

# **Misuse of Prescription Psychotropic Drugs, Emerging Data from Europe**

EUROTOX

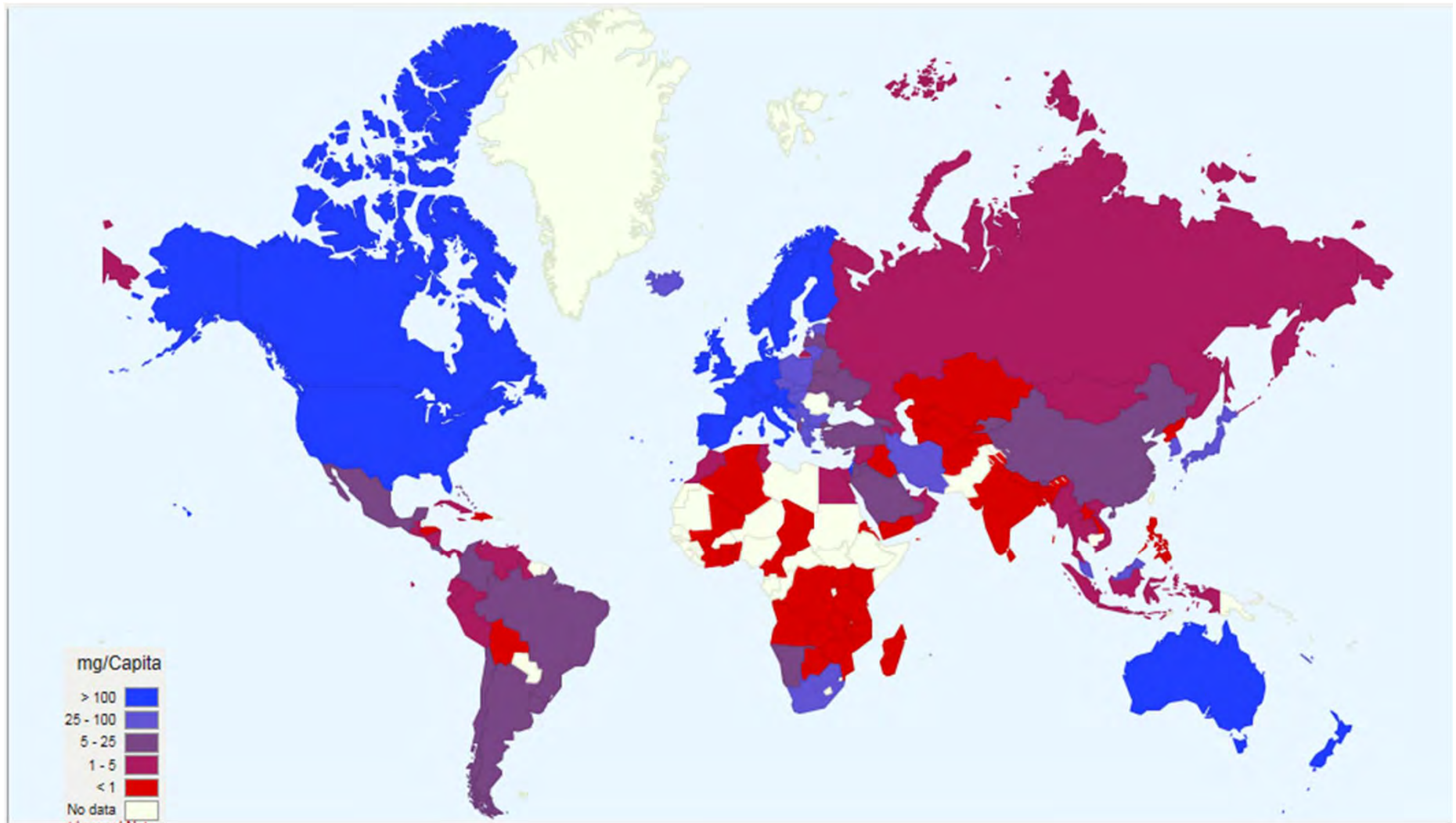
Edinburgh

September 7, 2014

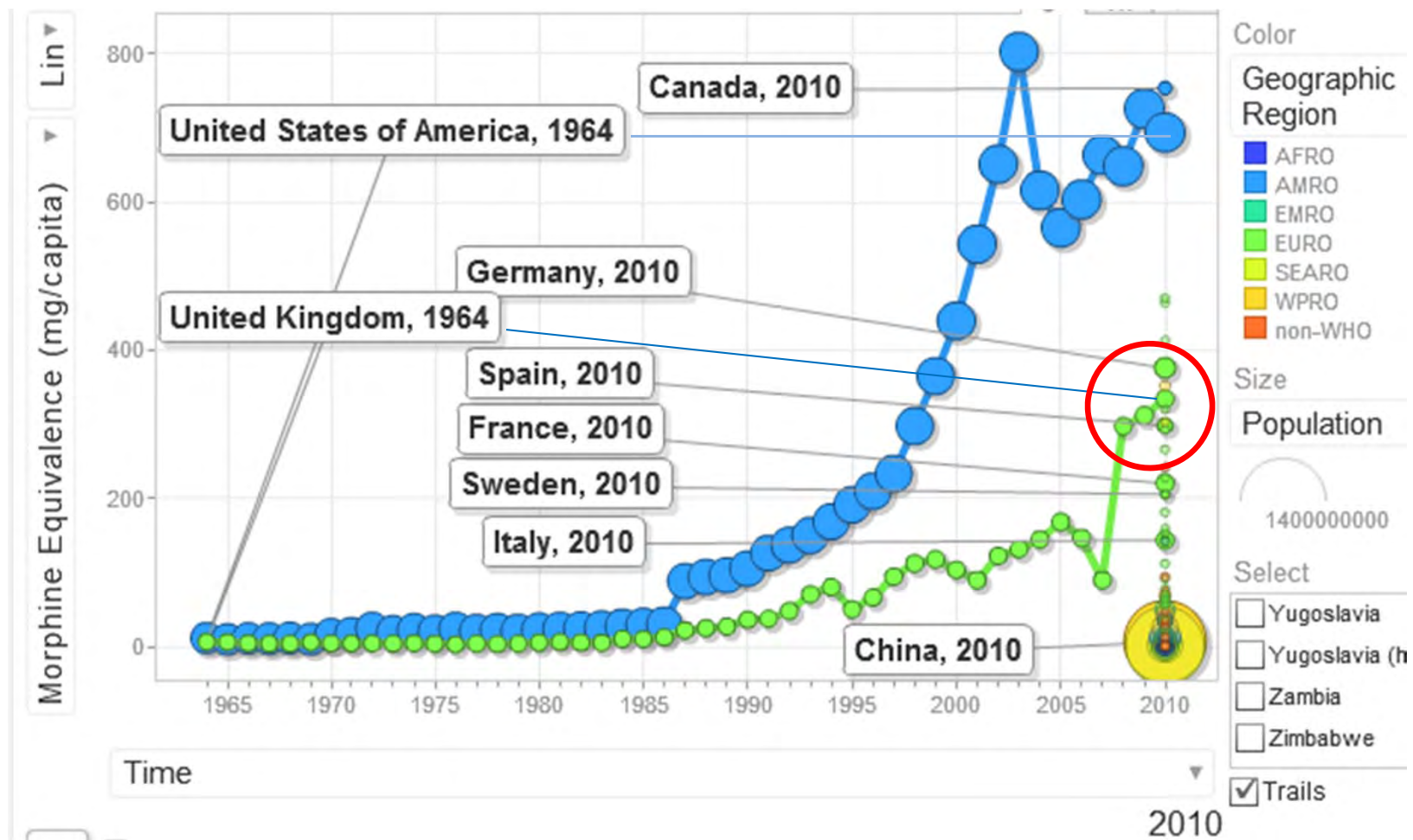
Richard C. Dart, MD, PhD

Director, Rocky Mountain Poison and Drug Center  
Professor, University of Colorado School of Medicine

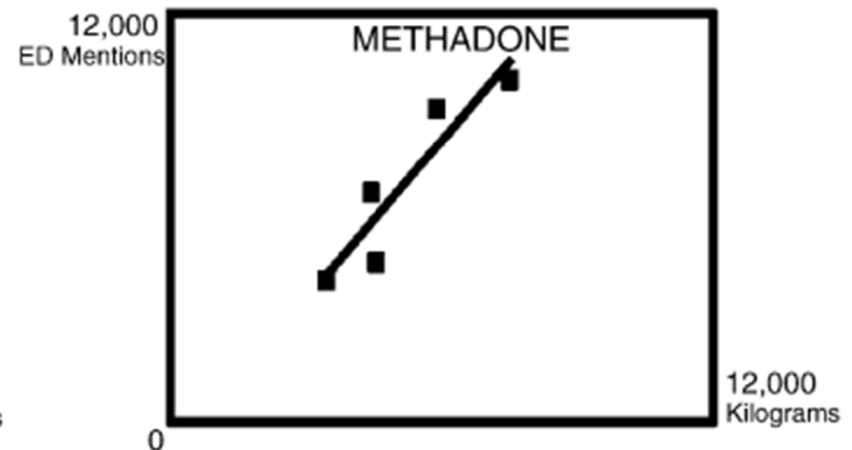
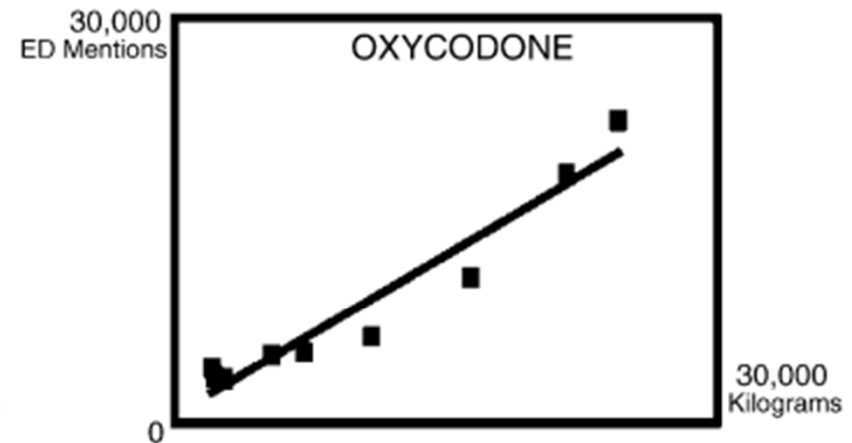
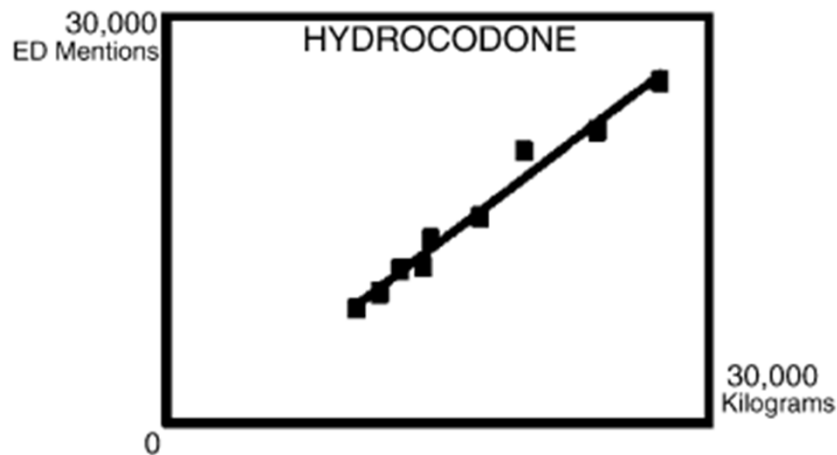
# Opioid Consumption (ME/capita), 2010



