



**GIG**  
CYMRU  
**NHS**  
WALES

Iechyd Cyhoeddus  
Cymru  
Public Health  
Wales

# **Prevalence Estimates of Problem and Injecting Drug Use in Wales 2010 to 2021**

**Josie Smith & Drew Turner** Substance Misuse Programme,  
Public Health Wales

And in collaboration with **Dr Ruth King**, Edinburgh University and **Dr Anthony Overstall**, Southampton University

# Why?

- Burden of disease:
  - Blood borne viruses esp. HCV
  - Bacterial infections
  - Disability-adjusted life years (2016):
    - drug use disorders twice that of cirrhosis/liver disease due to alcohol 15312 /7164 (PHW Observatory)
- Premature deaths
- Economic costs inc. criminal justice
- Informing policy



GIG  
CYMRU  
NHS  
WALES

Iechyd Cyhoeddus  
Cymru  
Public Health  
Wales

past part. (as DE-, FILE<sup>2</sup>)

**define** /di'fain/ v.tr. 1 give the exact meaning of (a word etc.). 2 describe or explain the scope of (define one's position). 3 make clear, esp. in outline (well-defined image). 4 mark out the boundary or limits of. 5 (of properties) make up the total character of.

□□ **definable** adj. **definer** n. [ME f. OF *definire* ult. f. L *definire* (as DE-, *finire* finish, f. *finis* end)]

**definite** /'definit/ adj. 1 having exact and discernible limits. 2 clear and distinct; not vague. 'See the note



GIG  
CYMRU  
NHS  
WALES

Iechyd Cyhoeddus  
Cymru  
Public Health  
Wales

# Issues of definition



- ‘Problem drug use’ is defined by the EMCDDA as ‘injecting drug use or long duration or regular use of **opioids, cocaine and/or amphetamines**’ (2004)

includes regular or long-term

✓ use of prescribed opioids e.g. Methadone

✗ does not include their rare or irregular use

✗ does not include use of ecstasy or cannabis

- ‘High risk drug use’ is defined by the EMCDDA as ‘**recurrent drug use** that is **causing actual harms** (negative consequences) to the person (including dependence, but also other health, psychological or social problems) or is placing the person **at a high probability/risk** of suffering such harms’

✓ includes wider range of drugs including cannabis and ecstasy

✗ Operationally challenging e.g. ‘recurrent vs duration and frequency’,



GIG  
CYMRU  
NHS  
WALES

Iechyd Cyhoeddus  
Cymru  
Public Health  
Wales

# PDU estimate for Wales

- Adapted to incorporate changing drugs markets observed around 2010
- ***“Injecting drug use or long duration/regular use of opioids, cocaine/crack cocaine, amphetamines and/or amphetamine-type stimulants”***
- Issues of comparability across UK countries



