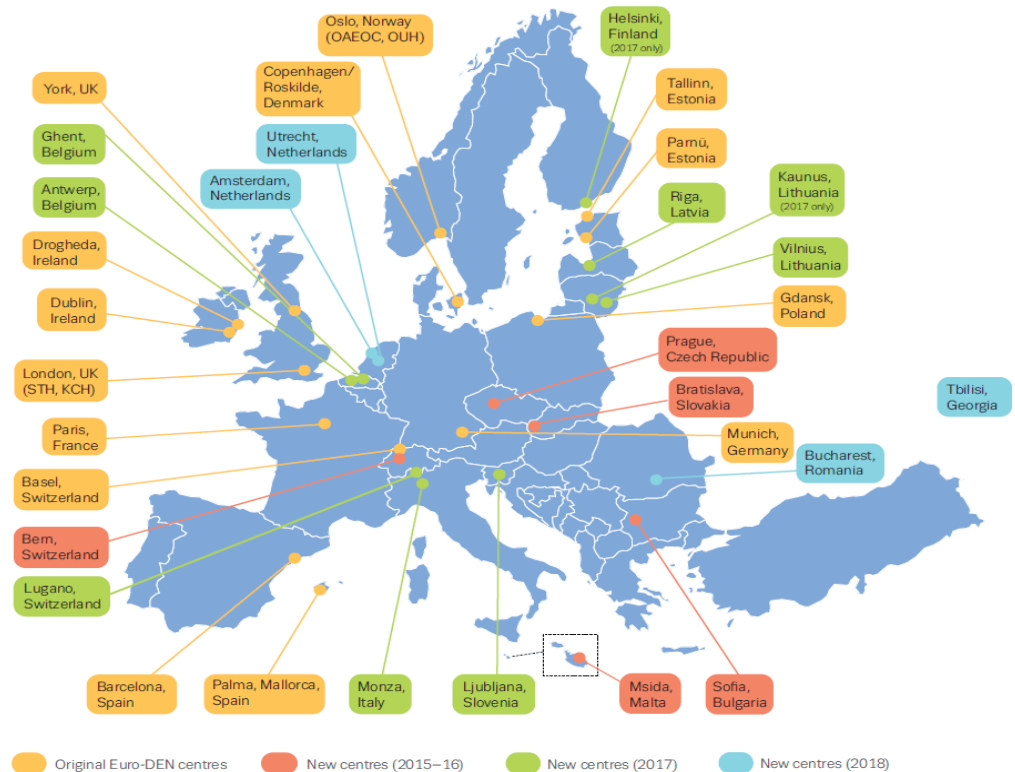
15 October 2020, Lisbon



Funding and origin of the project

2013-2015 Financial support from the DPIP/ISEC Programme of the European Union

since 2015 Support from EMCDDA



DPIP Drug Prevention and Information Programme



Note: Centres are also located in non-EU countries: Basel, Bern and Lugano (Switzerland) and in Tbilisi (Georgia).
Update 30 November 2018. 32 active centres in 22 countries.

Why Euro-DEN ...?

EU Drugs Strategy [2005-12]

“New approaches are required to improve the **knowledge of drug-related adverse consequences** and assess the **risks associated with drugs**, in general, and new psychoactive substances (NPS) in particular”



Acute drug toxicity

- Systematic data reported on a number of key indicators
 - Prevalence of drug use
 - Drug seizures
 - High risk drug use population estimates
 - Drug-related deaths
- But no systematic data on acute drug toxicity
 - Despite this being a key public health indicator on the health impact of drug use



Clinical Toxicology (2014), 52, 1115–1117
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DOI: 10.3109/15563650.2014.976792

RESEARCH ARTICLE

Current European data collection on emergency department presentations with acute recreational drug toxicity: Gaps and national variations

FRITJOF HEYERDAHL,¹ KNUT ERIK HOVDA,¹ ISABELLE GIRAUDON,² CHRISTOPHER YATES,³ ALISON M. DINES,⁴ ROUMEN SEDEFOV,⁵ DAVID M. WOOD,^{1,5} and PAUL I. DARGAN^{1,5}

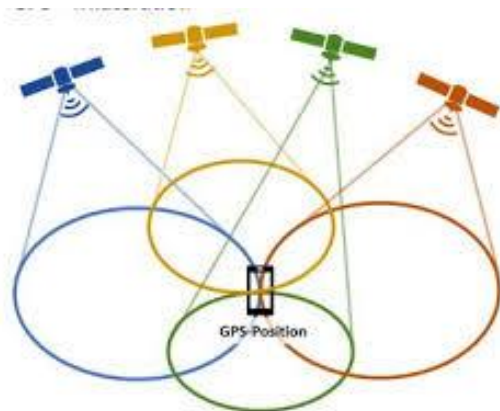
informa
healthcare



Need for complementary source on acute drug toxicity



- Triangulation of current indicators with novel sources of information: including
 - hospital emergency services
 - waste water analysis
 - syringe residue
 - data from drug checking services



Understanding How Data Triangulation Identifies Acute Toxicity of Novel Psychoactive Drugs

