



**LISBON  
ADDICTIONS  
2019**

# Prescription Drug Misuse in the UK

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# 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



## Rocky Mountain Poison and Drug Control Center

- Grants and statistical assistance with analysis of data from UK Internet surveys and web monitoring surveys
- Honorarium to attend and present at annual RADARS scientific meetings and international pre-symposium



**Sun+**

# Why 1.6m Britons are addicted to prescription pills

## The 'safe' painkiller that is turning unsuspecting women into drug addicts

- Co-codamol is a painkiller containing paracetamol and codeine
- Over the past decade, the number of prescriptions for it have doubled
- The majority of addicts are not men, but women

## A nation of prescription drug addicts: More Britons die from abusing painkillers and tranquillisers than heroin and cocaine

### Many GPs 'prescribe drugs to addicted patients'

By Claire Marshall  
BBC News



theguardian

## Prescription abuse outstrips illegal drug use, UN warns

- Counterfeit market has lethal consequences
- Crackdown on appetite suppressants urged



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Contents lists available at ScienceDirect

## International Journal of Drug Policy

journal homepage: [www.elsevier.com/locate/drugpo](http://www.elsevier.com/locate/drugpo)



Policy analysis

### Prescription opioid misuse in the United States and the United Kingdom: Cautionary lessons



Daniel F. Weisberg<sup>a,1</sup>, William C. Becker<sup>b,a</sup>, David A. Fiellin<sup>a</sup>, Cathy Stannard<sup>c,\*</sup>

<sup>a</sup> Yale University School of Medicine, Department of Internal Medicine, New Haven, CT, United States

<sup>b</sup> VA Connecticut Healthcare System, West Haven, CT, United States

<sup>c</sup> Macmillan Centre Frenchay Hospital, Bristol, UK



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## Social Science & Medicine

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Review article

### Medicine ‘misuse’: Implications for health and environmental sustainability



Felicity Thomas<sup>\*</sup>, Michael Depledge

European Centre for Environment and Human Health, University of Exeter Medical School, Knowledge Spa, Royal Cornwall Hospital, Truro, TR1 3HD, UK





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MAGAZINE



# Online opioids scandal

Dangerous painkillers sold without proper checks despite fears over addiction

### TIMES INVESTIGATION

Ben Ellery

Online pharmacies are prescribing powerful opioids without consulting GPs in breach of new regulations, a Times investigation has found.

An undercover reporter bought hundreds of the painkillers from five registered internet chemists without

issued 200 tablets of dihydrocodeine, an opioid twice as powerful as codeine, without consulting a GP.

This newspaper was able to order another batch from the same company the next day, in breach of its own policy.

Britain's top medical bodies have demanded an urgent investigation in light of the findings.

The Times can also reveal that one pharmacy, run by an evangelical pastor

used foreign doctors and could not provide evidence that they had the right to prescribe for patients in Britain.

About 2,000 fatalities each year — more than five every day — are down to the powerful painkillers, up by 41 per cent from ten years ago. The number of Britons taken to hospital after overdosing has almost doubled in the past decade. There were 11,500 such cases in 2017-18.

the General Pharmaceutical Council (GPhC) tightened regulations for online chemists over drugs liable to abuse.

The council required that the prescriber must have contacted the patient's doctor "in advance of issuing a prescription, and that the GP has confirmed to the prescriber that the prescription is appropriate for the patient".

Each of the pharmacies in our investigation agreed to dispense the drugs

### SPORT



Rugby  
New to the

ACMD

Advisory Council on the Misuse of Drugs

## Diversion and Illicit Supply of Medicines

December 2016

**Type of drug:** The most prevalent diverted drugs are opioids and benzodiazepines. Increasing amounts of gabapentin and pregabalin are being diverted. Cognitive enhancers could be susceptible to diversion in the future. Further attention needs to be given to the misuse of codeine in over-the-counter (OTC) preparations as a precursor to the misuse of prescription opioids.