**England and Wales by drug of greatest reported use prevalence as per cent of E+W average**

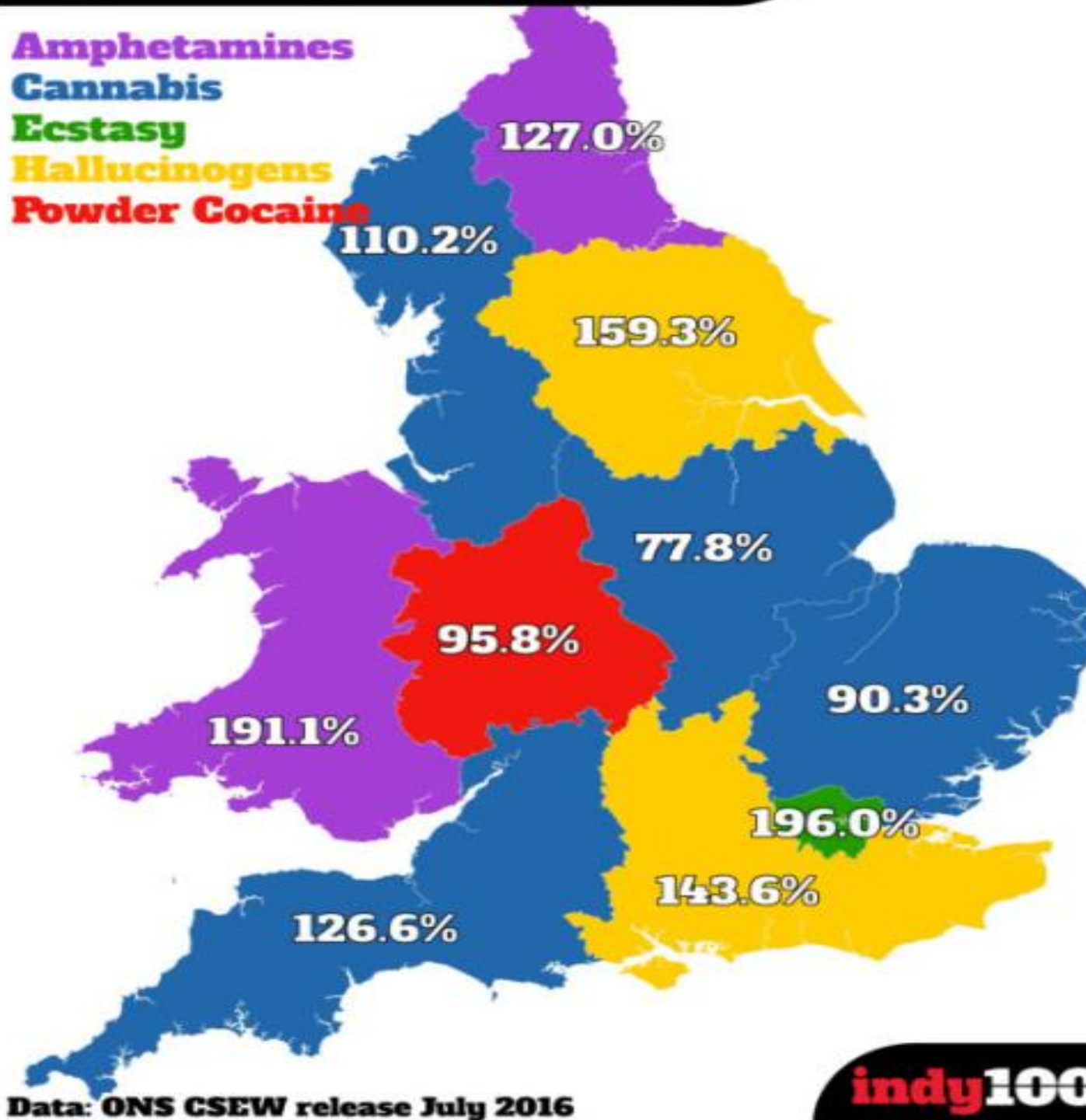
**Amphetamines**

**Cannabis**

**Ecstasy**

**Hallucinogens**

**Powder Cocaine**



- Comparison of regional prevalence of reported use by drug type
- 16-59 year olds reporting use in the past year
- Drugs most used more than E & W average in that particular region.

