



**RADARS<sup>®</sup> System**  
**International Pre-Symposium**  
**11 May 2017**

***Global Insights in Prescription  
Drug Misuse***

# WELCOME

REVISED  
AGENDA!

- **The Global Mosaic: RADARS System International Program Updates**
  - Jody L. Green, PhD, CCRP
  - *Director – Canadian Consumer Products & Pharmaceutical Safety, Inc*
- **Opioid Surveillance and Policy Evaluation: A Canadian Perspective**
  - Tara Gomes
  - *Scientist – St. Michael's Hospital*

# WELCOME

REVISED  
AGENDA!

- **Comparative Assessments of the Prescription Drug Abuse Climate in the European Union and the United States: Scientific, Regulatory, and Cultural Factors**
  - Scott P. Novak, PhD
  - *Director and Senior Research Scientist, Substance Abuse Research and Treatment, Public Health Center – Battelle Memorial Institute*
- **Cross-border Trafficking of Prescription Oxycodone Products Manufactured in Canada**
  - Richard Dart, MD, PhD
  - *President – Canadian Consumer Products & Pharmaceutical Safety, Inc.*
- **Networking Welcome Reception**

# 2015 International Pre-Symposium

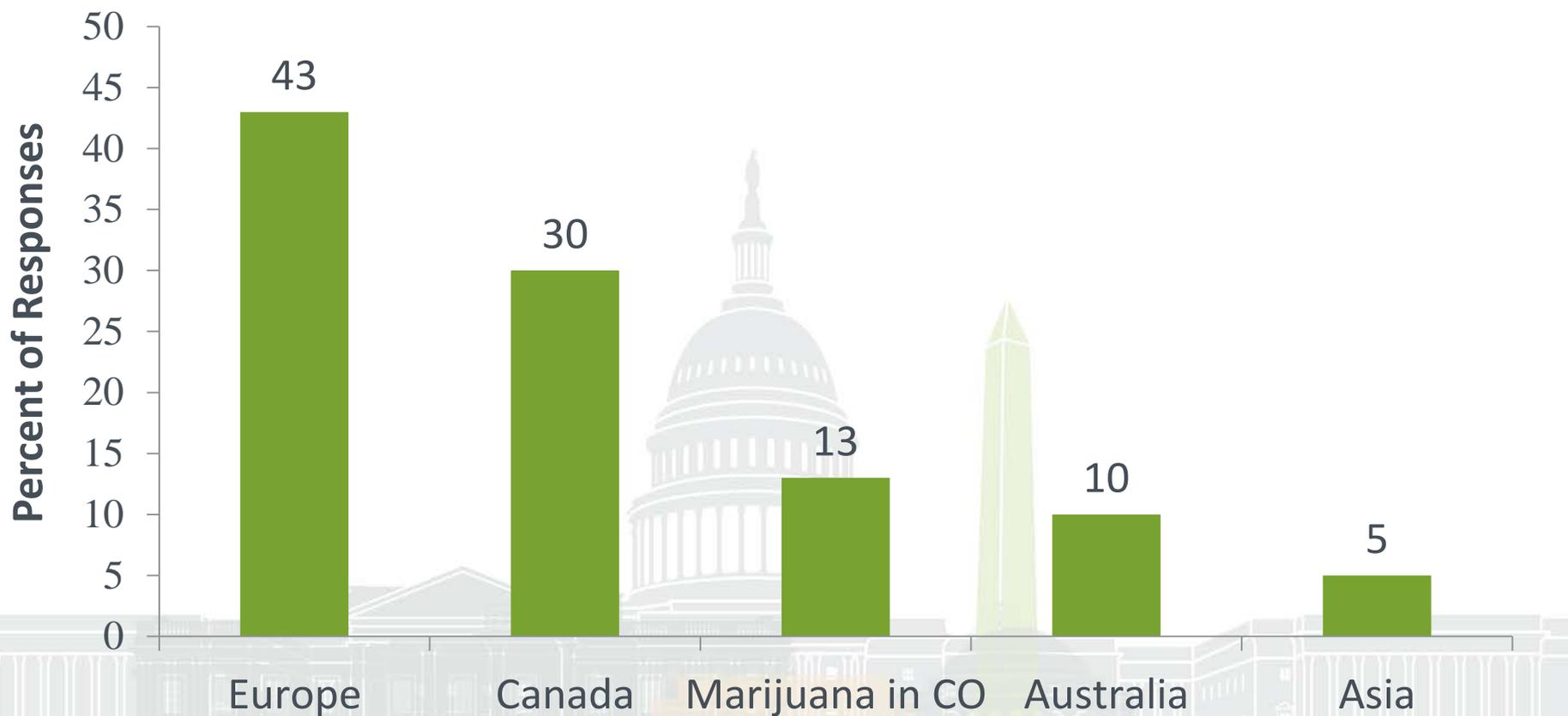
Which region's prescription drug abuse trends are you most interested in hearing about?

- Australia
- Canada
- Europe
- Asia
- I thought we were here to talk about Marijuana in Colorado



# 2015 International Pre-Symposium

Which region's prescription drug abuse trends are you most interested in hearing about?





# **The Global Mosaic: RADARS® System International Program Updates**

**11 May 2017**

**Jody L. Green, PhD, CCRP**

**Canadian Consumer Products & Pharmaceutical Safety, Inc.**

# RADARS International Program Development

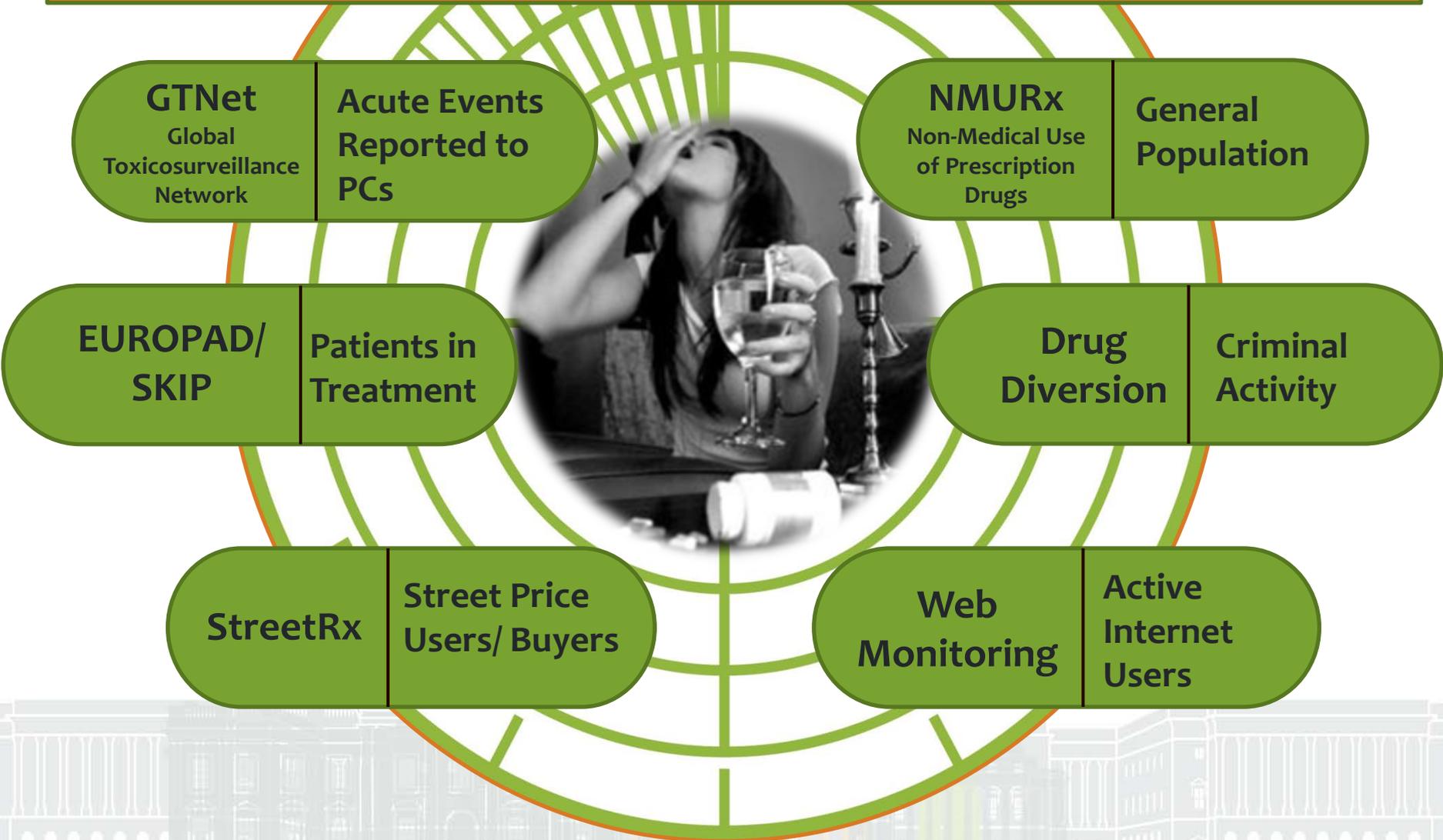
- **2007:** Global Toxicsurveillance Network (GTNet) Program
- **2012:** StreetRx (CA)
- **2012:** EUROPAD
- **2013:** StreetRx (UK, EU)
- **2014:** Survey of Non-Medical Use of Prescription Drugs (UK)
- **2014:** Web Monitoring
- **2014:** Drug Diversion (CA)
- **2015:** SKIP (CA)
- **2016:** Survey of Non-Medical Use of Prescription Drugs (US, CA)

## Coming Soon!

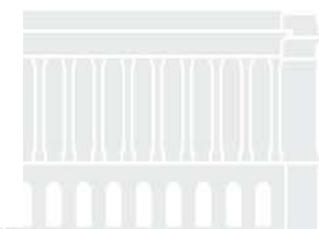
- **2017:** Survey of Non-Medical Use of Prescription Drugs (EU)

# International RADARS<sup>®</sup> System

## Mosaic Approach



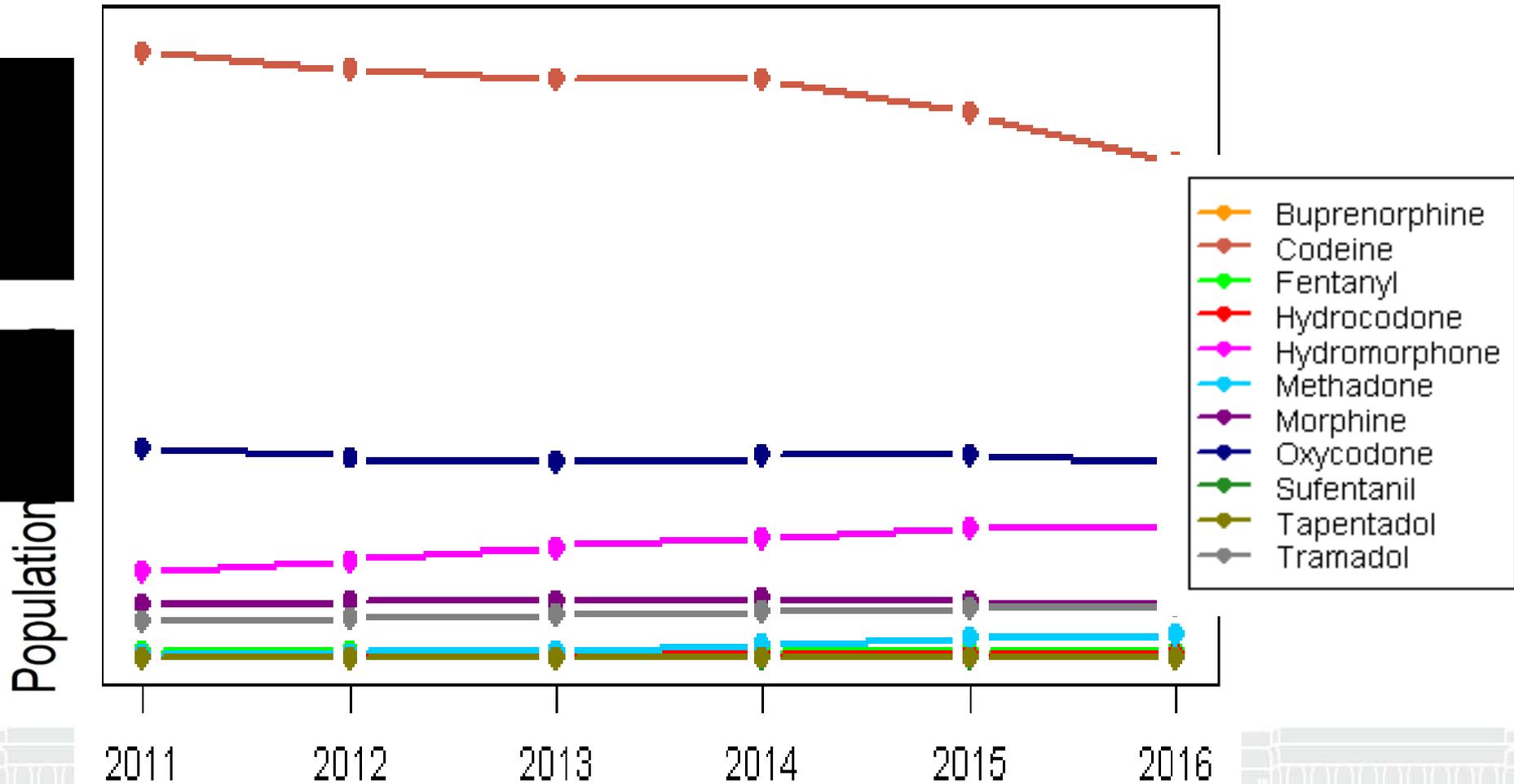
# Mosaic Surveillance of Prescription Drug Abuse in Canada



# Programs in Canada

Program	Status	Quarter
Canadian Poison Centre Network	In development	Anticipated 2Q2017
Survey of Non-Medical Use of Prescription Drugs	Launched	3Q2016 PI: Jody Green, PhD, CCRP Site PI: Beth Sproule, PharmD
Survey of Key Informants' Patients	Launched	4Q2015 PI: Ted Cicero, PhD
Drug Diversion	Launched	4Q2014 PI: Steve Kurtz, PhD
StreetRx	Launched	English Language Website: 1Q2012 French Canadian Website : 4Q2014 PI: Nabarun Dasgupta, PhD
Web Monitoring	Launched	1Q2014 PI: Jody Green, PhD, CCRP

# IMS Canada – Standard Units per Population



# Drug Diversion Program

- **Population**

- Law enforcement officials reporting prescription drug diversion activity

- **Definition/Type of Cases**

- Surveys of participating agents reporting new cases open during the specified study period by specific active ingredients and products

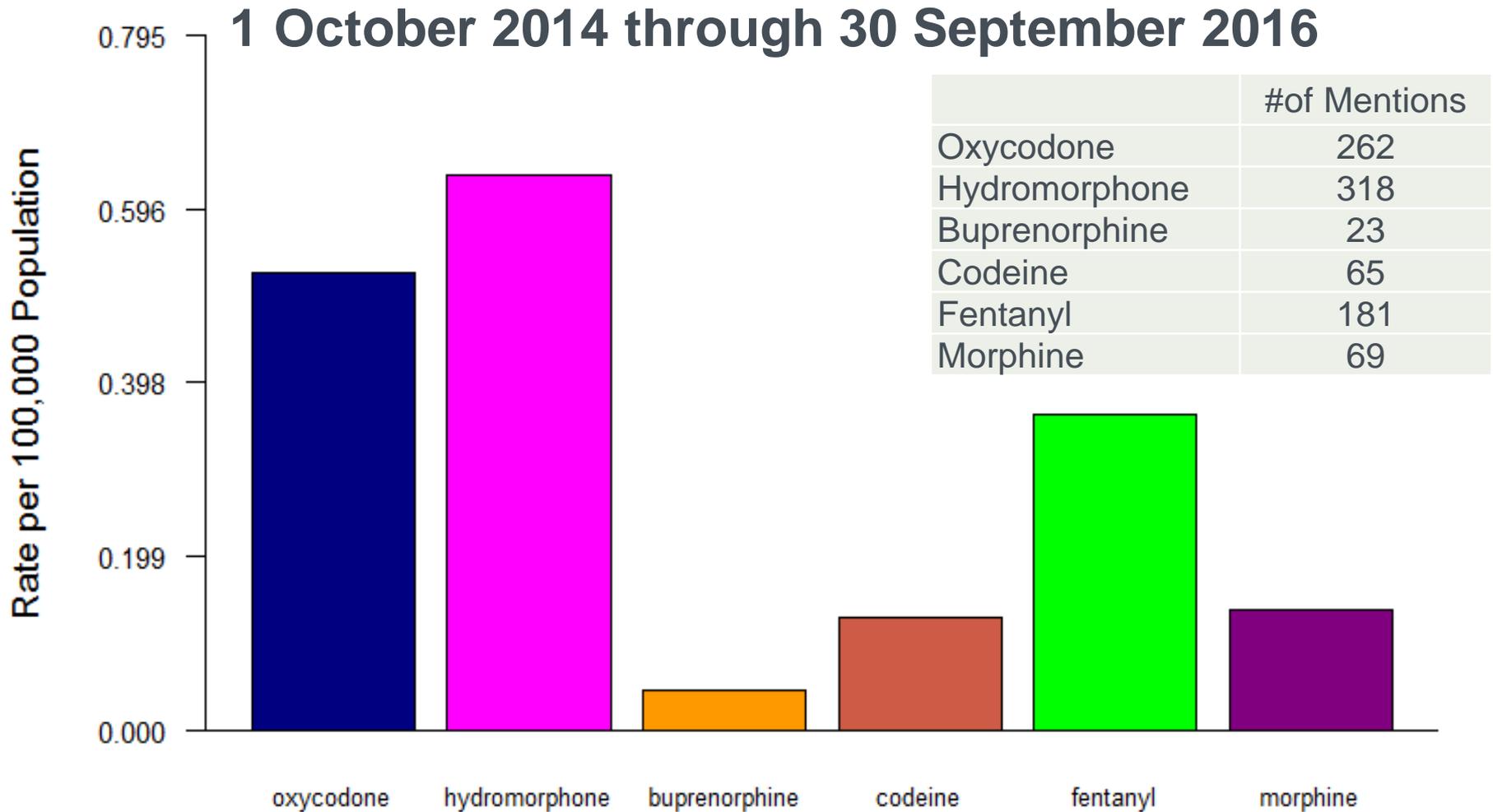
- **Methodology**

- Law enforcement officials complete a standard questionnaire on a quarterly basis to indicate the number of new cases opened during the study period that involved each specific drug or drug product