D. M. Wood • P. I. Dargan

J. Med. Toxicol. (2012) 8:300–303

DOI 10.1007/s13181-012-0241-3



Euro-DEn plus: design and methods

- a ‘sentinel’ network of emergency hospital settings
- local approvals are necessary
- Prospective systematic inclusion of all presentations with acute drug toxicity
- Case definition: Presentations are included if they have a history of use or clinical features consistent with acute established illicit/recreational drug or NPS toxicity, or if they relate to misuse of a prescription/over-the-counter medicine
- Minimum dataset (key demographics, clinical and outcome variables) returned every 2 months to the lead centre in London (coordination: Prof. P Dargan, D. Wood, A. Dines)

Euro-DEN: Year Oct 2013 – Sept 2014

16 sentinel centres in 10 countries

COMMENTARY

Clinical Toxicology (2014), **52**, 239–241

The European Drug Emergencies Network (Euro-DEN)

D. M. WOOD,^{1,2} F. HEYERDAHL,³ C. B. YATES,⁴ A. M. DINES,¹ I. GIRAUDON,⁵ K. E. HOVDA,³ and P. I. DARGAN^{1,2}

J. Med. Toxicol.

DOI 10.1007/s13181-014-0460-x

TOXICOLOGY INVESTIGATION

Presentations to the Emergency Department Following Cannabis use—a Multi-Centre Case Series from Ten European Countries

Alison M. Dines • David M. Wood • Miguel Galicia •
Christopher M. Yates • Fridtjof Heyerdahl •
Knut Erik Hovda • Isabelle Giraudon • Roumen Sedefov •
Euro-DEN Research Group • Paul I. Dargan

Clinical Toxicology (2015), **53**, 893–900

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ISSN: 1556-3650 print / 1556-9519 online

DOI: 10.3109/15563650.2015.1088157



CRITICAL CARE

Acute recreational drug and new psychoactive substance toxicity in Europe: 12 months data collection from the European Drug Emergencies Network (Euro-DEN)

ALISON M DINES,¹ DAVID M WOOD,^{1,2} CHRISTOPHER YATES,³ FRIDTIJOF HEYERDAHL,⁴ KNUT ERIK HOVDA,⁴ ISABELLE GIRAUDON,⁵ ROUMEN SEDEFOV,⁵ and PAUL I DARGAN^{1,2}; EURO-DEN RESEARCH GROUP*