## Drugs Misuse: Findings from the 2018/19 Crime Survey for England and Wales

Statistical Bulletin: 21/19

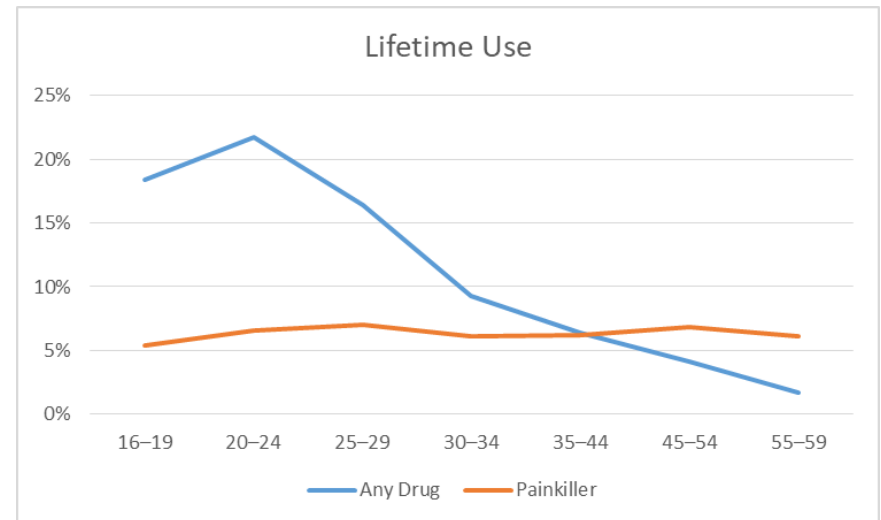
19 September 2019

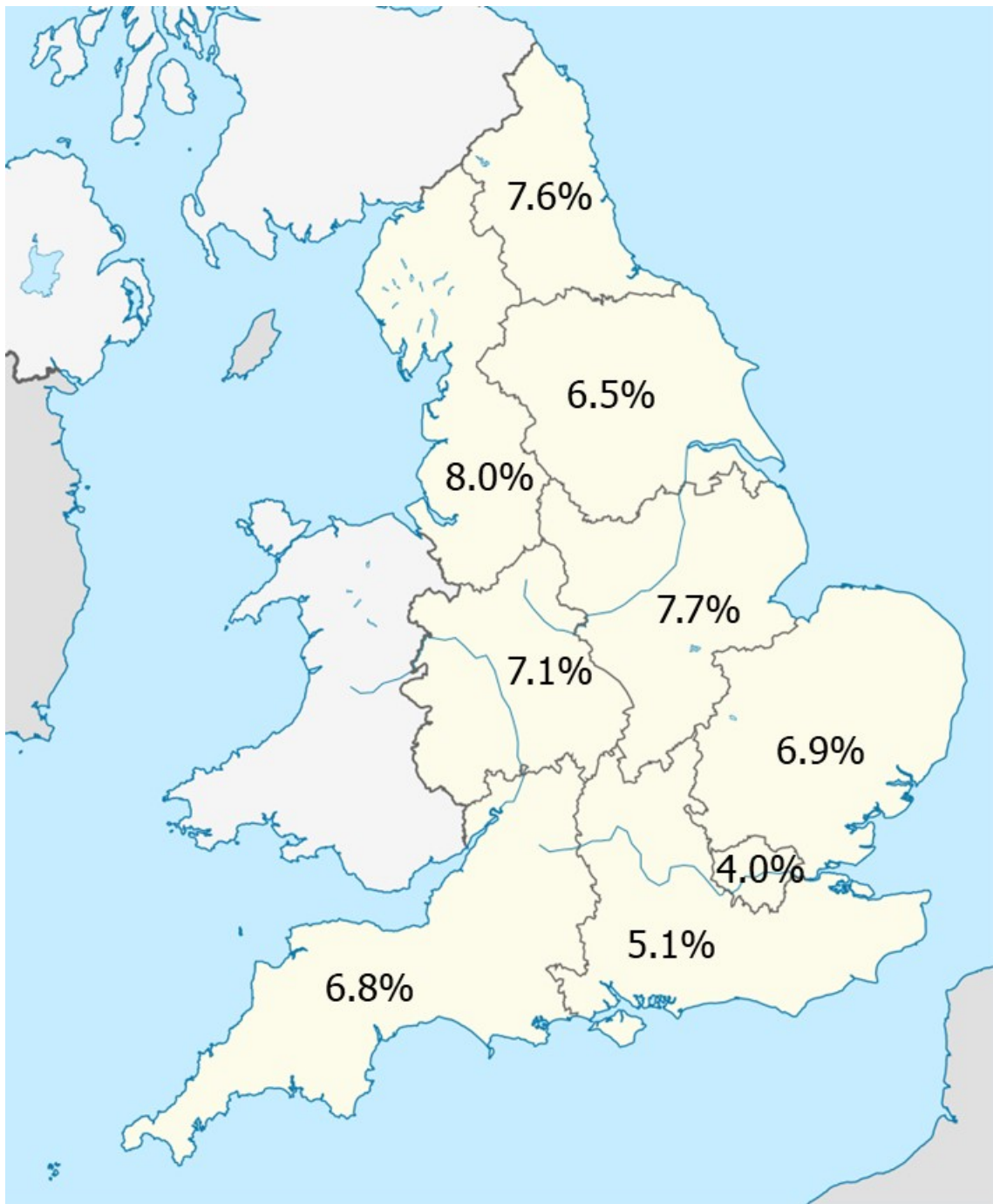
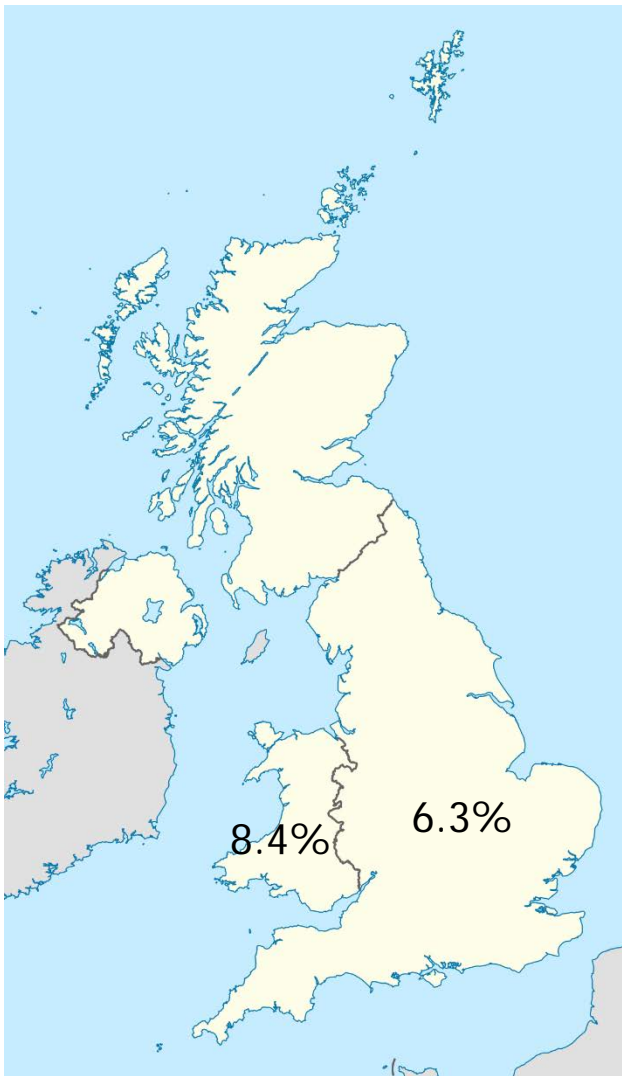


# UK population level data: prescription painkiller misuse

- From 2014/15 CSEW survey following question included:  
*“Have you taken prescription-only painkillers not prescribed to you, which you took only for the feeling or experience it gave you”*

	Any Drug	Painkillers
16 to 59 years old	9.4%	6.4%
16 to 24 years old	20.3%	6.1%
25 to 59 years old	7.0%	8.5%
Males	12.6%	6.9%
Females	6.3%	5.9%





# Non-prescription medicine misuse, abuse and dependence: a cross-sectional survey of the UK general population

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## ABSTRACT

**Background** Non-prescription medicines (NPMs) can be misused, abused or lead to dependence, but the prevalence of these problems within the UK general population was unknown. The aim of this study was to estimate the prevalence of self-reported misuse, abuse and dependence to NPMs.

**Methods** A cross-sectional postal survey was sent to 1000 individuals aged  $\geq 18$  randomly drawn from the UK Edited Electoral Register.

**Results** A response rate of 43.4% was achieved. The lifetime prevalence of NPM misuse was 19.3%. Lifetime prevalence of abuse was 4.1%. Younger age, having a long-standing illness requiring regular NPM use and ever having used illicit drugs or legal highs were predictive of misuse/abuse of NPMs. In terms of dependence, lifetime prevalence was 2% with 0.8% currently dependent and 1.3% dependent in the past. Dependence was reported with analgesics (with and without codeine), sleep aids and nicotine products.

**Conclusion** Given the increasing emphasis on self-care and empowering the public to manage their health with NPMs, the findings highlight the need for improved pharmacovigilance of these medicines to maximize benefits with minimal risk. Healthcare providers need to be aware of the potential for misuse, abuse and dependence, particularly in patients with long-term illness.

**Keywords** epidemiology, primary care, public health

Life-time NPM misuse: 19.3%

% (n)

Have you ever knowingly used a non-prescription medicine

For a reason that was not recommended by the manufacturer, e.g. for the feeling or effect it caused?<sup>a</sup> (n = 394)

Yes—in the past month	0.8 (3)
Yes—more than a month ago	3.3 (13)
No—never	95.9 (378)

At a higher dose than recommended by the manufacturer?<sup>b</sup>  
(n = 394)

Yes—in the past month	2.5 (10)
Yes—more than a month ago	9.4 (37)
No—never	88.1 (347)

More often than recommended by the manufacturer?<sup>b</sup> (n = 395)

Yes—in the past month	2.8 (11)
Yes—more than a month ago	7.8 (31)
No—never	89.4 (353)

For a longer time than recommended by the manufacturer?<sup>b</sup>  
(n = 396)

Yes—in the past month	2.3 (9)
Yes—more than a month ago	8.3 (33)
No—never	89.4 (354)

<sup>a</sup>Abuse.

<sup>b</sup>Misuse.

	Ever abused %	Never abused %	P value	OR	95% CI
Sex (n = 388)			0.27		
Female	55.8	48.3		—	—
Male	44.2	51.7		n/a	n/a
Age (in years) (n = 383)			<0.001		
Mean (SD)	51.2 (14.8)	62.1 (14.6)		1.05	1.02–1.08
Ethnicity (n = 386)			1.0		
White	97.6	97.3		—	—
Other	2.4	2.7		n/a	n/a
Partnership status (n = 383)			0.001		
Never married or in civil partnership	30.6	15.8		—	—
Married or in civil partnership	51.8	65.8		1.52	0.36–6.40
Separated or divorced	12.9	6.7		1.04	0.31–3.43
Widowed	4.7	1.7		0.52	0.12–2.15
General health (n = 387)			0.84		
Very good	24.4	24.3		—	—
Good	45.3	47.5		n/a	n/a
Fair, bad or very bad	30.2	28.2		n/a	n/a
Long-standing illness requiring regular use of NPMs (n = 381)			<0.001		
Yes	30.6	13.5		—	—
No	69.4	86.5		0.33	0.18–0.62
Education (highest level completed) (n = 385)			0.014		
No formal qualification	7.0	15.1		—	—
High school or secondary school	36.0	45.2		0.80	0.25–2.61
College	40.7	25.4		0.84	0.37–1.91
University degree	16.3	14.4		0.52	0.23–1.18
Employment (n = 381)			0.002		
Employed or self-employed	61.2	43.2		—	—
Retired	25.9	47.6		0.83	0.36–1.92
Other	12.9	9.1		0.78	0.27–2.26
Alcohol drinker (n = 384)			0.28		
Yes	80.2	73.8		—	—
No	19.8	26.2		n/a	n/a
Smoking status (n = 386)			0.25		
Smoker	15.1	10.0		—	—
Ex-smoker	33.7	41.7		n/a	n/a
Never smoked	51.2	48.3		n/a	n/a
Ever used drugs or legal highs (n = 385)			<0.001		
Yes	18.6	4.7		—	—
No	81.4	95.3		0.35	0.15–0.85