- **Key Measures**

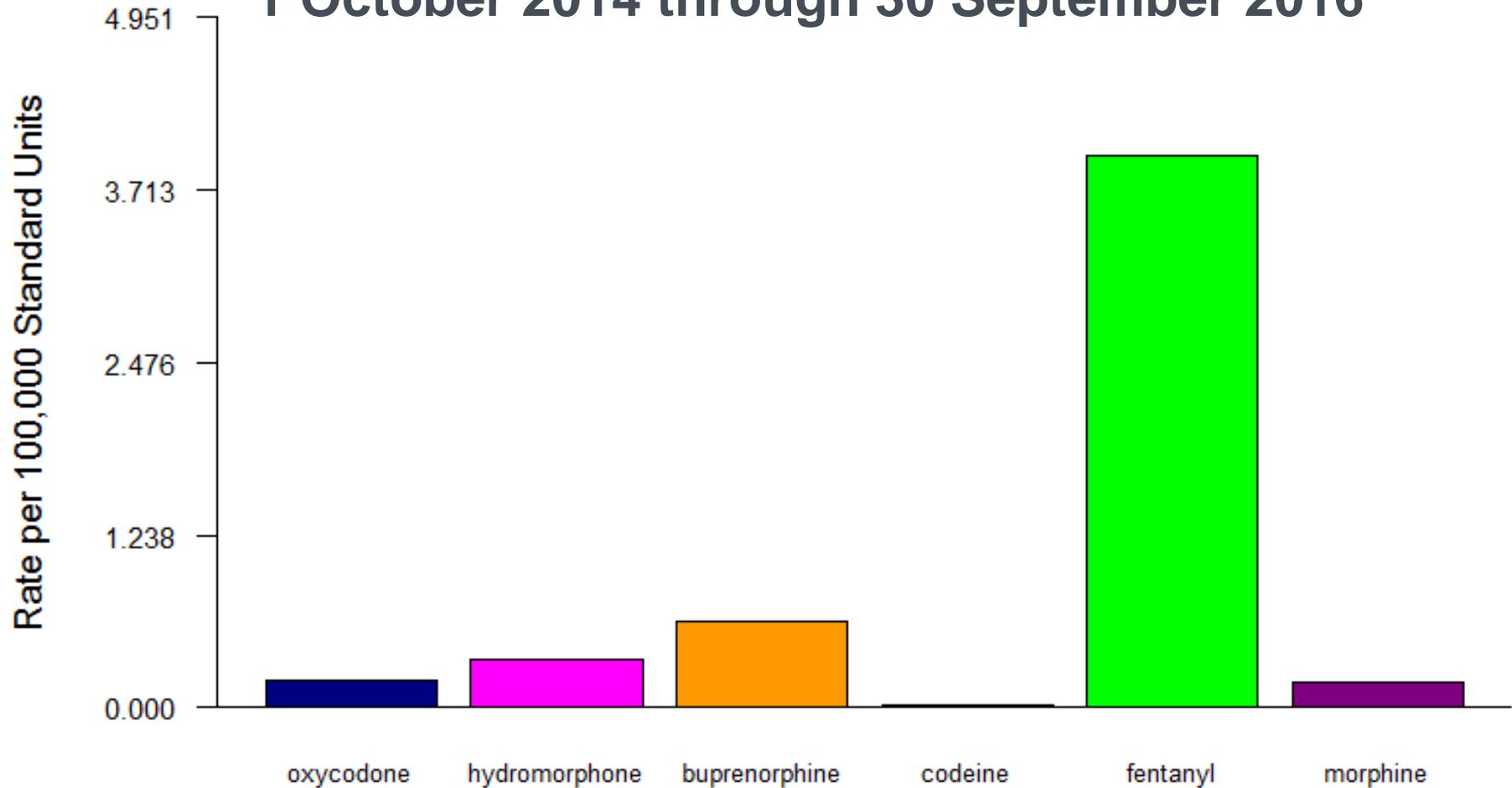
- Number of new cases open (product specific)
- Geographical location of each case
- Street price paid in local currency (product specific)

# Drug Diversion Program Cumulative Rates (per 100,000 Population) in Canada



# Drug Diversion Program Cumulative Rates (per 100,000 Standard Units) in Canada

1 October 2014 through 30 September 2016

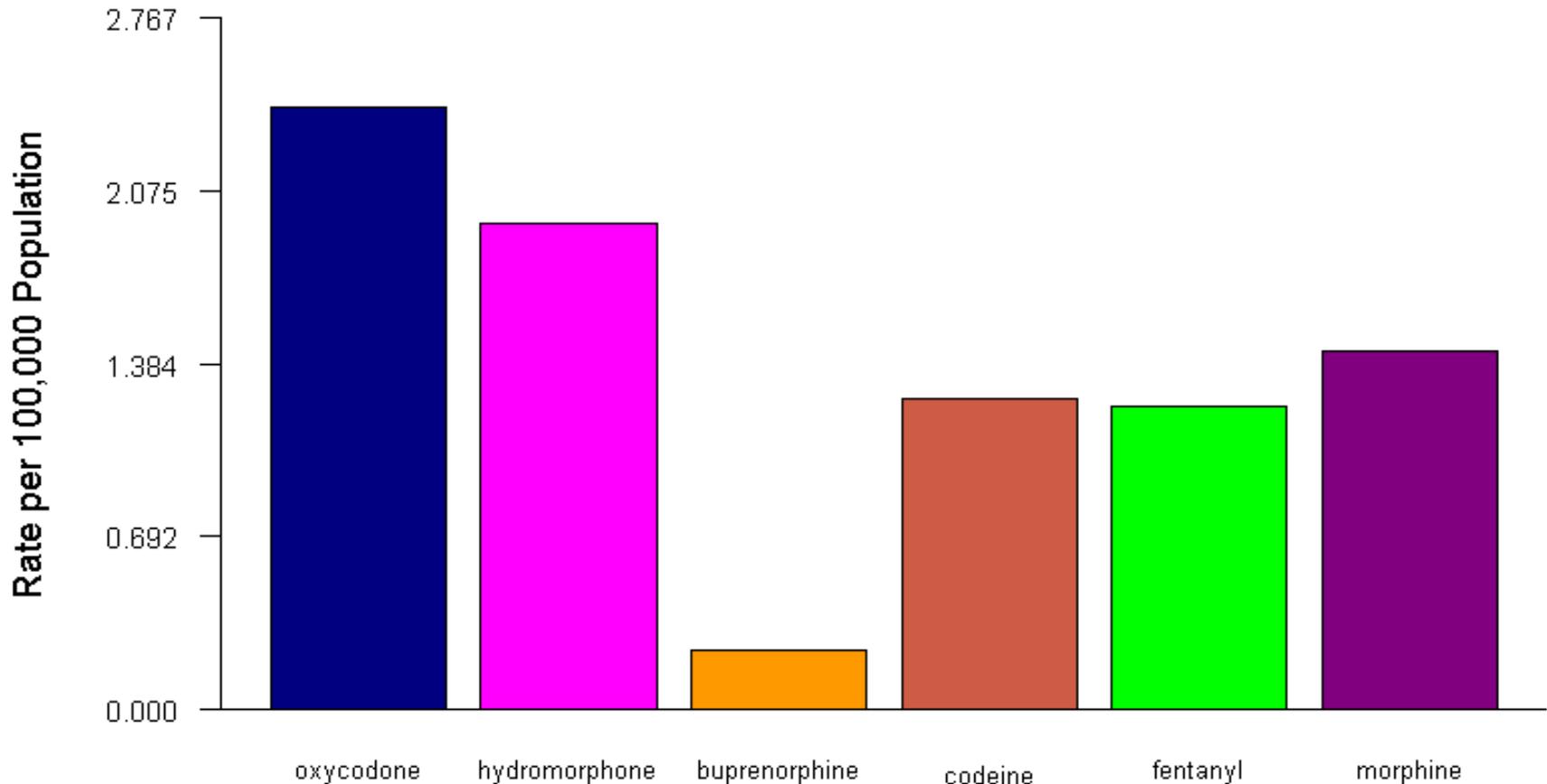


# Survey of Key Informants' Patients Program (SKIP)

- **Population**
  - Patients entering treatment for opioid addiction
- **Definition/Type of Cases**
  - Self-reported use of prescription or illicit opioids “to get high” in the past 30 days
- **Methodology**
  - Patients entering treatment for opioid addiction are asked to voluntarily complete the questionnaire
- **Key Measures**
  - Gender, age, substance abuse treatment history, primary drug used “to get high,” source of primary drug acquisition and routes of abuse
  - Endorsement of drugs “to get high” in the past month (product-specific)
  - Route of abuse (chewed, snorted, smoked, injected)

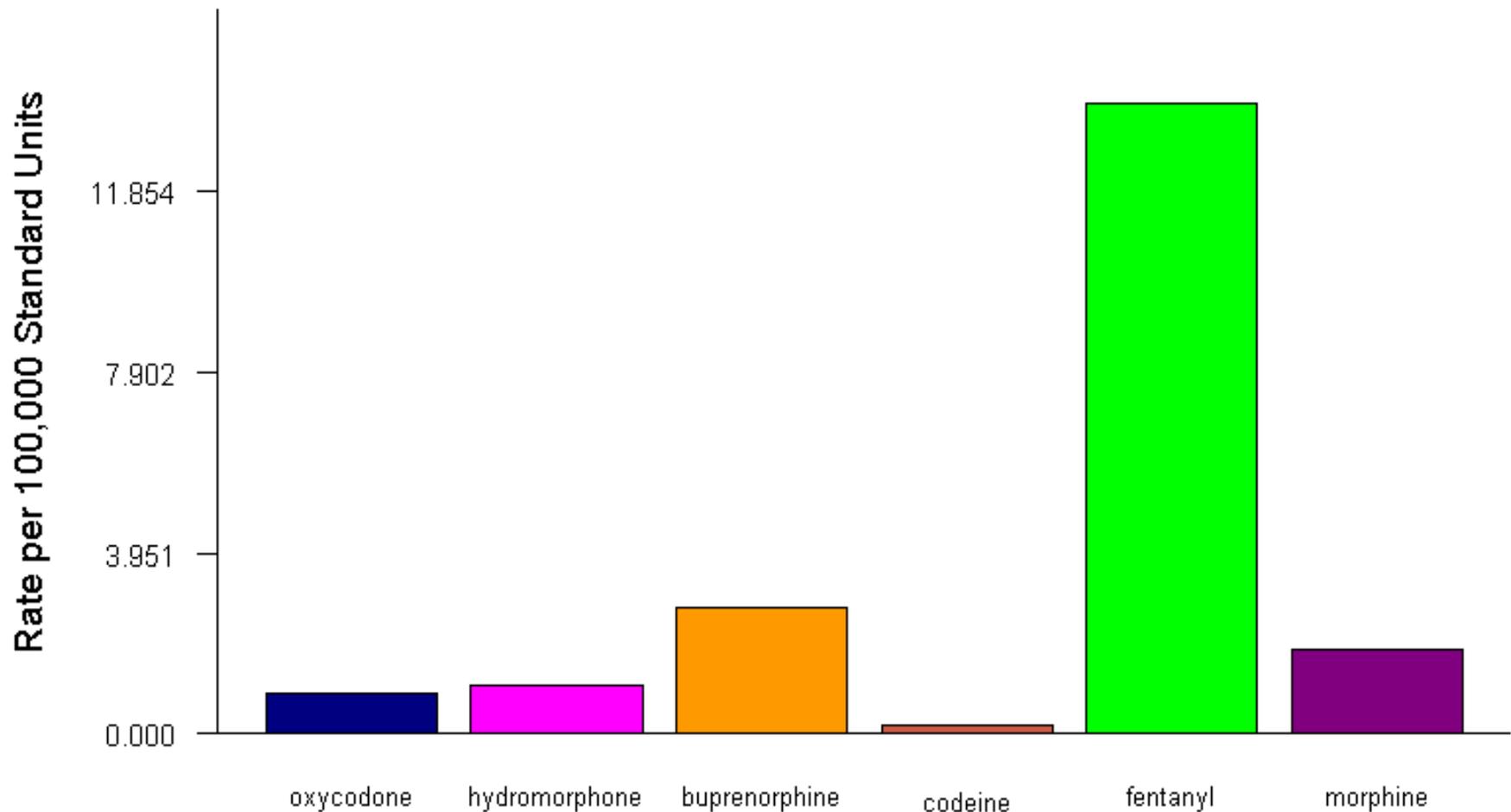
# SKIP Program Cumulative Rates (per 100,000 population) in Canada

1 January 2016 through 30 September 2016



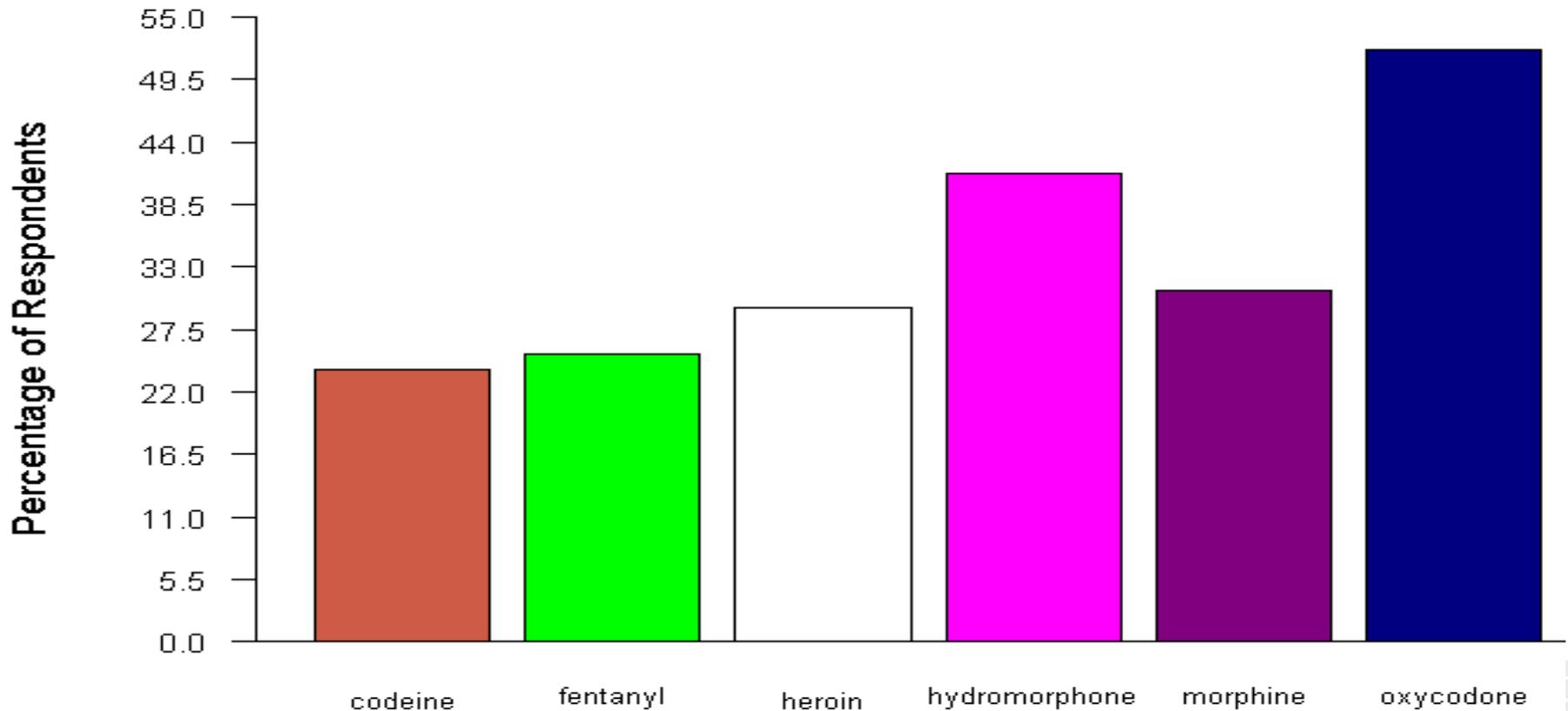
# SKIP Program Cumulative Rates (per 100,000 Standard Units) in Canada

1 January 2016 through 30 September 2016



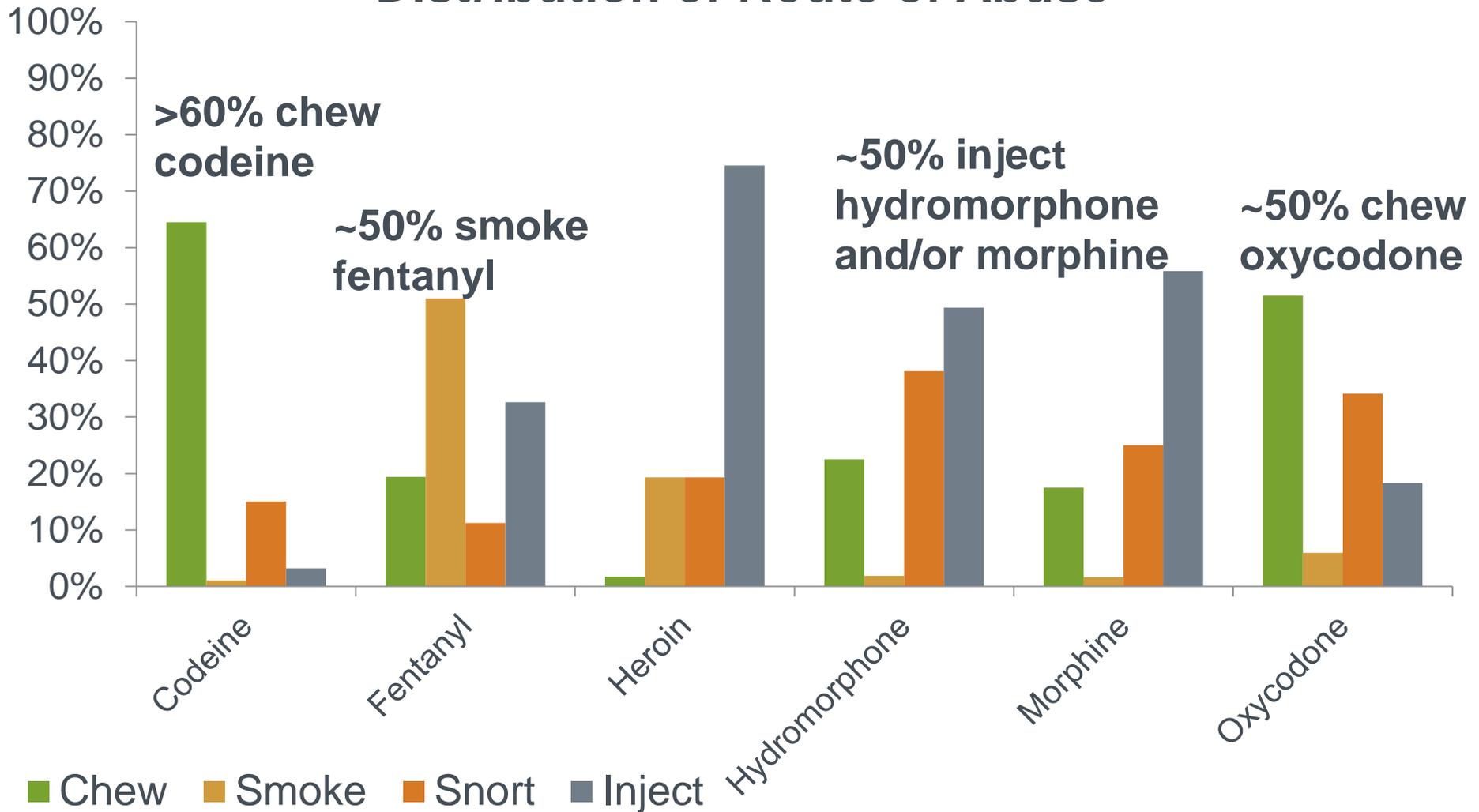
# SKIP Program Cumulative Proportions in Canada

