



**LISBON
ADDICTIONS
2019**

Clinical coding of acute drug and NPS presentations: why doesn't it work and what can be done.

Dr David M Wood

Consultant Physician and Clinical Toxicologist, Guy's and St Thomas'
NHS Foundation Trust and King's Health Partners

Reader in Clinical Toxicology
King's College London

Funding and Conflicts of Interest

Euro-DEN and Euro-DEN Plus

- 2013-2015: The Euro-DEN project had financial support from the DPIIP/ISEC Programme of the European Union
- 2015 onwards: The Euro-DEN Plus Project has received support from EMCDDA since August 2015

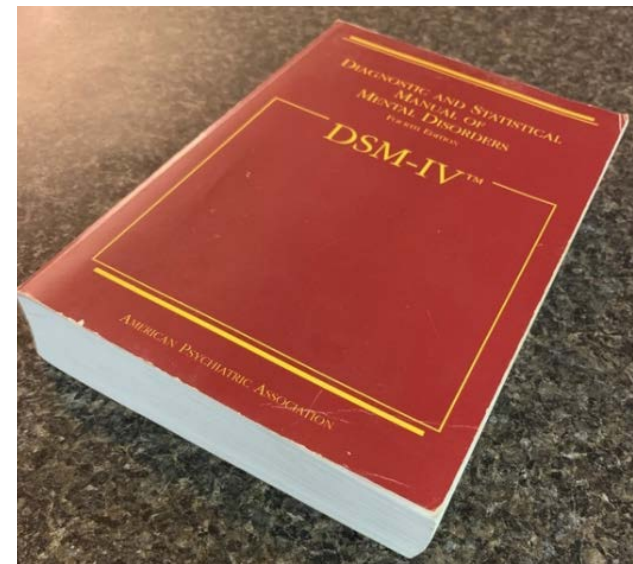
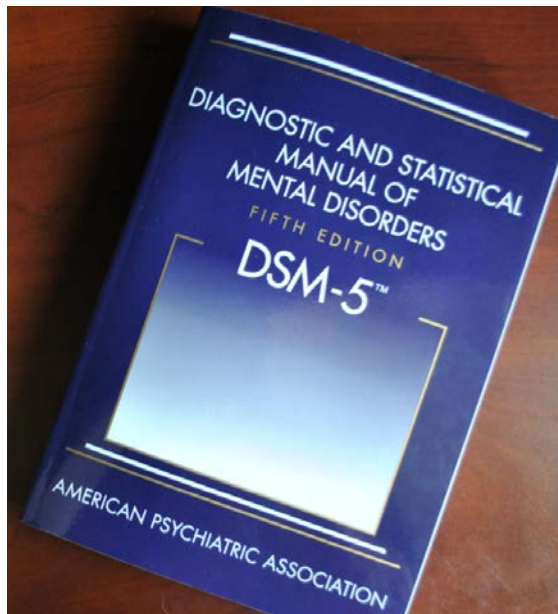
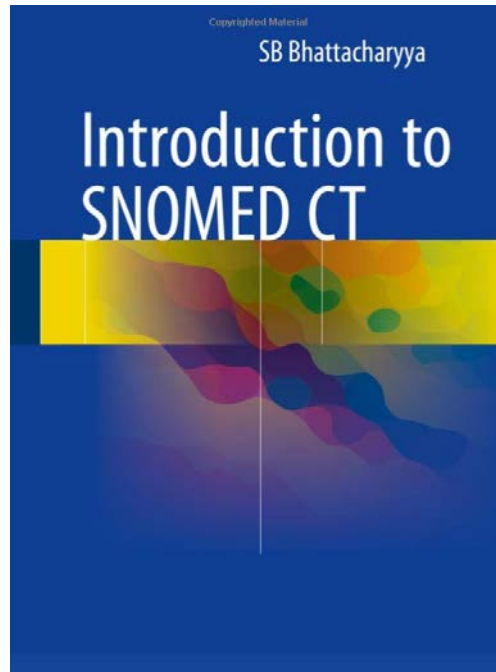
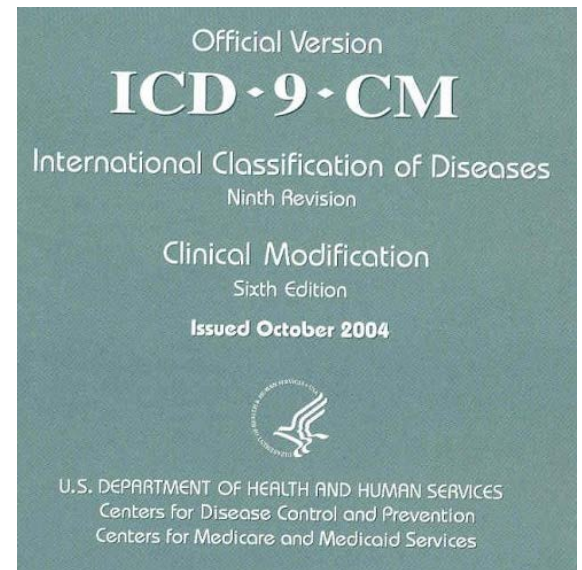


RESEARCH ARTICLE

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,² DAVID M. WOOD,^{4,5} and PAUL I. DARGAN^{4,5}

- Survey of REITOX National Focal Points on national and/or regional data collection on acute drug toxicity
 - 12/36 countries: national data on classical drugs
 - 10/36 countries: national data on NPS
 - Data collected from multiple non-consistent sources
 - Inconsistent variables collection



Hospital admissions for 'drug-induced' disorders in England: a study using the Hospital Episodes Statistics (HES) database

Patrick Waller,¹ Mary Shaw,^{2,3} Davidson Ho,^{2,3} Saad Shakir^{1,4} & Shah Ebrahim³

¹Drug Safety Research Unit, Southampton, ²South West Public Health Observatory, Bristol, ³Department of Social Medicine, University of Bristol, Bristol, and ⁴University of Portsmouth, Portsmouth, UK

Conclusions

Comparisons with published studies indicate that HES data grossly underestimate the burden of drug-induced disorders as a cause of hospital admission. There are likely to be multiple underlying reasons including under-recognition, under-recording and limitations of the coding system. The potential of these data for identifying previously unrecognized serious ADRs is limited by constraints on the availability of detailed data regarding individual cases.