<http://www.russellwebster.com/regional-drug-preferences/>

**Data: ONS CSEW release July 2016**

**indy100**

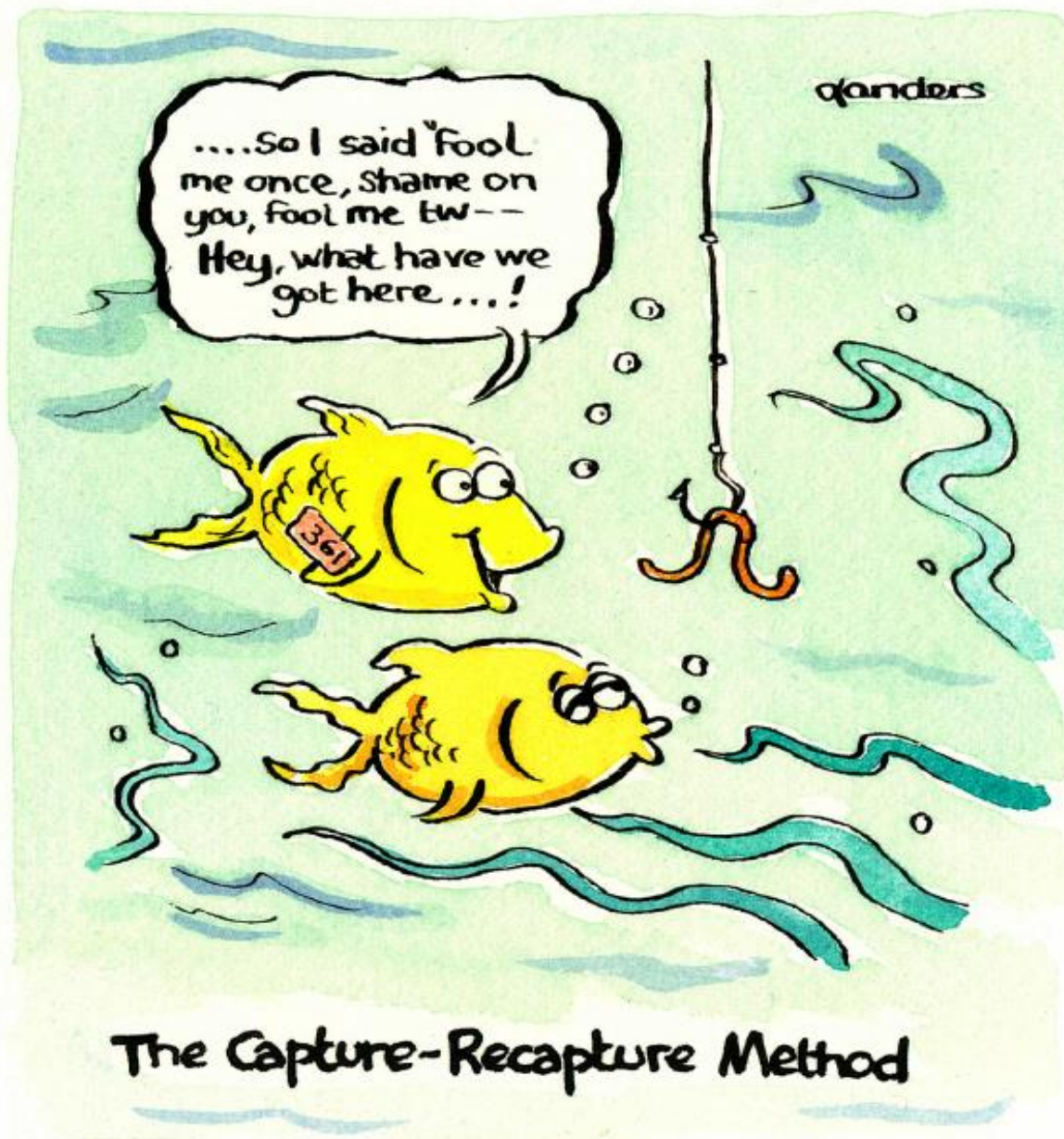


**GIG  
CYMRU  
NHS  
WALES**

lechyd Cyhoeddus  
Cymru  
Public Health  
Wales

# Research questions

- How many individuals are estimated to be using opioids, cocaine and amphetamines/ATS in Wales?
- What are the basic demographics of these individuals (e.g. gender, age range, area of residence)?
- What subgroups can be identified in terms of trajectories of problem drug use over time and in what ways do they differ?
- What is the relationship between criminal justice interventions and treatment in hospital and substance misuse services (e.g. are such interventions protective?)



GIG  
CYMRU  
NHS  
WALES

Iechyd Cyhoeddus  
Cymru  
Public Health  
Wales



# Capture-recapture methodology

- methodology first developed in ecology studies – useful for hidden populations including problematic and injecting drug users
- Key assumptions:
  - Population is **closed** (no birth/death/immigration/emigration) within study period
  - Data sets should be to some degree **independent** of each other (i.e. inclusion in one data set does not imply inclusion in another)
  - Data sets should be **free from bias** (e.g. not exclusively male or female) – age 15-64
  - Analyses must also be carried out on data collected **within a stated and specific time period** – one year
- A Bayesian model averaged approach is adopted to obtain estimates of population sizes of different drug user populations



GIG  
CYMRU  
NHS  
WALES

Iechyd Cyhoeddus  
Cymru  
Public Health  
Wales

# Capture-recapture methodology

- Three different analyses for Welsh estimate:
  - opioid only, stimulants only, stimulant and opioid users
    - stimulant users broken down to cocaine/crack and amphetamine/ATS
- Datasets:
  - Police
  - Probation
  - Hospital admissions (PEDW)
  - Specialist Drug Treatment (WNDSM)
  - Regular access to Needle & Syringe Programme (HRD)



GIG  
CYMRU  
NHS  
WALES

Iechyd Cyhoeddus  
Cymru  
Public Health  
Wales



# EMCDDA<sup>1</sup>

- Problematic drug use:  $\approx 1\%$  of population (aged 15-64)
- Injecting drug use:  $\approx 0.4\%$  of population (aged 15-64)

## Wales



Wood et al (2000)<sup>2</sup> focused on serious drug use in adults aged 15-55 years in Wales in **1994**:

Estimate of **8,384** (95% C.I. 5307 – 11407)

Rate of **5.34 per thousand** (95% C. I. 3.4 – 7.3)

<sup>1</sup> EMCDDA [EMCDDA J Data sheet: United Kingdom](#)

<sup>2</sup> Wood F, Bloor M & Palmer S (2000). Indirect prevalence estimates of a national drug using population: the use of contact-recontact methods in Wales. Health, Risk & Society; 2 (1), 47-58