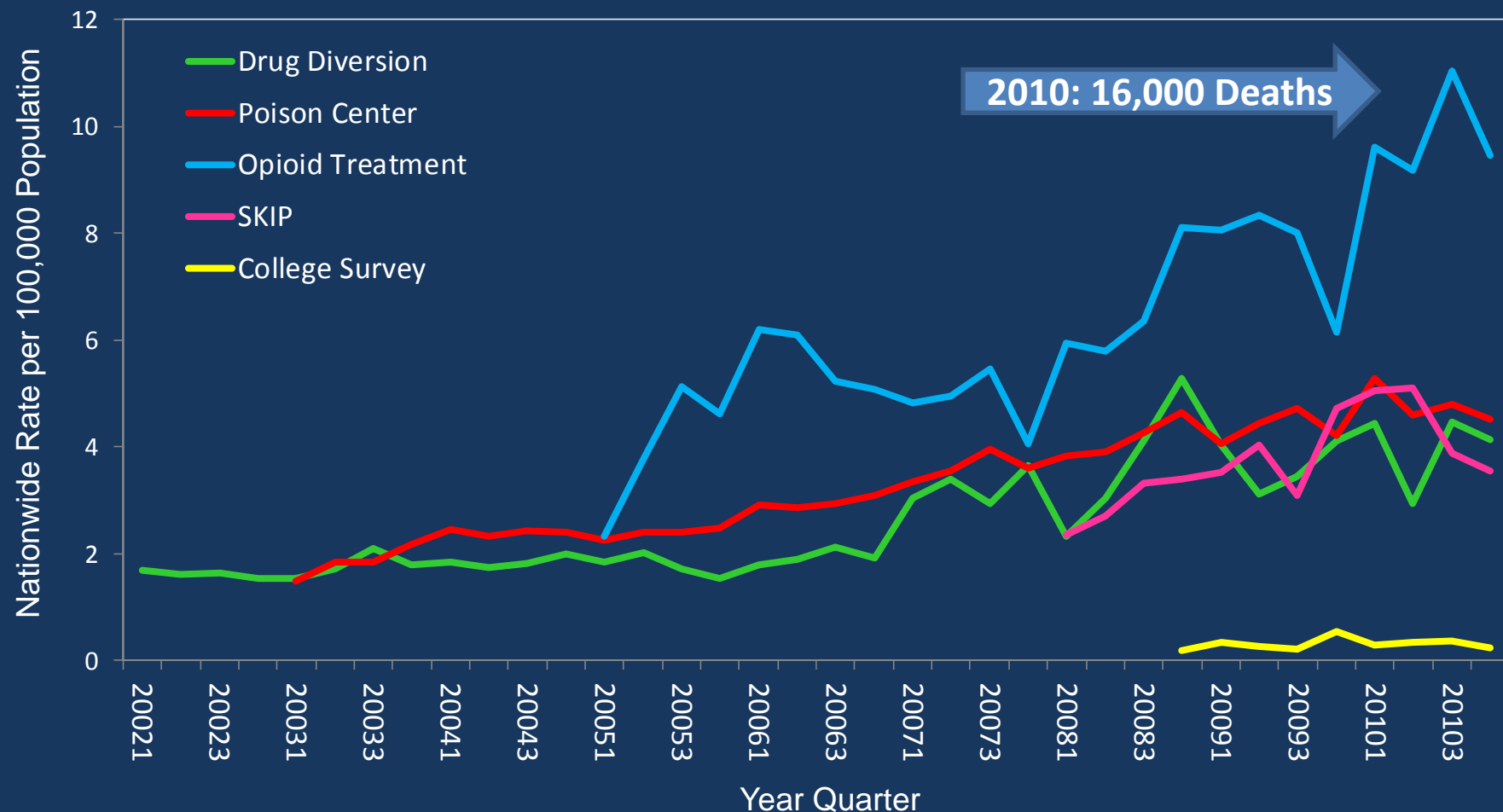
# Opioid Consumption, 1964 - 2010



# More Drug Production = More Drug Abuse But - the Slope Varies by Drug



# Overall Opioid Abuse Trends, Population Rates, 2002-2010



Drug Substances: buprenorphine, fentanyl, hydrocodone, hydromorphone, methadone, morphine, oxycodone, tramadol and tapentadol



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

- 807 people died overdosing on prescription drugs last year, figures reveal
- In total, 32,000 Britons are thought to be addicted to painkiller medication

By [SOPHIE BORLAND](#)

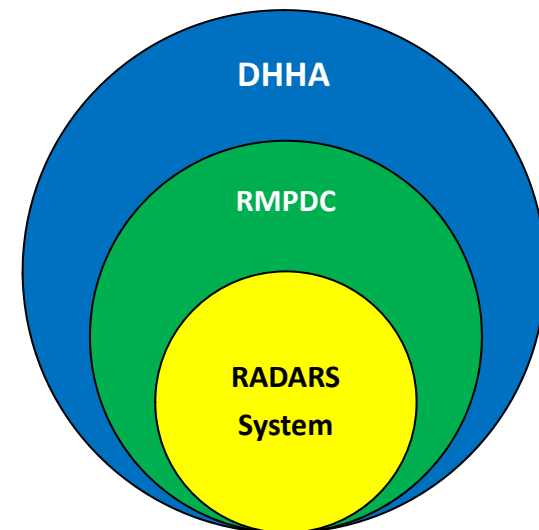
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# **Prescription Drug Abuse in the United States**

# What is the RADARS<sup>®</sup> System?

## History

- 2002, Purdue Pharma
- 2006, Denver Health and Hospital Authority
  - Rocky Mountain Poison and Drug Center
  - Denver Public Hospital for 150 years
  - State sanctioned independent authority
- Most companies with an opioid product on the US market are subscribers.



## Conflict of Interest Statement

- Most manufacturers of prescription opioids or stimulants subscribe to RADARS System.
- RADARS System is the property of Denver Health and Hospital Authority, a political subdivision of the State of Colorado.
- Subscribers receive information, but do not participate in developing the System, data collection, or analysis of the data. They do not have access to the raw data.
- Employees are prohibited from personal financial relationships with any company.



# Mosaic Surveillance of Prescription Drug Abuse

## Acute Health Events

49 Poison centers  
46 states  
456,610 cases  
491,874 opioid mentions

## Drug Transactions

Criminal Justice  
260 agency; 49 states  
145,090 cases with  
146,786 opioid mentions

## Entering Treatment

Opioid Tx Program  
66 programs; 34 states  
41,031 cases with  
183,573 opioid mentions

## Entering Treatment

SKIP  
109 practices, 45 states  
10,214 cases with  
64,678 opioid mentions

## New Initiates

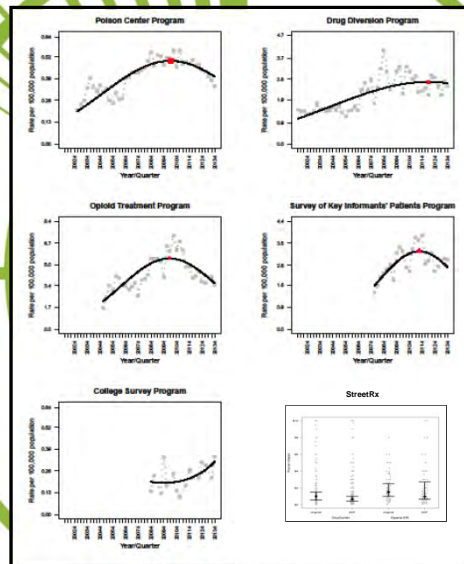
College Survey  
2000 students, 50 state  
3,564 cases with  
11,871 opioid mentions