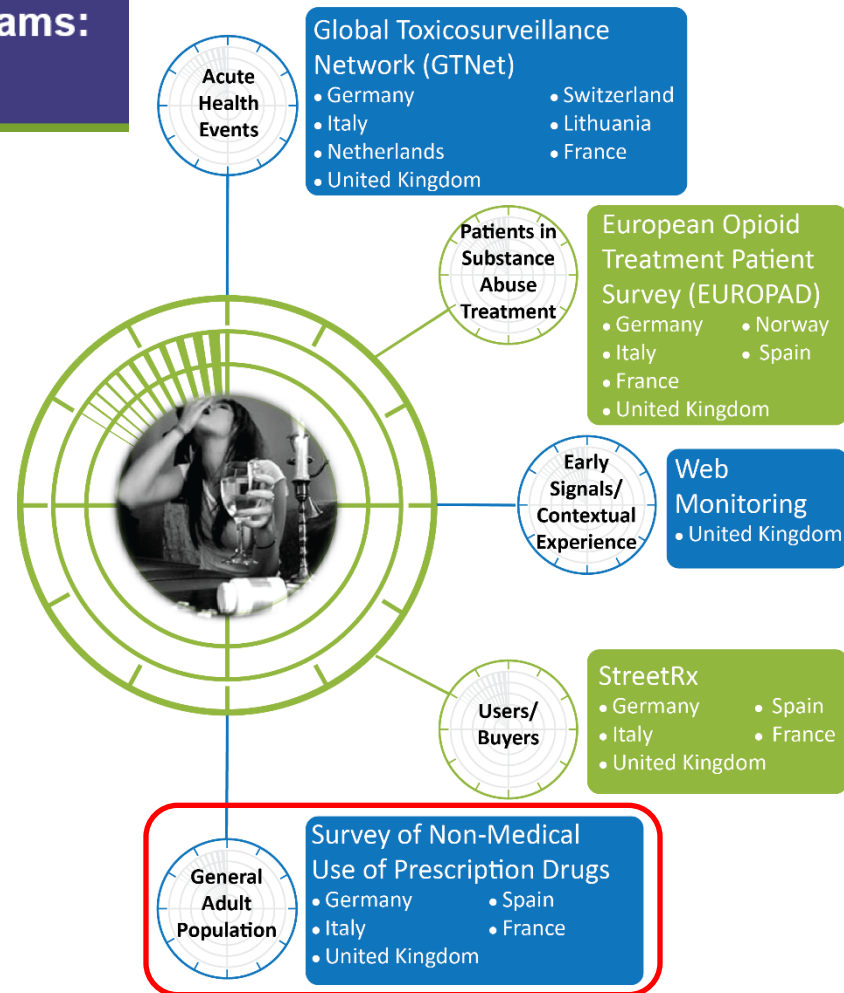
# RADARS® System International Programs: European Mosaic

Guy's and St Thomas'   
NHS Foundation Trust

**RADARS**<sup>®</sup>  
SYSTEM



 GMI GLOBAL  
ONLINE PANELS 



UK NMRUx survey established in 2012

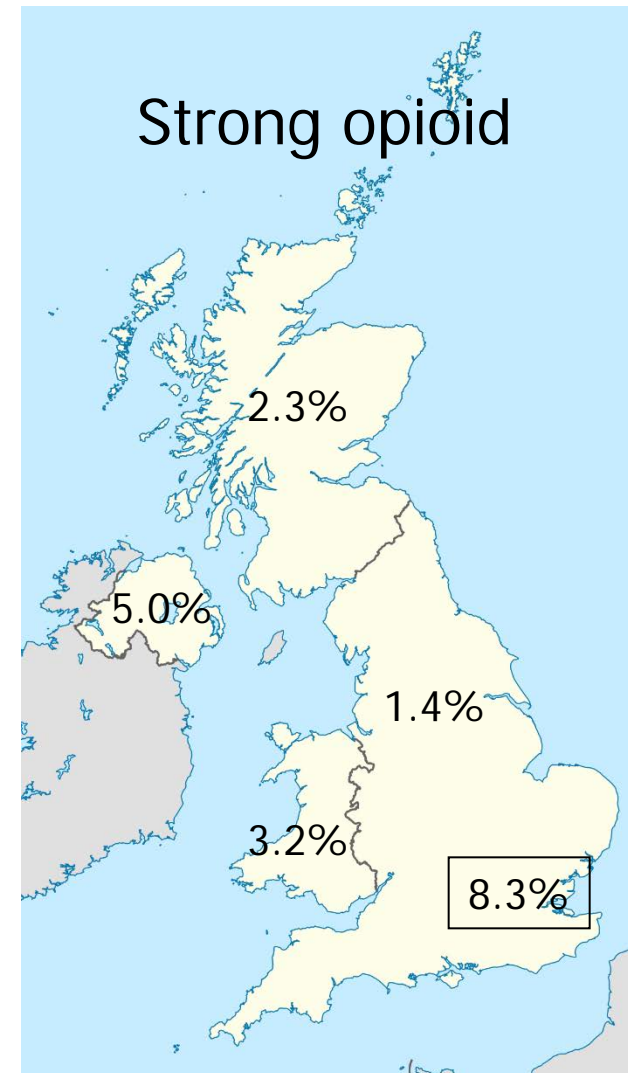
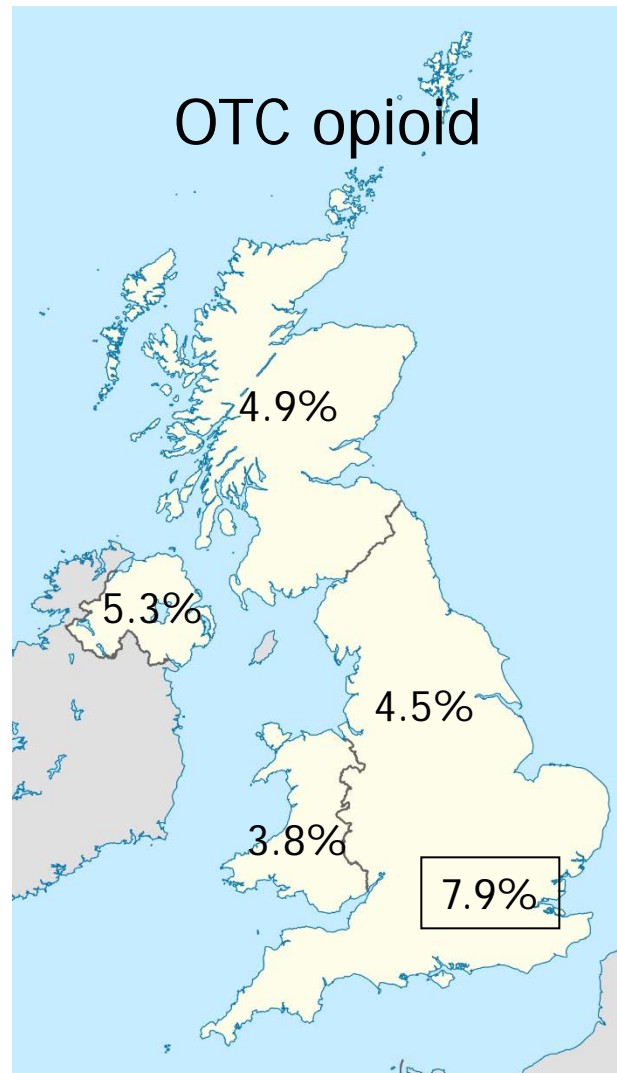
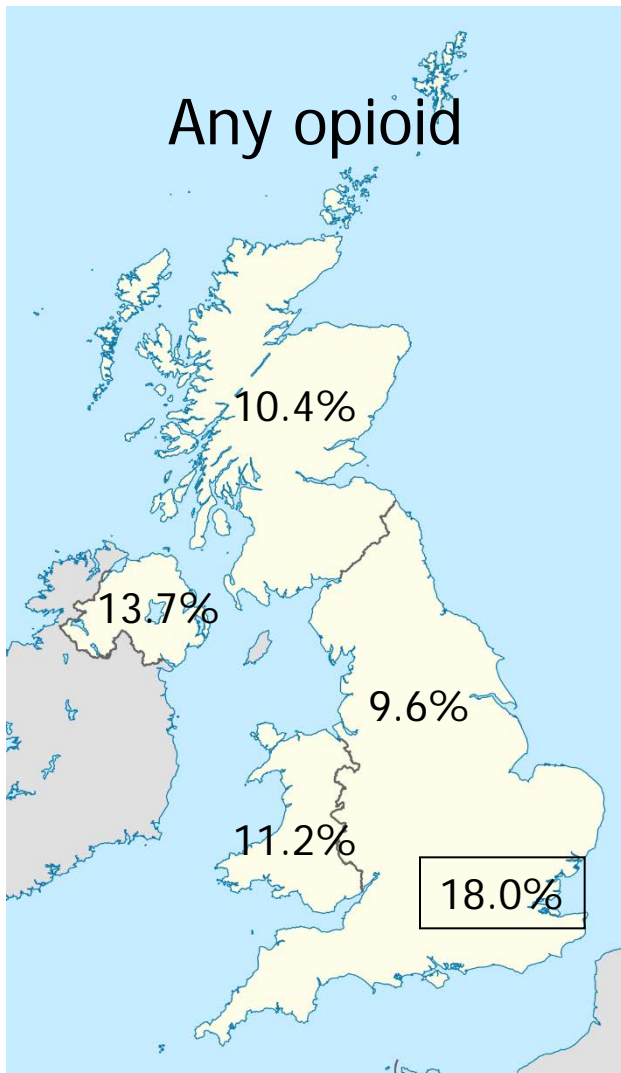
*“used without a doctor’s prescription or for any reason other than what was recommended by your doctor”*