5529 presentations

Final Report of the European Drug Emergencies Network (Euro-DEN)
March 2015

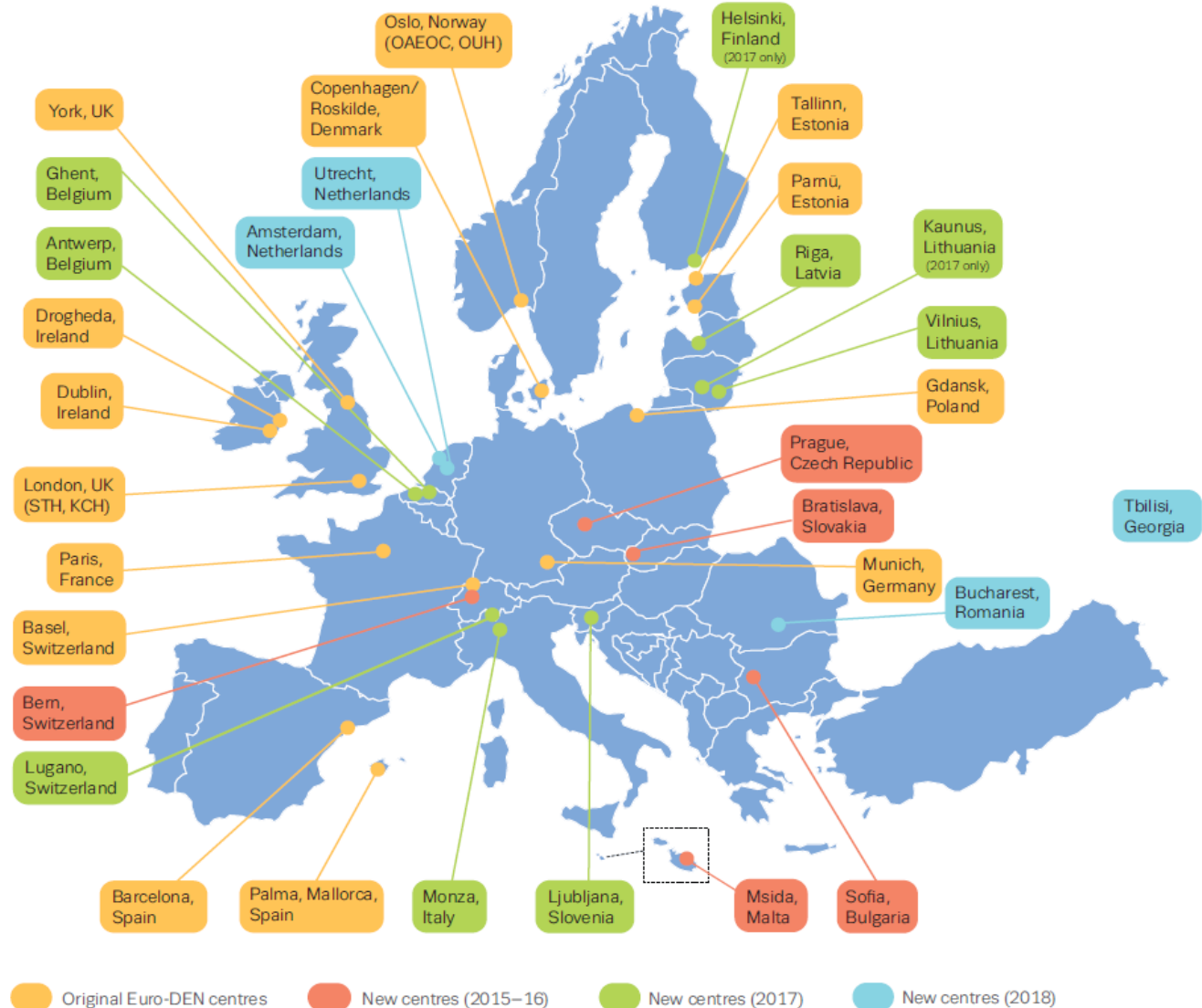


The Euro-DEN Project has financial support from the CPD/SEC Programme of the European Union.
European Commission DG Justice: JUST/2012/DPIP/AG/1591



Euro-DEN Plus in 2020

32 active centres
22 countries



Note: Centres are also located in non-EU countries: Basel, Bern and Lugano (Switzerland) and in Tbilisi (Georgia).
Update 30 November 2018. 32 active centres in 22 countries.