## Illicit Market Price

StreetRx.com  
Users/Buyers, 50 states  
8,441 price entries for  
an opioid

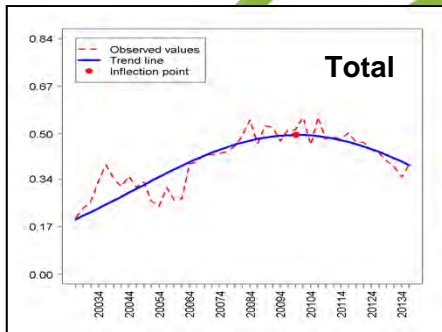
## Web Monitoring

> 150 million sites  
monitored  
> 35,000 posts  
coded for analysis

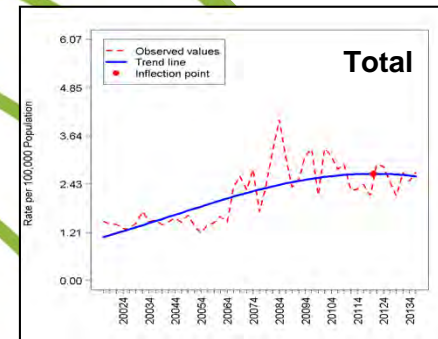


# Opioid Analgesic Trends in the United States, 2014 Q1

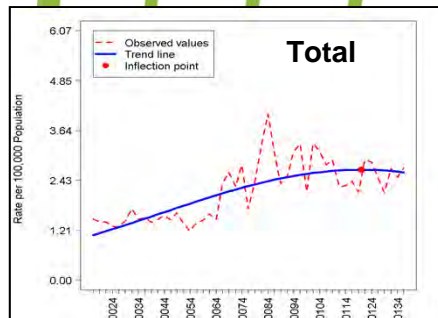
## Poison Center Program



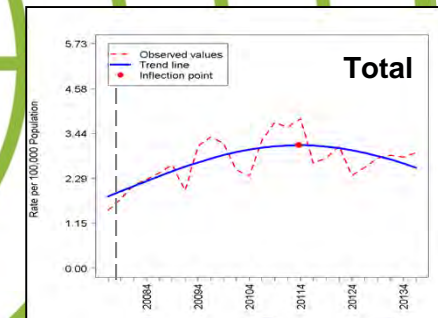
## Drug Diversion Program



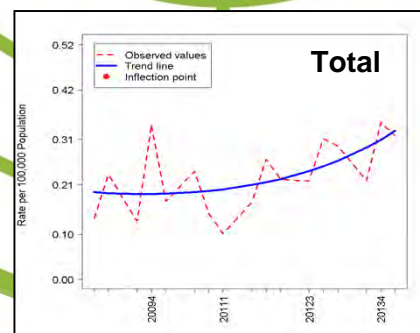
## Opioid Treatment Program



## Survey of Key Informant Patients



## College Survey Program



Analgesic group:  
oxycodone, hydrocodone,  
hydromorphone, fentanyl,  
morphine, and tramadol

# Unanswered Questions

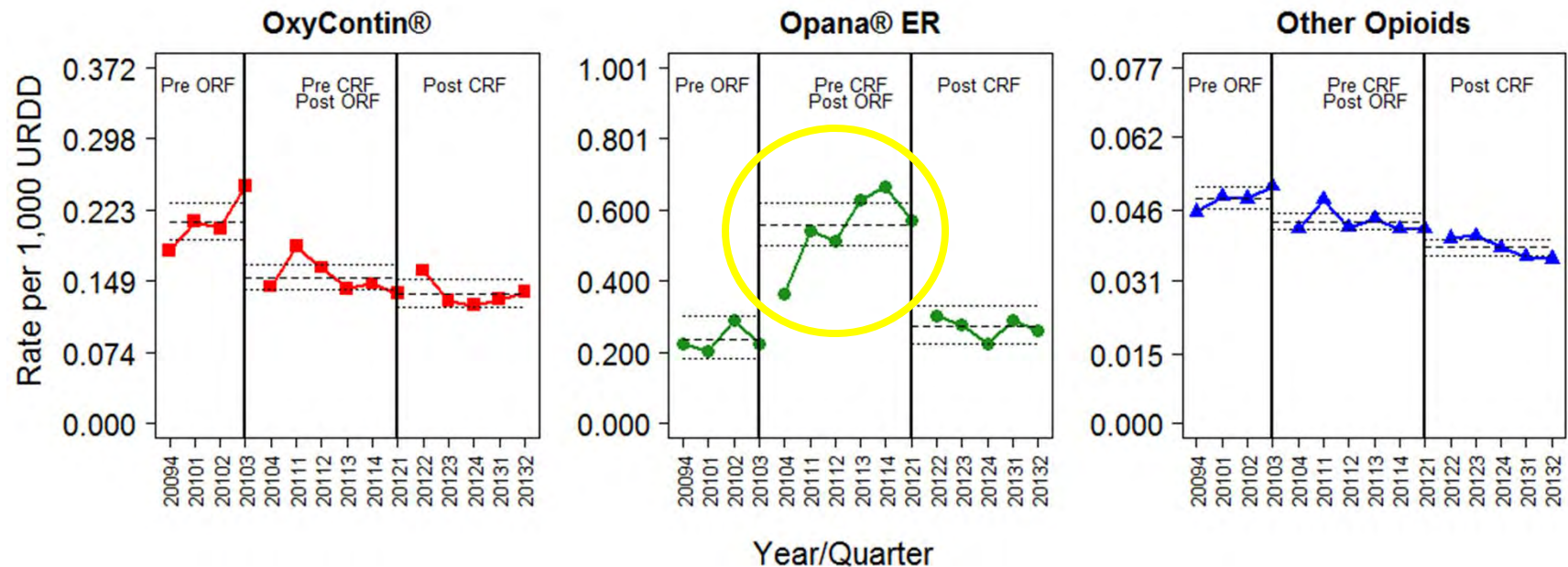




# Poison Center Program (U.S.)

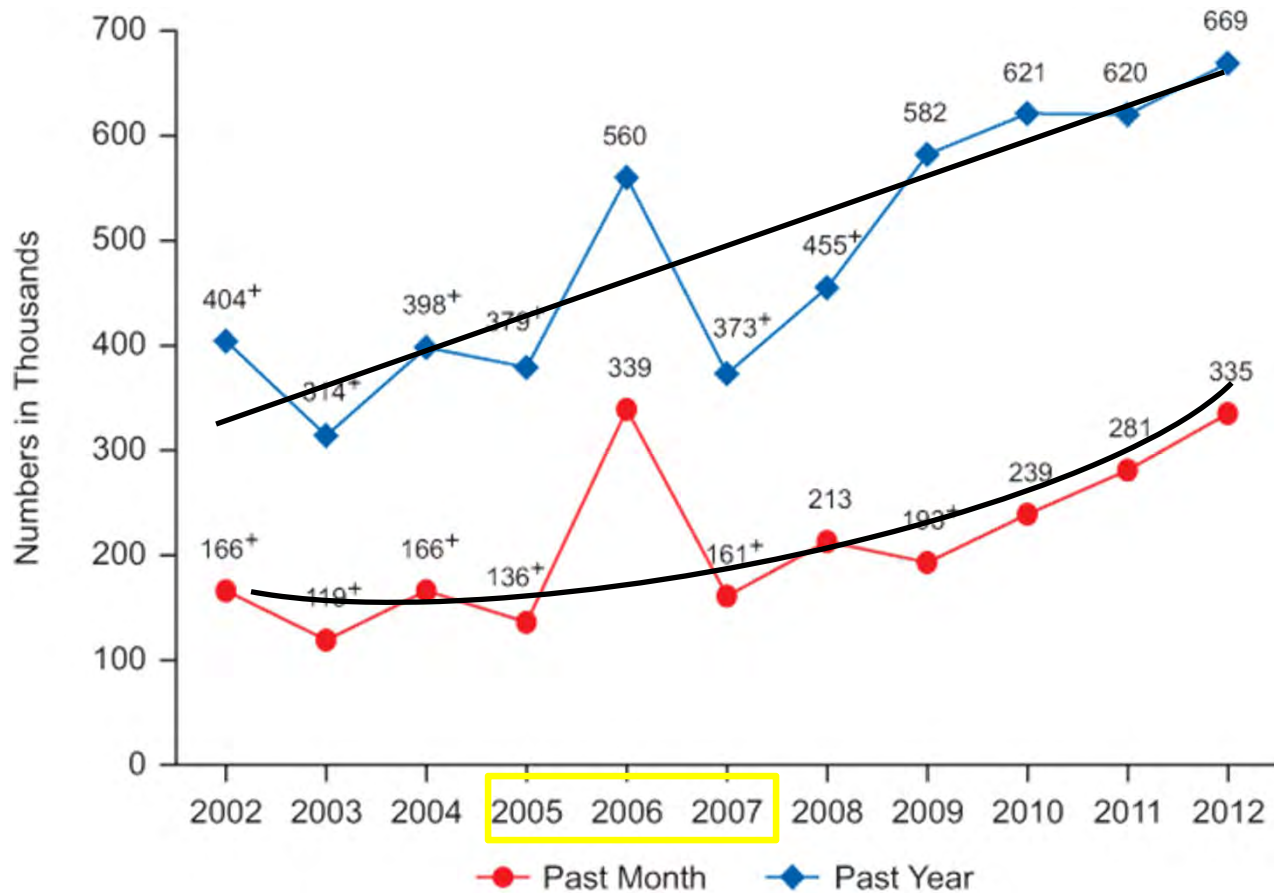
## Contacts Involving Intentional Abuse

### OxyContin<sup>®</sup>, Opana<sup>®</sup> ER, Other Opioids



# Squeezing the Balloon

## NSDUH 2012



# Observations

- The ascending rates of prescription drug abuse may be over.
- Myriad federal, state and local interventions may be having an effect.
- However, heroin has been rising and recent reports suggest it is rising with a steeper curve.