Limitations of pulmonary embolism ICD-10 codes in emergency department administrative data: let the buyer beware

Kristin Burles¹, Grant Innes^{1,2,3}, Kevin Senior², Eddy Lang^{1,2,3} and Andrew McRae^{1,2,3,4*}

BMC Medical Research Methodology (2017) 17:89

Abstract

Background: Administrative data is a useful tool for research and quality improvement; however, validity of research findings based on these data depends on their reliability. Diagnoses assigned by physicians are subsequently converted by nosologists to ICD-10 codes (International Statistical Classification of Diseases and Related Health Problems, 10th Revision). Several groups have reported ICD-9 coding errors in inpatient data that have implications for research, quality improvement, and policymaking, but few have assessed ICD-10 code validity in ambulatory care databases. Our objective was to evaluate pulmonary embolism (PE) ICD-10 code accuracy in our large, integrated hospital system, and the validity of using these codes for operational and health services research using ED ambulatory care databases.

Methods: Ambulatory care data for patients (age ≥ 18 years) with a PE ICD-10 code (I26.0 and I26.9) were obtained from the records of four urban EDs between July 2013 to January 2015. PE diagnoses were confirmed by reviewing medical records and imaging reports. In cases where chart diagnosis and ICD-10 code were discrepant, chart review was considered correct. Physicians' written discharge diagnoses were also searched using 'pulmonary embolism' and 'PE', and patients who were diagnosed with PE but not coded as PE were identified. Coding discrepancies were quantified and described.

Results: One thousand, four hundred and fifty-three ED patients had a PE ICD-10 code. Of these, 257 (17.7%) were false positive, with an incorrectly assigned PE code. Among the 257 false positives, 193 cases had ambiguous ED diagnoses such as 'rule out PE' or 'query PE', while 64 cases should have had non-PE codes. An additional 117 patients (8.90%) with a PE discharge diagnosis were incorrectly assigned a non-PE ICD-10 code (false negative group). The sensitivity of PE ICD-10 codes in this dataset was 91.1% (95%CI, 89.4–92.6) with a specificity of 99.9% (95%CI, 99.9–99.9). The positive and negative predictive values were 82.3% (95%CI, 80.3–84.2) and 99.9% (95%CI, 99.9–99.9), respectively.

Conclusions: Ambulatory care data, like inpatient data, are subject to coding errors. This confirms the importance of ICD-10 code validation prior to use. The largest proportion of coding errors arises from ambiguous physician documentation; therefore, physicians and data custodians must ensure that quality improvement processes are in place to promote ICD-10 coding accuracy.

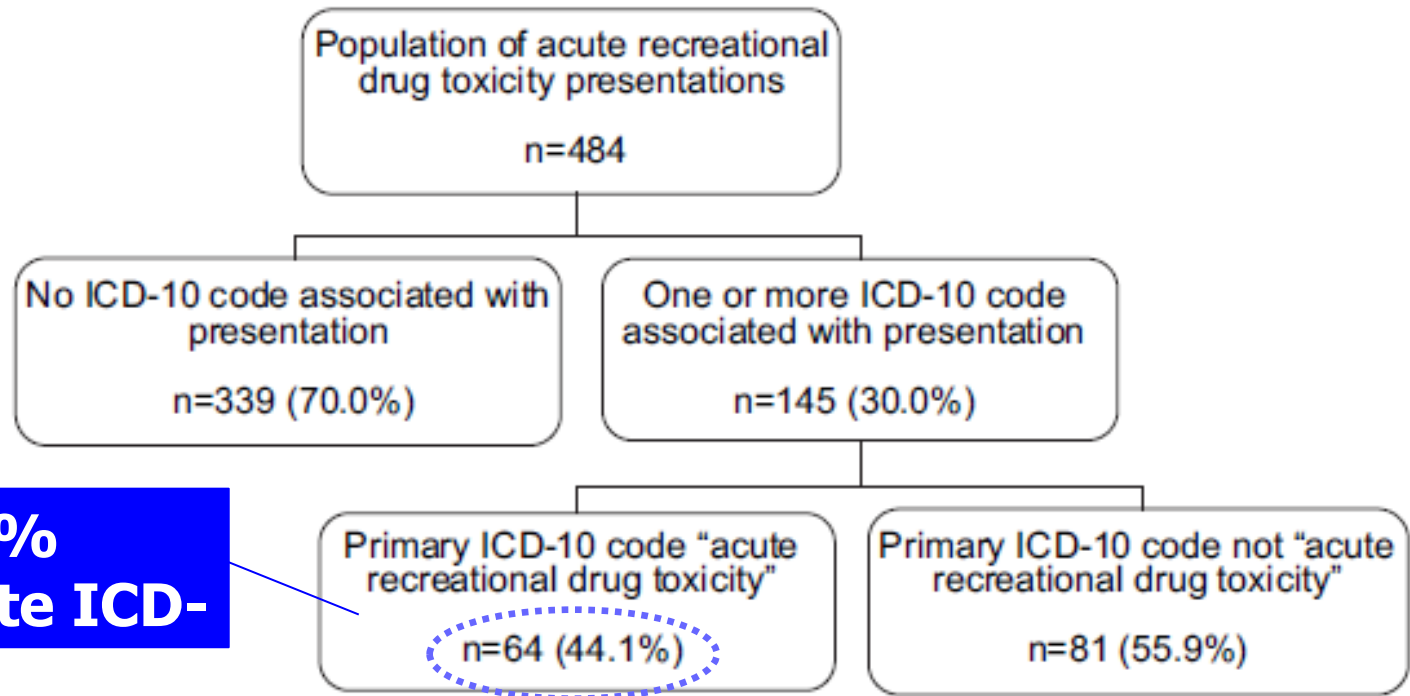
ICD-10 and Acute Recreational Drug Toxicity

Original article

ICD-10 coding: poor identification of recreational drug presentations to a large emergency department

David M Wood, Pamela Conran, Paul I Dargan

Emerg Med J 2011;**28**:387–389. doi:10.1136/emj.2009.088344



**13.2%
appropriate ICD-**

Survey of ICD-10 coding of hospital admissions in the UK due to recreational drug toxicity