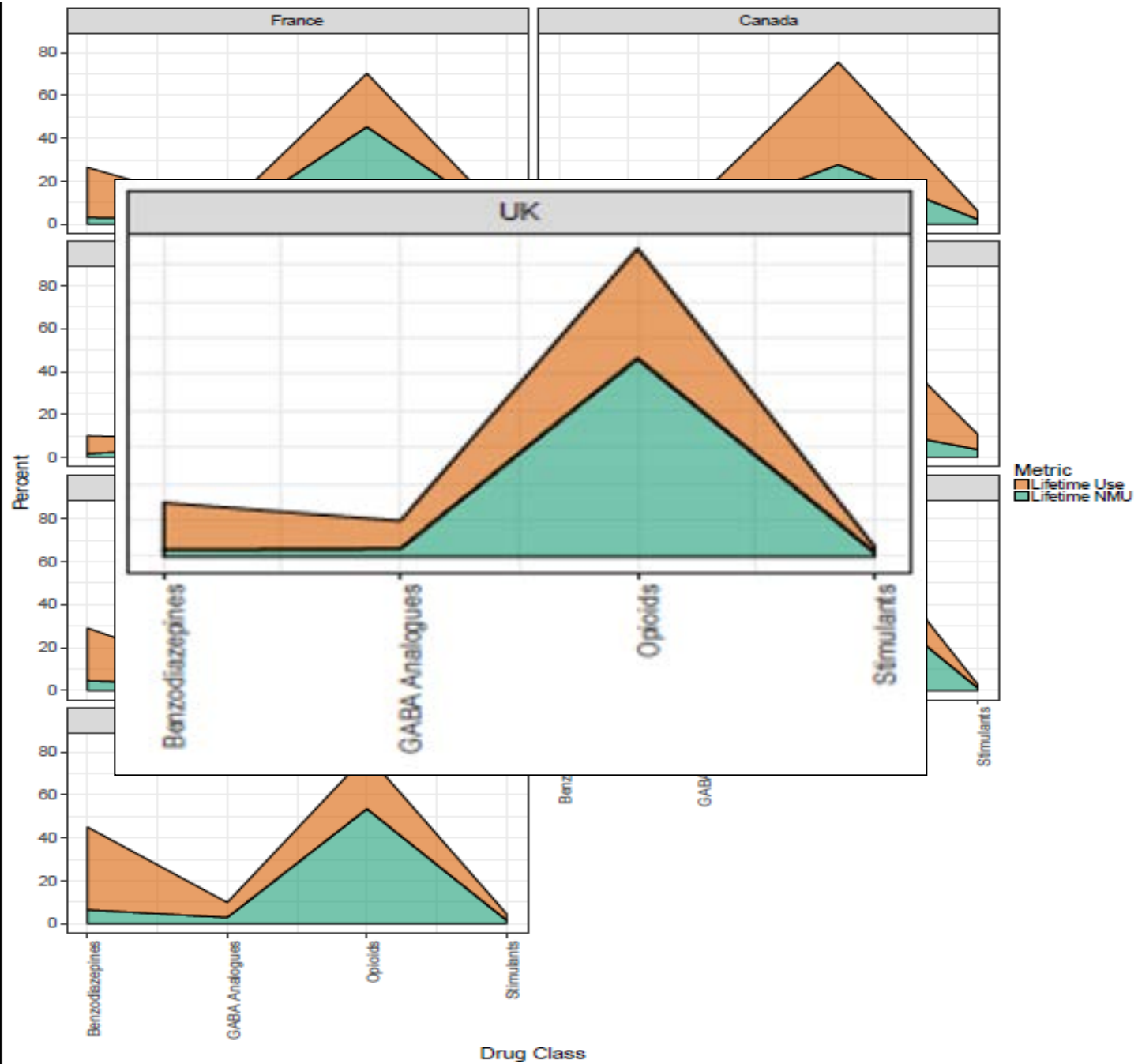
# UK survey of non-medical use of prescription drugs (NMURx) as a valuable source of general population illicit drug use data

Fu Liang Ng,<sup>1,2</sup> Karilynn Rockhill,<sup>3</sup> Joshua Black,<sup>3</sup> Kevin Patrick May,<sup>3</sup>  
Melanie D Whittington,<sup>3</sup> David M Wood,<sup>1,4</sup> Paul I Dargan,<sup>1,4</sup> Jody L Green<sup>3,5</sup>

**Conclusions** The NMURx survey has a broad reach of participants, and a sampling scheme that achieves external validity, compared with general population demographics. NMURx's online format allows flexibility in items surveyed and in response to emerging trends.

# Prevalence of last 12-month in Q4 2018 non-medical use of prescription and over the counter (OTC) opioids





CASE REPORT

# Loperamide dependence and abuse

Ryan MacDonald,<sup>1</sup> Jason Heiner,<sup>2</sup> Joshua Villarreal,<sup>3</sup> Jared Strote<sup>2</sup>

*Clinical Toxicology* (2014), 52, 952–957  
 Copyright © 2014 Informa Healthcare USA, Inc.  
 ISSN: 1556-3650 print / 1556-9519 online  
 DOI: 10.3109/15563650.2014.969371

**informa**  
 healthcare

CRITICAL CARE

## Cardiac conduction disturbance after loperamide abuse

J. M. MARRAFFA,<sup>1</sup> M. G. HOLLAND,<sup>1</sup> R. W. SULLIVAN,<sup>1</sup> B. W. MORGAN,<sup>2</sup> J. A. OAKES,<sup>3</sup> T. J. WIEGAND,<sup>4</sup>  
 and M. J. HODGMAN<sup>1</sup>

**BE ALERT  
 TO POTENTIAL  
 LOPERAMIDE  
 ABUSE**



Loperamide (also sold under the brand name Imodium®) is a prescription and over-the-counter medication approved by the U.S. Food and Drug Administration to relieve the symptoms of diarrhea. Loperamide is safe and effective when used as directed. A small but growing number of individuals are intentionally misusing loperamide by consuming very high doses in an attempt to self-manage their opioid withdrawal or to achieve a euphoric high.

There are currently no treatment protocols for loperamide abuse or toxicity. However, it is important to recognize this issue and address it appropriately with patients who may be abusing or who may be at risk for abusing loperamide.

Taking very high doses of loperamide can lead to serious cardiac events and death.

**KNOW THE SIGNS OF LOPERAMIDE ABUSE OR TOXICITY**

- » Syncope, or fainting
- » Unresponsiveness
- » QT interval prolongation
- » Torsades de pointes
- » Ventricular arrhythmias
- » Cardiac arrest

**ASK THE RIGHT QUESTIONS TO IDENTIFY AND PREVENT LOPERAMIDE ABUSE**

Loperamide will not appear in a standard toxicology screen, and there is no urine test to screen for it. If you suspect a patient is abusing loperamide, ask:

- » Have you been taking loperamide?
- » How much loperamide do you take and how often?
- » Are you aware of the severe heart risks associated with overuse, misuse, and abuse of loperamide?

If a patient reports using more than the approved dose, educate them about the risks and refer them to an appropriate source of treatment for substance use disorder.

To learn more, visit [LOPERAMIDESAFETY.ORG](http://LOPERAMIDESAFETY.ORG).

For healthcare providers.