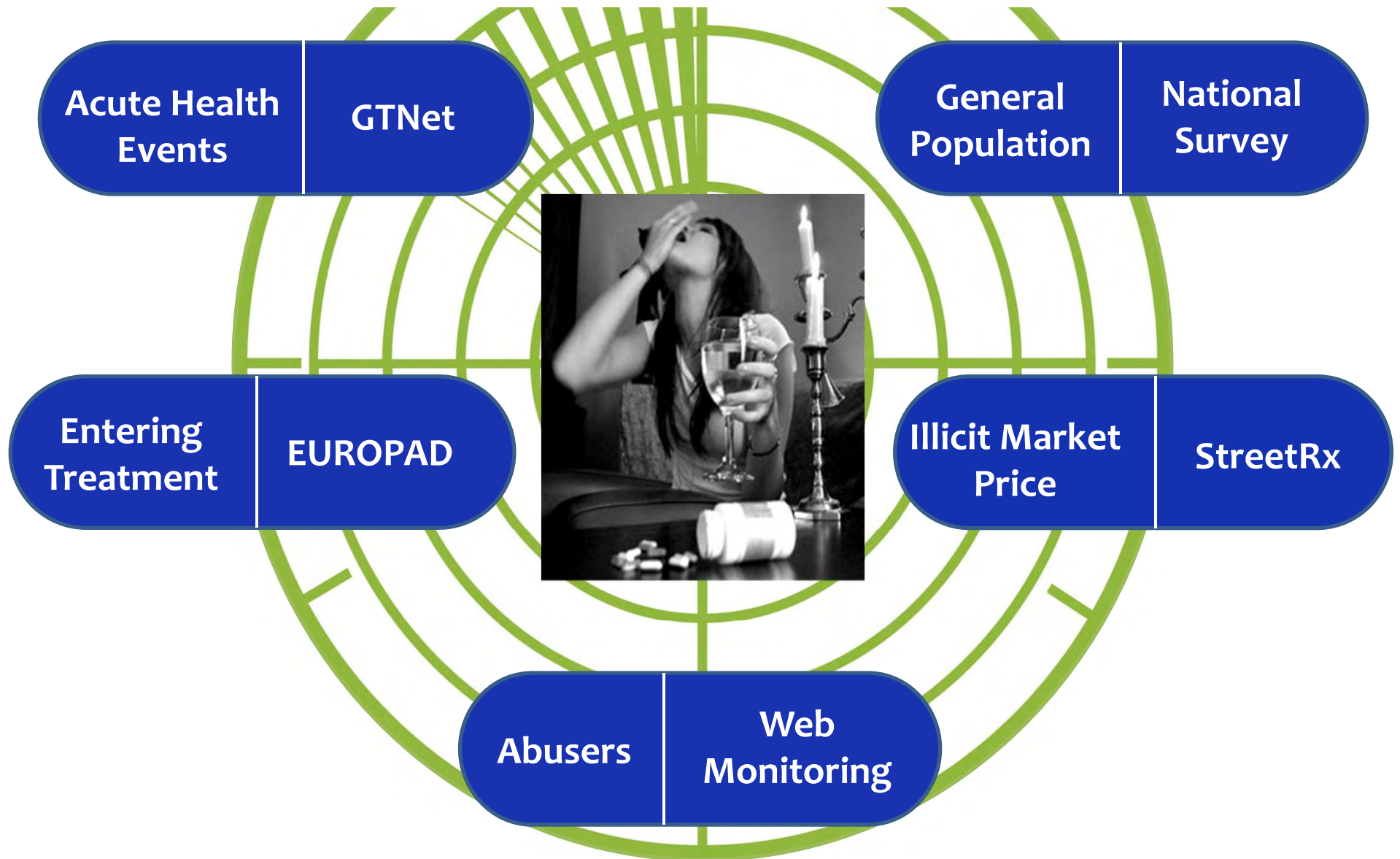
# **Prescription Drug Abuse in Europe**

# Prescription Drug Abuse in Europe and Beyond

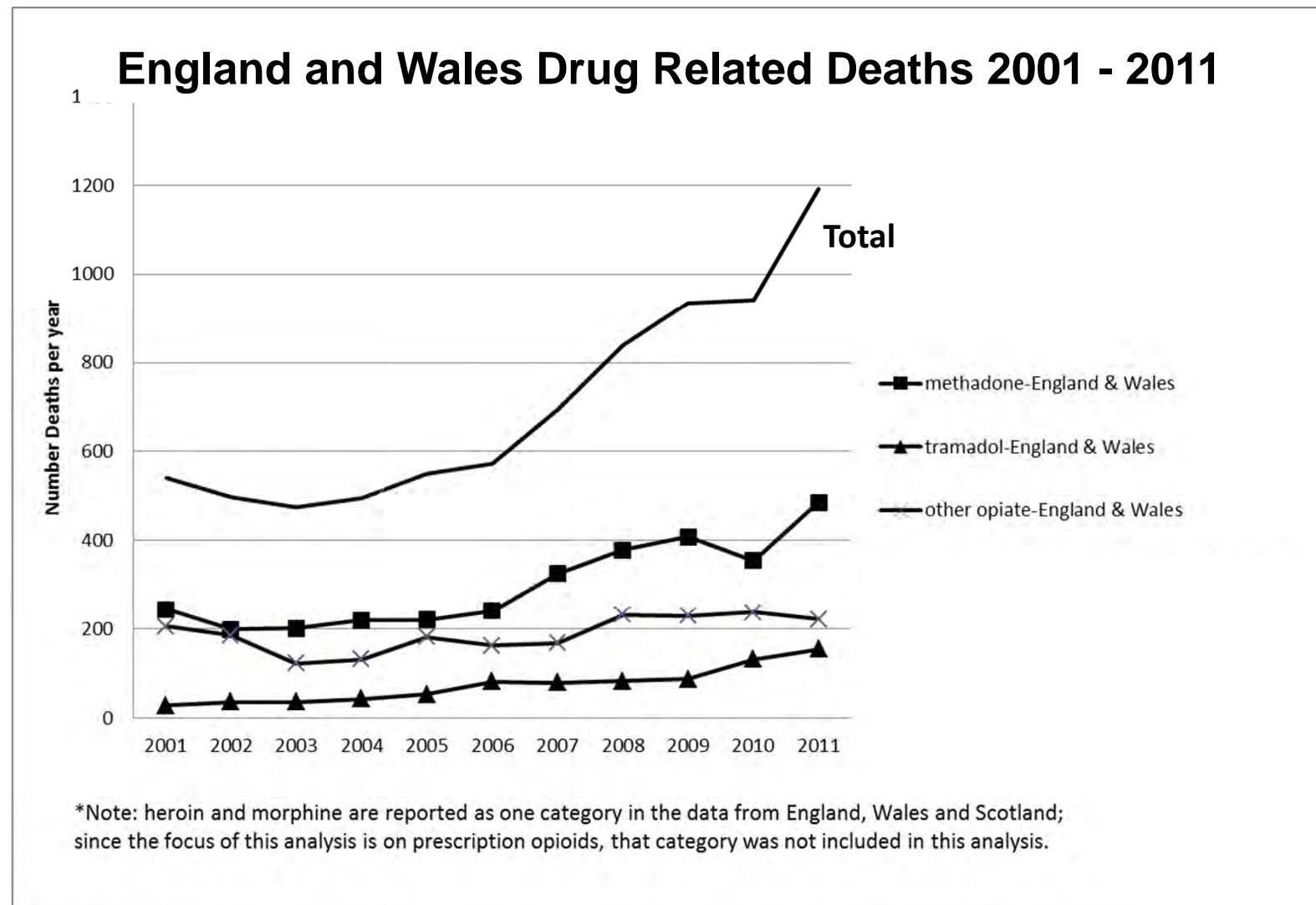
- We simply don't know
- Divergent opinions
  - Regulatory agencies
  - Practitioners
- European mosaic
  - GTNet – Poisons centre network
  - Europad – Substance abuse treatment network
  - National web surveys
  - StreetRx.com
  - Web monitoring



# Mosaic Surveillance of Prescription Drug Abuse - International



# Prescription Opioid Deaths



Giraudon, 2013

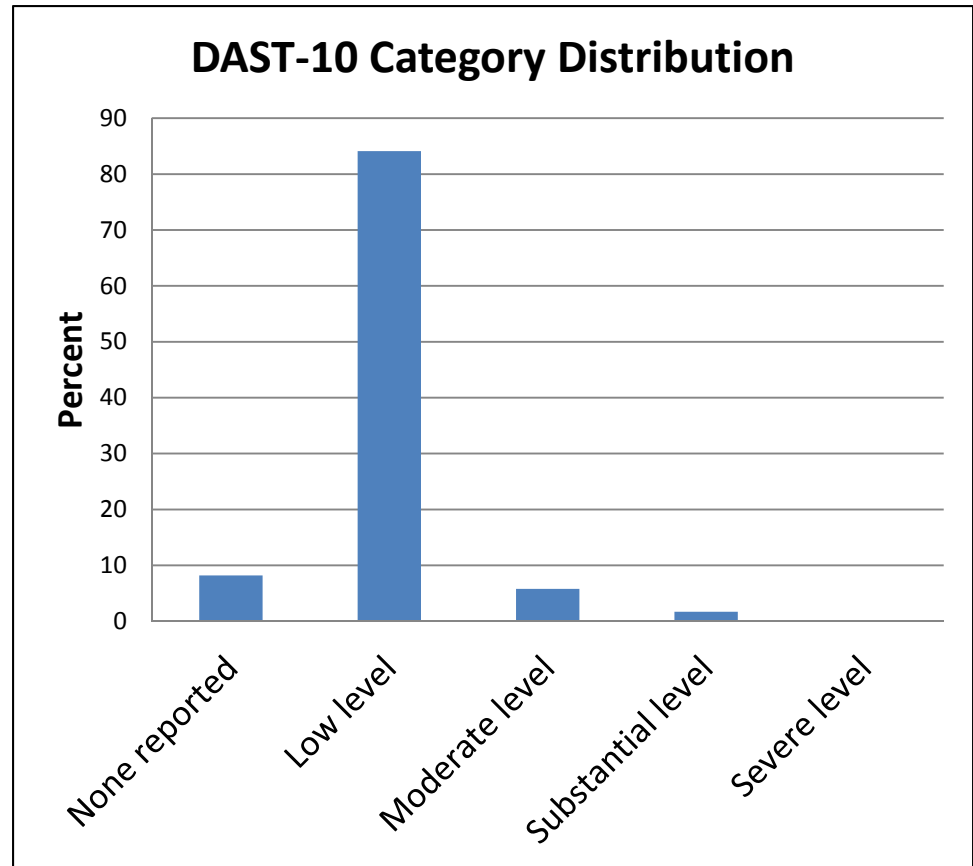
# National Survey of Non-Medical Use of Prescription Drugs Program

- General population subscribed to online survey panel
- United Kingdom, Germany, Italy, France and Spain
  - Self-reported demographics, geographical location, and experience with illicit and prescription drugs
  - Self reported non-medical use (use without a doctor's prescription or a reason other than recommended by doctor)
- 16 July 2014 - Goal 2499 responses – 8 days