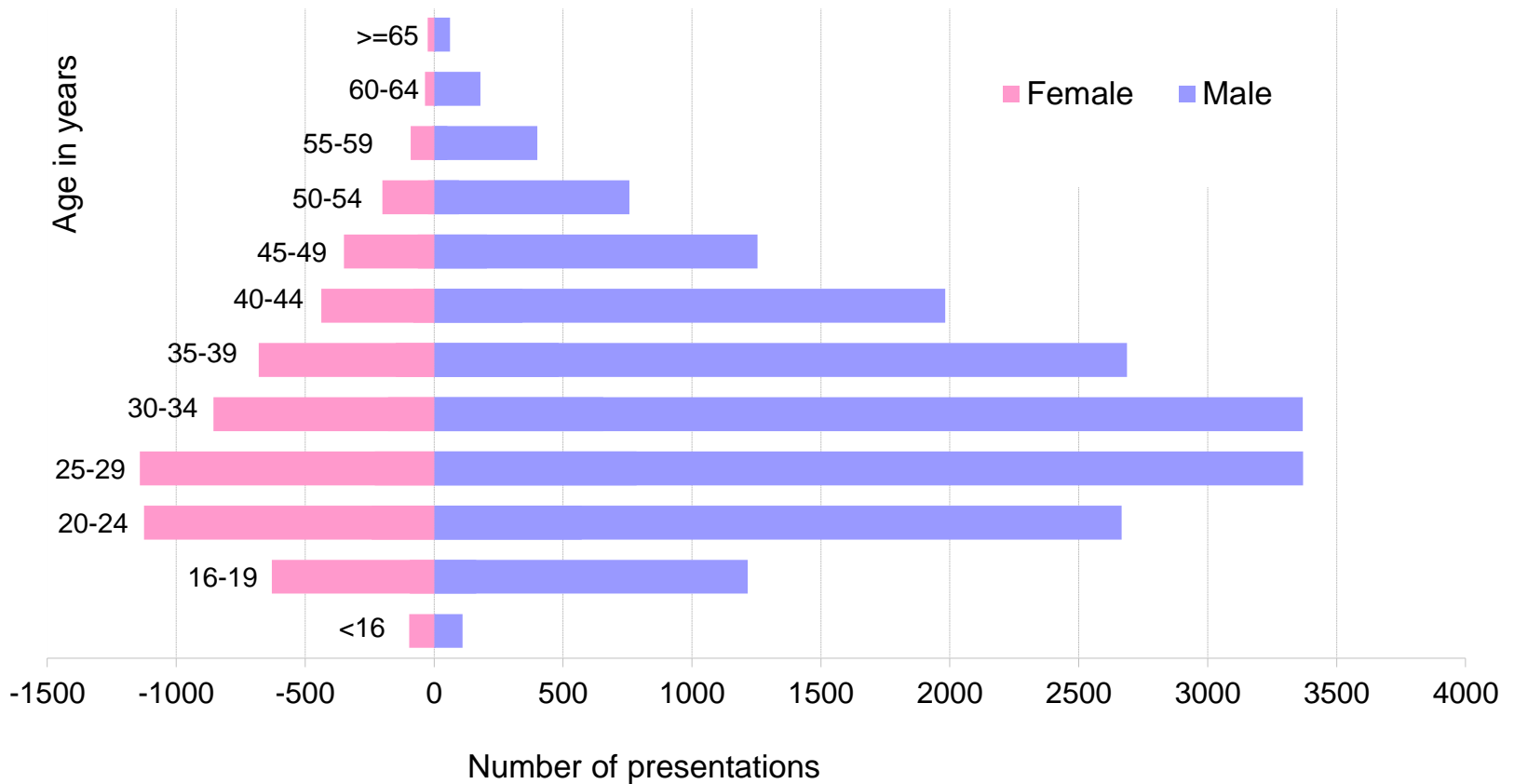
Euro-DEN Plus - findings



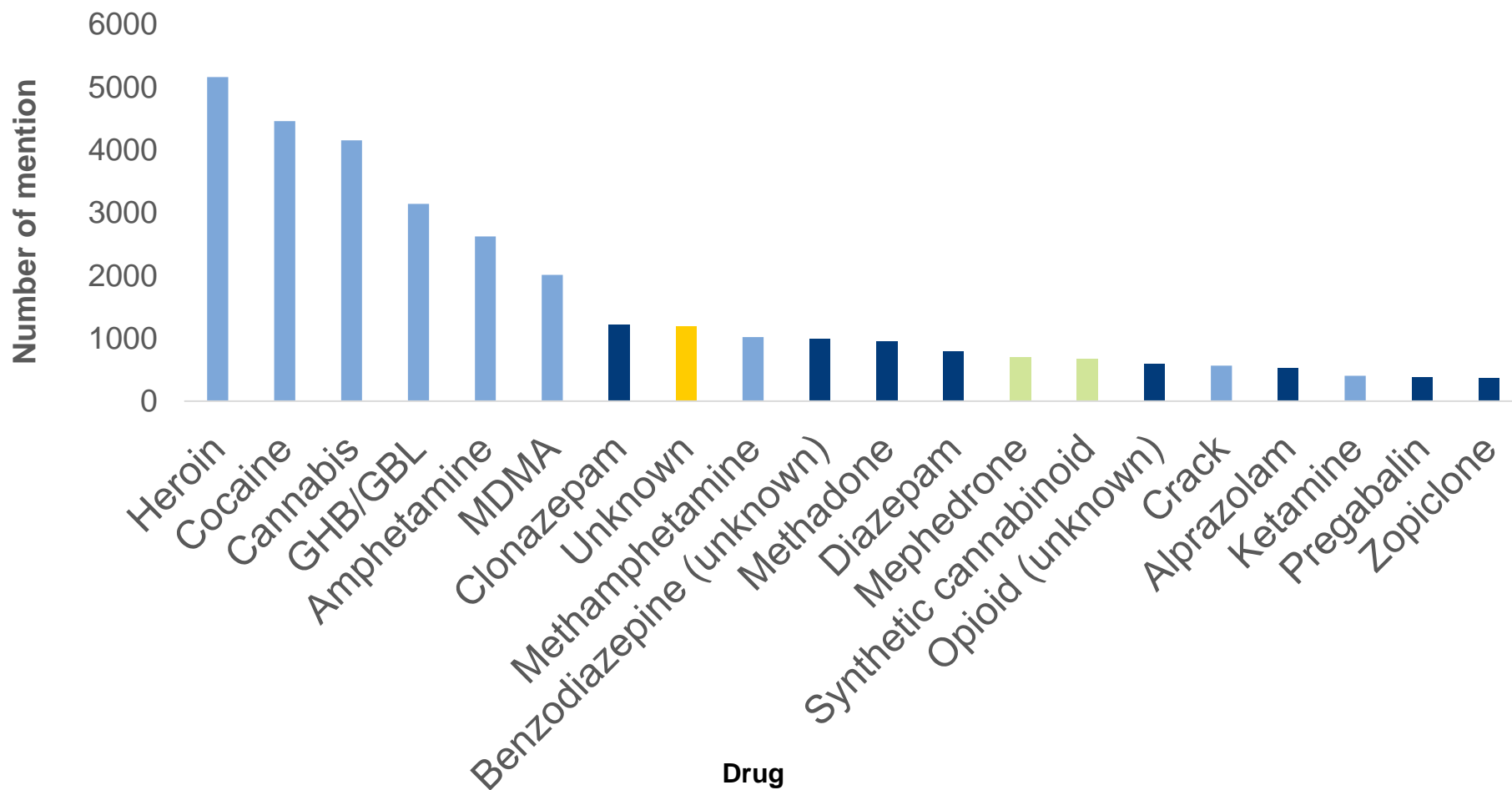
- 23,947 presentations in the first 4 years
- Up to 3.3% of presentations to the emergency departments (ED)
- 2018 : 9 903 presentations in 31 centres
- → 33 880 presentations for 2014-2018



Presentations by age and gender, 2014-2017 (n=23,718)



Top 20 drugs identified (no. of reports) in Euro-DEN Plus presentations 2014-2017*