1 January 2016 through 30 September 2016



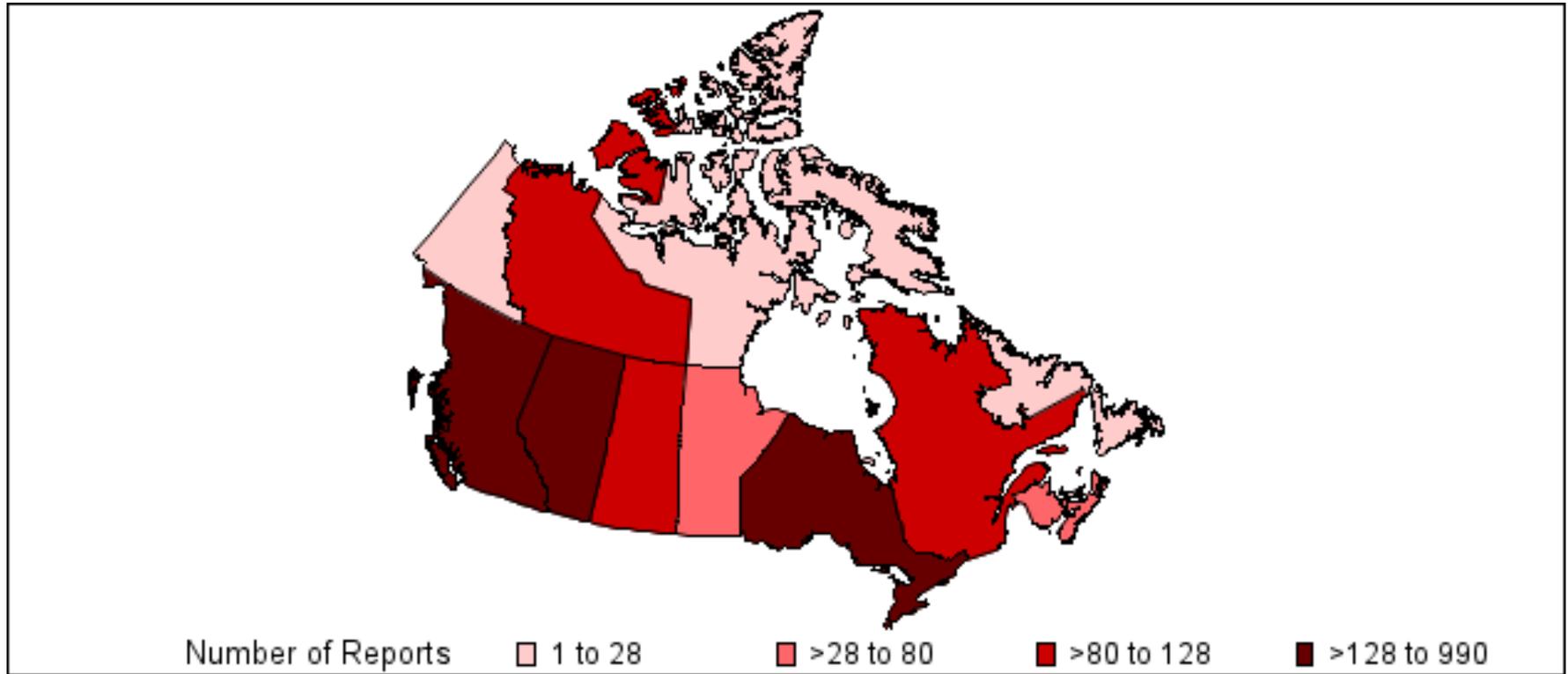
# SKIP Program Cumulative Routes in Canada (1Q2016-3Q2016)

## Distribution of Route of Abuse



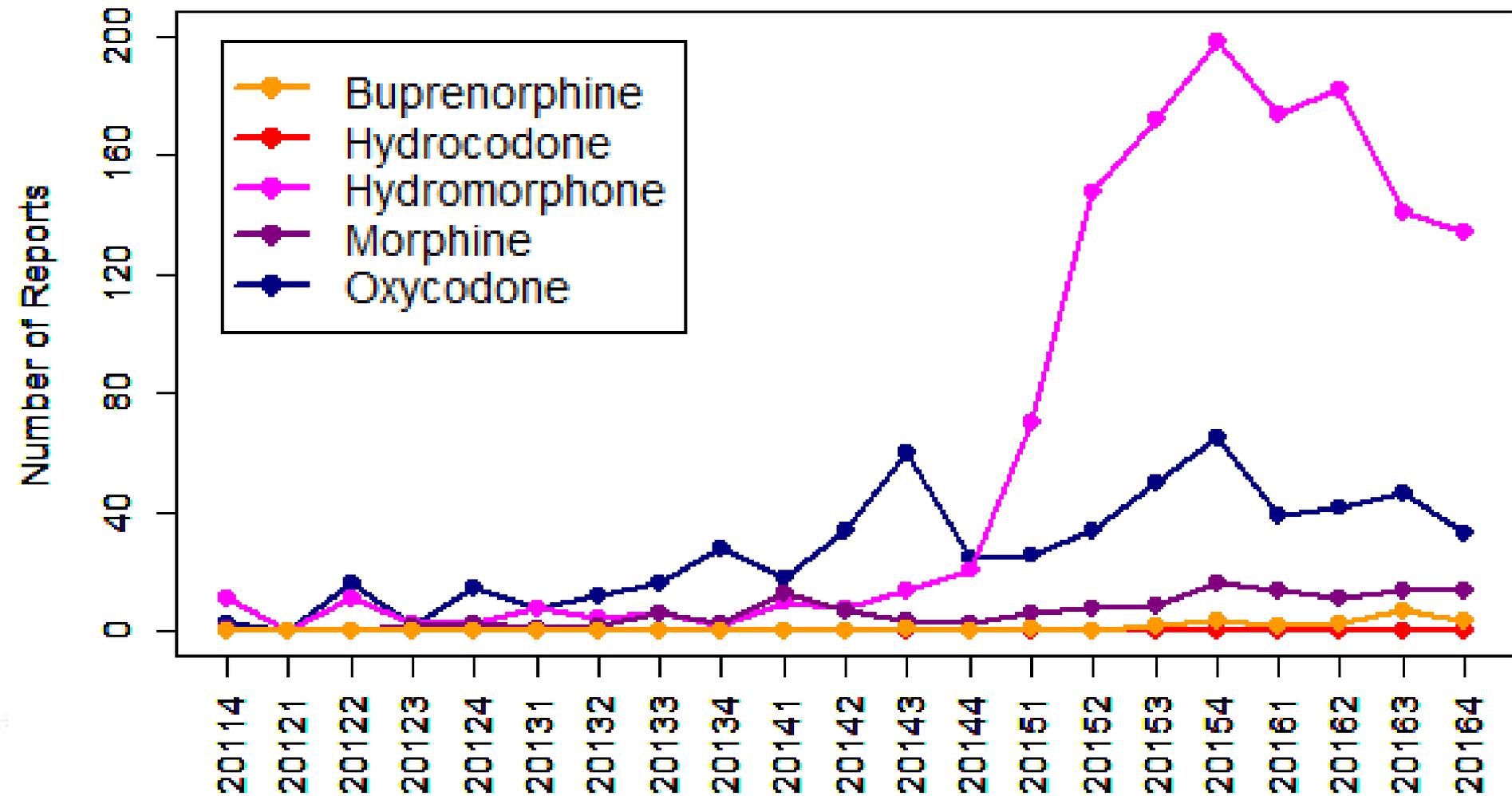


# StreetRx Program Combined Number of Submissions in Canada (1q2012-4q2016)

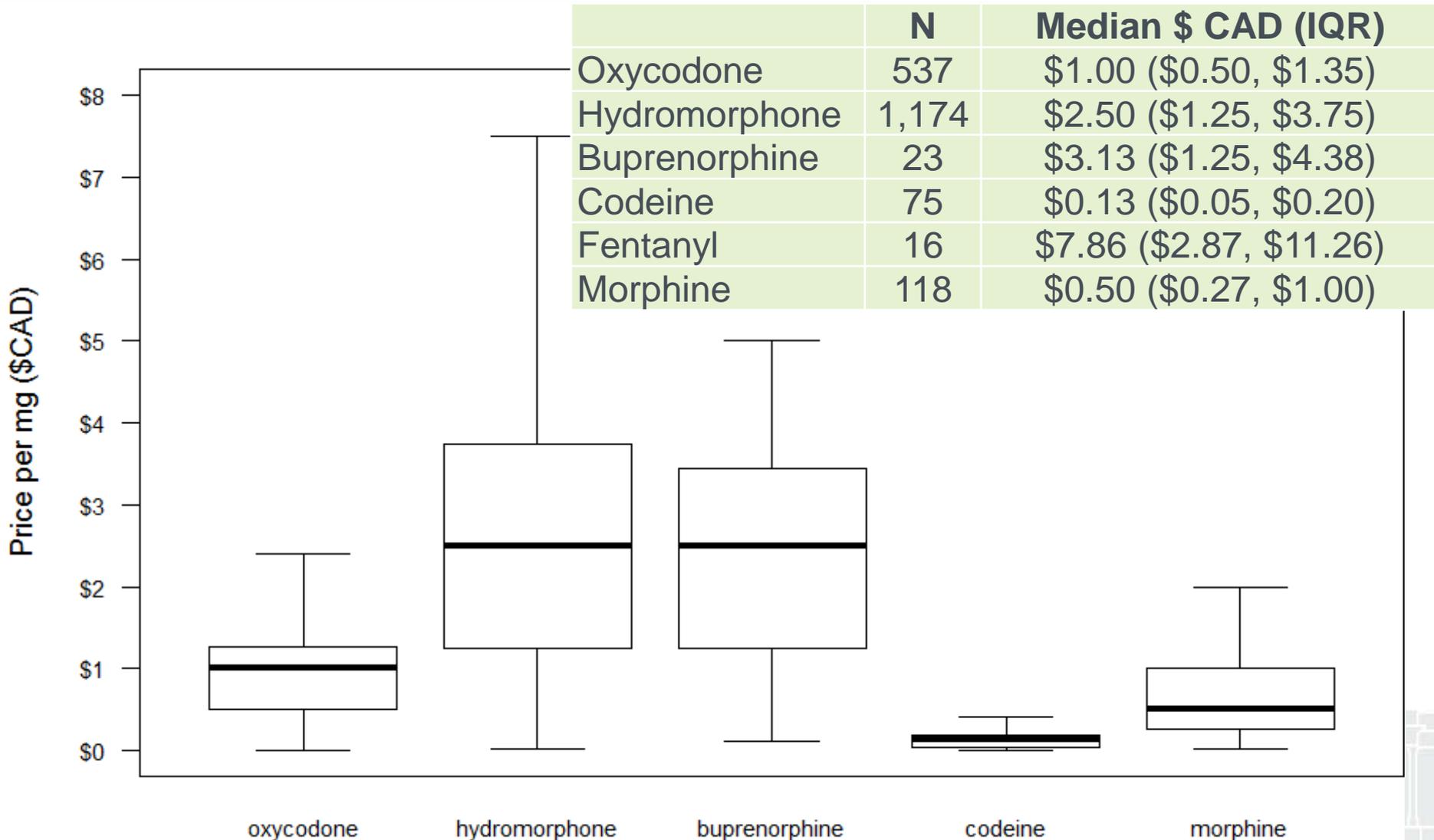


*Prince Edward Island is included in this map but is too small to be visible*

# StreetRx Program Number of Reports Over Time by Drug Substance in Canada



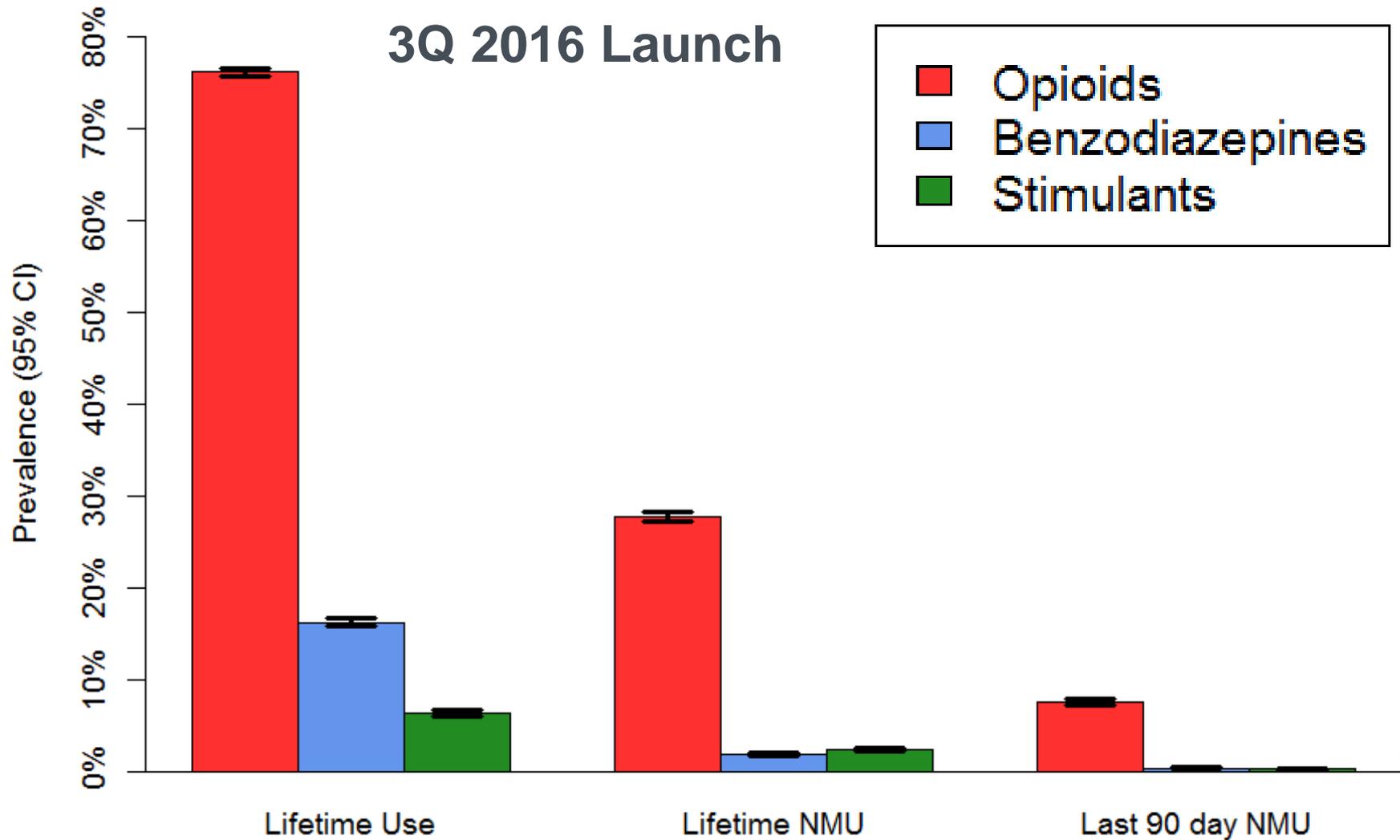
# StreetRx Program Price per Milligram in Canada (1q2012 – 4q2016)



# Survey of Non-Medical Use of Prescription Drugs Program (NMURx)

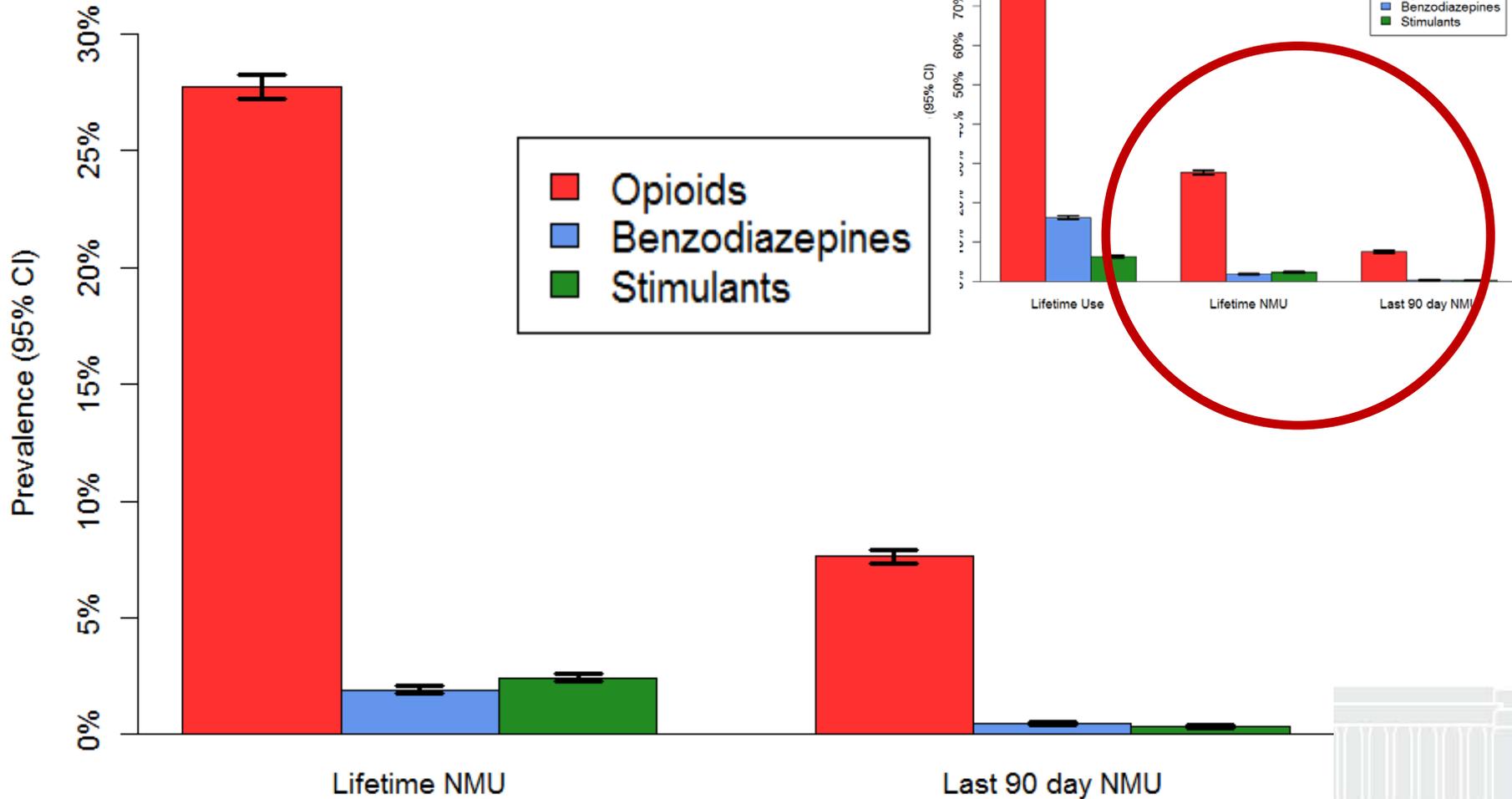
- Population
  - General population subscribed to an online survey panel (age 15+ years)
- Definition/Type of Cases
  - Non-medical use of prescription drugs
    - *Non-medical use: without a doctor's prescription or for any reason other than what was recommended by your doctor*
- Methodology
  - Survey administration company invites members
  - 10,000 target enrollment reached ~7-10 days
- Key Measures
  - General use and non-medical use of prescription drugs
  - Reason for non-medical use (e.g. treat pain, to get high, curiosity)
  - Routes of non-medical use by product endorsed
  - Source of drug acquisition and price paid if purchased through illegitimate channels