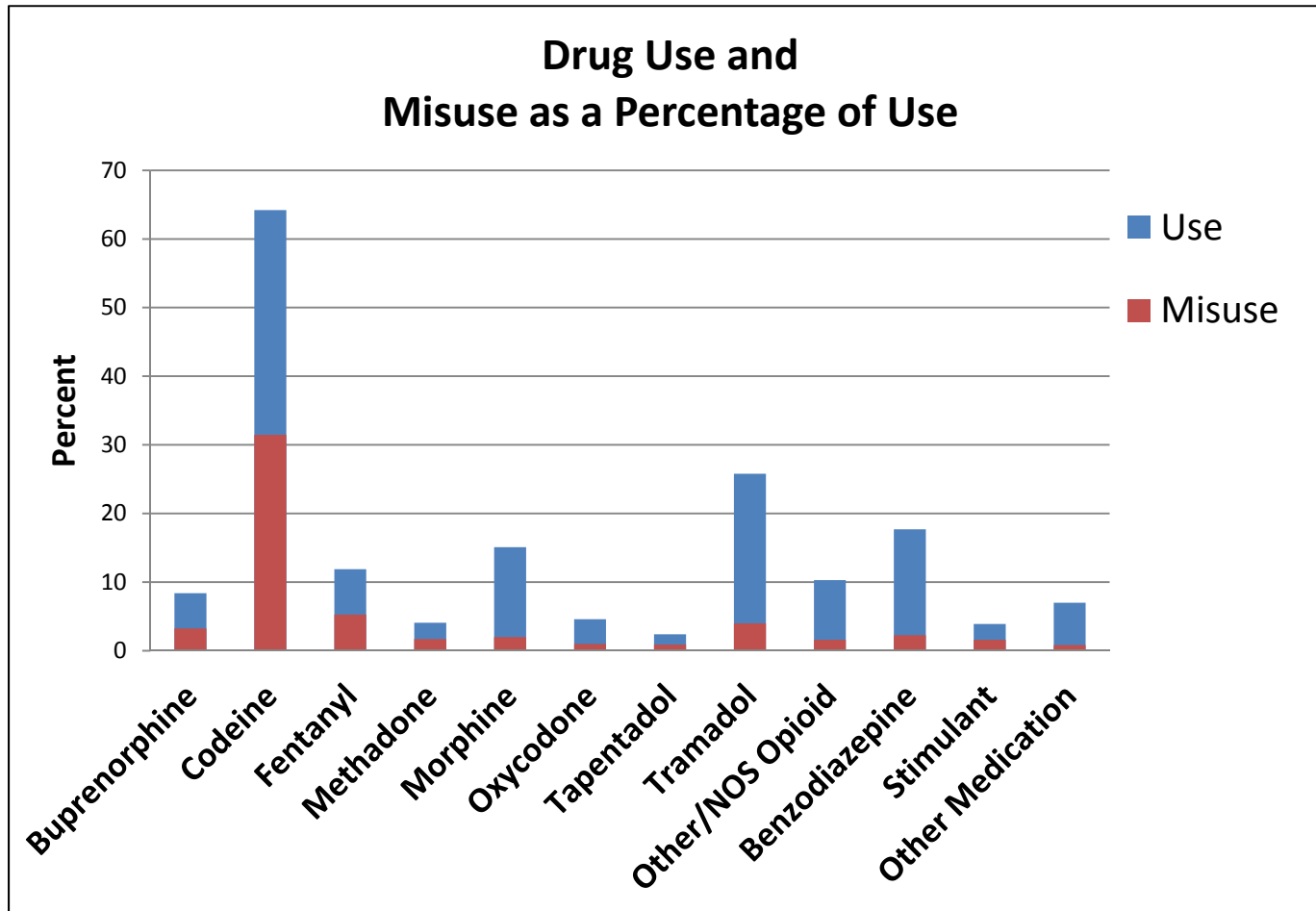
Country	Name	Affiliation
United Kingdom	David M Wood, BSc, MD, FRCP, FACMT, FBPharmacolSoc Paul I Dargan, MD, BS, FRCPE, FACMT, FRCP, FAACT, FEAPCCT	Guy's and St. Thomas' NHS Foundation Trust
Germany	Herbert Desel, MD, PhD	GIZ-Nord Poisons Centre
Italy	Marilena Guareschi, PhD	Associazione per l'Utilizzo delle Conoscenze Neuroscientifiche a fini Sociali
France	Marc Auriacombe, MD, MSc	Department of Psychiatry and Addiction, Victor Pachon Medical School, Université Victor Segalen
Spain	Maria Francina Fonseca, MD, PhD	Neuropsychiatric and Addictions Institute (INAD), Parc de Salut Mar

# Survey of Non Medical Use United Kingdom

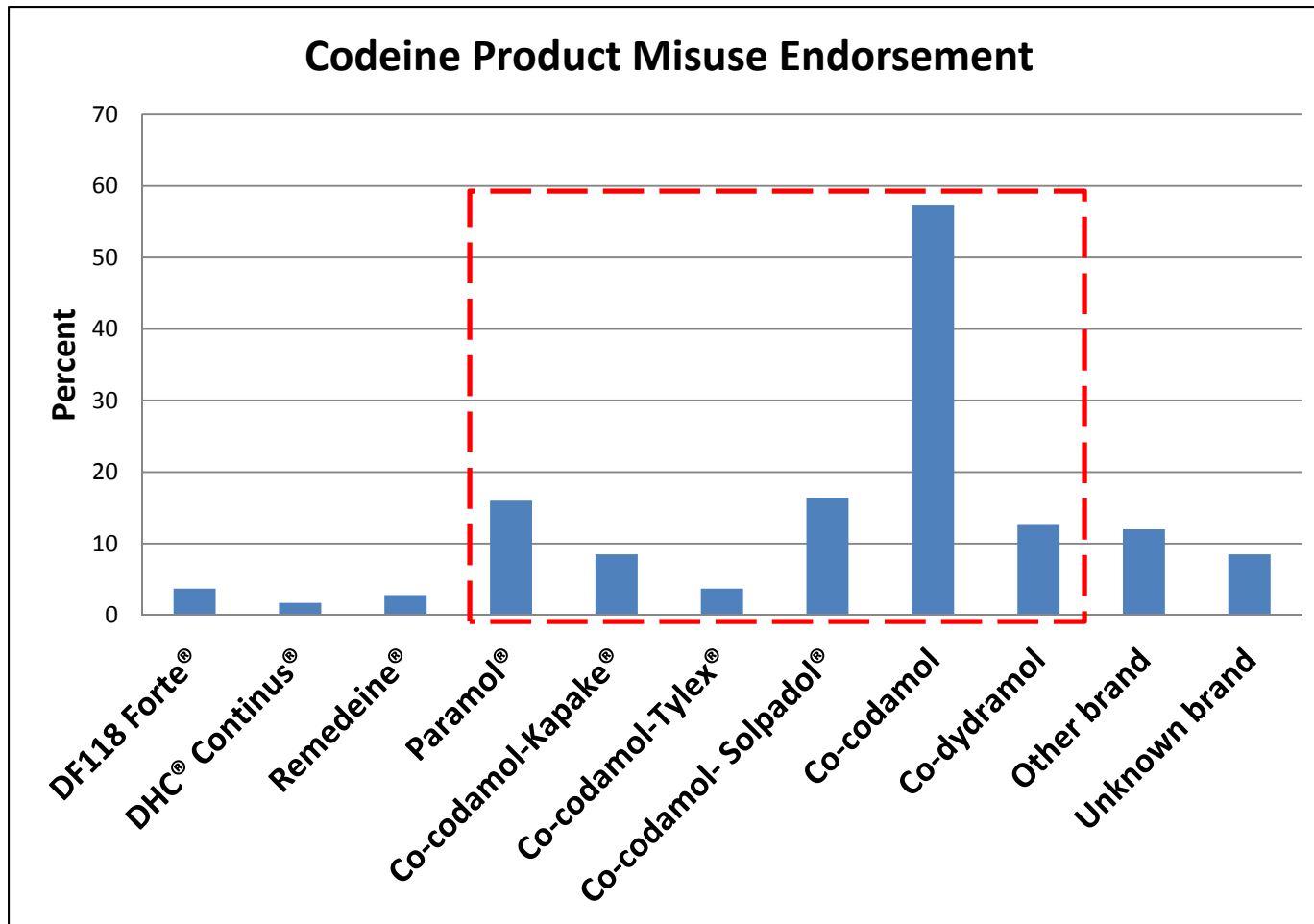
- Median age 49 years
- 50.1% female
- Proportional to population



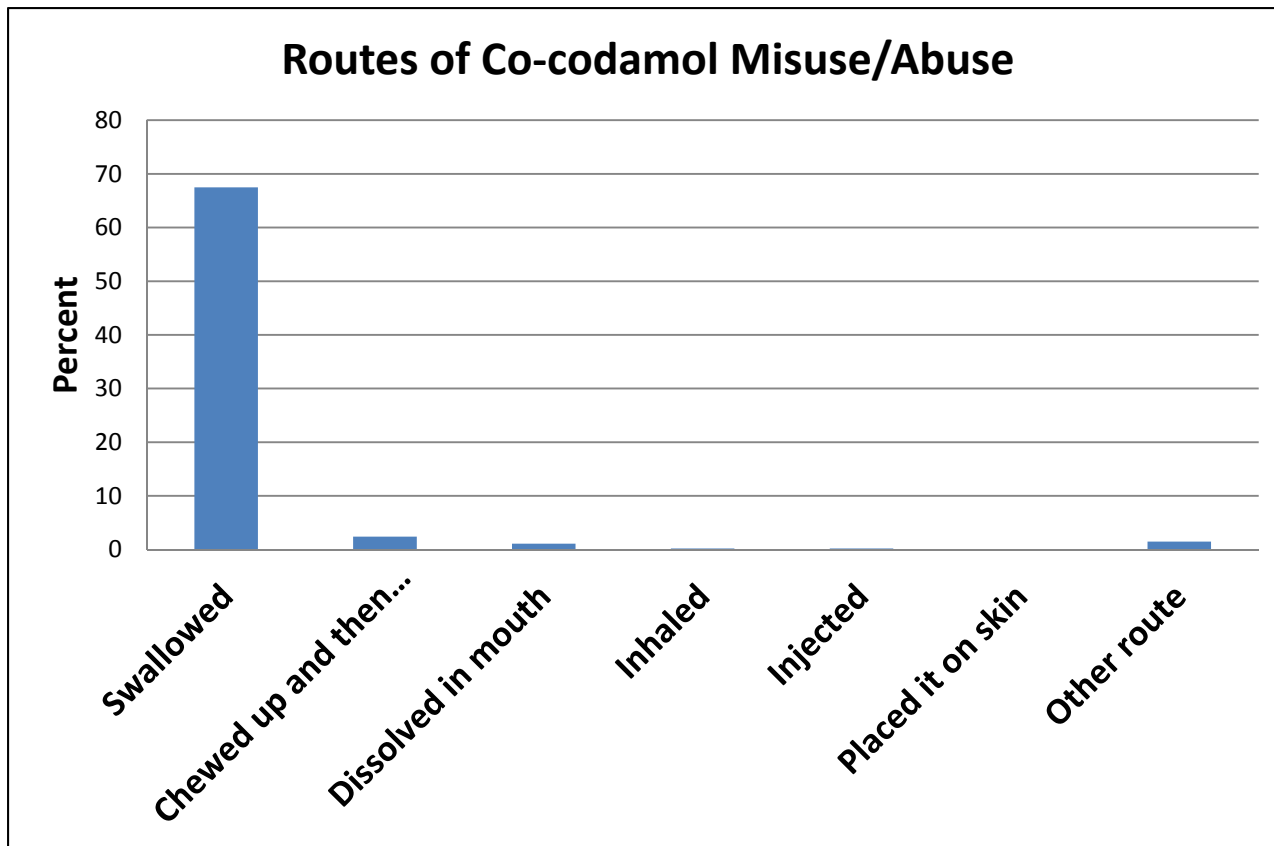
# Survey of Non Medical Use United Kingdom