**UNDERSTAND THE  
 RISKS OF MISUSING  
 LOPERAMIDE**



Loperamide (also sold under the brand name Imodium®) is a prescription and over-the-counter medicine approved by the U.S. Food and Drug Administration to relieve symptoms of diarrhea.

Loperamide is safe at approved doses: a maximum of 8 mg per day for OTC use or as instructed by your healthcare provider.

Taking more than the approved dose can result in serious heart problems and death.

If you or someone you know is taking more than the recommended dose of loperamide and experiences any of the following symptoms, discontinue loperamide use immediately and call emergency services.

- » Fainting
- » Unresponsiveness
- » Chest pain
- » Irregular heartbeat


If you believe that you or someone you know may have a substance use disorder, talk to a healthcare provider and find additional resources at [findtreatment.samhsa.gov](http://findtreatment.samhsa.gov). You can also call SAMHSA's National Helpline at **1-800-662-4357** for free, confidential treatment referral information.

TO LEARN MORE about loperamide, visit [KNOWYOUOTCS.ORG/INGREDIENT/LOPERAMIDE](http://KNOWYOUOTCS.ORG/INGREDIENT/LOPERAMIDE)

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# Non-medical use of loperamide in the UK and the USA

N.E. Webb <sup>1</sup>, D.M. Wood<sup>1,2</sup>, J.C. Black<sup>3</sup>, E. Amioka<sup>3</sup>, R.C. Dart<sup>3</sup> and P.I. Dargan<sup>1,2</sup>

From the <sup>1</sup>Clinical Toxicology Department, St Thomas' Hospital, Westminster Bridge Road London SE1 7EH, London, UK, <sup>2</sup>Faculty of Life Sciences and Medicine, King's College London, Strand, London WC2R 2LS, London, UK and <sup>3</sup>Rocky Mountain Poison and Drug Center, 1391 Speer Boulevard, Suite 600, Denver, CO 80204, USA

## Summary

**Background:** Loperamide is a mu-opioid receptor agonist that is available as an over-the-counter anti-motility agent in the US and UK; recommended maximum doses of 12-16 mg/day. Anecdotal reports of non-medical use (NMU) have increased over the past decade with supra-therapeutic doses (70-800 mg/day) associated with cardiotoxicity. Little data exists on the prevalence of loperamide NMU.

**Aim:** The aim of this study was to determine the prevalence of loperamide NMU in the UK and US and to describe characteristics of non-medical loperamide users.

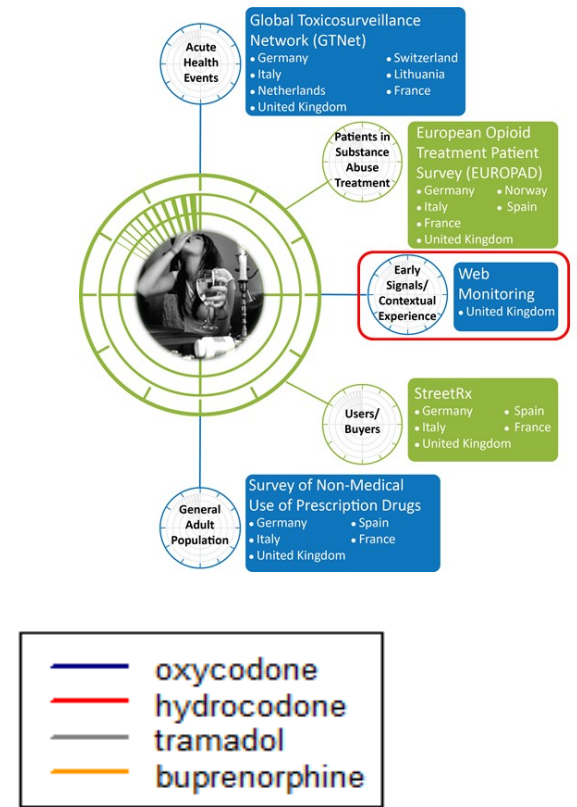
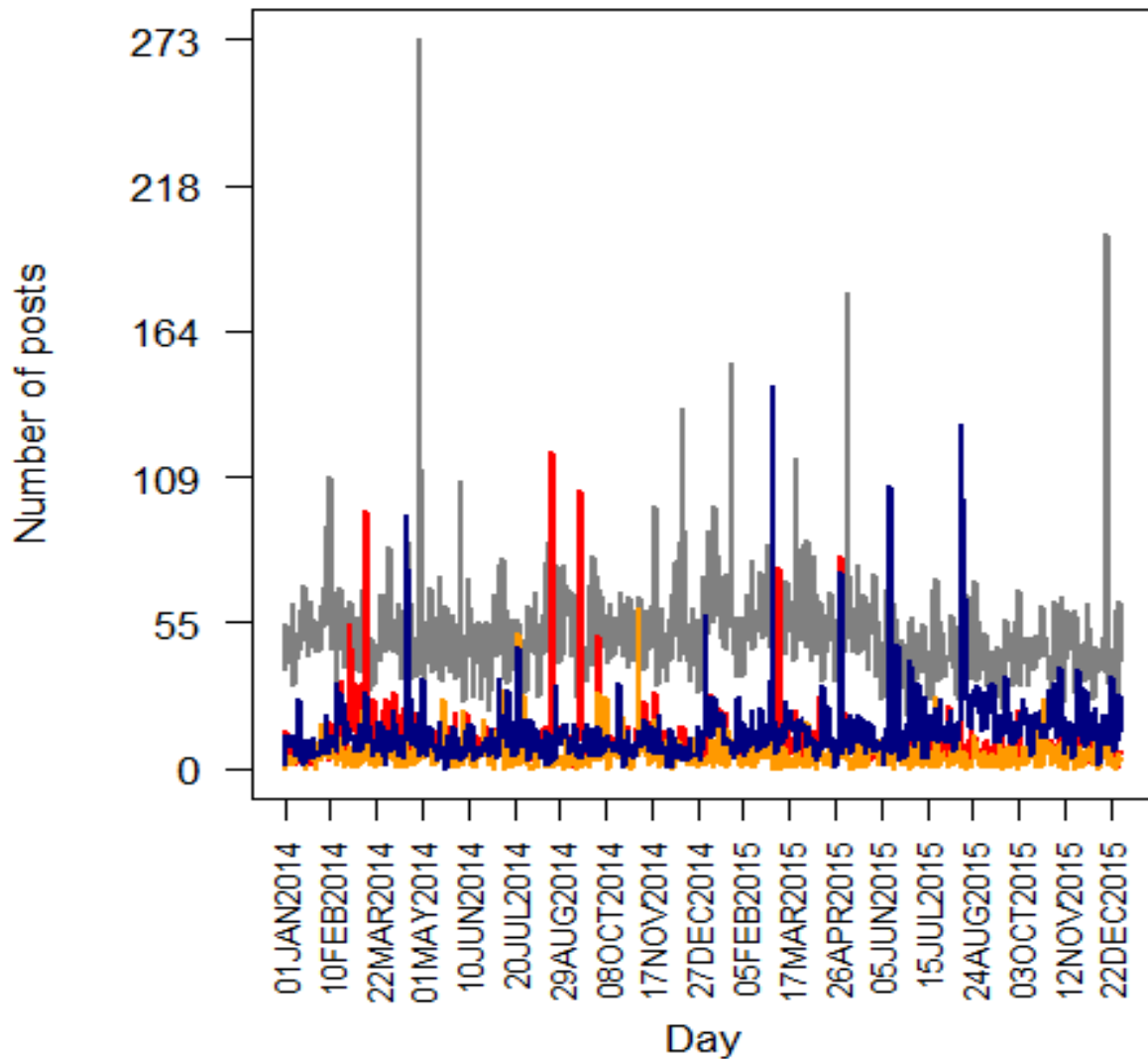
**Design:** The Researched, Abuse, Diversion and Addiction Related Surveillance (RADARS<sup>®</sup>) Survey of Nonmedical Use of Prescription Drugs (NMURx) was utilized to study NMU of loperamide among the adult population in the UK and US in 2017. The RADARS<sup>®</sup> NMURx is anonymous and self-administered online.

**Methods:** A total of 40,029 completed surveys were included (10,019 from the UK and 30,010 from the US). Respondents were asked questions about medical and NMU of loperamide, frequency of and reasons for NMU, route of use problematic drug use markers, and demographics.