A.D. SHAH¹, D.M. WOOD^{1,2,3} and P.I. DARGAN^{1,2,3}

Description of hypothetical case	Top 3 primary ICD-10 codes	Number	Percent	Number of different primary codes
Presentations due to recreational drugs for which there is no specific ICD-10 code				
Palpitations and severe anxiety after taking mephedrone	T43.6 Poisoning by psychostimulants with abuse potential	45	68.2	9
	T65.8 Toxic effect of other specified substances	7	10.6	
	T50.9 Poisoning by oth & unsp drugs medicaments & biological subs	5	7.6	
Collapse in a sauna due to overdose of GBL	T52.8 Toxic effect of other organic solvents	13	20.3	19
	T41.2 Poisoning by other and unspecified general anaesthetics	9	14.1	
	T43.8 Poisoning by other psychotropic drugs, NEC	9	14.1	
Seizure, agitation and tachycardia due to ecstasy	T43.6 Poisoning by psychostimulants with abuse potential	55	82.1	7
	T43.8 Poisoning by other psychotropic drugs, NEC	4	6	
	F15.0 Men & behav dis due oth stims inc cafein: acute intoxication	3	4.5	
Agitation after ingesting benzylpiperazine at a party	T43.6 Poisoning by psychostimulants with abuse potential	22	34.4	11
	T37.4 Poisoning by anthelminthics	12	18.8	
	T50.9 Poisoning by oth & unsp drugs medicaments & biological subs	11	17.2	

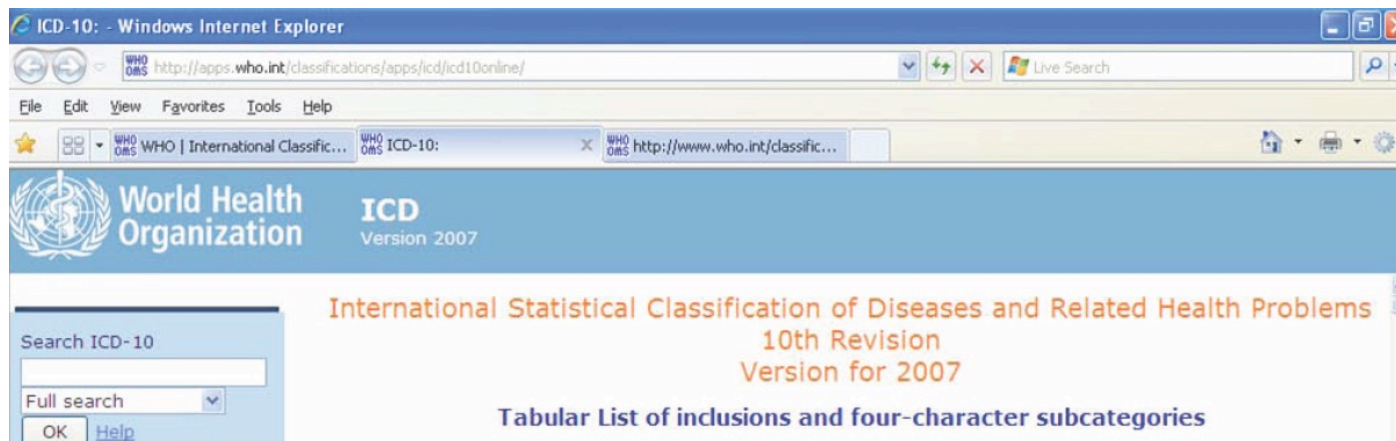
Survey of ICD-10 coding of hospital admissions in the UK due to recreational drug toxicity

A.D. SHAH¹, D.M. WOOD^{1,2,3} and P.I. DARGAN^{1,2,3}

Hypothetical cases		Primary and secondary ICD-10 codes	
Category	Description	Percentage of responses stating drug toxicity	Percentage of responses specifying drug name
Recreational drugs with no specific ICD-10 code	Palpitations and severe anxiety after taking mephedrone	100	0
	Collapse in sauna due to overdose of GBL	100	0
	Seizure, agitation and tachycardia due to ecstasy	100	0
	Agitation after ingesting benzylpiperazine at a party	100	0
Other toxicological presentations	Chest pain and tachycardia in regular user of cocaine	91.0	80.6
	Chest pain and tachycardia after first use of cocaine	79.7	72.5
	Unconscious due to methadone and heroin overdose	100	100
	Body stuffer with suspected opioid toxicity	63.8	23.2
	Collapse due to alcohol intoxication	100	100

ICD-10 and Acute Recreational Drug Toxicity

- ICD-10 codes: not available for most recreational drugs
 - Yes: heroin, cocaine, LSD
 - No: amphetamine, methamphetamine, MDMA, GHB, ketamine and definitely not NPS
- Impression that cases often coded by presenting feature e.g. chest pain, coma, convulsion, psychosis



Reliability of diagnoses coding with ICD-10

Jürgen Stausberg^{a,*}, Nils Lehmann^a, Dirk Kaczmarek^b, Markus Stein^c

^a Institute for Medical Informatics, Biometry and Epidemiology, Medical Faculty,
University of Duisburg-Essen, Hufelandstr. 55, D-45122 Essen, Germany

^b Sankt Marien-Hospital Buer gGmbH, Gelsenkirchen, Germany

^c Clinical Centre Ludwigshafen, Germany



INTERNATIONAL JOURNAL OF MEDICAL INFORMATICS 77 (2008) 50–57

A B S T R A C T

Objective: Reliability of diagnoses coding is essential for the use of routine data in a national health care system. The present investigation compares reliability of diagnoses coding with ICD-10 between three groups of coding subjects.

Method: One hundred and eighteen students coded 15 diagnoses lists, 27 medical managers from hospitals 34 discharge letters, and 13 coding specialists 12 discharge letters. Agreement in principal diagnosis was assessed using Cohen's Kappa and the fraction of coincidences over the number of pairs, agreement for the full set of diagnoses with a previously developed measure p_{om} .