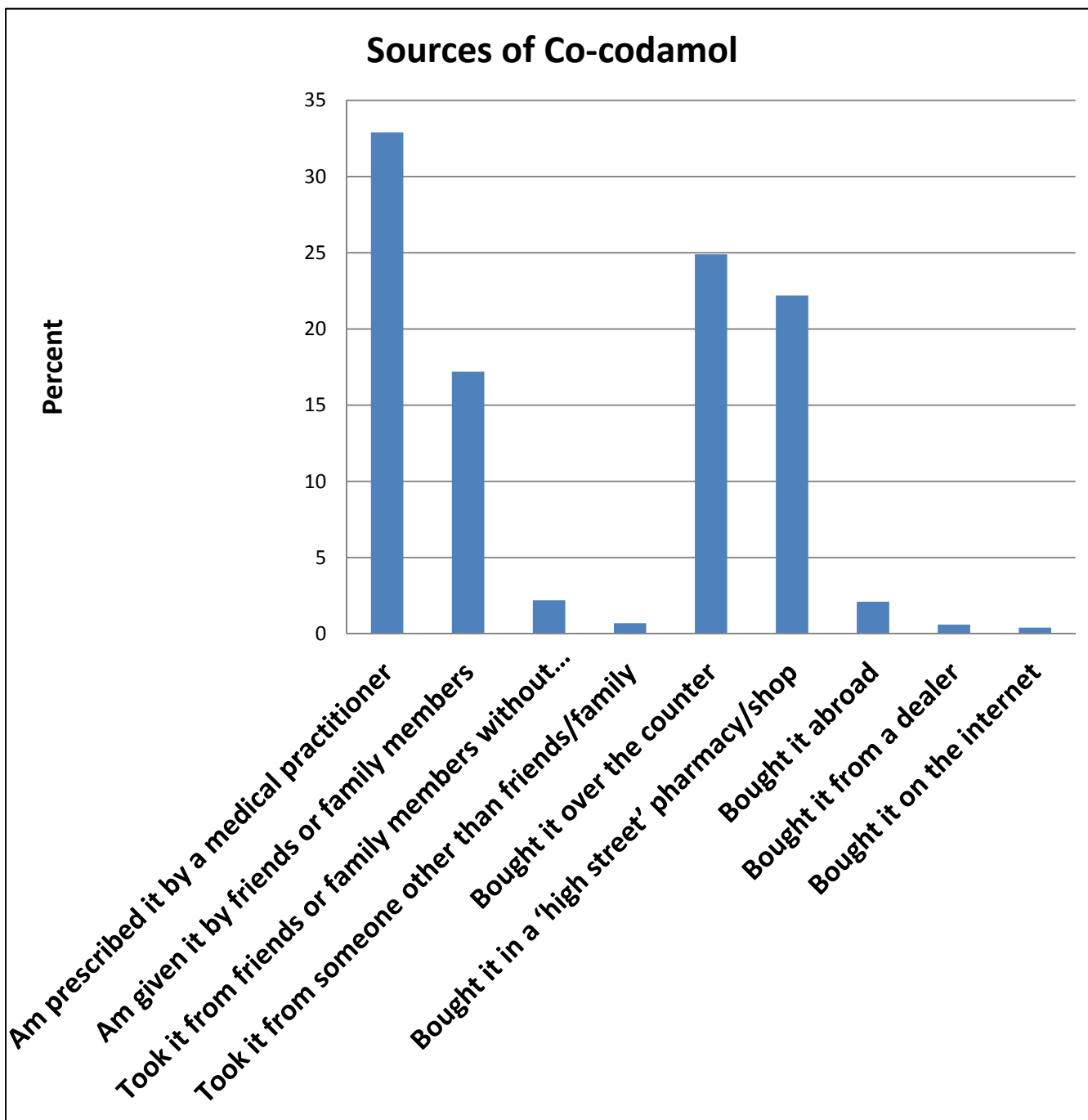


# Survey of Non Medical Use United Kingdom



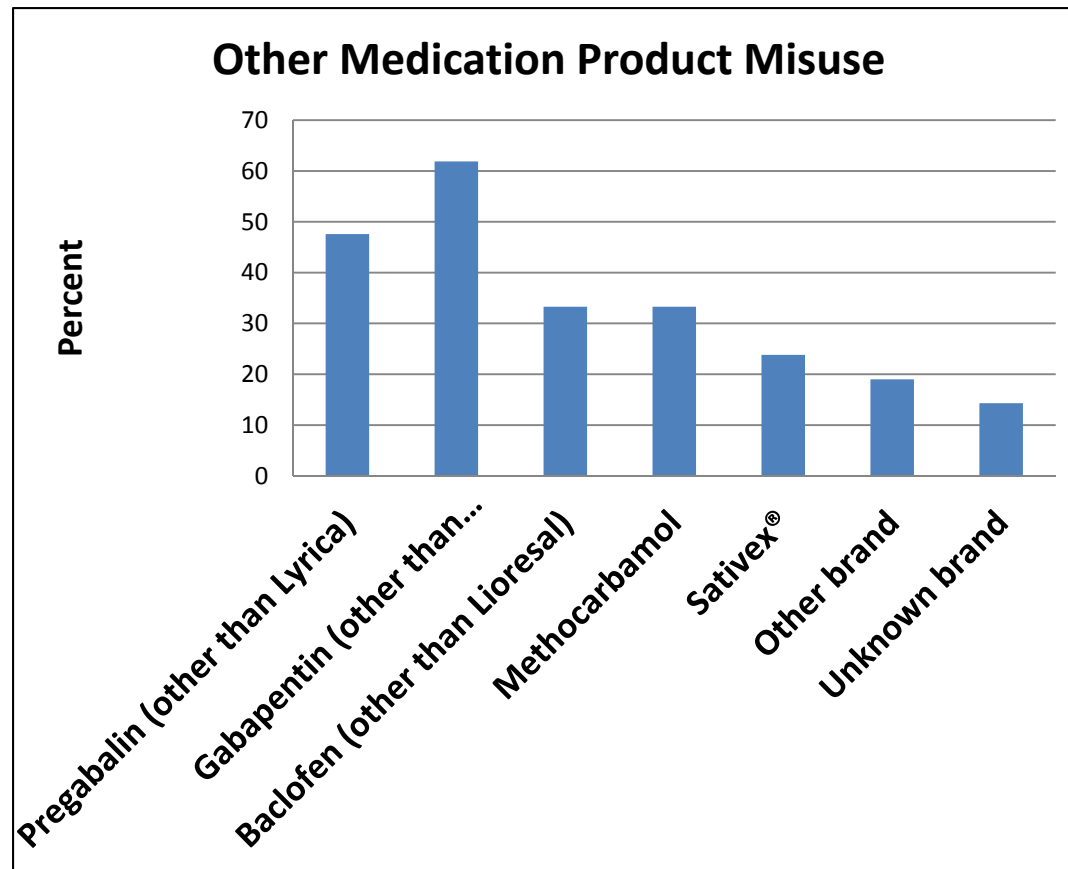
# Survey of Non Medical Use United Kingdom