# Opioids, Benzos, and Stimulants... Oh My!



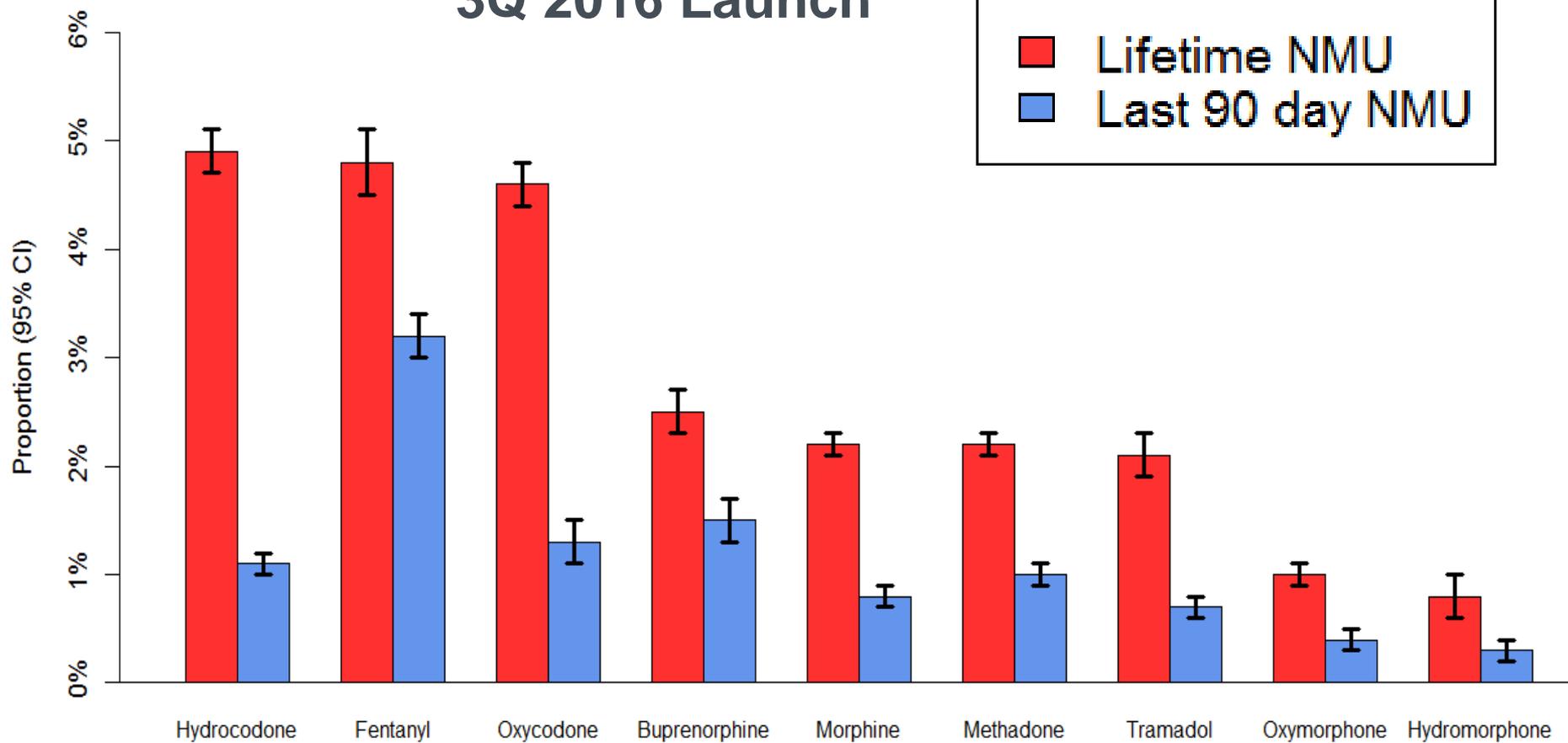
# Opioids, Benzos, and Stimulants... Oh My!

## 3Q 2016 Launch



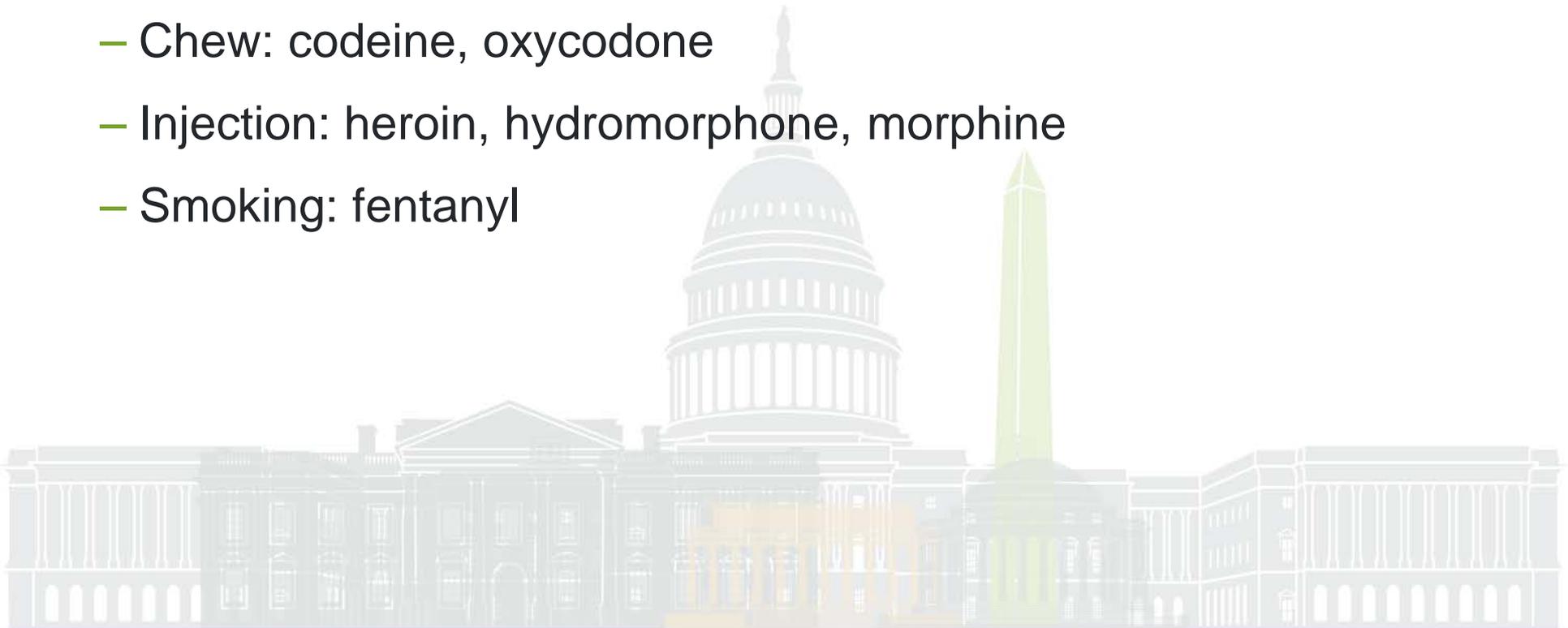
# Prevalence of Lifetime NMU and Last 90 Day NMU

## 3Q 2016 Launch



# Canada Summary

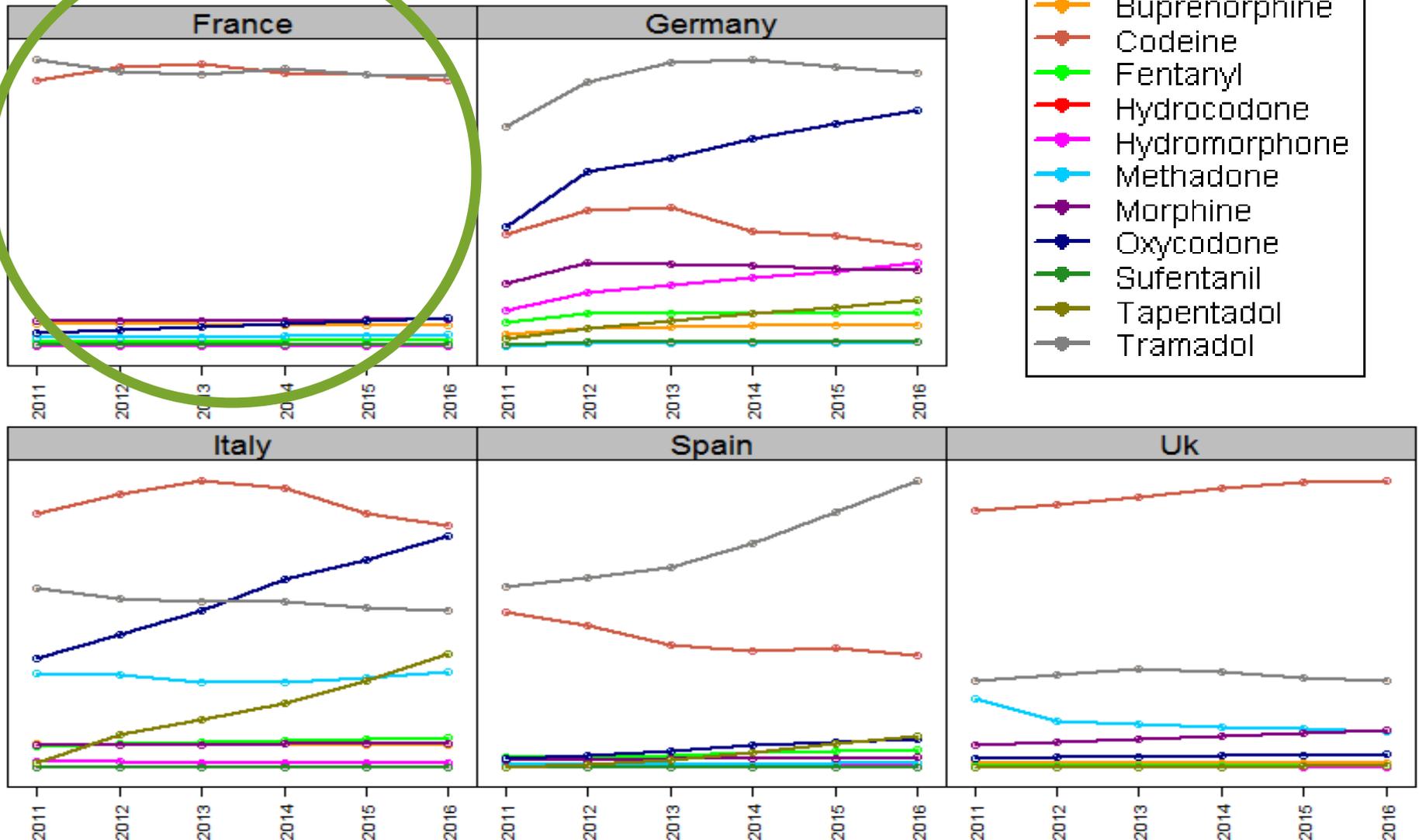
- Hydromorphone appears to be an increasing risk (but has a long history in Canada), particularly with snorting and injection
- Each opioid appears to have a preferred route of ingestion in this sample
  - Chew: codeine, oxycodone
  - Injection: heroin, hydromorphone, morphine
  - Smoking: fentanyl



# European Mosaic

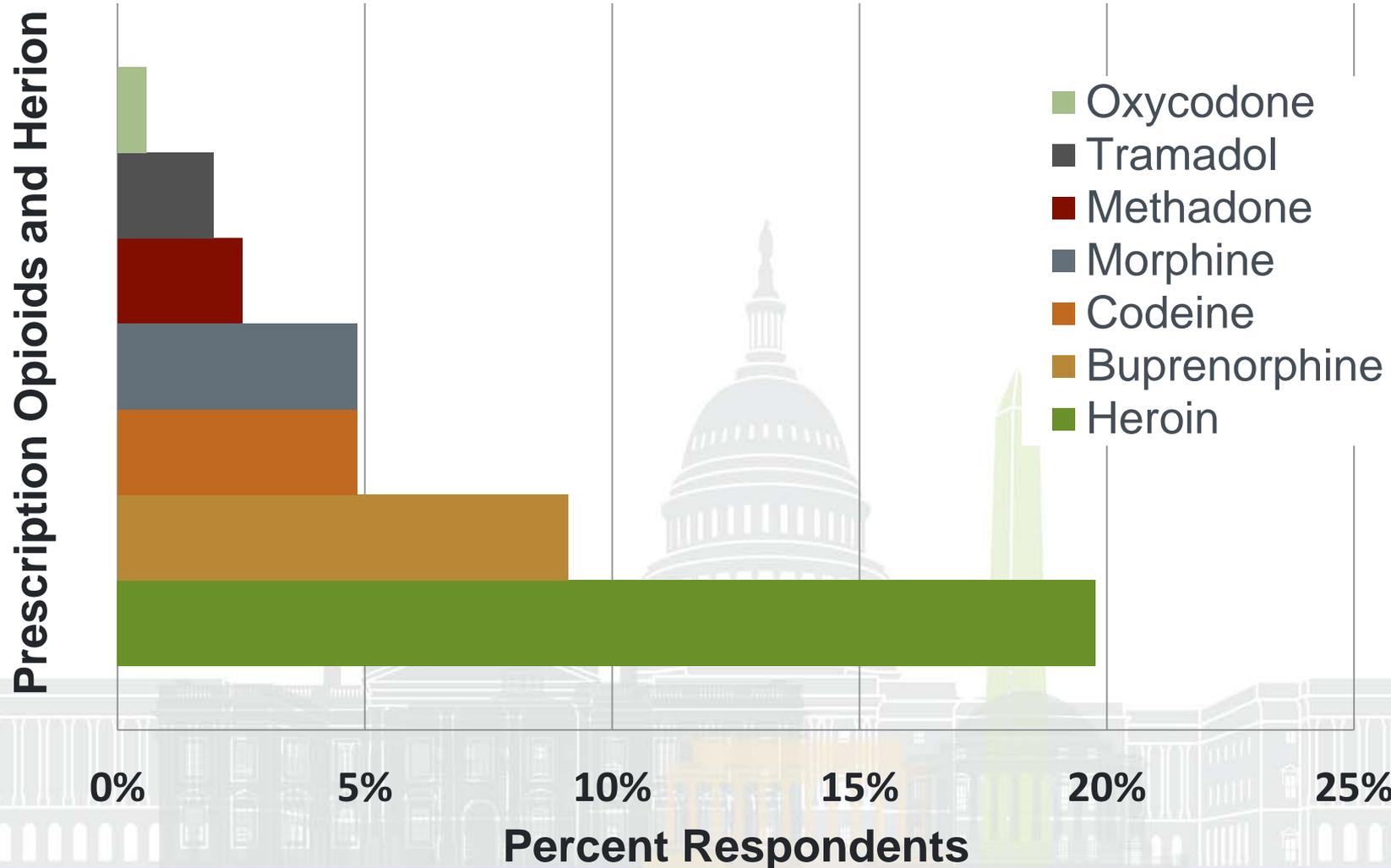


# Europe – Dosage Units per Population



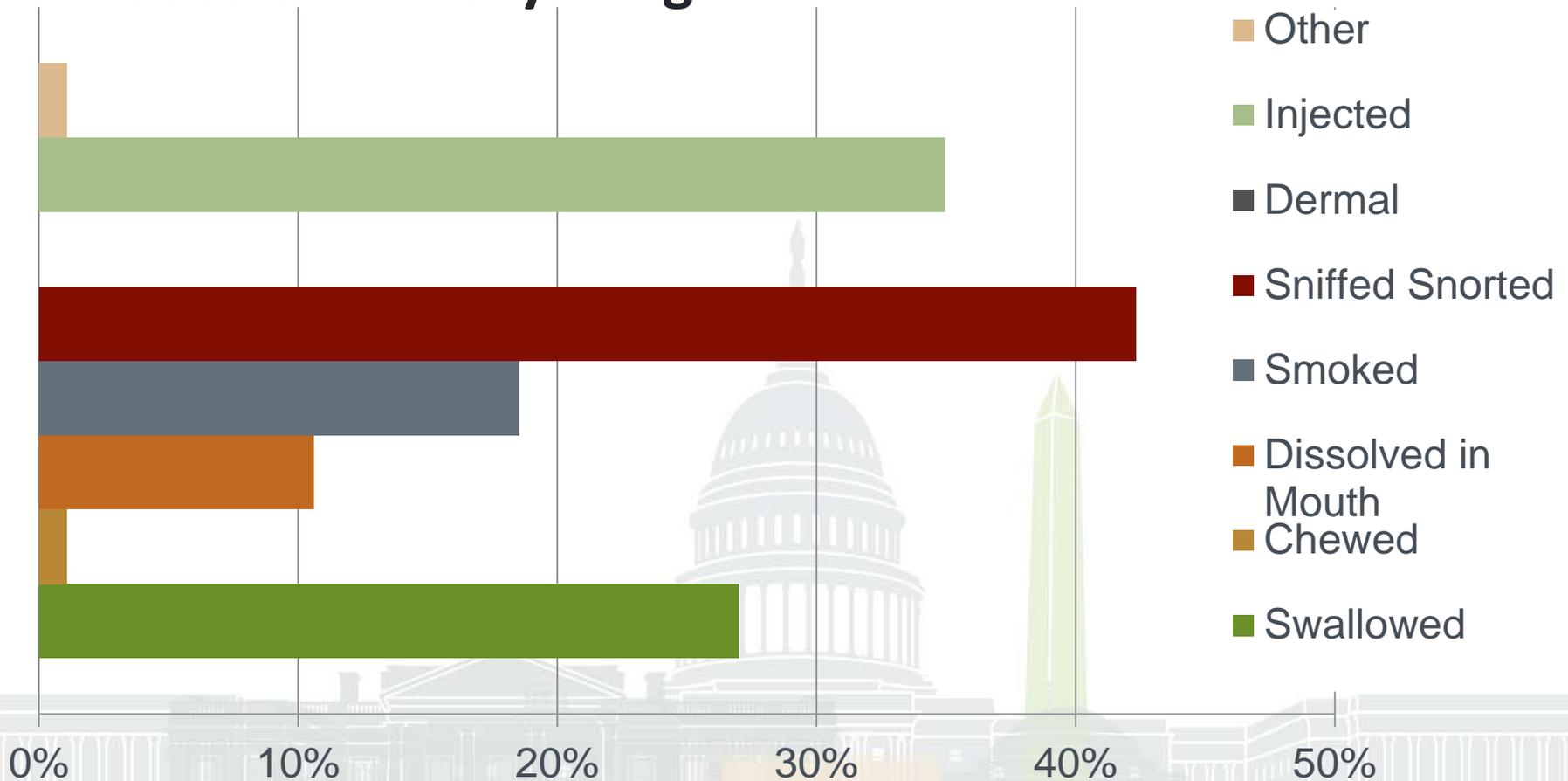
# France- EUROPAD (through 4Q2016)