Results: Kappa values were fair (managers) or moderate (coders) for terminal codes with 0.27 and 0.42 (agreement 29.2% versus 46.8%), substantial for the chapter level with 0.71 and 0.72 (agreement 78.3% versus 80.8%). p_{om} was lower for the full set of diagnoses than for principal diagnoses, for example in case of managers with 0.21 versus 0.29 for terminal codes. Best results were achieved by students coding diagnoses lists. In summary, the results are remarkably lower than in earlier publications.

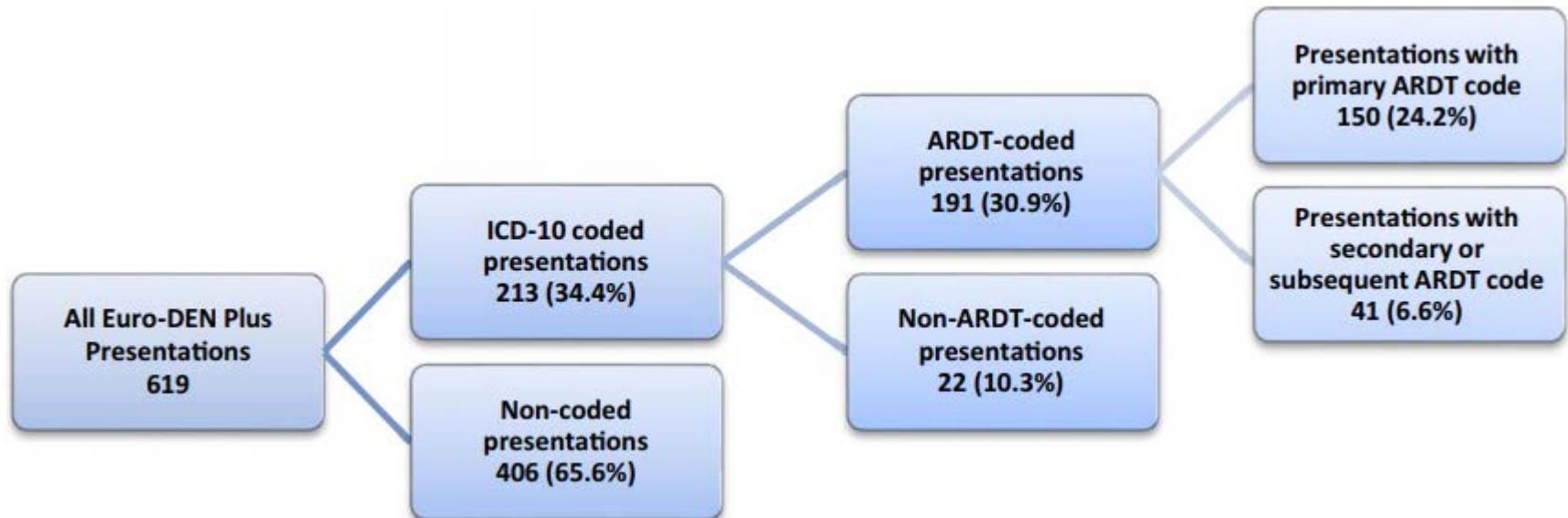
Conclusion: The refinement of the ICD-10 accompanied by innumerable coding rules has established a complex environment that leads to significant uncertainties even for experts. Use of coded data for quality management, health care financing, and health care policy requires a remarkable simplification of ICD-10 to receive a valid image of health care reality.

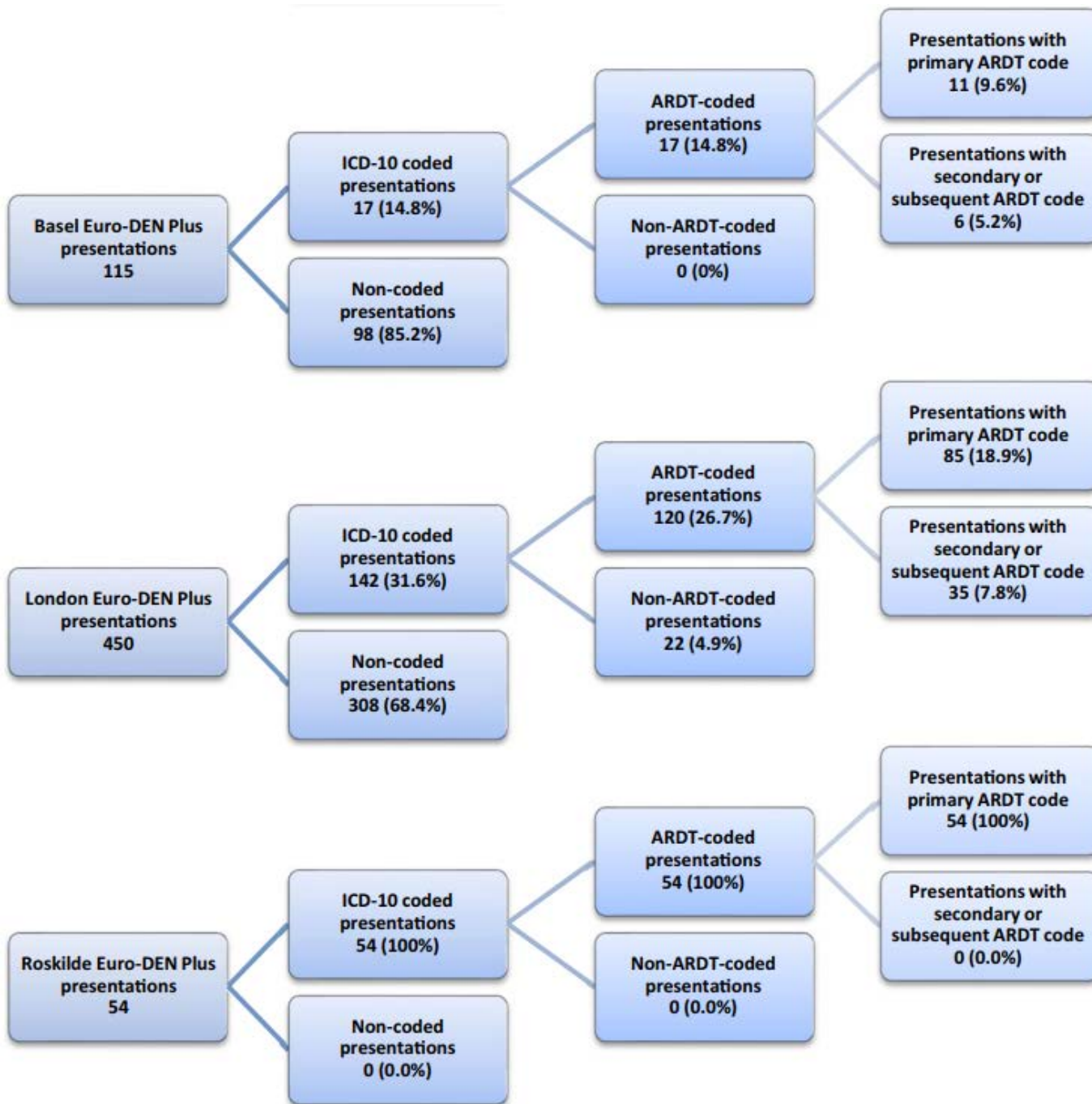
Poor Identification of Emergency Department Acute Recreational Drug Toxicity Presentations Using Routine Hospital Coding Systems: the Experience in Denmark, Switzerland and the UK