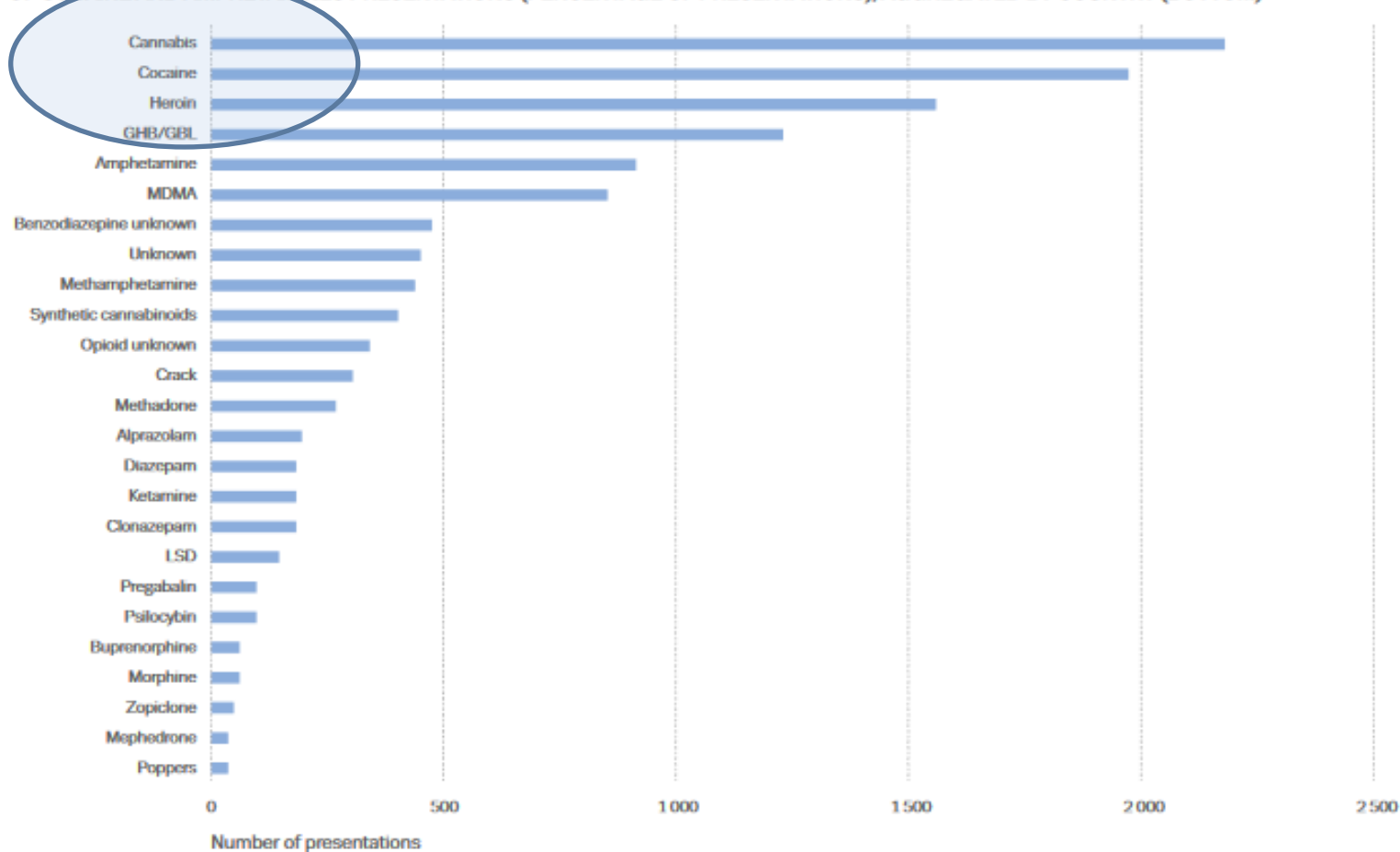


*(out of 36,232 drug identifications (excluding alcohol) involved in 23,947 presentations)