**Results:** Prevalence of lifetime loperamide use (95% CI) and lifetime NMU of loperamide were: UK 28.5% (27.67-29.4), and 0.66% (0.5-0.8), respectively; US 33.7% (33.1-34.2), and 5.19% (4.9-5.5), respectively. Problematic drug use markers were elevated in those who reported NMU of loperamide in both the UK and US, however high-risk use was more prevalent in the UK than in the US.

**Conclusion:** NMU of loperamide is common. In the current international environment of opioid addiction involving both therapeutic and illicit opioids, awareness of the NMU of loperamide is important.



Life-time NMU: UK 0.66%, USA 5.19%



# UK population level data: prescription painkiller misuse

- Association with illicit drug use
  - Used in last year 10.7% -vs- not used 5.9%
- Demographic factors associated with increased use
  - Most deprived 8.3% -vs- least deprived 4.4%
  - Rural 6.2% -vs- Urban 6.4%
  - Employed 6.2% -vs- Unemployed 7.2%
  - Long-term illness / disability

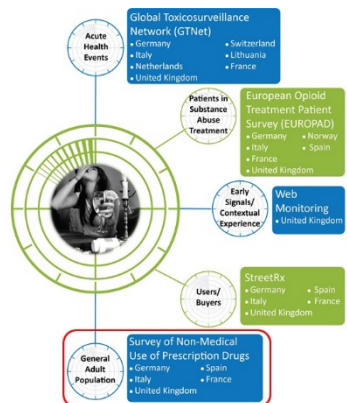
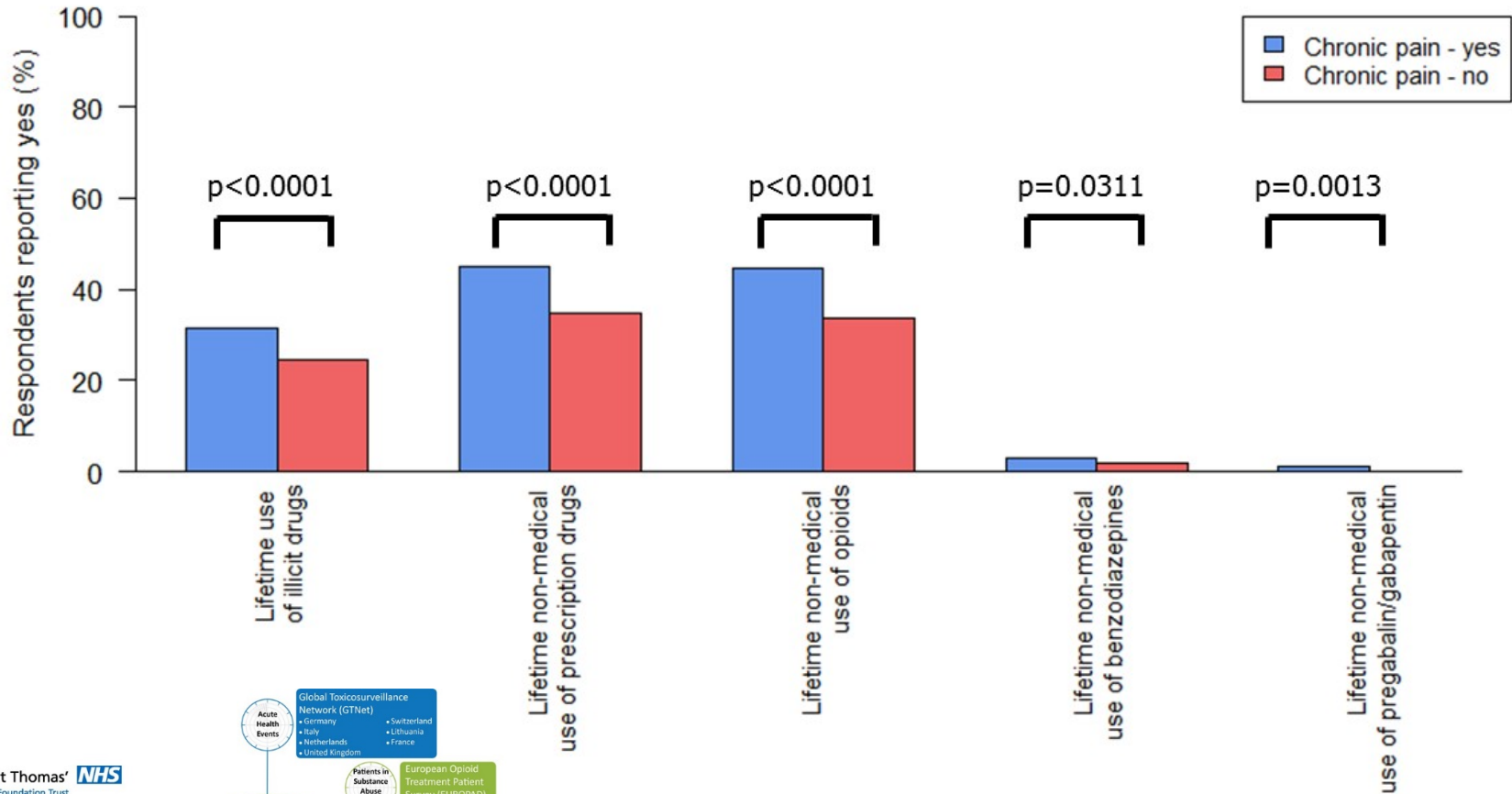
Drug	Yes	No
Prescription painkillers	12.6%	5.6%
Any illicit drug	12.7%	9.0%
Cannabis	10.9%	7.2%

 Home Office 

**Drugs Misuse: Findings from the 2018/19 Crime Survey for England and Wales**

Statistical Bulletin: 21/19  
19 September 2019

# Prescription drug misuse and chronic pain



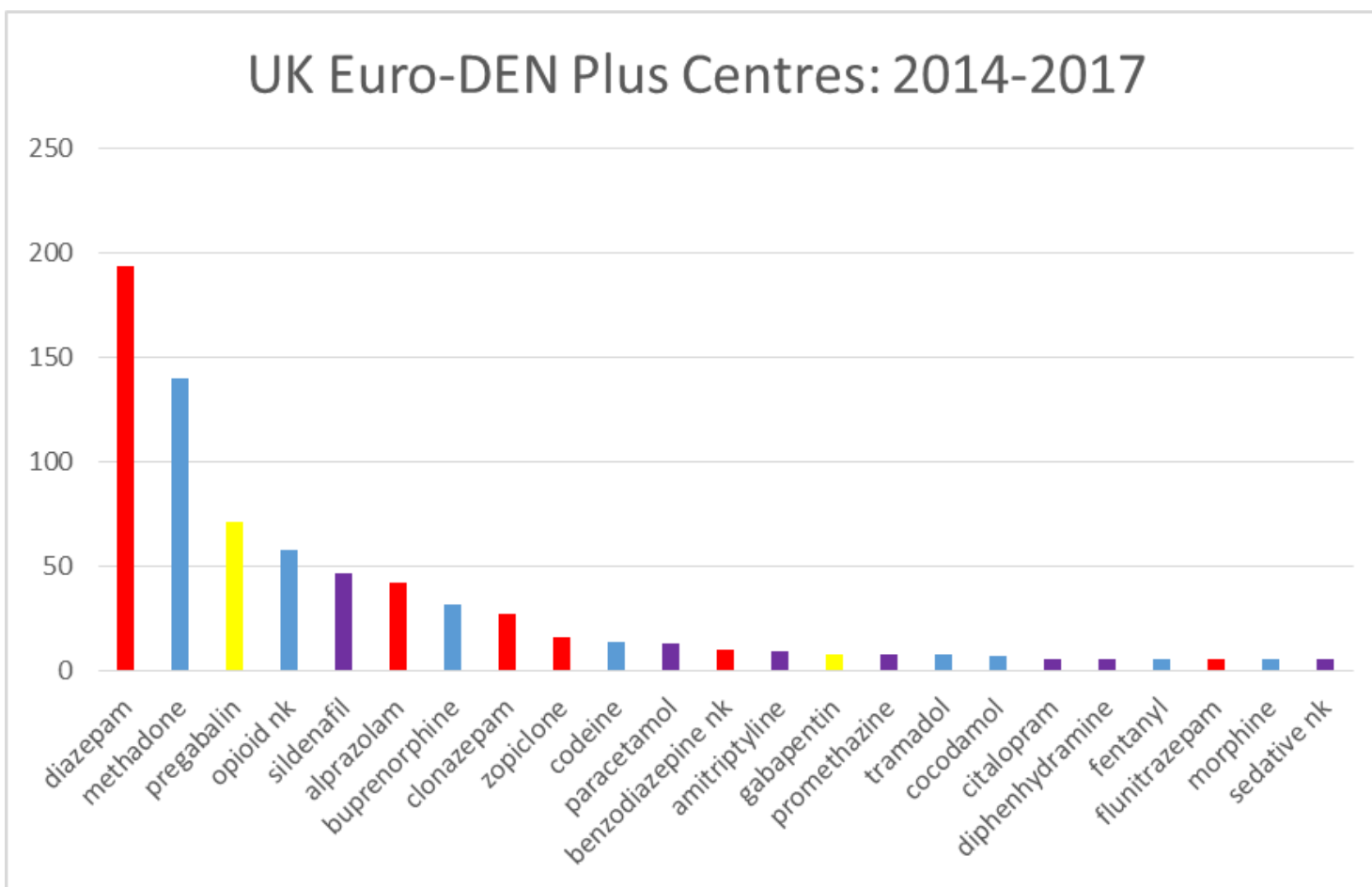
# The European Drug Emergencies Network (Euro-DEN)