Journal of Medical Toxicology (2019) 15:112–120

David M. Wood^{1,2}  · Luke De La Rue¹ · Ali A. Hosin³ · Gesche Jurgens⁴ · Evangelia Liakoni^{5,6} · Fritdjof Heyerdahl⁷ · Knut Erik Hovda⁷ · Alison Dines¹ · Isabelle Giraudon⁸ · Matthias E. Liechti^{5,6} · Paul I. Dargan^{1,2}

- Euro-DEN Plus presentations (1st July to 31st December 2015) to three hospitals: Roskilde, Denmark; Basel, Switzerland; and London, UK.
- Coding departments provided ICD-10 codes applied (Q1 2017)





ICD-10 Code	Descriptive ICD-10 Code	Primary Code	Subsequent
F11	Mental and behavioural disorders due to use of opioids	13	17
F12	Mental and behavioural disorders due to use of cannabinoids	13	12
F13	Mental and behavioural disorders due to use of sedatives or hypnotics	5	18
F14	Mental and behavioural disorders due to use of cocaine	9	23
F15	Mental and behavioural disorders due to use of other stimulants	12	27
F16	Mental and behavioural disorders due to use of hallucinogens	3	0
F17	Mental and behavioural disorders due to use of tobacco	0	19
F18	Mental and behavioural disorders due to use of volatile solvents	0	1
F19	Mental and behavioural disorders due to multiple drug use of other psychoactive substances	16	6
T40.1	Heroin	6	4
T40.2	Other opioids	1	1
T40.3	Methadone	5	2

ICD-10 Code	Descriptive ICD-10 Code	Primary Code	Subsequent
X40	Accidental poisoning by and exposure to nonopioid analgesics, antipyretics and antirheumatics	N/A	1
X41	Accidental poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified	N/A	19
X42	Accidental poisoning by and exposure to narcotics and psychodysleptics (hallucinogens), not elsewhere specified	N/A	16
X44	Accidental poisoning by and exposure to other and unspecified drugs, medicaments and biological substances	N/A	15
X47	Accidental poisoning by and exposure to other gases and vapours	N/A	1
X61	Intentional self-poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere specified	N/A	9
X62	Intentional self-poisoning by and exposure to narcotics and psychodysleptics (hallucinogens), not elsewhere classified	N/A	7
X64	Intentional self-poisoning by and exposure to other and unspecified drugs, medicaments and biological substances	N/A	6
Z72.2	Drug use	0	1

T43.2	Other and unspecified antidepressants	0	1
T43.5	Other and unspecified antipsychotics and neuroleptics	2	0
T43.6	Psychostimulants with abuse potential (excl. Cocaine)	17	7
T43.8	Other psychotropic drugs, not elsewhere specified	5	1
T46.3	Coronary vasodilators, not elsewhere classified	0	1
T46.7	Peripheral vasodilators	0	1
T50.9	Poisoning: Other and unspecified drugs, medicaments and biological substances	4	0
T59.8	Other specified gases, fumes and vapours	1	0
T65.9	Toxic effect of unspecified substance	1	0
T88.7	Unspecified adverse effect of drug or medicament	0	1

ICD-10 Code	Descriptive ICD-10 Code	Cases (n)
Metabolic/Endocrine (6 presentations)		
D74.9	Methaemoglobinaemia, unspecified	2
E78.1	Pure hyperglyceridaemia	1
E87.2	Acidosis	1
T38.8	Other and unspecified hormones and their synthetic substitutes	1
N17.9	Acute renal failure, unspecified	1
Alcohol related (15 presentations)		
F10.0	Mental and behavioural disorders due to use of alcohol	11
F10.3	Mental and behavioural disorders due to use of alcohol (withdrawal state)	3
T51.0	Ethanol	1
Neuropsychiatric (21 presentations)		
F22.0	Delusional disorder	1
F29	Unspecified nonorganic psychosis	2
F41.0	Panic disorder (episodic paroxysmal anxiety)	3
F41.9	Anxiety disorder, unspecified	2
G40.2	Localization-related (focal)(partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures	1
G41.0	Grand mal status epilepticus	1
G93.6	Cerebral oedema	1
R45.2	Unhappiness	1
R45.8	Other symptoms and signs involving emotional state (suicidal ideation (tendencies))	6
R55	Syncope and collapse	3
Cardiorespiratory (8 presentations)		
I26.9	Pulmonary embolism without mention of acute cor pulmonale	1
I46.0	Cardiac arrest with successful resuscitation	1
J14	Pneumonia due to Haemophilus influenzae	1
J69.0	Pneumonitis due to food and vomit	2
R06.8	Other and unspecified abnormalities of breathing	1
R07.4	Chest pain unspecified	2
Gastrointestinal (3 presentations)		
K92.2	Gastrointestinal haemorrhage unspecified	1
R10.4	Other and unspecified abdominal pain	1
R11	Nausea and vomiting	1
Trauma/Injury Related (8 presentations)		
S00.7	Multiple superficial injuries of head	1
S00.8	Superficial injury of other parts of head	1
S01.0	Open wound of scalp	1
S01.1	Open wound of eyelid and periocular area	1
S09.9	Unspecified injury of head	2
T00.8	Superficial injuries involving other combinations of body regions	1
T14.2	Fracture of unspecified body region	1
Other (2 presentations)		
M46.4	Discitis, unspecified	1
M54.2	Cervicalgia	1