## Primary Drug Used to Get High in Past Month



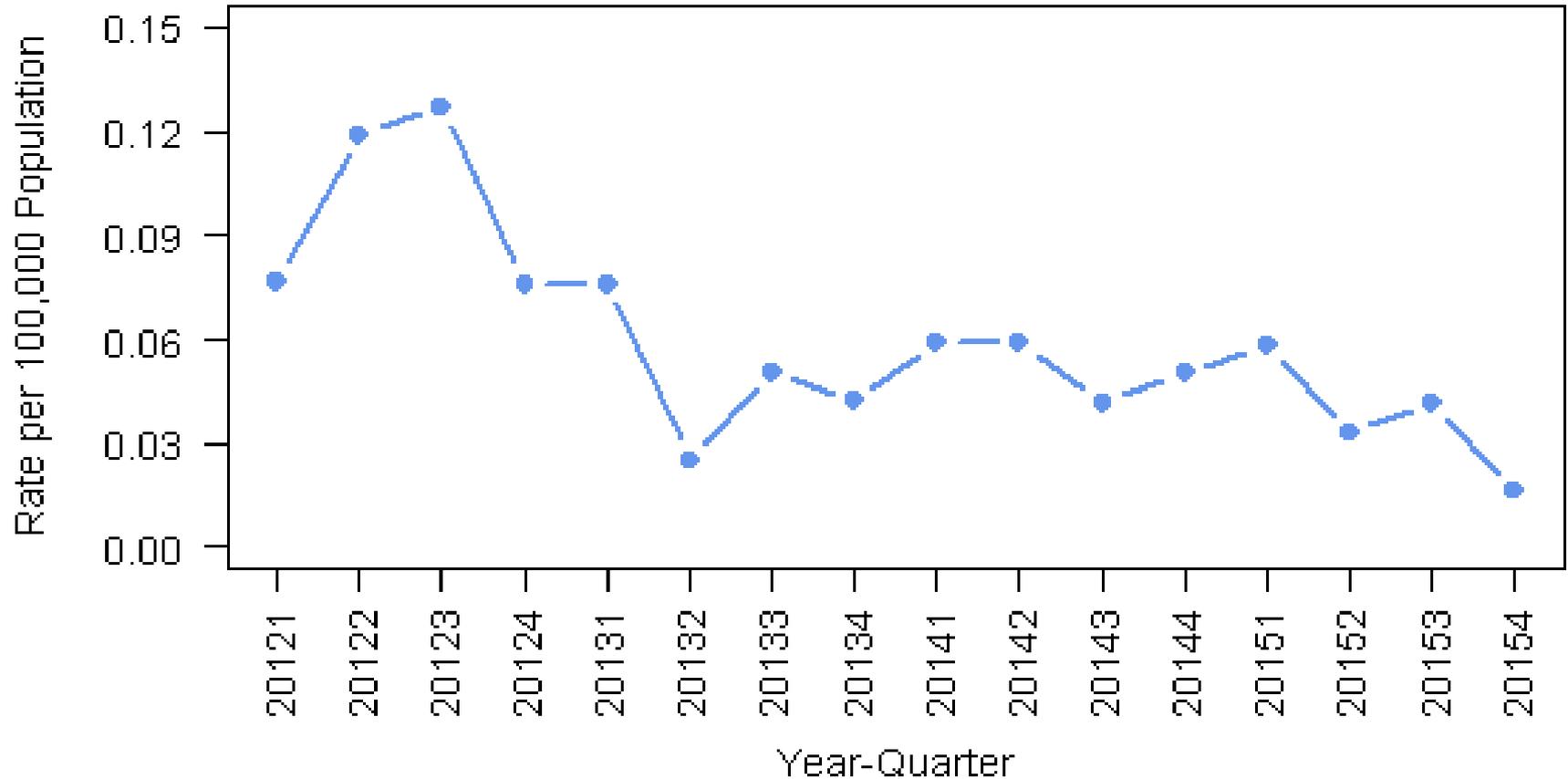
# France- EUROPAD

## Route of Primary Drug

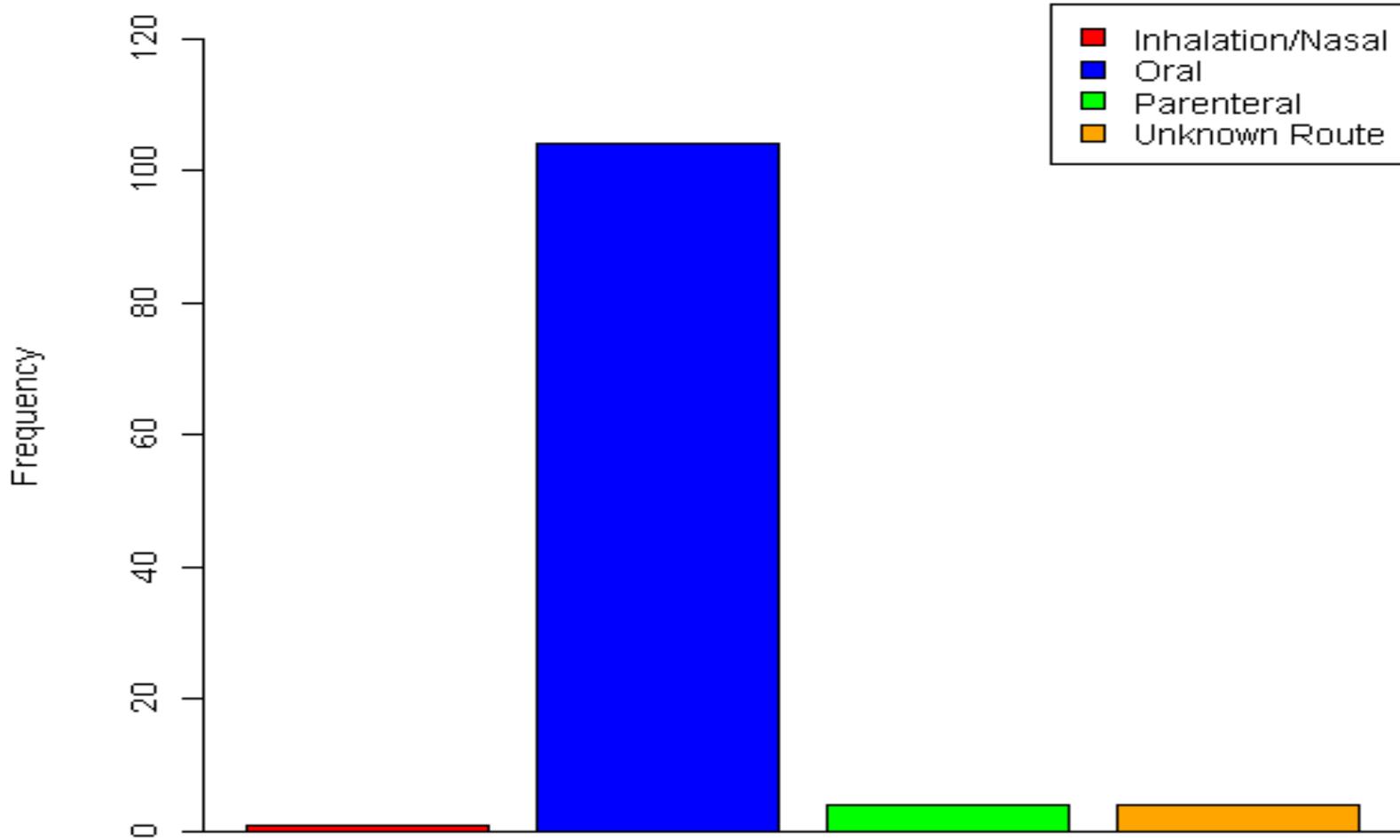


# France GTNet— Adult Human Exposures to Opioids

France Intentional Opioid Rate per 100,000 Population

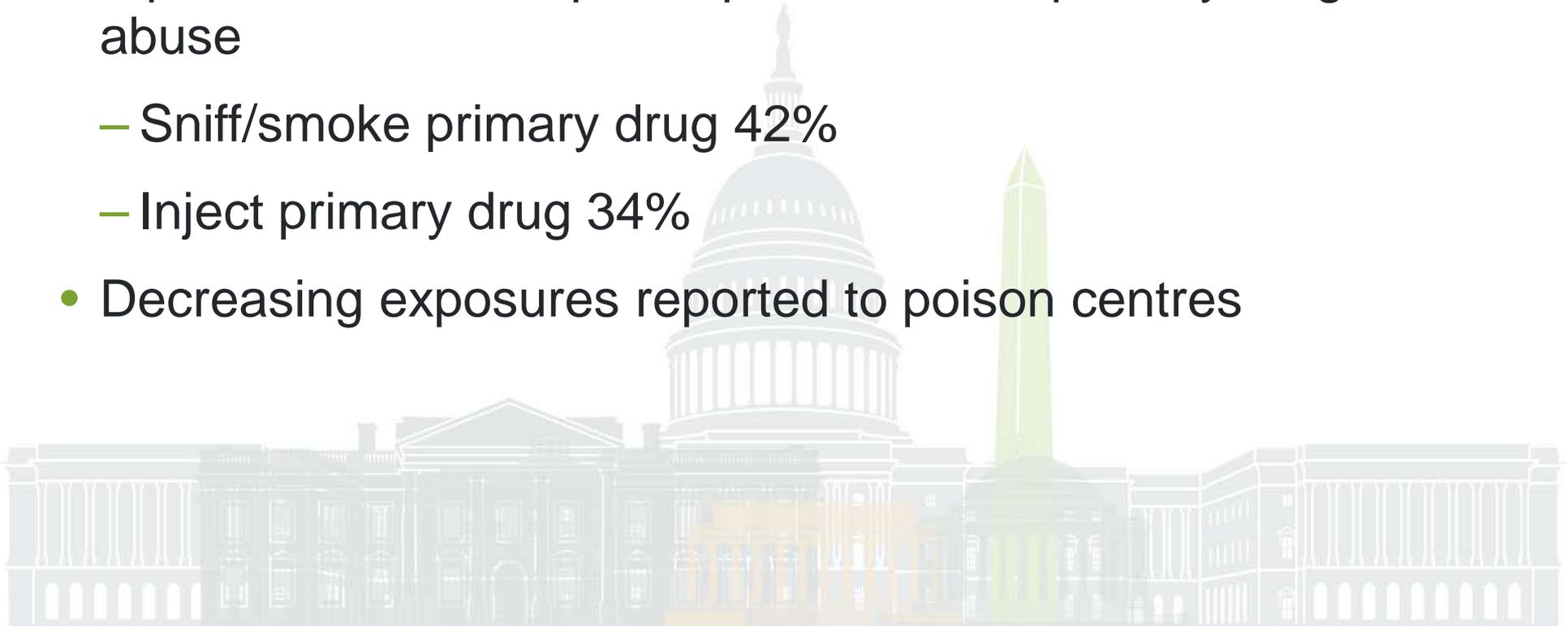


# France GTNet—Adult Human Exposures to Opioids

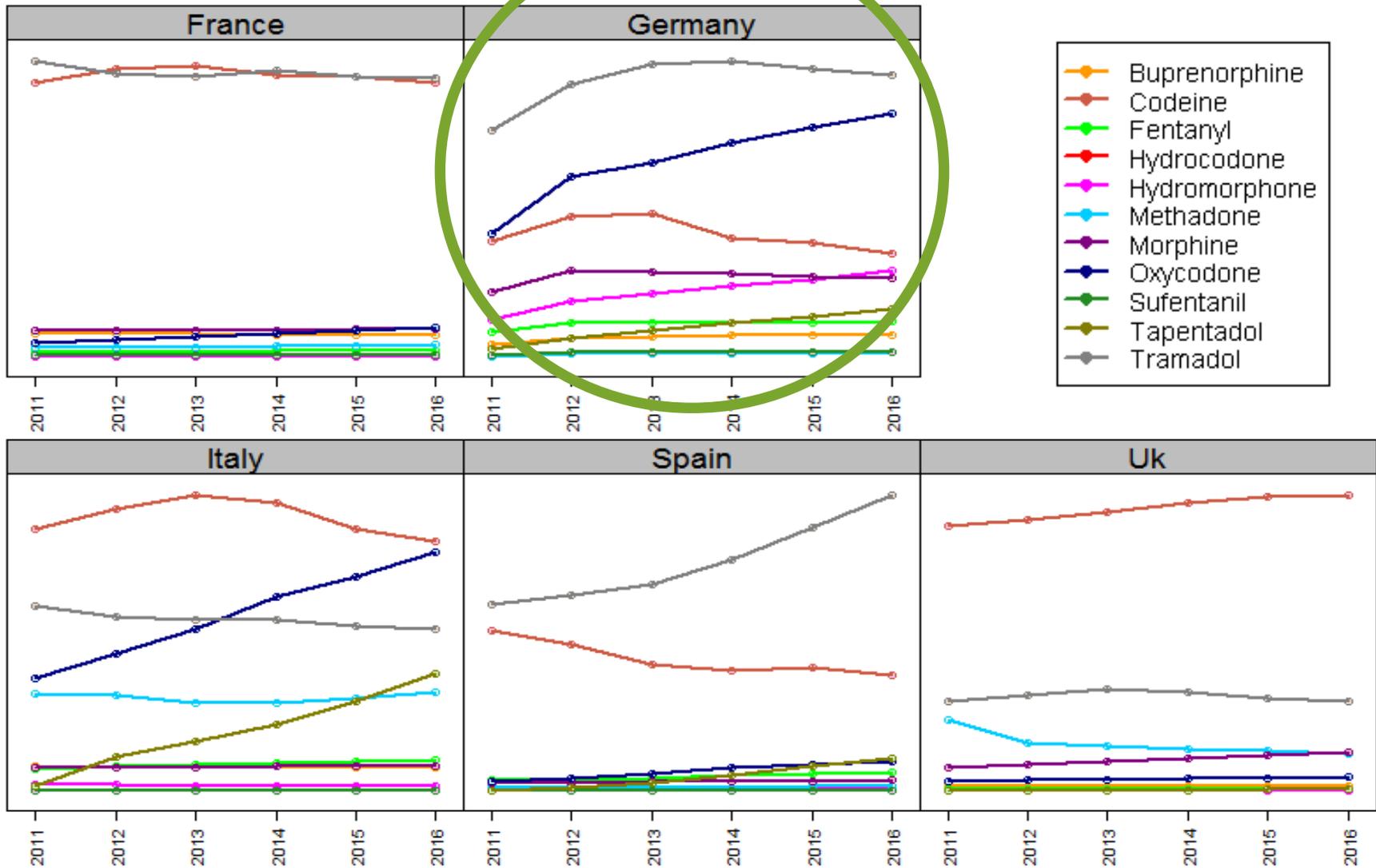


# France Summary

- Codeine and tramadol by far the most utilized, most other opioids increasing
- Patients entering substance abuse treatment most often report heroin and buprenorphine as their primary drug of abuse
  - Sniff/smoke primary drug 42%
  - Inject primary drug 34%
- Decreasing exposures reported to poison centres