# Survey of Non Medical Use United Kingdom



# Global Toxikosurveillance Network (GTNet)

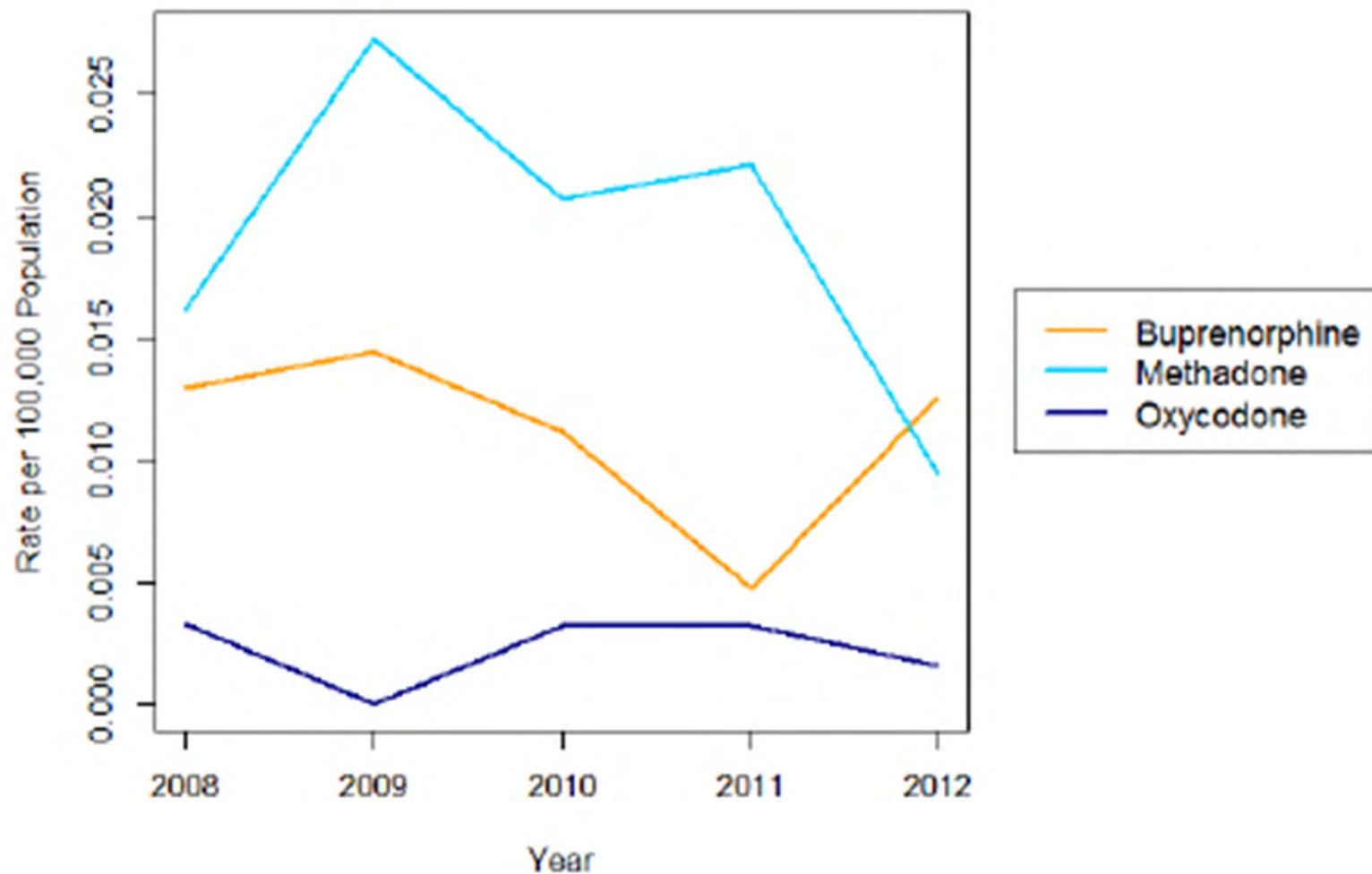
- Poisons Centres from UK, Germany, Italy, Australia, Netherlands, Switzerland
  - France and Spain coming
- 2008 through 2012 from all UK Poisons Centres:
  - Birmingham
  - Newcastle
  - Edinburgh
  - Cardiff

Country	Name	Participating Centers
United Kingdom	Simon Thomas, BSc, MD, FRCP John Thompson, MB, CHB, BMedSc, FRCP, FBTS	National Poisons Information Service (Newcastle)
		National Poisons Information Service (Cardiff)
		National Poisons Information Service (Birmingham)
		National Poisons Information Service (Edinburgh)
Germany	Herbert Desel, MD, PhD Andreas Schaper, MD Martin Ebbecke, MD	GIZ-Nord Poisons Centre
Italy	Fabrizio Sesana, PhD Giovanni Milanese, BCS	Poison Control Center of Milan
France	TBD	TBD
Spain	TBD	TBD
Australia	Naren Gunja, MBBS, MSc, FACEM, FACMT Jared Brown, BPharm (Hons), MPH, GradDipClinEpi (CinTox)	New South Wales (NSW) Poisons Information Centre
		Victorian Poisons Information Centre (VPIC)
		Queensland Poisons Information Centre (QPIC)
		Western Australia Poisons Information Centre (WAPIC)
The Netherlands	Irma de Vries, MD	National Poisons Information Centre
Switzerland	Hugo Kupferschmidt, MD, MBA	Swiss Toxicological Information Center

# United Kingdom GTNet Program Demographic Characteristics, 2012

Variable	Value	United Kingdom n=234
Age (years)	Median	40
Gender	Female	69 (29.5%)
	Male	96 (41.0%)
	Unknown	69 (29.5%)
<u>Exposure Reason</u>		
	Intentional (M/A/D)	15 (6.4%)
	Intentional (Suicide)	39 (16.7%)
	Unintentional (Gen/Unsup)	31 (13.2%)
	Unintentional (Ther Error)	49 (20.9%)
	Unknown	100 (42.7%)
<u>Exposure Route</u>		
	Oral	204 (87.2%)
	Inhalation/Nasal	3 (1.3%)
	Parenteral	5 (2.1%)
	Other	22 (9%)

# GTNet Abuse/Misuse/Diversion Exposure Rates United Kingdom, 2008-2012



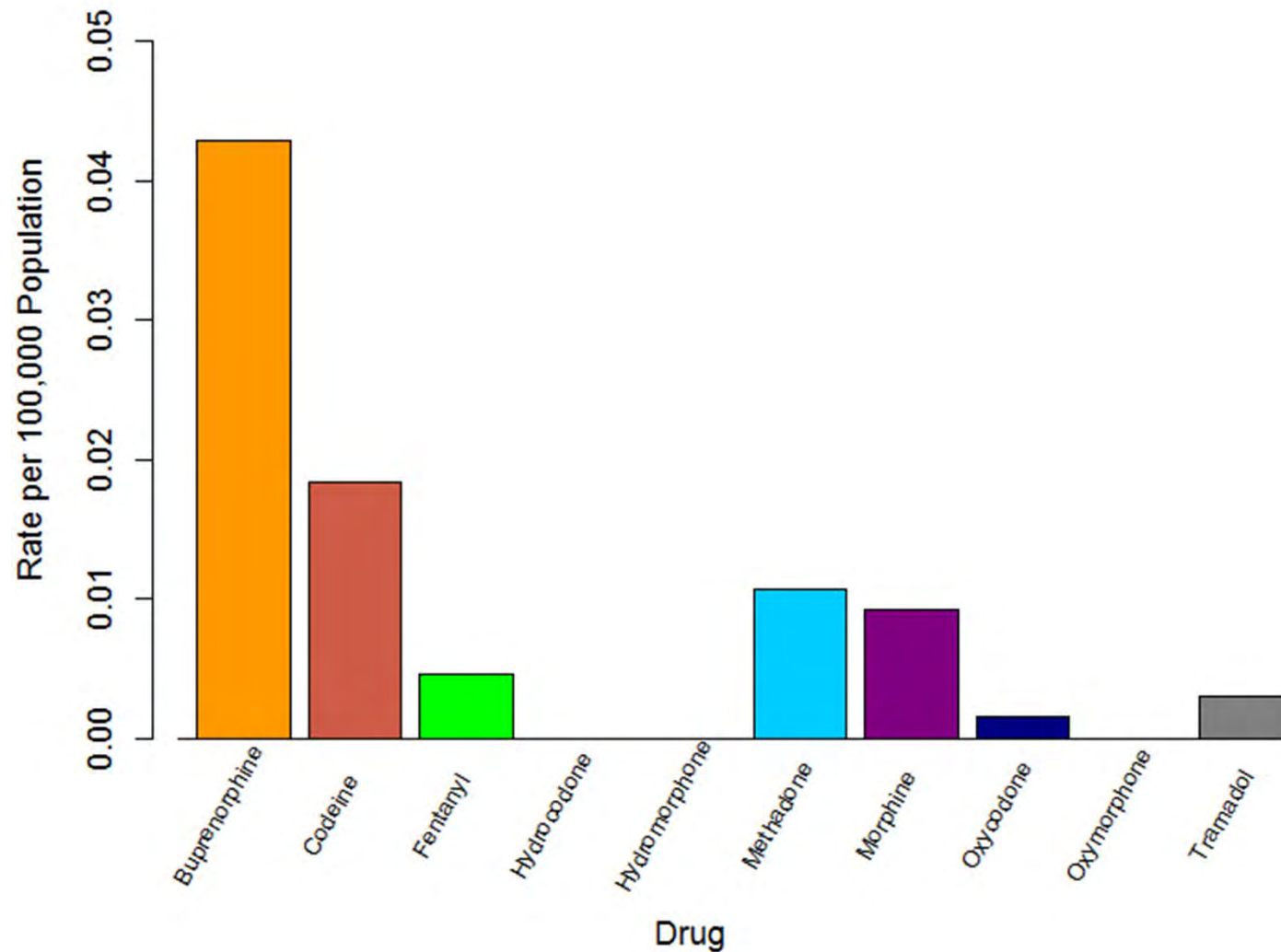
# Europad

- *Abuse*: use of a drug “to get high”

Country	Name	Affiliation
<b>United Kingdom</b>	Duncan Hill, BSc (Hons) Pharmacy	NHS Lanarkshire Addiction Service
	Steve Conroy, MB, ChB, DOccMed	NHS Lanarkshire Addiction Service
	Oscar D'Agnone, MD, MRCPsych	Crime Reduction Initiatives (CRI)
<b>Germany</b>	Stephan Walcher, MD	Centre for Addiction Medicine (CONCEPT)
	Norbert Scherbaum, MD, PhD	Department of Addictive Behaviour and Addiction Medicine, Rhine State Hospital, University of Duisburg-Essen
<b>Italy</b>	Lorenzo Somaini, MD, PhD	Addiction Treatment Center (SerT – Biella)
	Gaetano Deruvo, MD	Addiction Services Center (SerT – Bitonto)
<b>France</b>	Didier Touzeau, MD	CSAPA Liberté (Addiction Centers for Care, Support and Prevention), Groupe Hospitalier Paul Guiraud
	Pierre Villèger, MD	Centre Hospitalier Esquirol de Limoges, Pôle d'Addictologie du Limousin – CH Esquirol
	Marc Auriacombe, MD, MSc	Department of Psychiatry and Addiction, Victor Pachon Medical School, Université Victor Segalen, Pôle Addictologie - CH Charles Perrens
	Jean-Pierre Daulouède, MD	CSAPA Bizia - CH de la Côte Basque
	Amine Benyamina, MD	Hôpital Paul Brousse, Unité d'addictologie – CERTA
<b>Spain</b>	Maria Francina Fonseca, MD, PhD	Neuropsychiatric and Addictions Institute (INAD), Parc de Salut Mar