Poor Identification of Emergency Department Acute Recreational Drug Toxicity Presentations Using Routine Hospital Coding Systems: the Experience in Denmark, Switzerland and the UK

Journal of Medical Toxicology (2019) 15:112–120

David M. Wood^{1,2}  · Luke De La Rue¹ · Ali A. Hosin³ · Gesche Jurgens⁴ · Evangelia Liakoni^{5,6} · Fridtjof Heyerdahl⁷ · Knut Erik Hovda⁷ · Alison Dines¹ · Isabelle Giraudon⁸ · Matthias E. Liechti^{5,6} · Paul I. Dargan^{1,2}

Concordance of Euro-DEN Plus Drugs Identified and Drugs Identified by ICD-10 Clinical Codes

Cannabis and Synthetic Cannabinoids

- 17 cases identified by primary ICD-10 code
 - 15 (88%) had used cannabis/synthetic cannabinoids
- 116 Euro-DEN Plus presentations reporting use
 - 15 (12.9%) would be identified by primary ICD-10 codes
 - 6 (5.2%) by subsequent ICD-10 codes
 - Overall detection rate of 18.1%

Poor Identification of Emergency Department Acute Recreational Drug Toxicity Presentations Using Routine Hospital Coding Systems: the Experience in Denmark, Switzerland and the UK

Journal of Medical Toxicology (2019) 15:112–120

David M. Wood^{1,2}  • Luke De La Rue¹ • Ali A. Hosin³ • Gesche Jurgens⁴ • Evangelia Liakoni^{5,6} • Fridtjof Heyerdahl⁷ • Knut Erik Hovda⁷ • Alison Dines¹ • Isabelle Giraudon⁸ • Matthias E. Liechi^{5,6} • Paul I. Dargan^{1,2}

Concordance of Euro-DEN Plus Drugs Identified and Drugs Identified by ICD-10 Clinical Codes

Mephedrone

- No primary ICD-10 code to be able identify mephedrone related presentations
- 21 Euro-DEN Plus presentations reporting use
 - 12 (57%) had primary ICD-10 toxicity/poisoning codes
 - Non-specific stimulants: 5; cocaine:2; general anaesthetics: 2; alcohol: 1; cannabis 1; and methadone: 1

Poor Identification of Emergency Department Acute Recreational Drug Toxicity Presentations Using Routine Hospital Coding Systems: the Experience in Denmark, Switzerland and the UK

Journal of Medical Toxicology (2019) 15:112–120

David M. Wood^{1,2}  · Luke De La Rue¹ · Ali A. Hosin³ · Gesche Jurgens⁴ · Evangelia Liakoni^{5,6} · Fridtjof Heyerdahl⁷ · Knut Erik Hovda⁷ · Alison Dines¹ · Isabelle Giraudon⁸ · Matthias E. Liechti^{5,6} · Paul I. Dargan^{1,2}

Concordance of Euro-DEN Plus Drugs Identified and Drugs Identified by ICD-10 Clinical Codes

Opioids

- 25 cases identified by primary ICD-10 code
 - 12 (48%) had used opioids
- 96 Euro-DEN Plus presentations reporting use
 - 8 (8%) would be identified by primary ICD-10 codes
 - 14 (15%) by subsequent ICD-10 codes
 - Overall detection rate of 23%

Performance Measures of Diagnostic Codes for Detecting Opioid Overdose in the Emergency Department

Christopher Rowe, MPH, Eric Vittinghoff, PhD, Glenn-Milo Santos, PhD, MPH, Emily Behar, MS, Caitlin Turner, MPH, and Phillip O. Coffin, MD, MIA
 ACADEMIC EMERGENCY MEDICINE 2017;24:475-483.

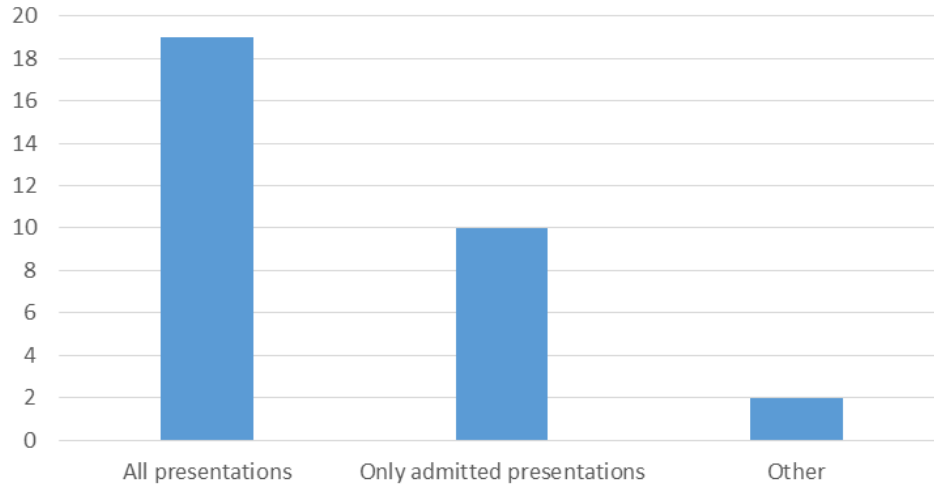
- Detection of 44 opioid overdose events using ICD-9
 - Sensitivity 25%, Specificity 99.9%
 - Can increase by using combination ICD-9 codes

	All Overdose ED Visits (n = 44)	Overdose ED Visits With Opioid Poisoning ICD-9-CM Code (n = 11)	Overdose ED Visits Without Opioid Poisoning ICD-9-CM Code (n = 33)	p-value*
Naloxone Administered	13 (29.5)	4 (36.4)	9 (27.3)	0.629
Patient Responded to Naloxone	12 (27.3)	4 (36.4)	8 (24.2)	0.511
Opioids involved†				
Heroin	4 (9.1)	1 (9.1)	3 (9.1)	0.522
Methadone	20 (45.5)	4 (36.4)	16 (48.5)	
Other Prescription Opioids	17 (38.6)	6 (54.5)	11 (33.3)	