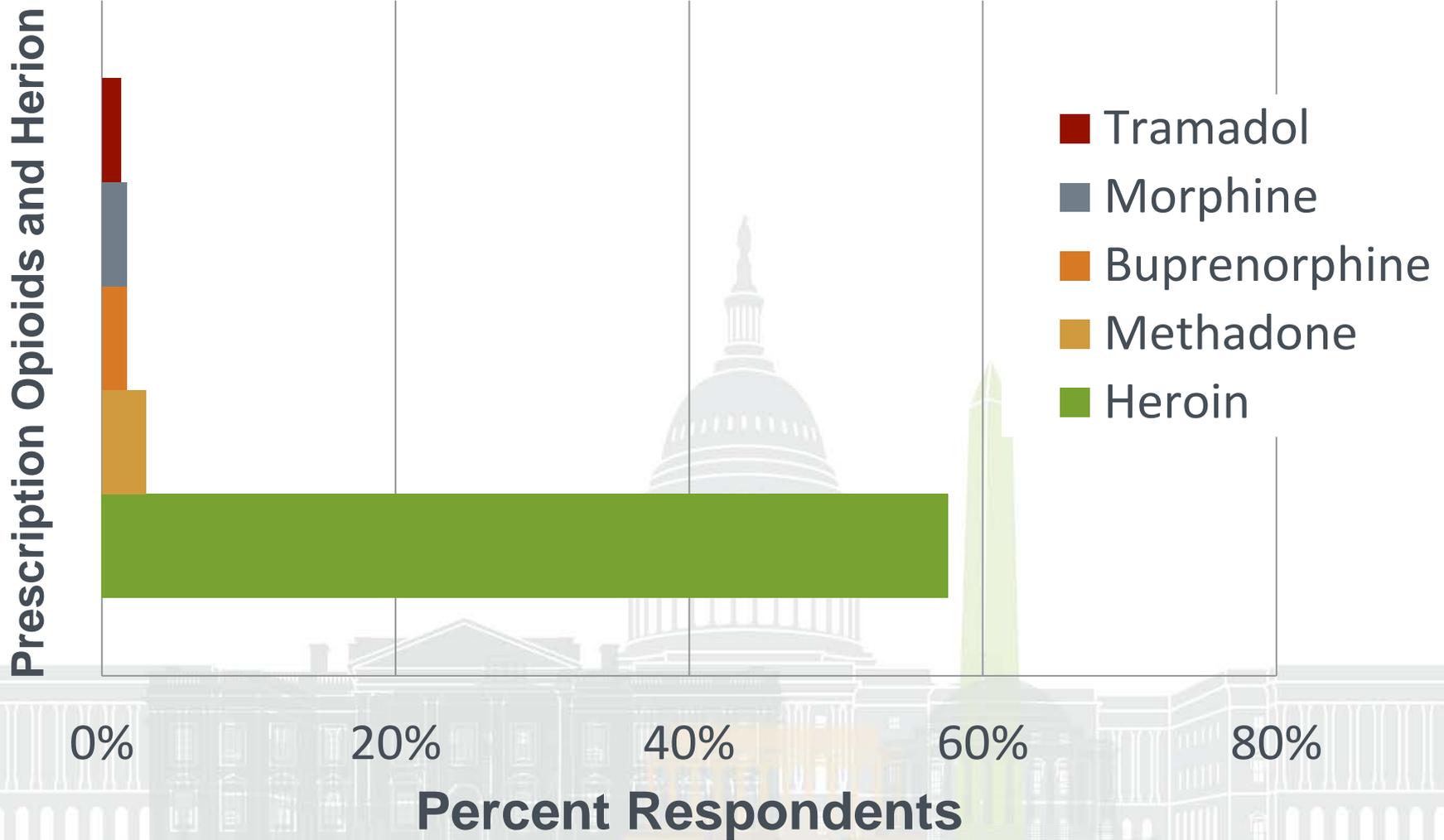


# Europe – Dosage Units per Population



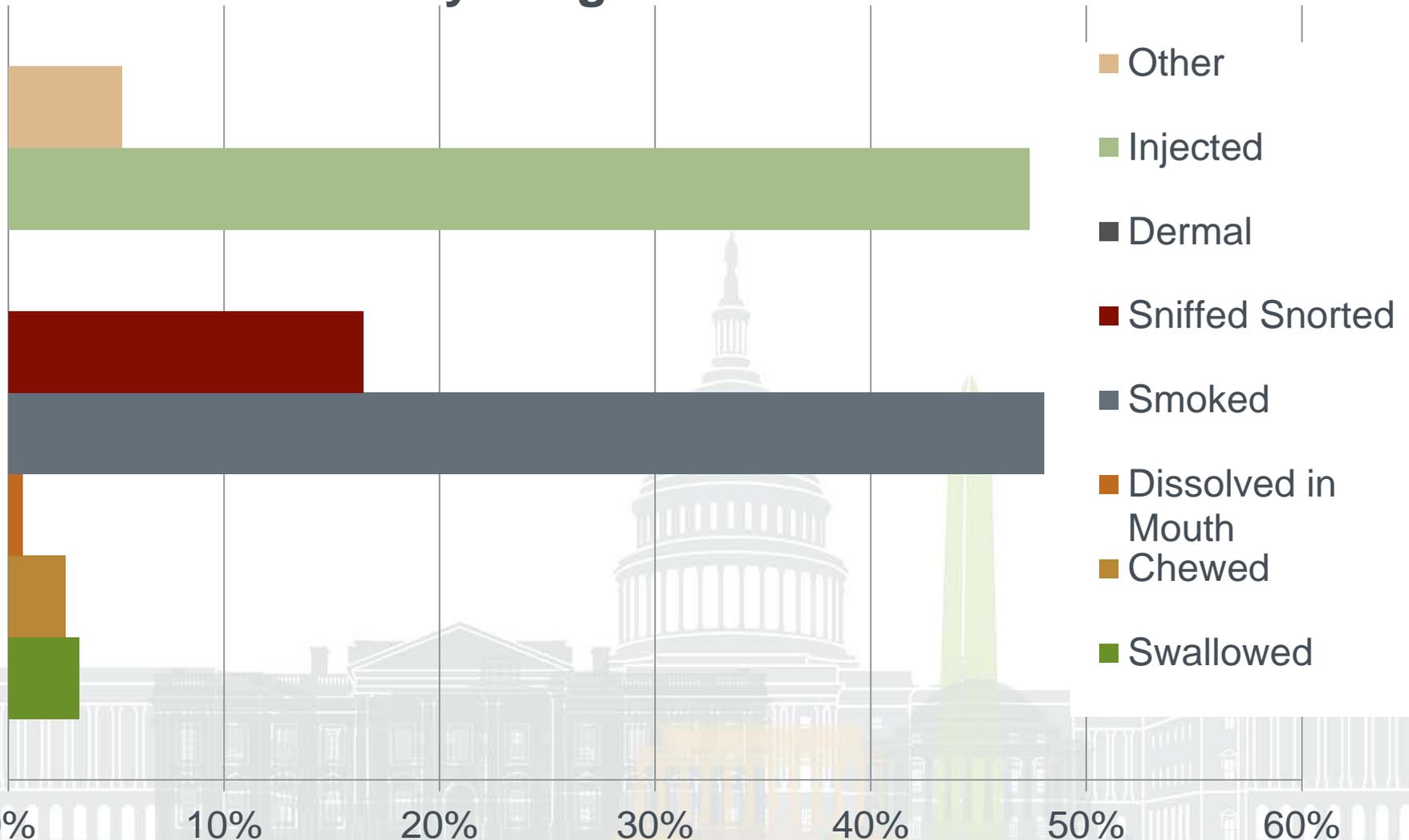
# Germany - EUROPAD

## Primary Drug Used to Get High in Past Month



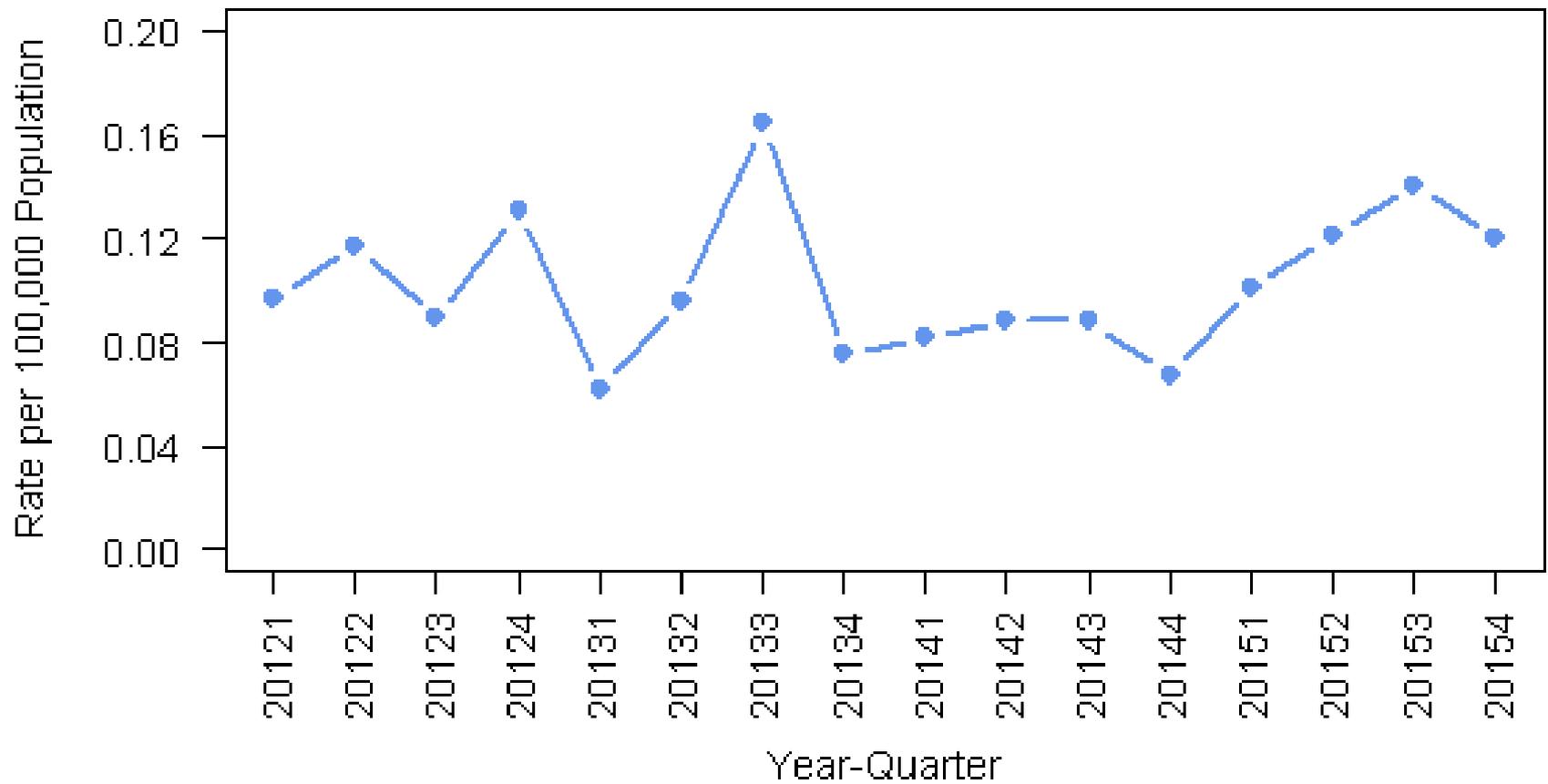
# Germany - EUROPAD

## Route of Primary Drug

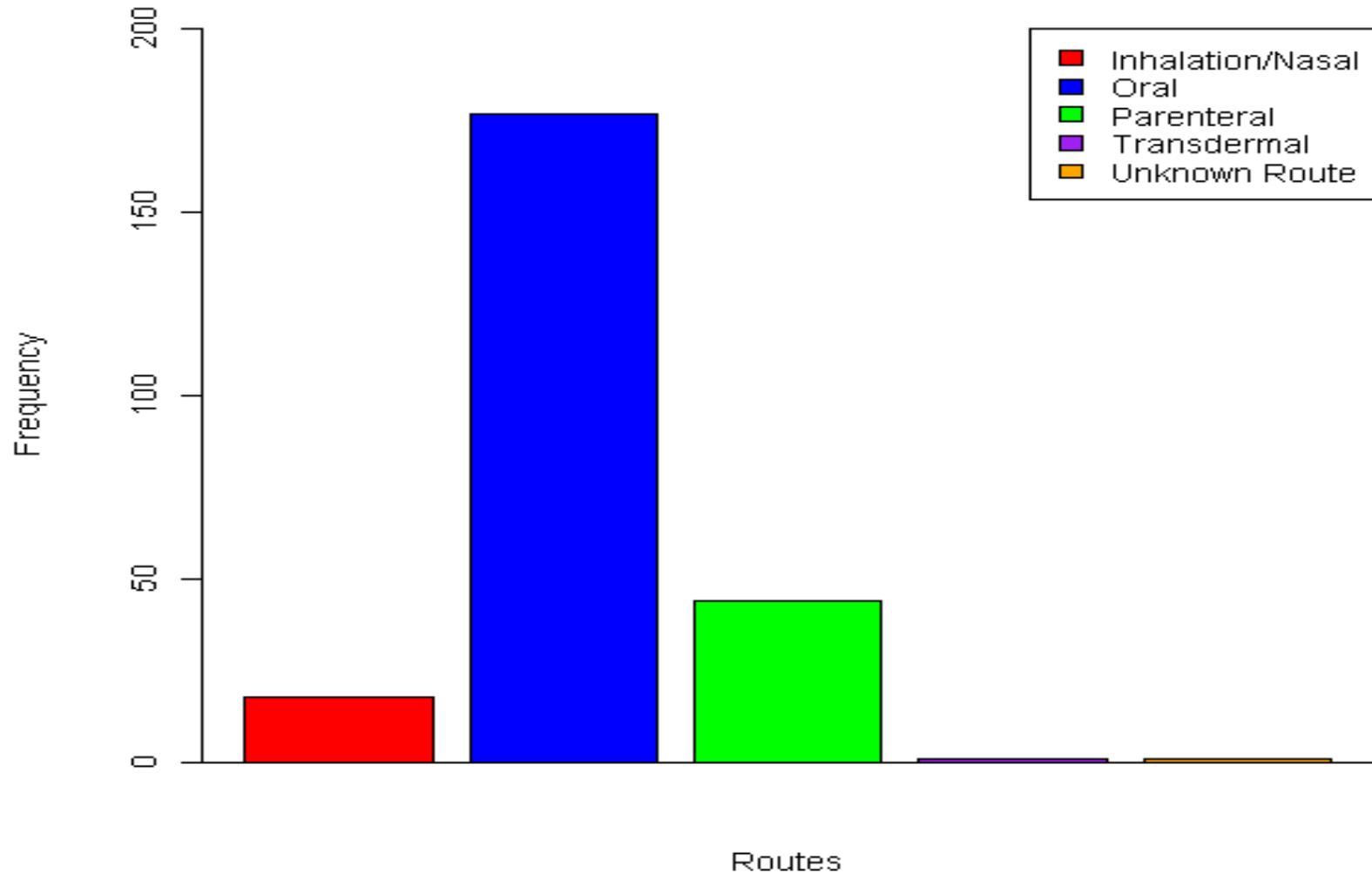


# Germany GTNet–Adult Human Exposures to Opioids

Germany Intentional Opioid Rate per 100,000 Population



# Germany GTNet– Adult Human Exposures to Opioids

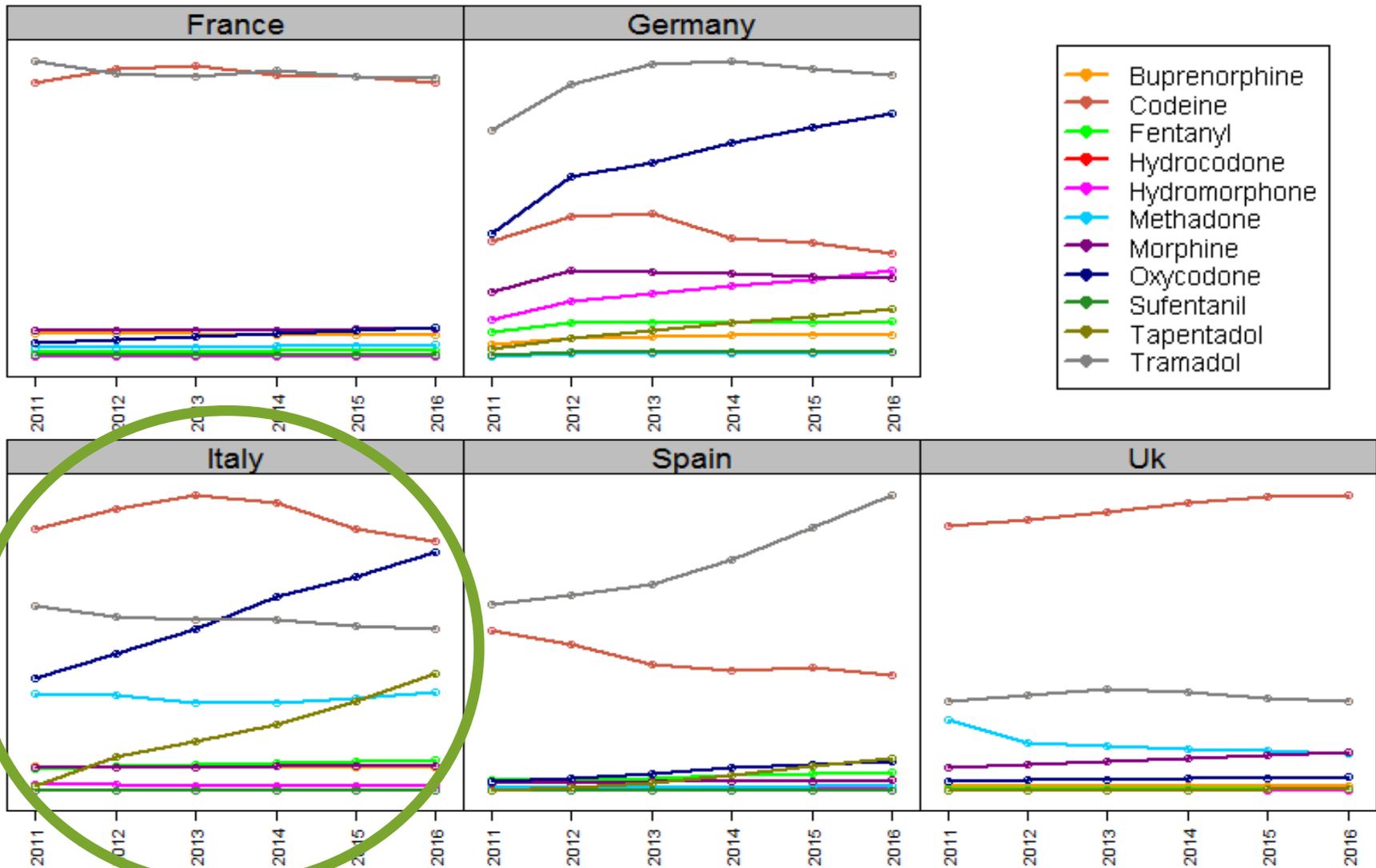


# Germany Summary

- Oxycodone and hydromorphone utilization increasing
- Patients entering substance abuse treatment most often report heroin, benzodiazepines as their primary drug of abuse
  - Smoking and injection reported by ~22-26%