GIG  
CYMRU  
NHS  
WALES

Iechyd Cyhoeddus  
Cymru  
Public Health  
Wales

2015-16

Region	Total	Stimulant	Opioid	Both
ABMU	8450 (6680, 11010)	5250 (3640, 7520)	2620 (2230, 3180)	580 (510, 670)
Aneurin Bevan	8960 (7200, 11350)	5360 (3920, 7350)	3100 (2500, 3880)	500 (440, 580)
BCU	10800 (8000, 14720)	6690 (4500, 9830)	3390 (2560, 4490)	720 (620, 870)
Cardiff and Vale	6930 (5380, 9160)	3760 (2410, 5830)	2480 (2000, 3090)	680 (610, 760)
Cwm Taf	3810 (2970, 4920)	2080 (1430, 2960)	1380 (1000, 1940)	350 (300, 410)
Hywel Dda	9770 (5010, 18000)	7890 (3450, 15830)	1550 (1040, 2380)	330 (210, 550)
Powys	660 (380, 1230)	410 (170, 900)	210 (130, 390)	40 (30, 70)
Wales	49370 (42230, 58540)	31440 (25070, 39980)	14740 (13260, 16540)	3190 (2970, 3480)



GIG  
CYMRU  
NHS  
WALES

Iechyd Cyhoeddus  
Cymru  
Public Health  
Wales

# BCU

2015-16

	Age: 15-29		Age: 30-64	
	Male	Female	Male	Female
Stimulant	3640 (2420, 5410)	760 (450, 1210)	1940 (1260, 2910)	360 (220, 570)
Opioid	500 (340, 730)	300 (210, 410)	1830 (1350, 2510)	760 (550, 1020)
Both	120 (100, 160)	40 (30, 60)	430 (370, 520)	120 (100, 150)



GIG  
CYMRU  
NHS  
WALES

Iechyd Cyhoeddus  
Cymru  
Public Health  
Wales



# Comparison with other UK countries



*Table 1.1: Estimated number of problem drug users in Great Britain, and rate per 1,000 population aged 15 to 64, by country*

Country	Year	Number of problem drug users			Rate per 1,000 population		
		Estimate	95% Confidence Interval		Estimate	95% Confidence Interval	
England	2014/15	300,783	297,986	311,128	8.57	8.49	8.86
Scotland	2012/13	61,500	59,900	63,300	17.44	16.98	17.95
Wales	2015/16	49,370	42,230	58,540	25.3	21.6	29.9



GIG  
CYMRU  
NHS  
WALES

Iechyd Cyhoeddus  
Cymru  
Public Health  
Wales

# Prevalence of injecting drug use

- Harm Reduction Database Wales
- Web-based, demographic and interaction level data
- HRD live in:
  - 42 specialist sites
  - 13 mobile units
  - 215 pharmacy sites across Wales



GIG  
CYMRU  
NHS  
WALES

Iechyd Cyhoeddus  
Cymru  
Public Health  
Wales

Year	All Clients	Regular Clients	IPEDs	Opioids	Stimulants
2014-15	25815	13721	47.8%	42.5%	15.4%
2015-16	25636	15157	54.3%	42.2%	14.5%
2016-17	25298	14306	55.1%	45.8%	14.4%
2017-18	25190	14000	54.6%	48.0%	15.2%

**Number of unique individuals and proportion by type of drugs injected 2014-15 to 2017-18**



GIG  
CYMRU  
NHS  
WALES

Iechyd Cyhoeddus  
Cymru  
Public Health  
Wales

- Can model both those injecting but not accessing NSP services – evidence indicates around 20% but highly dependent on types of drugs injected
- Need modelling as data on injecting drug use very poorly collected – hence separate analysis of PWID

# Conclusions

- Prevalence estimation of PDU for Wales valuable
- Methodology robust over time
- Challenges remain in comparison with different countries – ongoing
- Estimates contradict data indicating downward trajectory evident in substance misuse treatment and offences/seizures data
- Achieving research aims 1 (how many) and 2 (demographics), further work and resources required to achieve 3 (subgroup trajectories) & 4 (protective interventions)
- Shortly to publish PDU estimates for 2016-17 and 2017-18



GIG  
CYMRU  
NHS  
WALES

Iechyd Cyhoeddus  
Cymru  
Public Health  
Wales



# Contact details



[Josie.smith@wales.nhs.uk](mailto:Josie.smith@wales.nhs.uk)

[Drew.turner@wales.nhs.uk](mailto:Drew.turner@wales.nhs.uk)