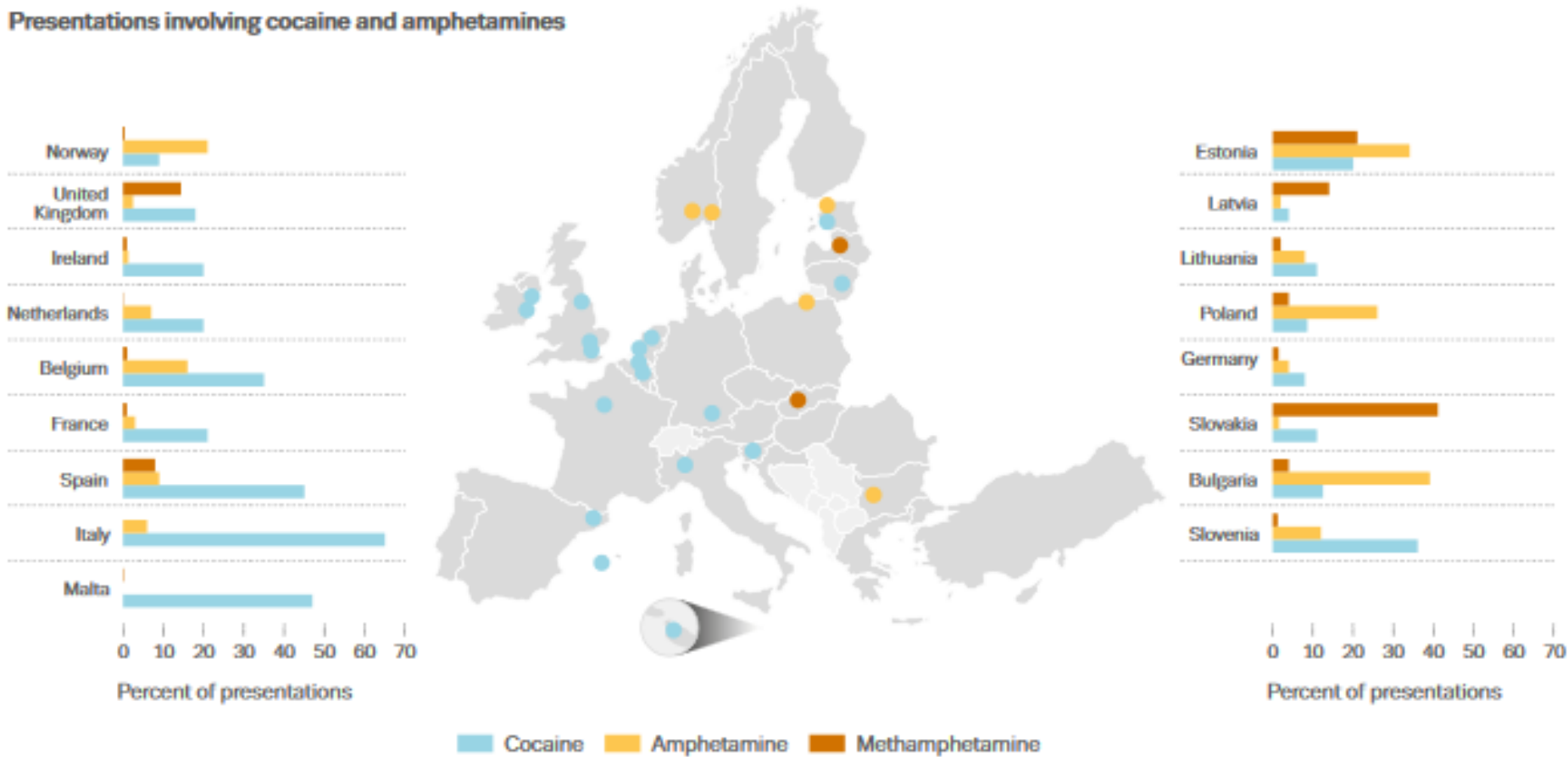
Top 25 drugs identified (no. of reports) in Euro-DEN Plus presentations 2018

TOP 25 DRUGS RECORDED IN EMERGENCY PRESENTATIONS FROM A NETWORK OF SENTINEL HOSPITALS IN 2018 (TOP) AND FREQUENCIES OF COCAINE AND AMPHETAMINES PRESENTATIONS (PERCENTAGE OF PRESENTATIONS), AGGREGATED BY COUNTRY (BOTTOM)



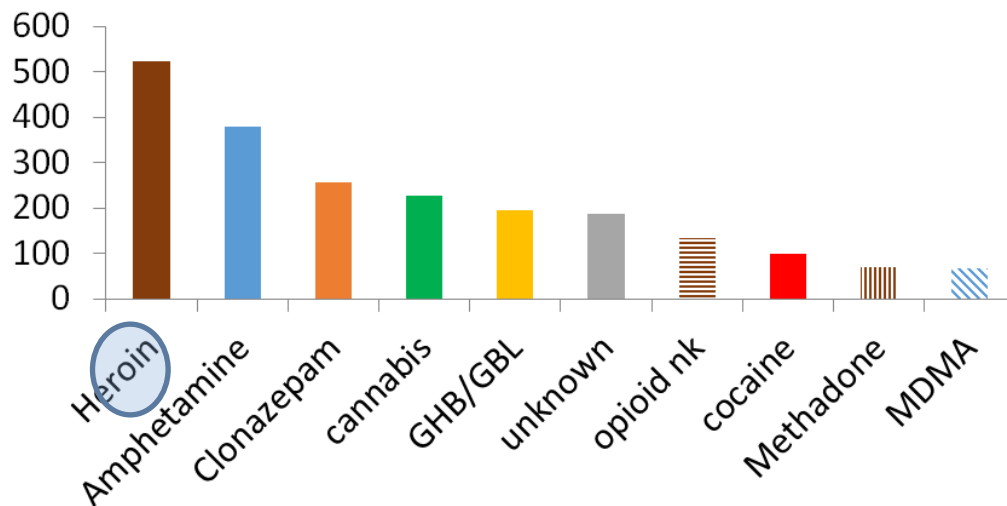
Presentations involving cocaine and amphetamines, 2018

Presentations involving cocaine and amphetamines

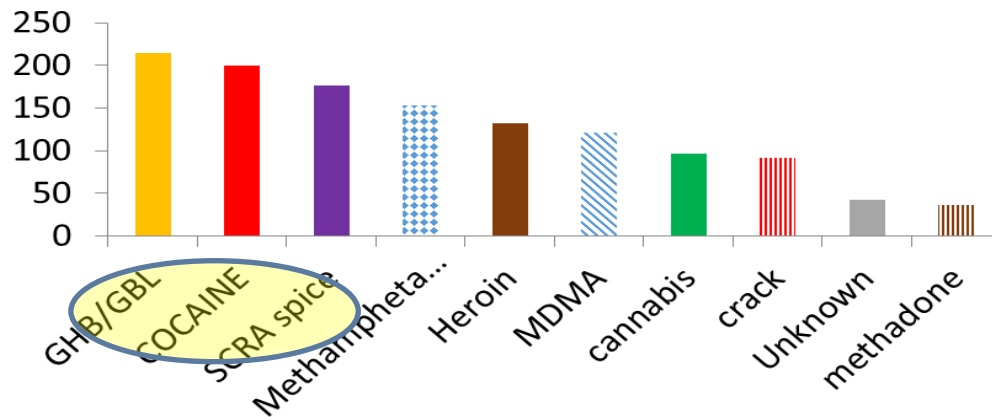


Value of local level monitoring to triangulate with other data on drug use and harm