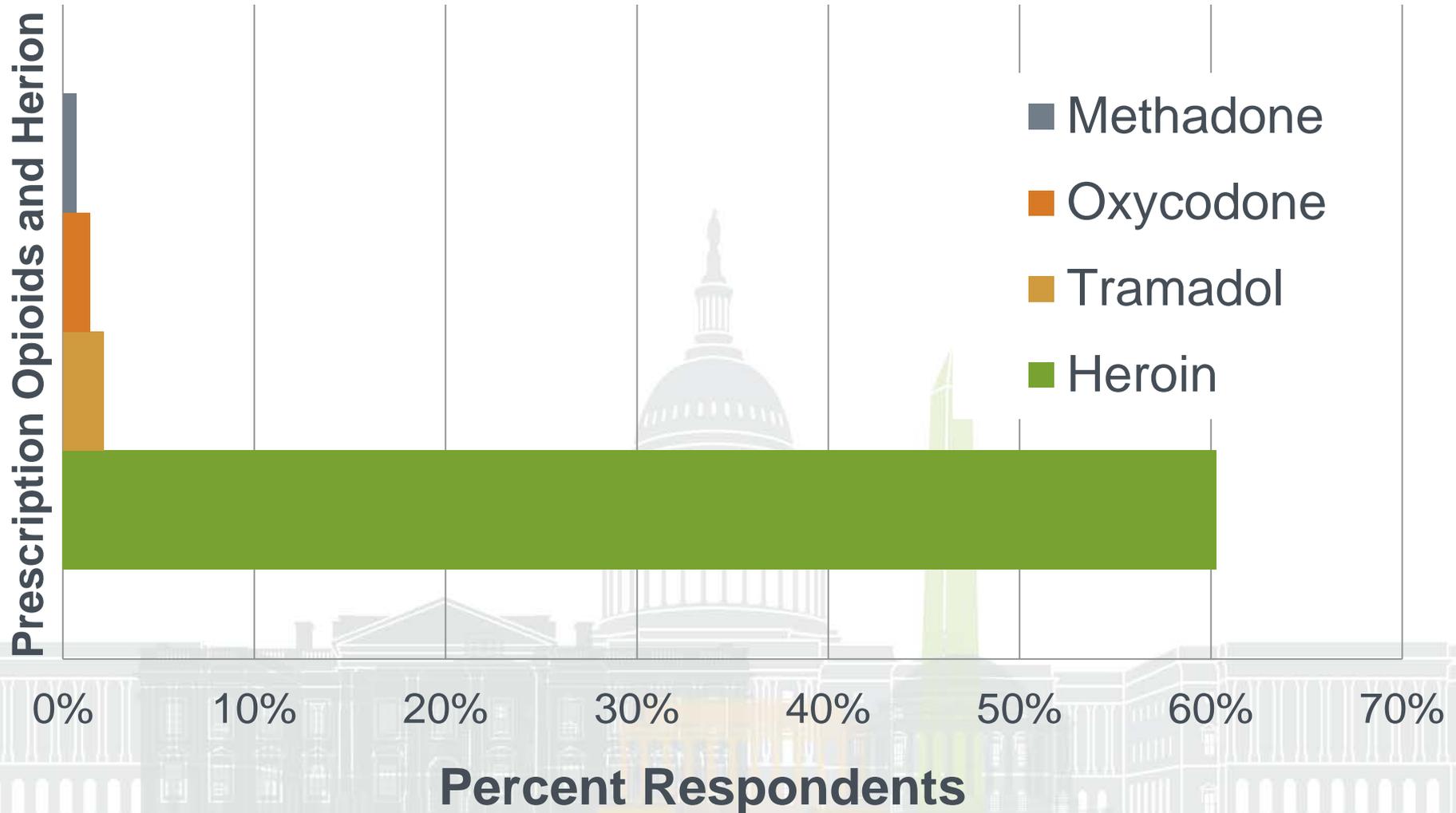


# Europe – Dosage Units per Population



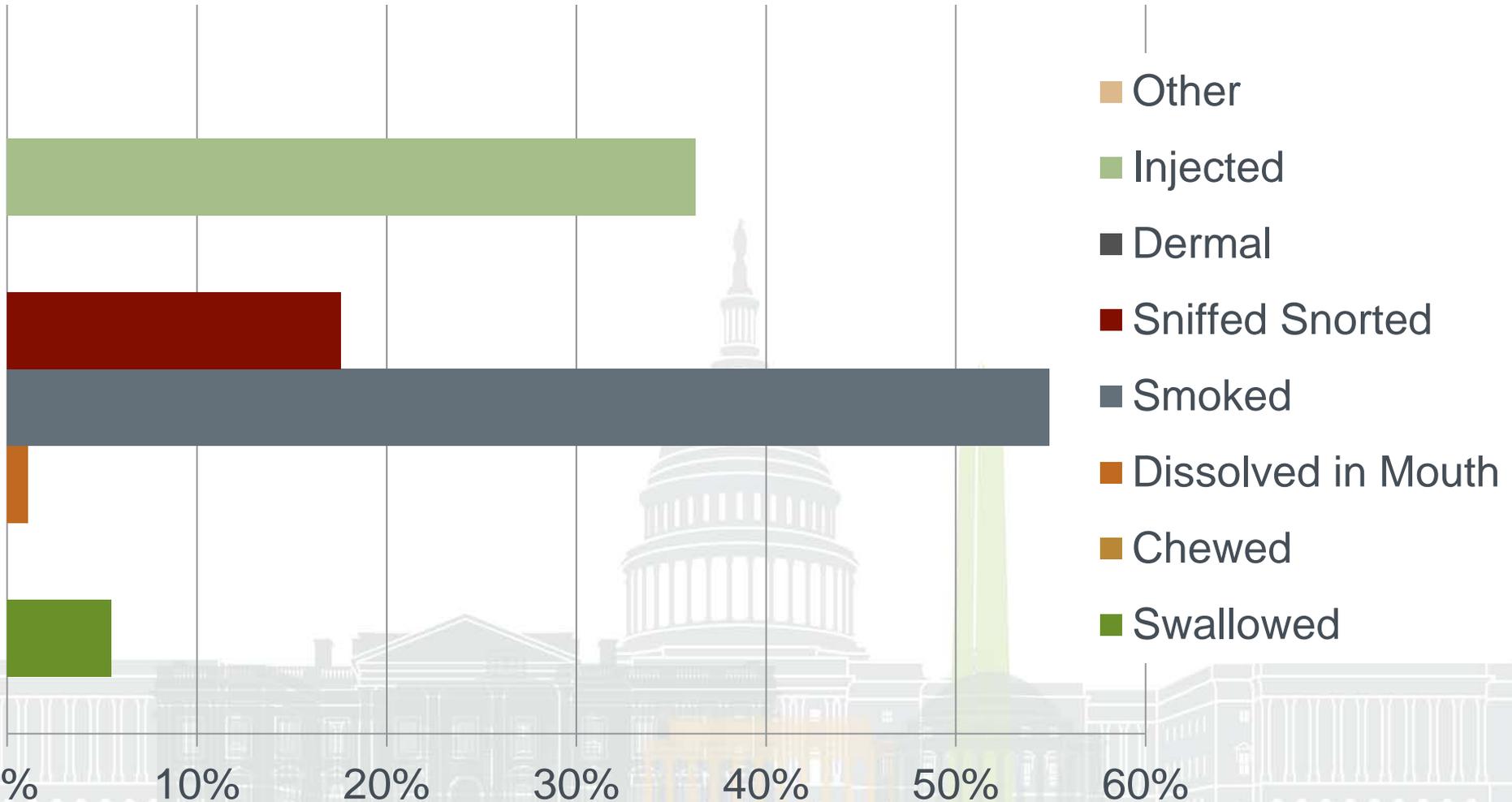
# Italy- EUROPAD

## Primary Drug Used to Get High in Past Month



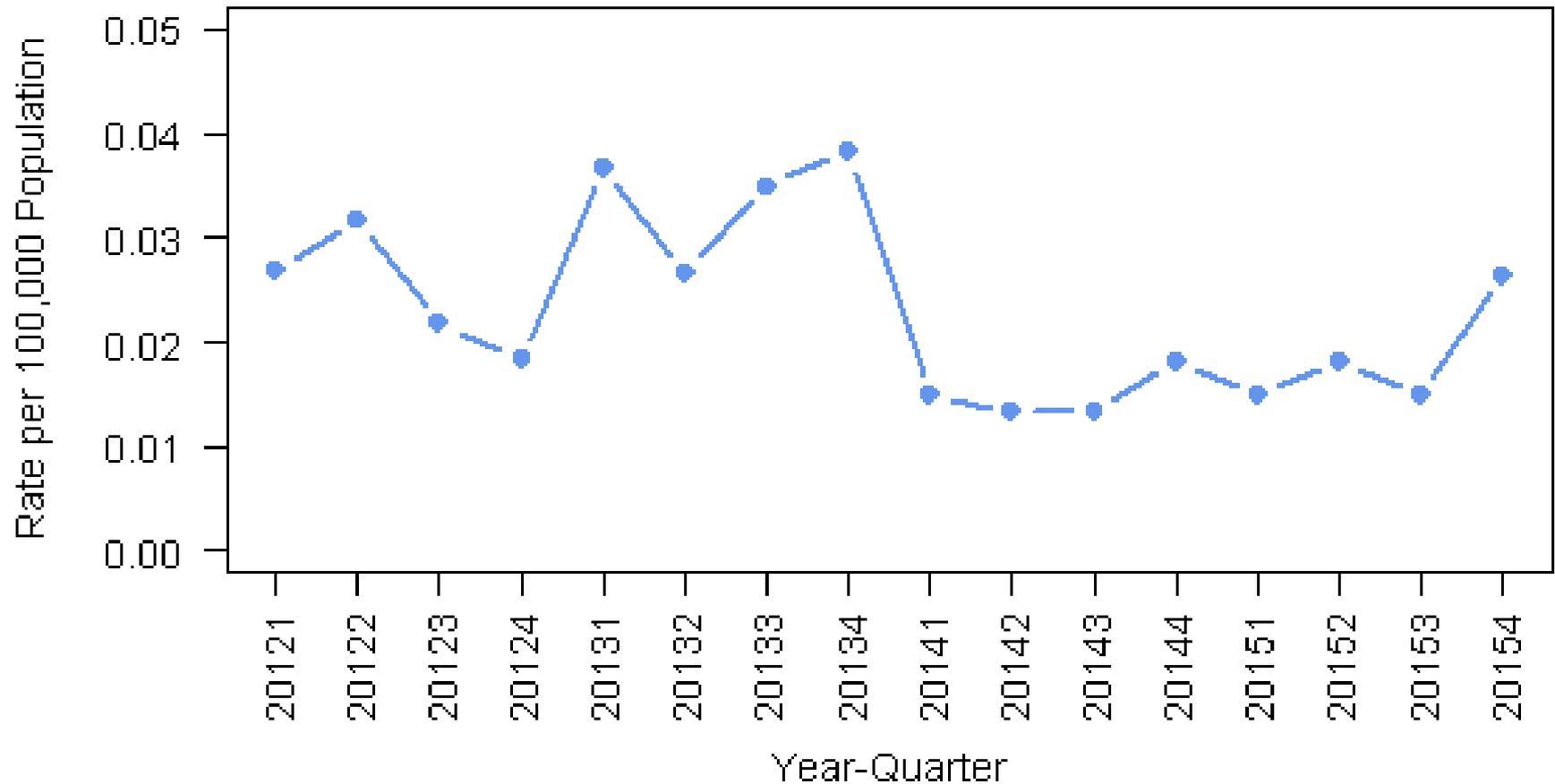
# Italy- EUROPAD

## Route of Primary Drug

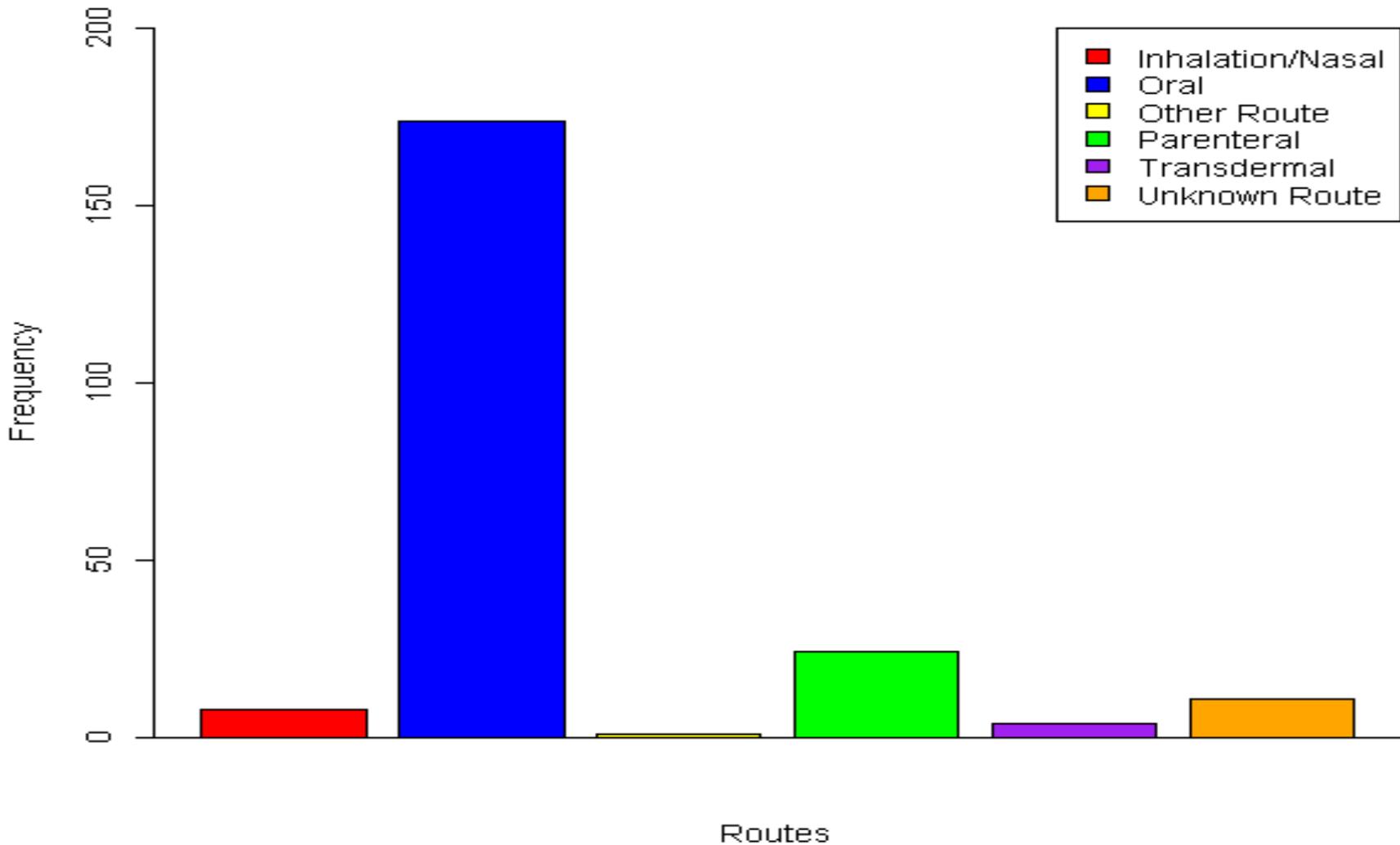


# Italy GTNet— Adult Human Exposures to Opioids

Italy Intentional Opioid Rate per 100,000 Population

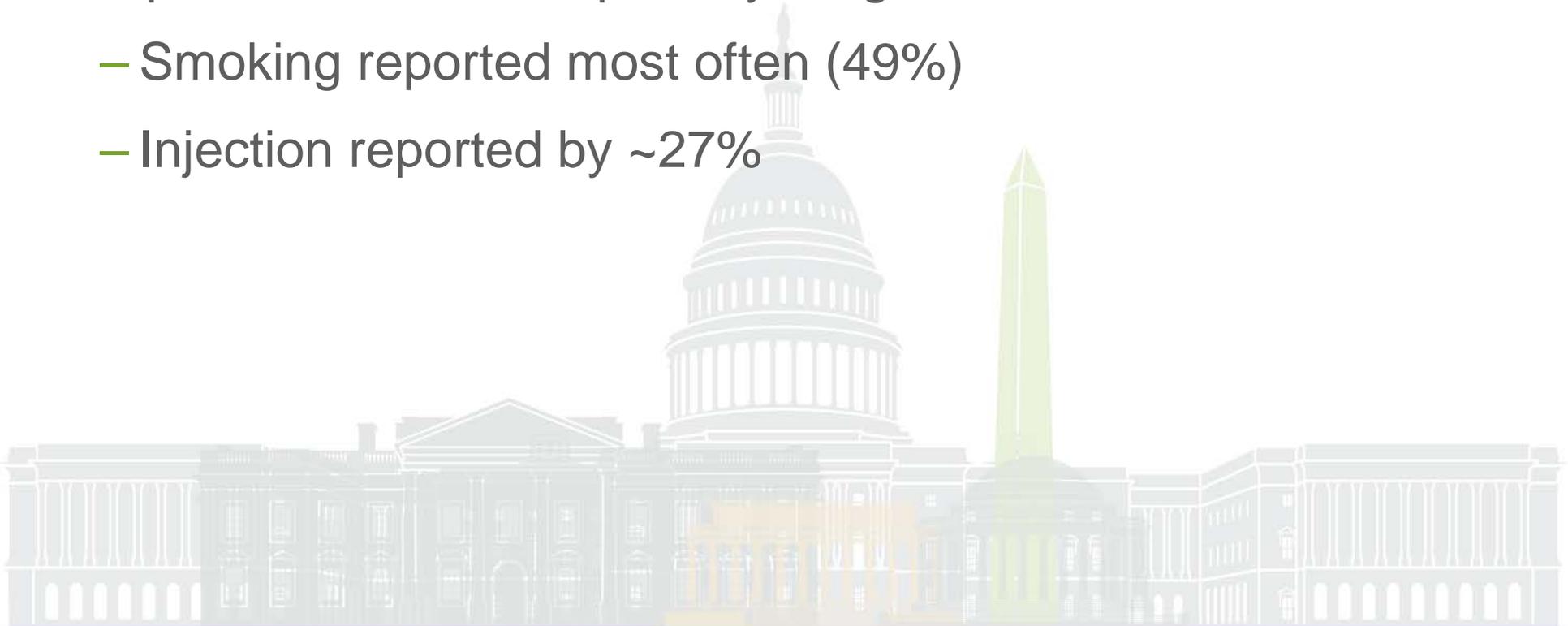


# Italy GTNet— Adult Human Exposures to Opioids

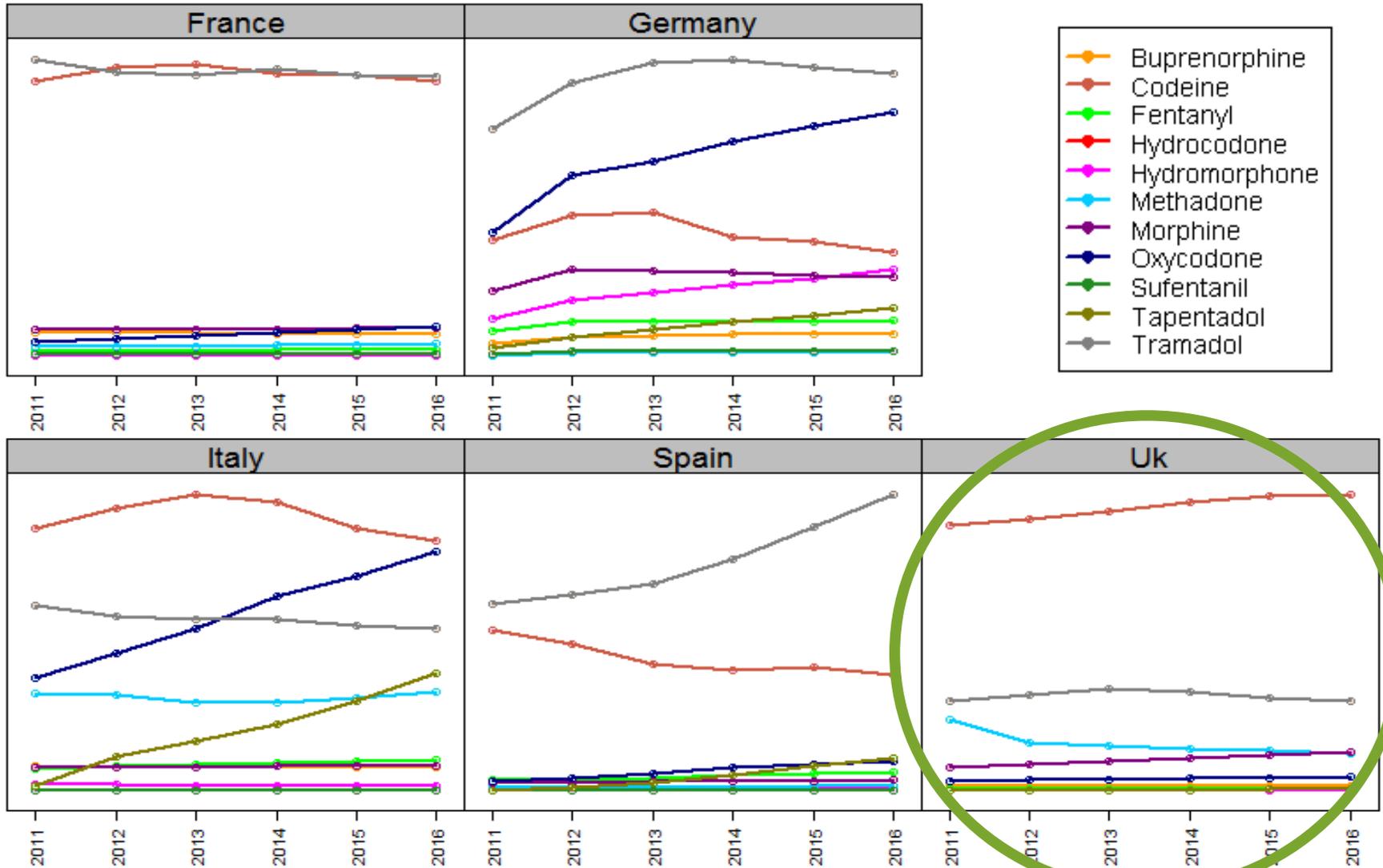


# Italy Summary

- Codeine most commonly utilized opioid, oxycodone utilization increasing
- Patients entering substance abuse treatment most often report heroin as their primary drug of abuse
  - Smoking reported most often (49%)
  - Injection reported by ~27%