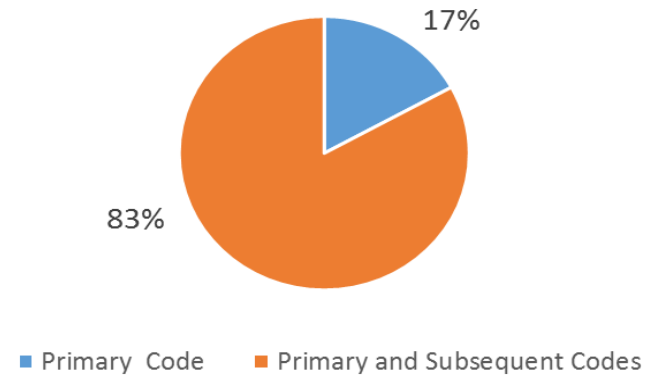
Data are reported as n (%).
 ICD-9-CM = International Classification of Diseases, 9th Revision, Clinical Modification.
 *p-value from unadjusted logistic regression models with robust standard errors and accounting for clustering by patient.
 †Data are missing for three overdose ED visits where no opioid was specified.

Mapping of how coding of acute recreational drug / NPS toxicity is undertaken across 29 Euro-DEN Plus centres

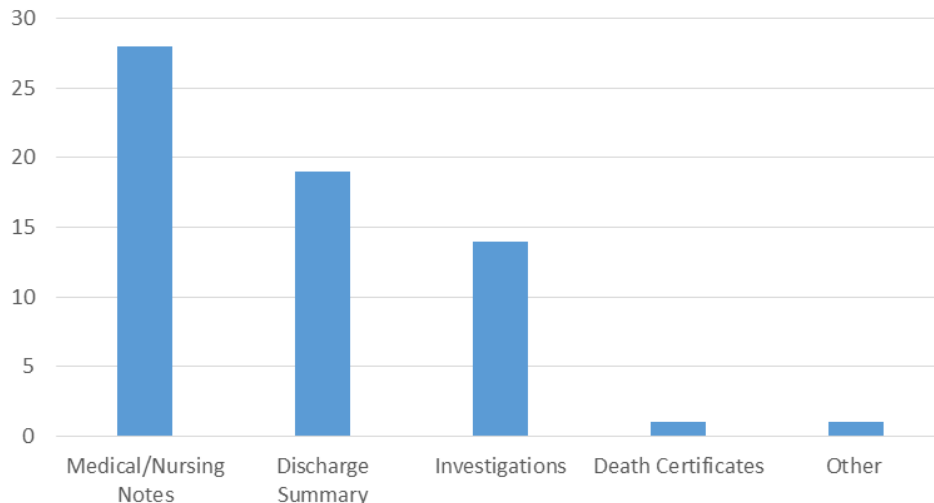
Recreational Drug Toxicity Presentations Coded