Oslo OAEOC (Norway)



London STH (UK)



Main drugs involved in the presentations in the two largest centres, 2017



RESEARCH ARTICLE

Current European data collection on emergency department presentations with acute recreational drug toxicity: Gaps and national variations

FRIDTJOF HEYERDAHL,¹ KNUT ERIK HOVDA,¹ ISABELLE GIRAUDON,² CHRISTOPHER YATES,³ ALISON M. DINES,⁴ ROUMEN SEDEFOV,⁵ DAVID M. WOOD,^{1,2} and PAUL I. DARGAN^{1,2}

Critical Toxicology (2018), 52, 385–387
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ISSN: 1556-5068 print / 1556-6593 online
DOI: 10.1080/15565068.2018.1496792



CRITICAL CARE

Acute recreational drug and new psychoactive substance toxicity in Europe: 12 months data collection from the European Drug Emergencies Network (Euro-DEN)

ALISON M. DINES,¹ DAVID M. WOOD,^{1,2} CHRISTOPHER YATES,³ FRIDTJOF HEYERDAHL,⁴ KNUT ERIK HOVDA,⁴ ISABELLE GIRAUDON,⁵ ROUMEN SEDEFOV,⁶ and PAUL I. DARGAN^{1,2}, EURO-DEN RESEARCH GROUP¹

Drugs

education, prevention and policy

http://informahealthcare.com/dep
ISSN: 0968-7437 (print), 1465-3370 (electronic)
Drugs Educ Prev Pol, 2016; 23(1): 73–77
© 2015 Taylor & Francis. DOI: 10.3109/09687437.2015.1081379



Review of European-Drug Emergencies Network (Euro-DEN) training package for non-specialist workers to assess acute recreational drug and new psychoactive substance toxicity in night-time economy environments

David M. Wood¹, Alison M. Dines¹, Fridtjof Heyerdahl², Christopher Yates³, Isabelle Giraudon⁴, Raido Paasma⁵, Knut Erik Hovda², and Paul I. Dargan¹

J. Med. Toxicol.
DOI: 10.1007/s13181-014-0460-x

TOXICOLOGY INVESTIGATION

Presentations to the Emergency Department Following Cannabis use—a Multi-Centre Case Series from Ten European Countries

Alison M. Dines · David M. Wood · Miguel Galicia · Christopher M. Yates · Fridtjof Heyerdahl · Knut Erik Hovda · Isabelle Giraudon · Roumen Sedefov · Euro-DEN Research Group · Paul I. Dargan

Journal of Medical Toxicology
https://doi.org/10.1007/s13181-018-0674-4

ORIGINAL ARTICLE



Concurrent Use of Benzodiazepine by Heroin Users—What Are the Prevalence and the Risks Associated with This Pattern of Use?

T. Yamamoto¹ · P. I. Dargan^{1,2} · A. Dines¹ · C. Yates³ · F. Heyerdahl⁴ · K. E. Hovda⁴ · I. Giraudon⁵ · R. Sedefov⁵ · D. M. Wood^{1,2} · On behalf of the Euro-DEN Research Group

Toxicology Letters 277 (2017) 84–91

Contents lists available at ScienceDirect

Toxicology Letters

TL

ELSEVIER

journal homepage: www.elsevier.com/locate/toxlet

Check for updates

Intoxication by gamma hydroxybutyrate and related analogues: Clinical characteristics and comparison between pure intoxication and that combined with other substances of abuse

Óscar Miró^{1,3}, Miguel Galicia^{4,5,1}, Paul Dargan^{3,c}, Alison M. Dines³, Isabelle Giraudon⁴, Fridtjof Heyerdahl¹, Knut E. Hovda¹, Christopher Yates³, David M. Wood^{3,4}, Evangelia Liakoni^{2,4}, Matthias Liechti¹, Gesche Jürgens¹, Carsten Boe Pedersen¹, Niall O'Connor¹, Gerard Markey¹, Adrian Moughy¹, Christopher Lee¹, Patrick O'Donohoe¹, Jacek Sein Anand^{1,2}, Jordi Puiguguier¹, Catalina Homar¹, Florian Eyer¹, Odd Martin Vallernes^{1,2}, Per Sverre Persett¹, Lucie Chevillard¹, Bruno Mégarbane¹, Raido Paasma¹, W. Stephen Waring¹, Kristiina Pöld¹, Christian Rabe¹, Piotr Maciej Kabata^{1,7}

European Journal of Clinical Pharmacology
https://doi.org/10.1007/s00228-018-2550-1