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

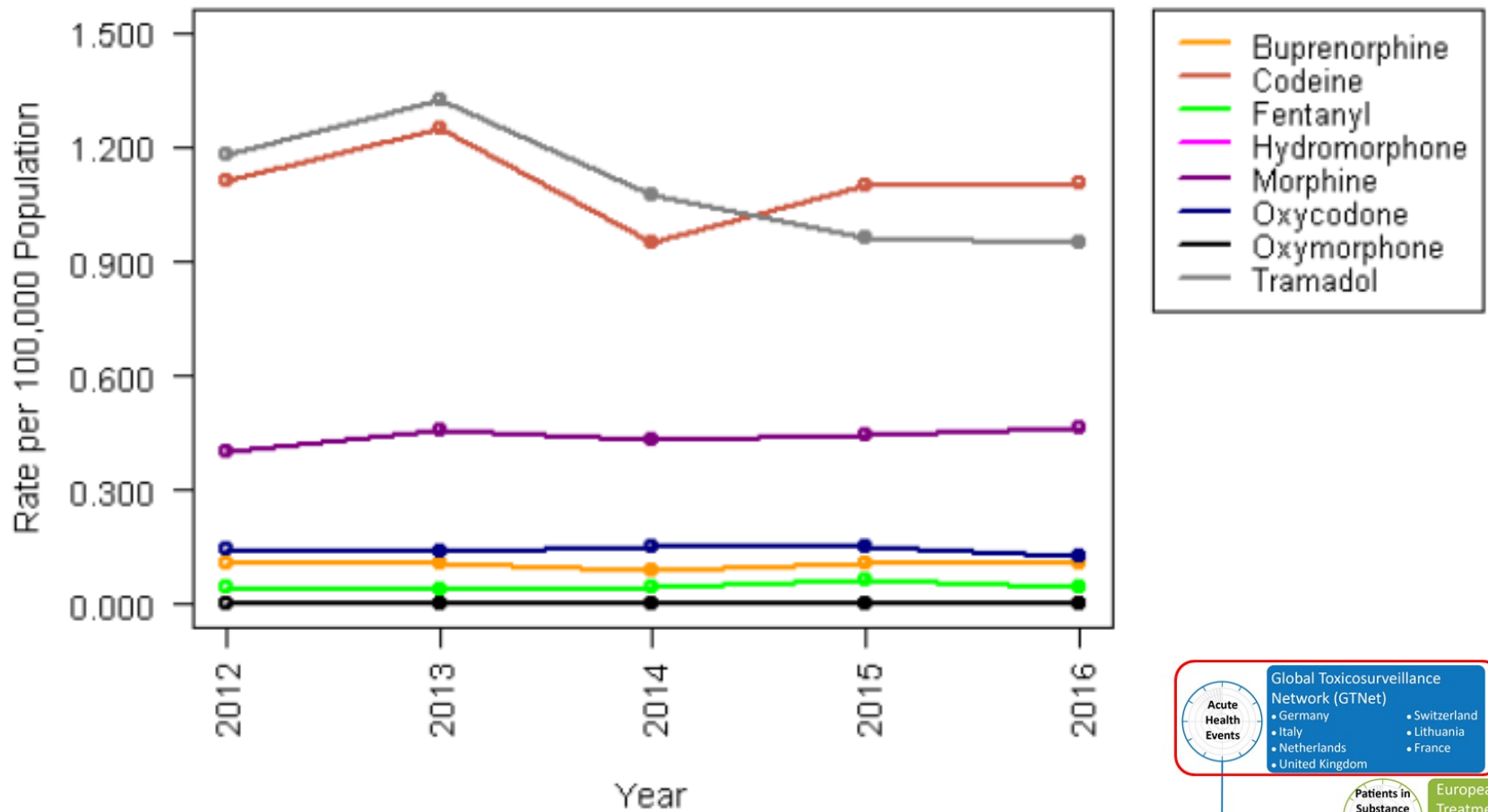
D. M. WOOD,<sup>1,2</sup> F. HEYERDAHL,<sup>3</sup> C. B. YATES,<sup>4</sup> A. M. DINES,<sup>1</sup> I. GIRAUDON,<sup>5</sup> K. E. HOVDA,<sup>3</sup> and P. I. DARGAN<sup>1,2</sup>



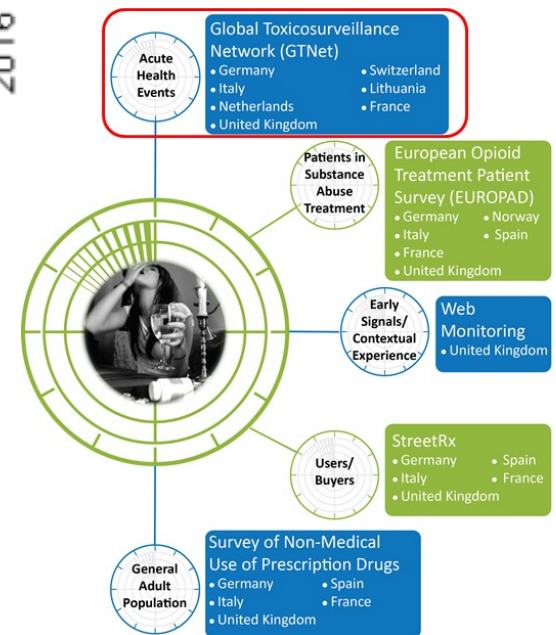
2018: 32 centres in 22 European/neighbouring countries







*There were no reports of oxymorphone during the surveillance period*



# Drug Treatment Data: England

Adult substance misuse statistics  
from the National Drug Treatment  
Monitoring System (NDTMS)

1<sup>st</sup> April 2015 to 31<sup>st</sup> March 2016



Substance	Opiate		Non-opiate only		Non-opiate and alcohol		Alcohol only		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Opiate and/or crack cocaine use</b>										
Opiate (not crack cocaine)	88,184	59%	-	-	-	-	-	-	88,184	31%
Both opiate and crack cocaine	61,623	41%	-	-	-	-	-	-	61,623	21%
Crack cocaine (not opiate)	-	-	2,265	9%	2,320	8%	-	-	4,585	2%
<b>Other drug use</b>										
Cannabis	28,099	19%	15,618	61%	16,201	57%	-	-	59,918	21%
Cocaine	8,512	6%	7,768	30%	11,678	41%	-	-	27,958	10%
Benzodiazepine	17,703	12%	1,712	7%	1,312	5%	-	-	20,727	7%
Amphetamine (other than ecstasy)	7,111	5%	4,070	16%	2,935	10%	-	-	14,116	5%
Other drug**	1,934	1%	1,370	5%	778	3%	-	-	4,082	1%
Hallucinogen	390	0%	522	2%	273	1%	-	-	1,185	0%
Other prescription drug	463	0%	125	0%	118	0%	-	-	706	0%
Anti-depressant	389	0%	38	0%	101	0%	-	-	528	0%
Solvent	117	0%	123	0%	130	0%	-	-	370	0%
Major tranquiliser	108	0%	21	0%	18	0%	-	-	147	0%
Barbiturate	68	0%	13	0%	18	0%	-	-	99	0%
<b>Alcohol</b>										
Alcohol	31,686	21%	-	-	28,187	100%	85,035	100%	144,908	50%
<b>Total number of individuals *</b>	<b>149,807</b>	<b>100%</b>	<b>25,814</b>	<b>100%</b>	<b>28,187</b>	<b>100%</b>	<b>85,035</b>	<b>100%</b>	<b>288,843</b>	<b>100%</b>

# Deaths related to drug poisoning in England and Wales: 2016 registrations



Deaths related to drug poisoning in England and Wales from 1993 onwards, by cause of death, sex, age and substances involved in the death.