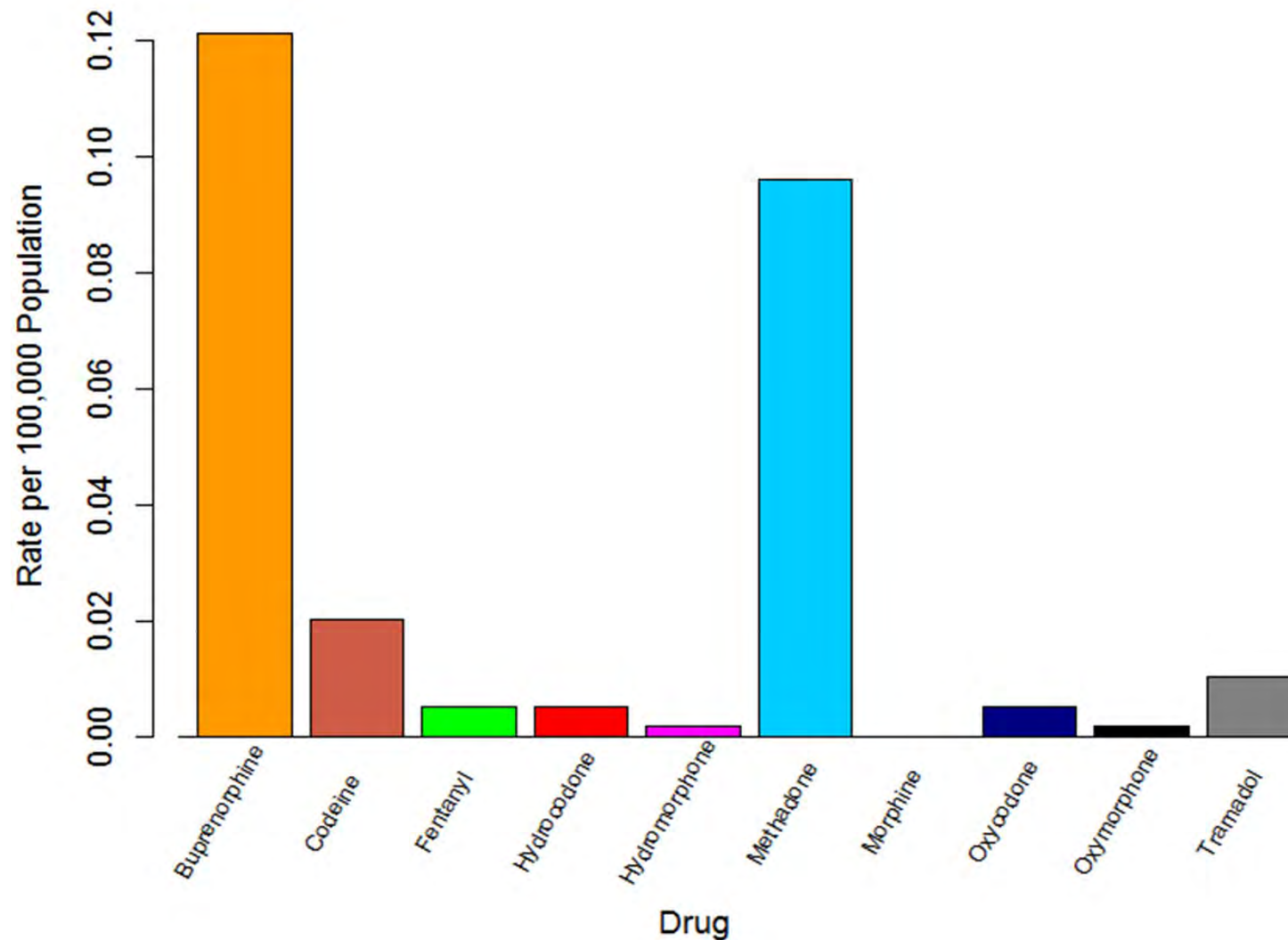
# Europad Program

## Past 30 Day Use to Get High, France



# Europad Program

## Past 30 Day Use to Get High, Italy

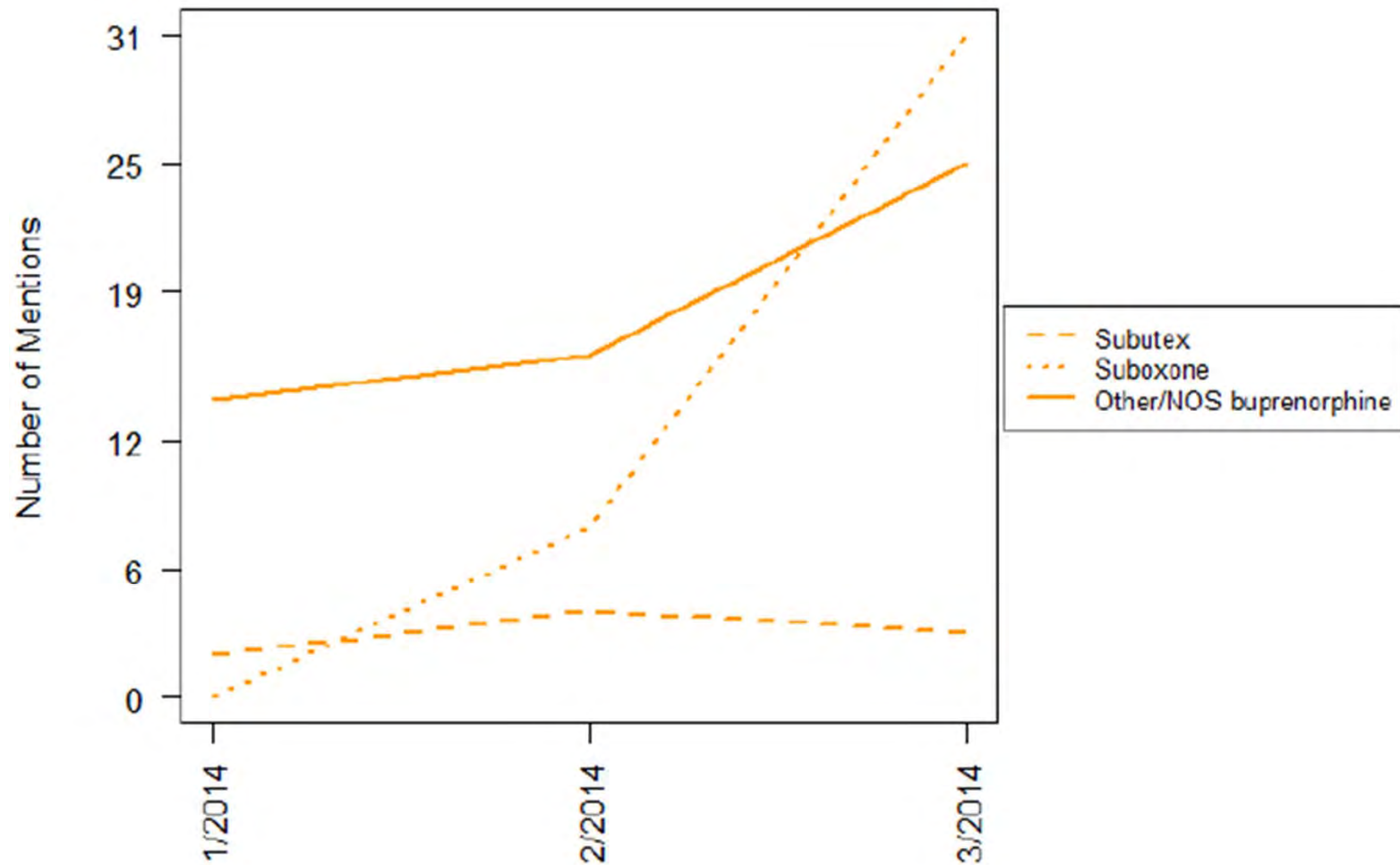


# Introduction to Web Monitoring

- Collects and organizes posts about prescription drugs on social media website, blogs and forums
- Sentiment
- Reason for use
- Principal investigator for the Web Monitoring Program is Jody L. Green, PhD. Local site investigators for the United Kingdom are Dr. Paul Dargan and Dr. David Wood.



# Web Monitoring Program Monthly Mentions by Buprenorphine Product



# StreetRx – United Kingdom

- Crowd sourcing website ([streetrx.com](http://streetrx.com))

Drug	N	Price per Milligram-Mean (SD)	Price per Milligram-Median (IQR)
Buprenorphine	20	£7.49 (£13.64)	£1.05 (£0.55, £4.69)
Codeine	2	£0.12 (£0.12)	£0.12 (£0.03, £0.20)
Methadone	6	£0.66 (£0.40)	£0.67 (£0.47, £1.00)
Tramadol	17	£0.10 (£0.32)	£0.02 (£0.01, £0.03)

# Cost of Oxycodone ER in US and Canada – StreetRx

Formulation	United States	Canada
	Reported Median Price per mg, US Dollar (range)	Reported Median Price per mg, Canadian Dollar (range)
<b>Crushable “Old OxyContin”</b>		
<b>Apo-Oxycodone CR</b>	1.00 (0.15 – 16.80)	1.00 (NR)
<b>OxyContin®</b>	1.00 (0.06 – 10.00)	1.00 (0.54 – 6.00)
<b>Co-Oxycodone CR</b>	1.00 (0.30 – 4.00)	NR
<b>Teva-Oxycodone CR</b>	0.88 (0.10 – 3.75)	NR
<b>Average</b>	1.00	1.00
<b>Abuse Deterrent “New OxyContin”</b>		
<b>Oxycodone ER (OxyContin in US, OxyNEO in Canada)</b>	0.63 (0.03 – 10.00)	0.75 (0.38 – 1.40)
<b>Average</b>	0.63	0.75

# Conclusions

- Pharmacosurveillance of prescription opioids internationally is possible.
- Misuse, abuse and diversion are nearly always related to availability through prescriptions
- While some progress has occurred in US, there is very far yet to go.

# Thank You!

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