PHARMACOEPIDEMIOLOGY AND PRESCRIPTION

Check for updates

Presentations to the emergency department with non-medical use of benzodiazepines and Z-drugs: profiling and relation to sales data

hout^{1,2} · C. Yates³ · Z. R. Margolin⁴ · P. I. Dargan^{1,5} · A. M. Dines¹ · F. Heyerdahl⁶ · K. E. Hovda⁶ · I. Giraudon⁷ · her-Bartelson⁴ · J. L. Green^{4,8} · Euro-DEN Research Group · D. M. Wood^{1,5}

Observational Study

Medicine

OPEN

Acute recreational drug toxicity

Comparison of self-reports and results of immunoassay and additional analytical methods in a multicenter European case series

Evangelia Liakoni, MD^{1,2,3}, Christopher Yates, MD⁴, Alison M. Dines, MA⁴, Paul I. Dargan, MD^{4,5}, Fridtjof Heyerdahl, MD, PhD¹, Knut Erik Hovda, MD, PhD¹, David M. Wood, MD^{4,6}, Florian Eyer, MD¹, Euro-DEN Plus Research Group, Matthias E. Liechti, MD, MAS⁷

Medicine (2018) 97:566-574

Vallernes et al. *BMC Psychiatry* (2016) 16:293
DOI 10.1186/s12888-016-1002-7

BMC Psychiatry

RESEARCH ARTICLE

Open Access

Psychosis associated with acute recreational drug toxicity: a European case series

Odd Martin Vallernes^{1,2*}, Alison M. Dines³, David M. Wood^{3,4}, Christopher Yates⁵, Fridtjof Heyerdahl⁶, Knut Erik Hovda⁶, Isabelle Giraudon⁷, Euro-DEN Research Group and Paul I. Dargan^{3,4}

ORIGINAL

Emergencias 2018;30:385-394

Comparación de las urgencias atendidas por drogas de abuso en dos servicios de urgencias españoles con las atendidas en tres áreas europeas distintas

Óscar Miró^{1,2}, Christopher Yates³, Alison M. Dines³, David M. Wood^{3,4}, Paul I. Dargan^{1,5}, Itxaso Galán¹, Alba Jerez¹, Jordi Puiguguier¹, W. Stephen Waring¹, Adrian Moughy¹, Niall O'Connor¹, Fridtjof Heyerdahl¹, Knut E. Hovda¹, Odd M. Vallernes^{1,2}, Raido Paasma¹, Kristiina Pöld¹, Gesche Jürgens^{1,13}, Bruno Megarbane^{1,4}, Jacek S. Anand^{1,2}, Evangelia Liakoni^{1,2}, Matthias Liechti^{1,7}, Florian Eyer¹, Sergej Zacharov^{1,8}, Blazena Caganova¹, Isabelle Giraudon^{1,2}, Miguel Galicia¹

Conclusions

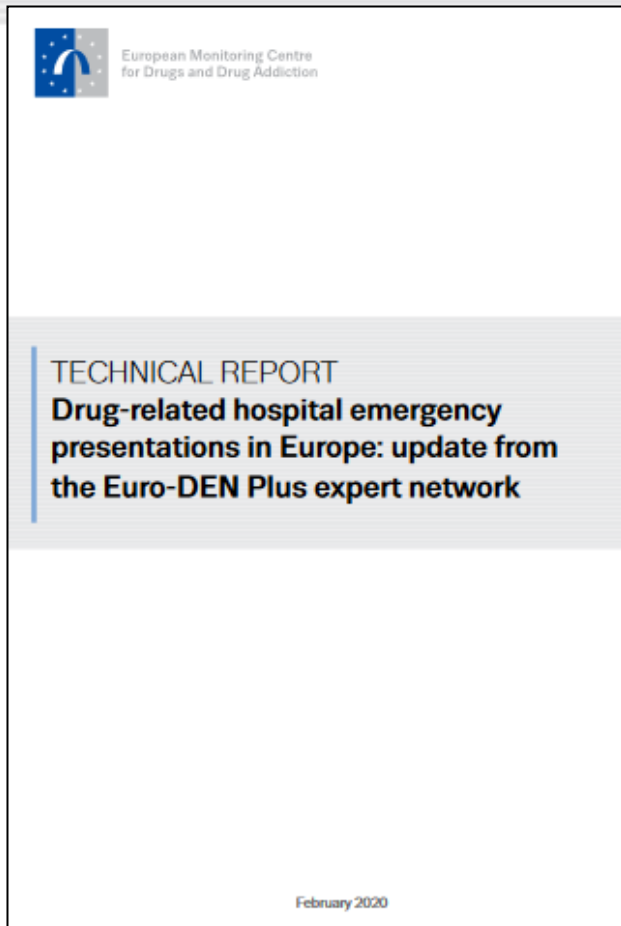


Euro-DEN Plus:

- Insight into acute drug toxicity in Europe
- Implemented in two thirds of the European countries
- Continued recruitment of hospitals
- Outputs with scientific and policy relevance
- Triangulation with other datasets will increase public health relevance
- Large dataset → potential for research and exploration of specific topics



Most recent publication: Technical report 2020



Publications

<https://pubmed.ncbi.nlm.nih.gov/?term=euro-den>

https://www.emcdda.europa.eu/publications/technical-reports/drug-related-hospital-emergency-presentations-in-europe_en







European Monitoring Centre
for Drugs and Drug Addiction

Thank you

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