	Number of deaths				
	2012	2013	2014	2015	2016
All drug poisoning deaths	2,597	2,955	3,346	3,674	3,744
Any opiate <sup>4</sup>	1,290	1,592	1,786	1,989	2,038
- Heroin and/or morphine	579	765	952	1,201	1,209
- Methadone	414	429	394	434	413
- Tramadol	175	220	240	208	184
- Oxycodone	37	51	51	51	75
- Fentanyl	22	22	40	34	58
Cocaine	139	169	247	320	371
Any amphetamine	97	120	151	157	160
Any new psychoactive substance	55	63	82	114	123
Any benzodiazepine	284	342	372	366	406
Pregabalin	4	33	38	90	111
Gabapentin	8	9	26	49	59
All antidepressants	468	466	517	447	460
Paracetamol <sup>5</sup>	182	226	200	197	219
Propranolol	39	46	54	55	45



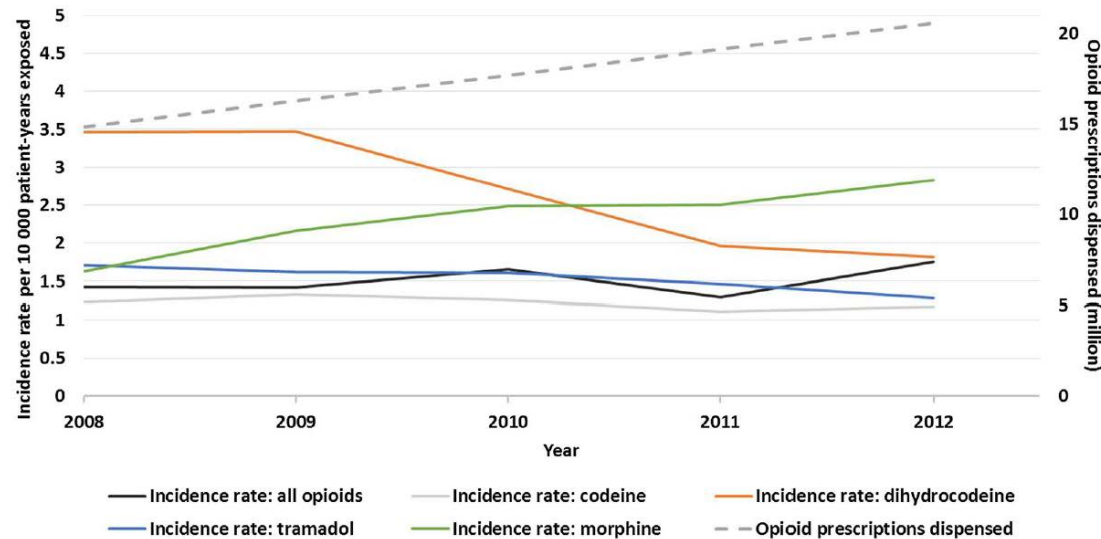
Source: Office for National Statistics





# Prevalence and Incidence Trends for Diagnosed Prescription Opioid Use Disorders in the United Kingdom

Andrew J. M. Cooper · Jenna Willis · Janice Fuller · Heike Benecke ·  
James Leighton-Scott · Frank Andersohn · Joseph Kim ·  
Christoph Maier · Roger D. Knaggs



**Conclusions:** Our study demonstrates that despite the marked increase in overall opioid prescribing in the UK in the past decade, there has not been an increase in the incidence of physician-diagnosed opioid use disorders.



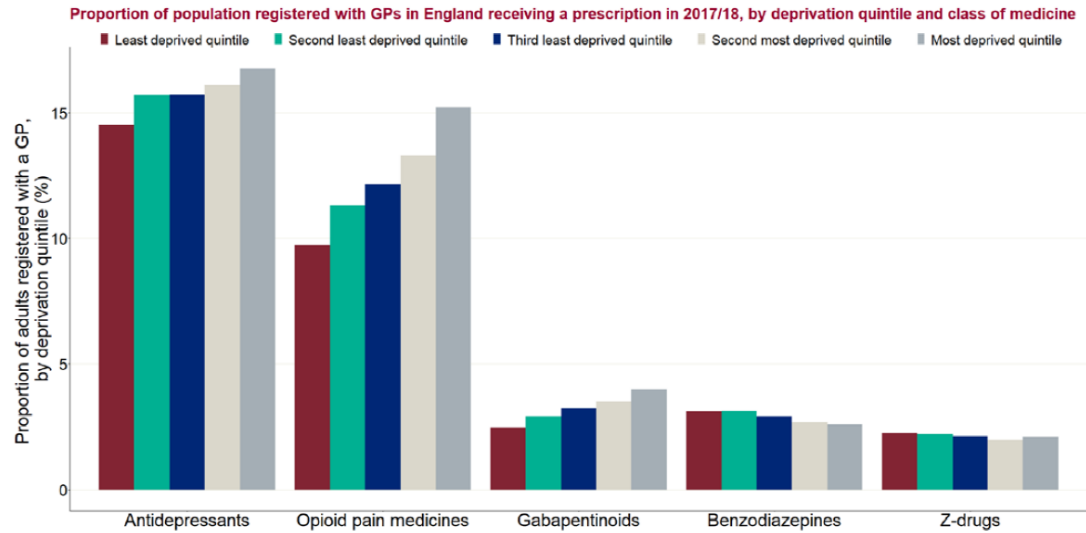
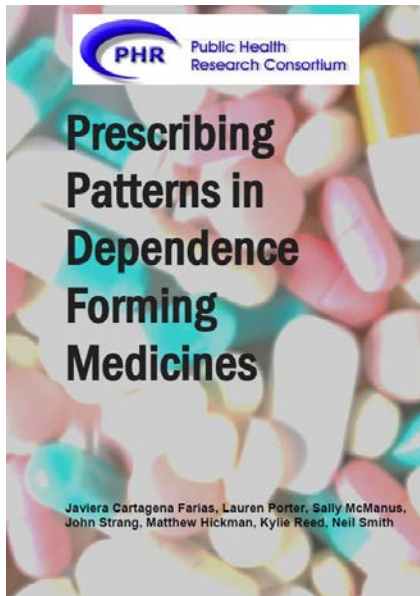


Figure 4c: Proportion of population registered with GPs in England receiving a prescription in 2017 to 2018, by deprivation quintile and class of medicine



Table 4: Correlation matrix for the crude proportions receiving a prescription for each class of medicine in each CCG

Medicine classes being compared	Anti-depressants	Opioid pain medicines	Gaba-pentinoids	Benzo-diazepines	Z-drugs
Antidepressants	-	0.85	0.81	0.51	0.30
Opioids	0.85	-	0.89	0.32	0.15
Gabapentinoids	0.81	0.89	-	0.38	0.21
Benzodiazepines	0.51	0.32	0.38	-	0.80
Z-drugs	0.30	0.15	0.21	0.80	-

# The Opioid Timebomb: Victory for the Standard with addiction warnings set to be put on painkiller packaging

You can read our full Opioid Timebomb investigation with enhanced digital content at [standard.co.uk/opioids](https://standard.co.uk/opioids)

DAVID COHEN Investigations Editor | Friday 23 March 2018 12:53 |  0 comments



Speeding up the best in health and care, together

## News



# London-wide initiative to tackle chronic joint pain could reduce use of strong painkillers

Leading NHS health innovator and physiotherapist speaks out after London newspaper The Evening Standard's [‘The Opioid Timebomb: Special Evening Standard investigation into the overuse of prescription painkillers’](#).

# Parting Thoughts

- Increasing evidence of non-medical use of prescription medicines in the UK
  - Predominately opioids and benzodiazepines
- Misuse appears associated with chronic illness and pain, lower income and social deprivation
- Significant harms being associated with misuse
  - Drug treatment, drug-related deaths, ED presentations
- Understanding relationship between prescribing patterns will enable improved harm reduction strategies
  - Alternative strategies to managing pain
  - Warning patients and clinicians of the risks of NMU

# Thank You