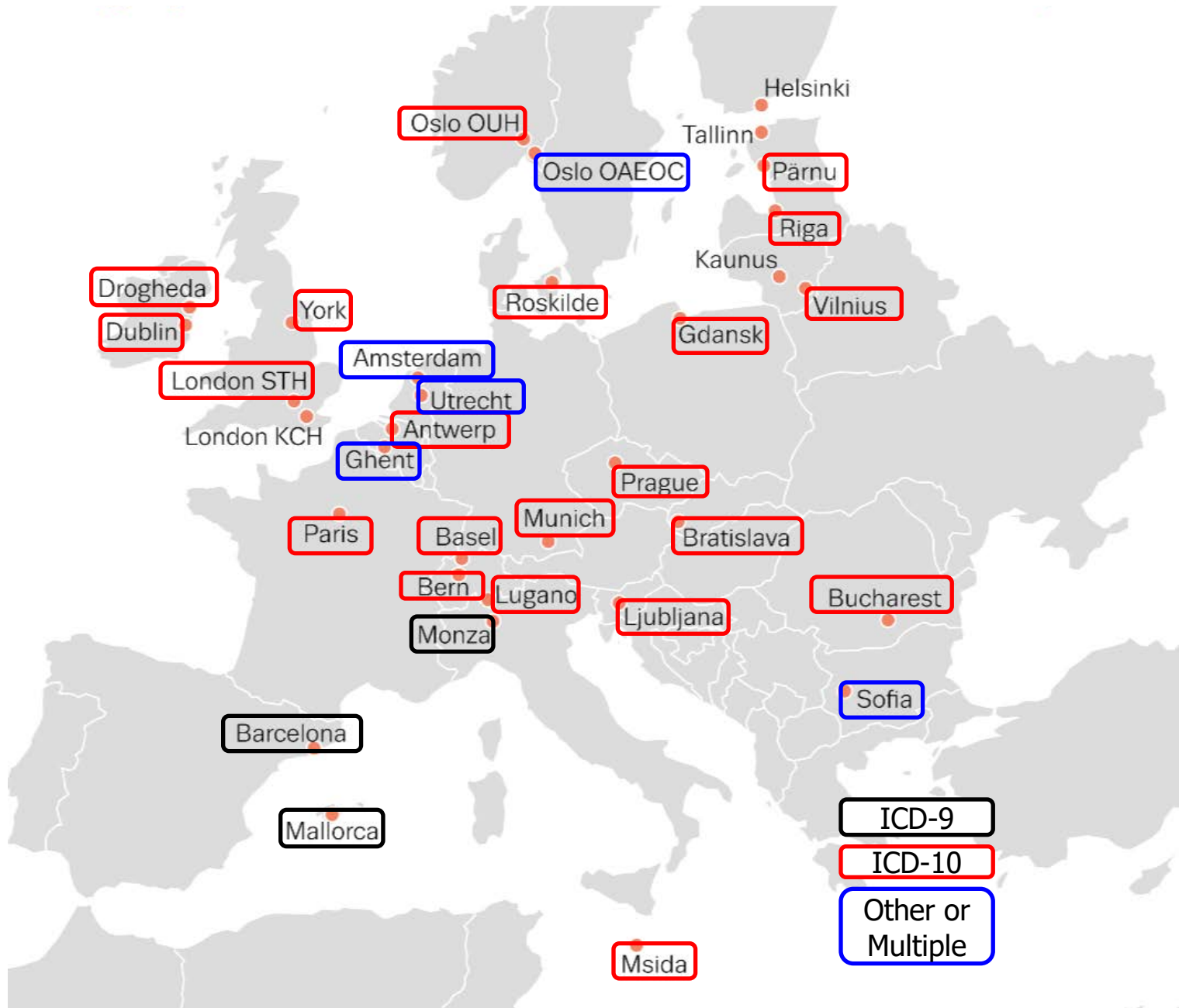


Depth of coding undertaken



Information sources used for coding presentations





Drug presentations: Coding challenges

- Staff undertaking coding
 - Inexperience in how to code: 4
 - Not a priority to be done: 1
- Difficulties process of coding presentations
 - Poor understanding of type of presentation: 3
 - Coded by symptoms rather drug(s) involved: 3
 - Lack of clarity of drugs involved: 2
 - Lack of clarity of where incident occurred: 1
- Coding systems used
 - Difficulties using the coding systems: 5
 - Too many codes / coding systems available: 3



[Health Topics](#) ▾[Countries](#) ▾[News](#) ▾[Emergencies](#) ▾[About Us](#) ▾

Classifications

[Family of International Classifications](#)[Family of International Classifications network](#)[Classification of Diseases \(ICD\)](#)[Classification of Functioning, Disability and Health \(ICF\)](#)[Classification of Health Interventions \(CHI\)](#)[Frequently asked questions](#)

ICD-11 is here!



ICD-11 is here! A version released on 18 June 2018 is available for Member States and other stakeholders to use in order to begin preparations for implementation in country, such as preparing translations.

[Browse](#)

ICD-11
Implementation or Transition Guide

World Health Assembly Update, 25 May 2019

25 May 2019 | News release | Geneva

International Statistical Classification of Diseases and Related Health Problems (ICD-11)

Search

Special Views

Info

Statistics (ICD-11 MMS)

Proposals submitted on the [maintenance platform](#)

- 6C41 Disorders due to use of cannabis
 - 6C41.0 Single episode of harmful use of cannabis
 - 6C41.1 Harmful pattern of use of cannabis
 - 6C41.2 Cannabis dependence
 - 6C41.3 Cannabis intoxication
 - 6C41.4 Cannabis withdrawal
 - 6C41.5 Cannabis-induced delirium
 - 6C41.6 Cannabis-induced psychotic disorder
 - 6C41.7 Other cannabis-induced disorders
 - 6C41.Y Other specified disorders due to use of cannabis
 - 6C41.Z Disorders due to use of cannabis, unspecified

- Disorders due to substance use or addictive behaviours
 - Disorders due to substance use
 - 6C40 Disorders due to use of alcohol
 - 6C41 Disorders due to use of cannabis
 - 6C42 Disorders due to use of synthetic cannabinoids
 - 6C43 Disorders due to use of opioids
 - 6C44 Disorders due to use of sedatives, hypnotics or anxiolytics
 - 6C45 Disorders due to use of cocaine
 - 6C46 Disorders due to use of stimulants including amphetamines, methamphetamine or methcathinone
 - 6C47 Disorders due to use of synthetic cathinones
 - 6C48 Disorders due to use of caffeine
 - 6C49 Disorders due to use of hallucinogens
 - 6C4A Disorders due to use of nicotine
 - 6C4B Disorders due to use of volatile inhalants
 - 6C4C Disorders due to use of MDMA or related drugs, including MDA
 - 6C4D Disorders due to use of dissociative drugs including ketamine and phencyclidine [PCP]
 - 6C4E Disorders due to use of other specified psychoactive substances, including medications
 - 6C4F Disorders due to use of multiple specified psychoactive substances, including medications
 - 6C4G Disorders due use of unknown or unspecified psychoactive substances
 - 6C4H Disorders due to use of non-psychoactive substances
 - 6A41 Catatonia induced by psychoactive substances, including medications
 - 6C4Y Other specified disorders due to substance use
 - 6C4Z Disorders due to substance use, unspecified

- ICD-11 - Mortality and Morbidity Statistics
 - 01 Certain infectious or parasitic diseases
 - 02 Neoplasms
 - 03 Diseases of the blood or blood-forming organs
 - 04 Diseases of the immune system
 - 05 Endocrine, nutritional or metabolic diseases
 - 06 Mental, behavioural or neurodevelopmental disorders
 - 07 Sleep-wake disorders
 - 08 Diseases of the nervous system
 - 09 Diseases of the visual system
 - 10 Diseases of the ear or mastoid process
 - 11 Diseases of the circulatory system
 - 12 Diseases of the respiratory system
 - 13 Diseases of the digestive system
 - 14 Diseases of the skin
 - 15 Diseases of the musculoskeletal system or connective tissue
 - 16 Diseases of the genitourinary system
 - 17 Conditions related to sexual health
 - 18 Pregnancy, childbirth or the puerperium
 - 19 Certain conditions originating in the perinatal period
 - 20 Developmental anomalies
 - 21 Symptoms, signs or clinical findings, not elsewhere classified
 - 22 Injury, poisoning or certain other consequences of external causes
 - 23 External causes of morbidity or mortality
 - 24 Factors influencing health status or contact with health services
 - 25 Codes for special purposes
 - 26 Traditional Medicine conditions - Module I
 - V Supplementary section for functioning assessment
 - X Extension Codes

Parting thoughts and the future

- Challenges to using coded data to understand true acute health burden of recreational drugs/NPS
 - Variability in proportion of and how cases coded
 - Lack of appropriate codes for some drugs and NPS
 - Concordance between reported and coded use
 - Coding by symptoms/reason for presentation not drug(s)
- ICD-11 may improve regional and national information from coding of clinical cases
 - Implementation unlikely to be until at least 2023

Parting thoughts and the future

- Potential to undertake further work through the Euro-DEN Plus network to understand
 - the challenges with current coding systems
 - the potential benefits of ICD-11
- Ultimately this could enable a tiered acute harm data collection model with
 1. High-level detailed data
 - from the sentinel Euro-DEN Plus Network and similar
 2. Lower-level background data
 - routine coding across a larger number of hospitals

Thank You