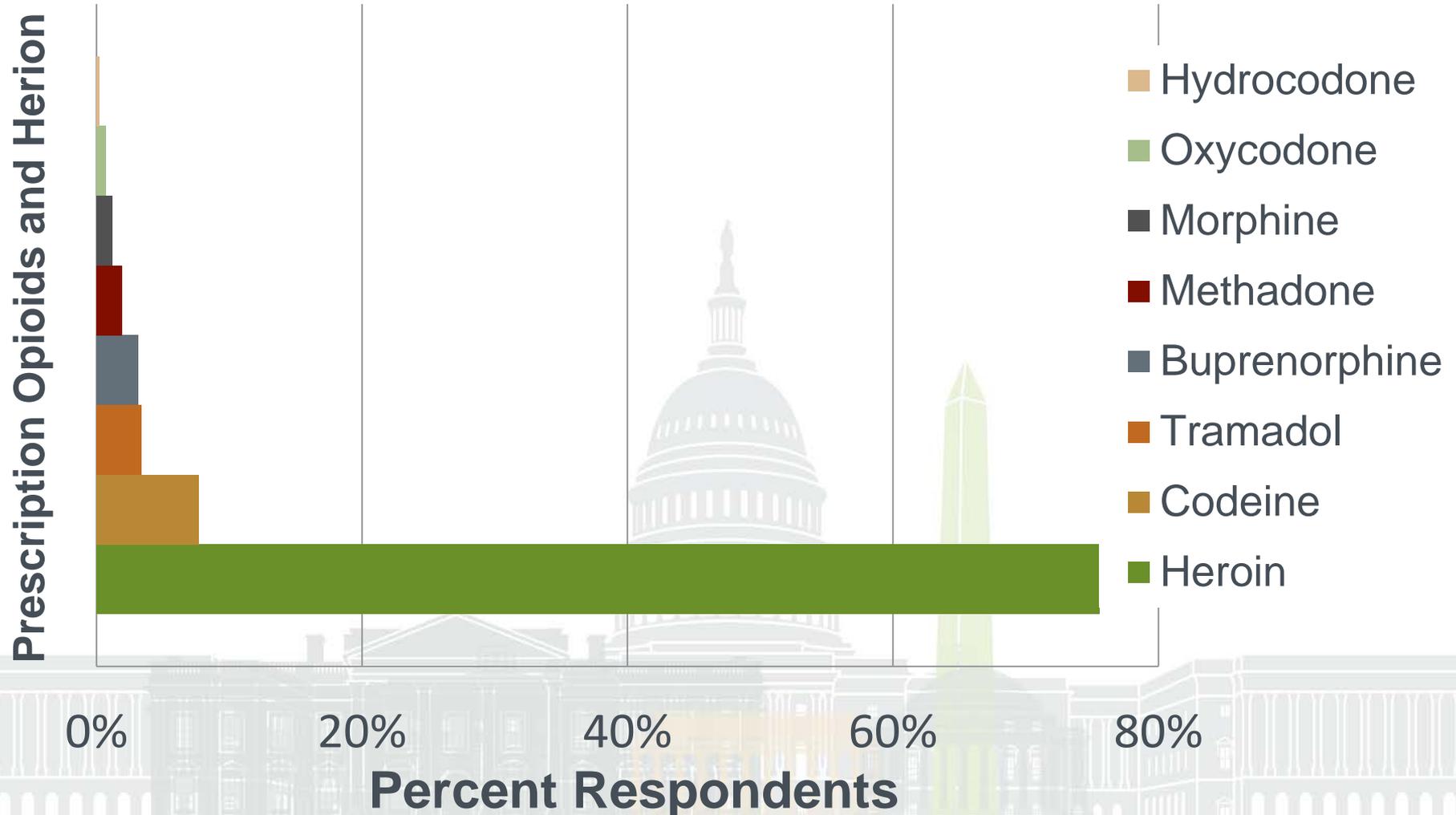


# Europe – Dosage Units per Population



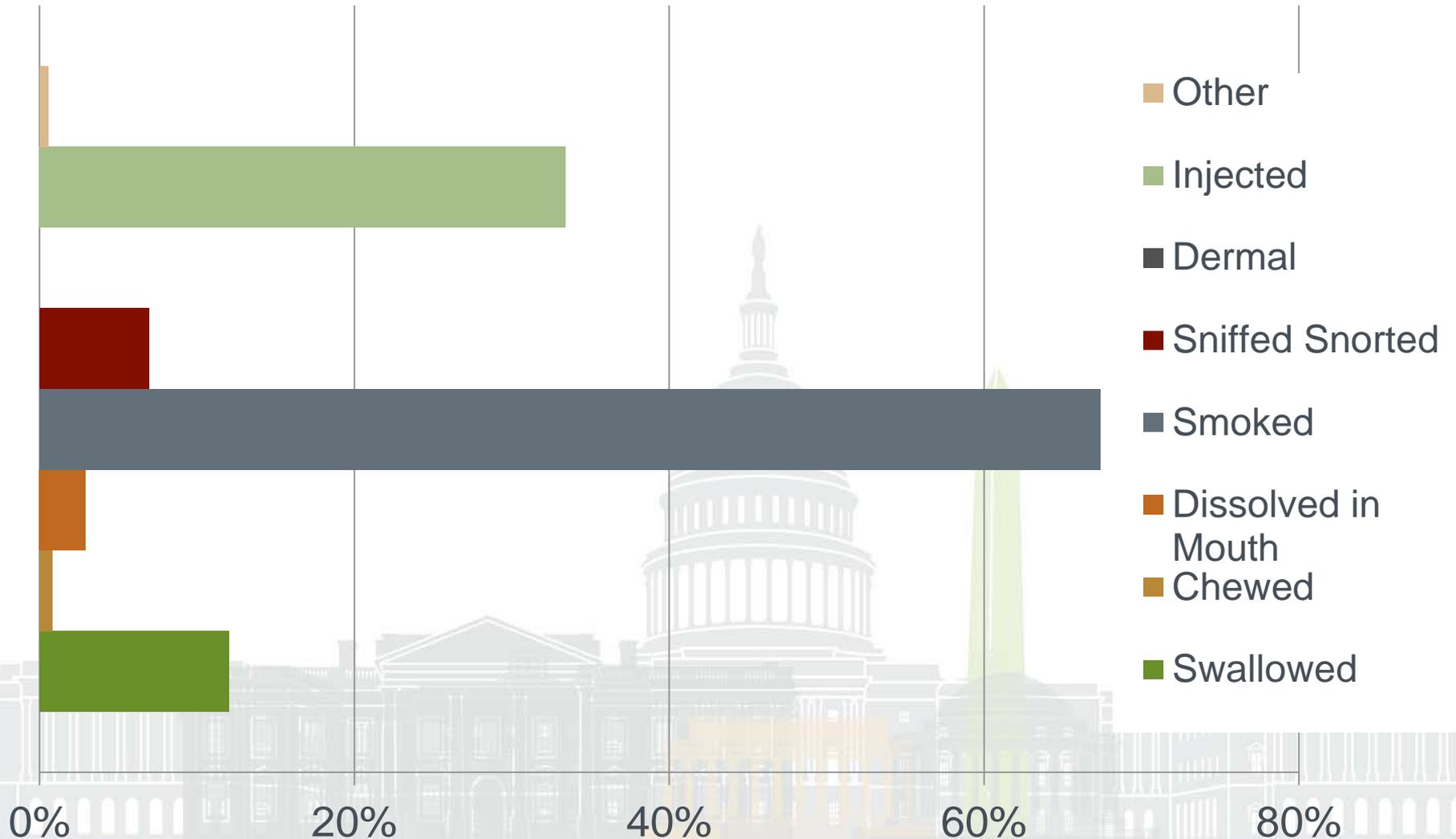
# United Kingdom - EUROPAD

## Primary Drug Used to Get High in Past Month



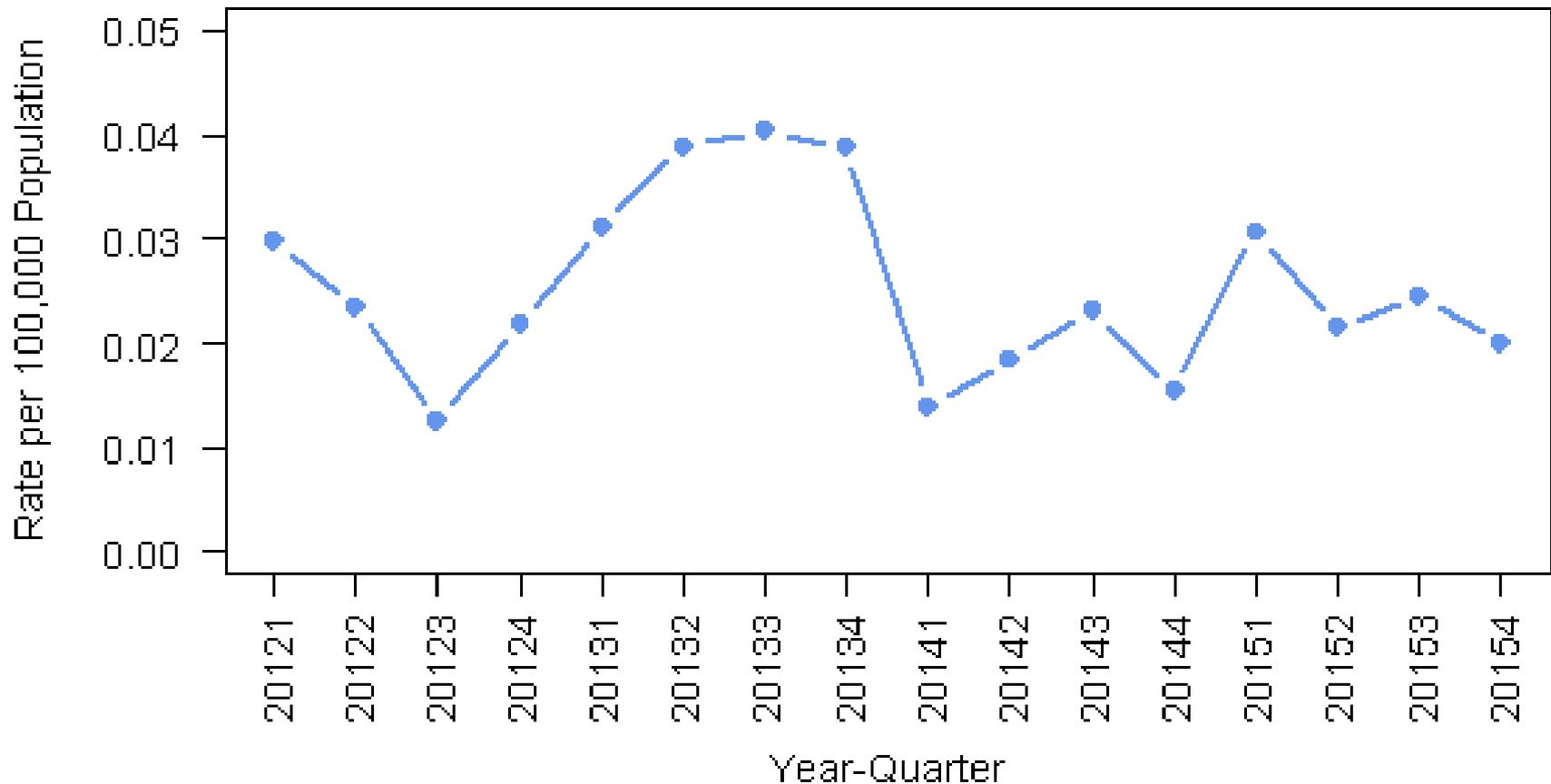
# United Kingdom - EUROPAD

## Route of Primary Drug

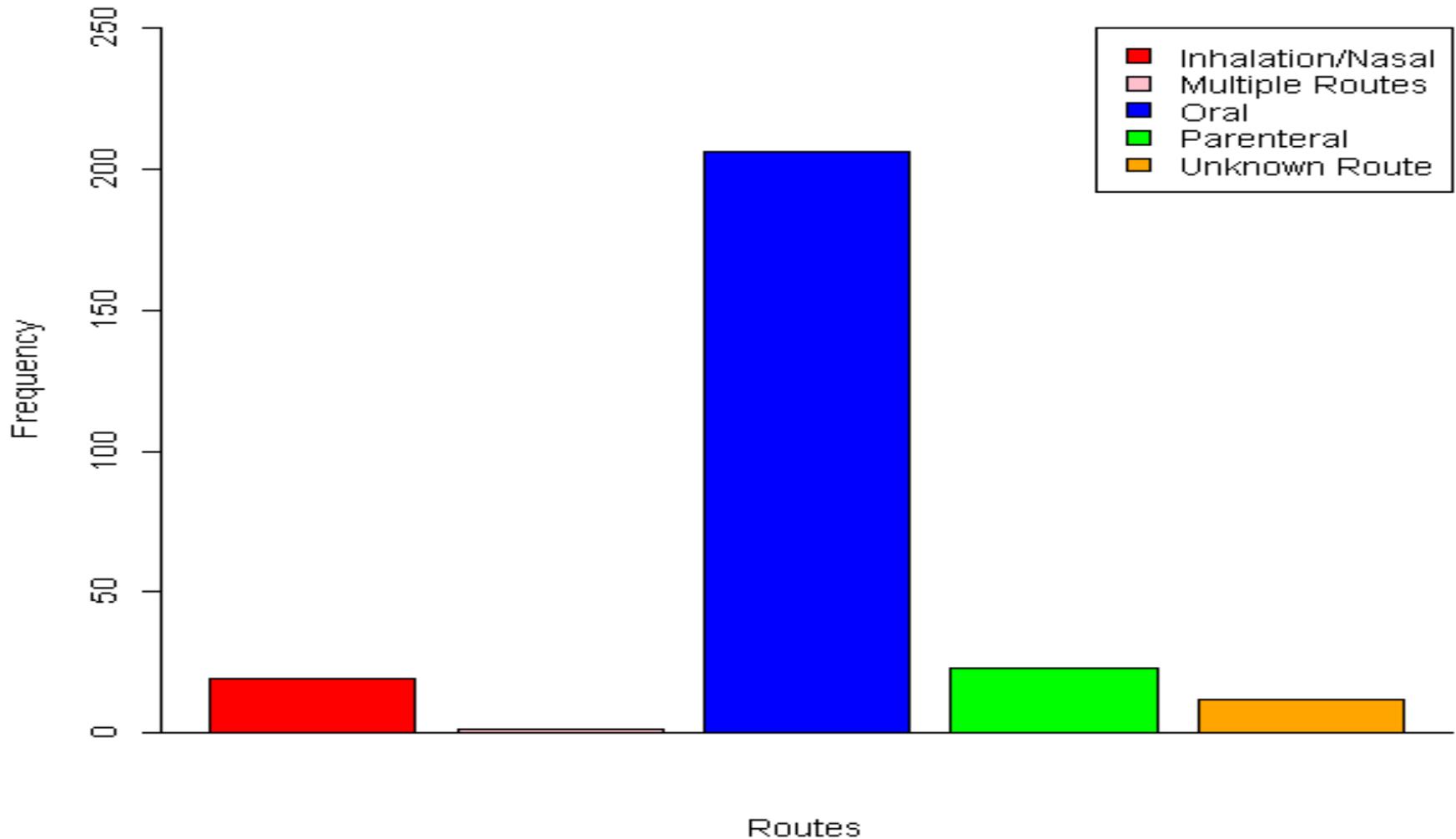


# UK GTNet— Adult Human Exposures to Opioids

UK Intentional Opioid Rate per 100,000 Population

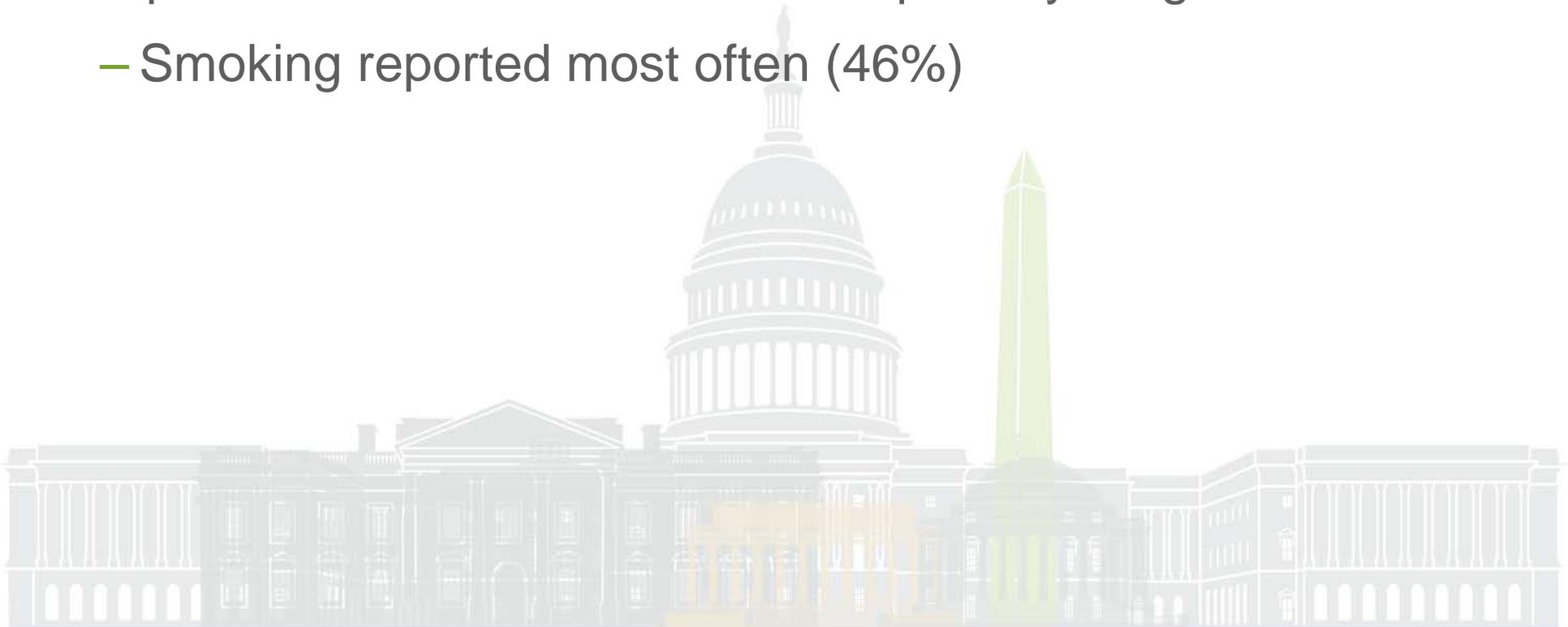


# UK GTNet— Adult Human Exposures to Opioids

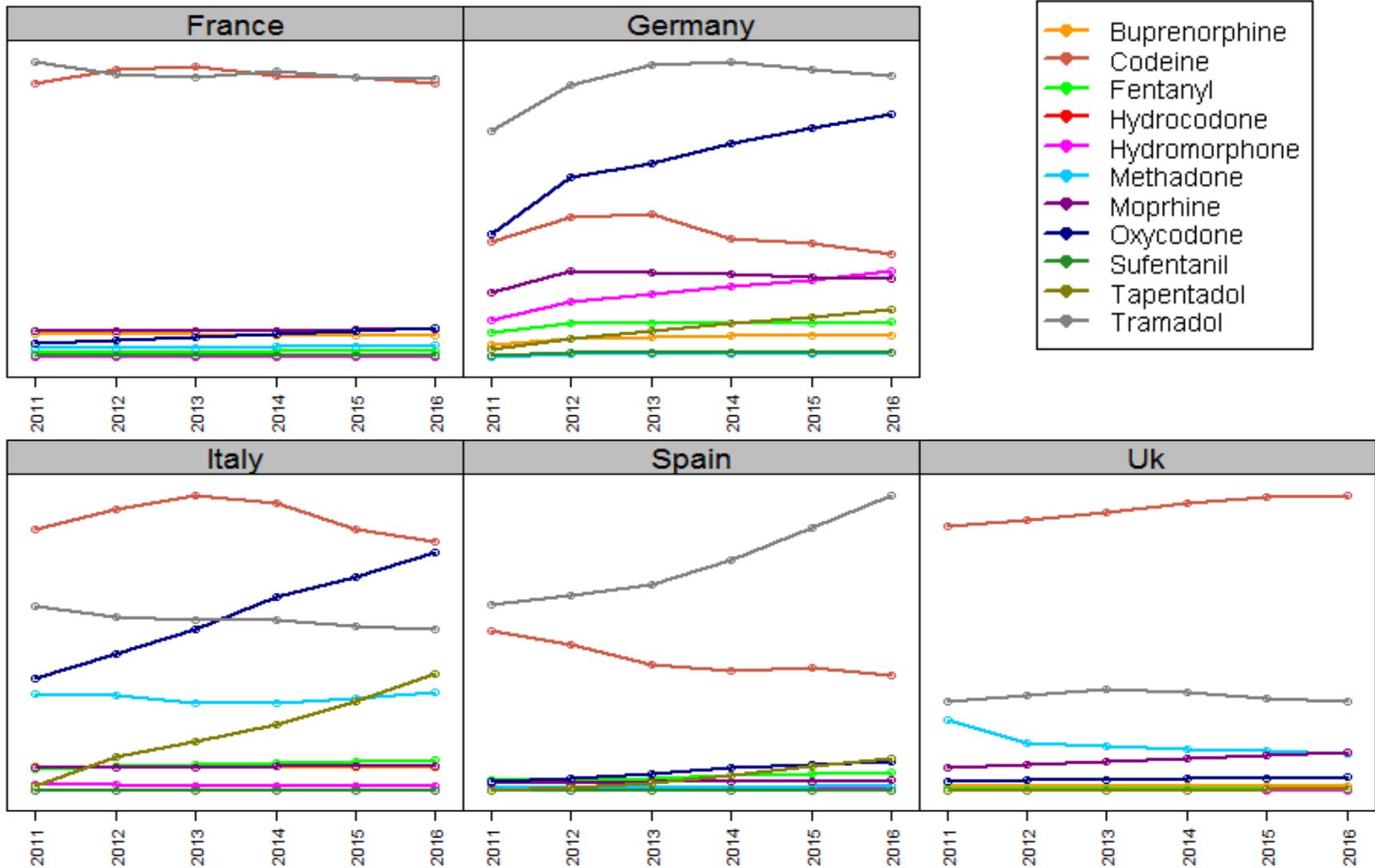


# United Kingdom Summary

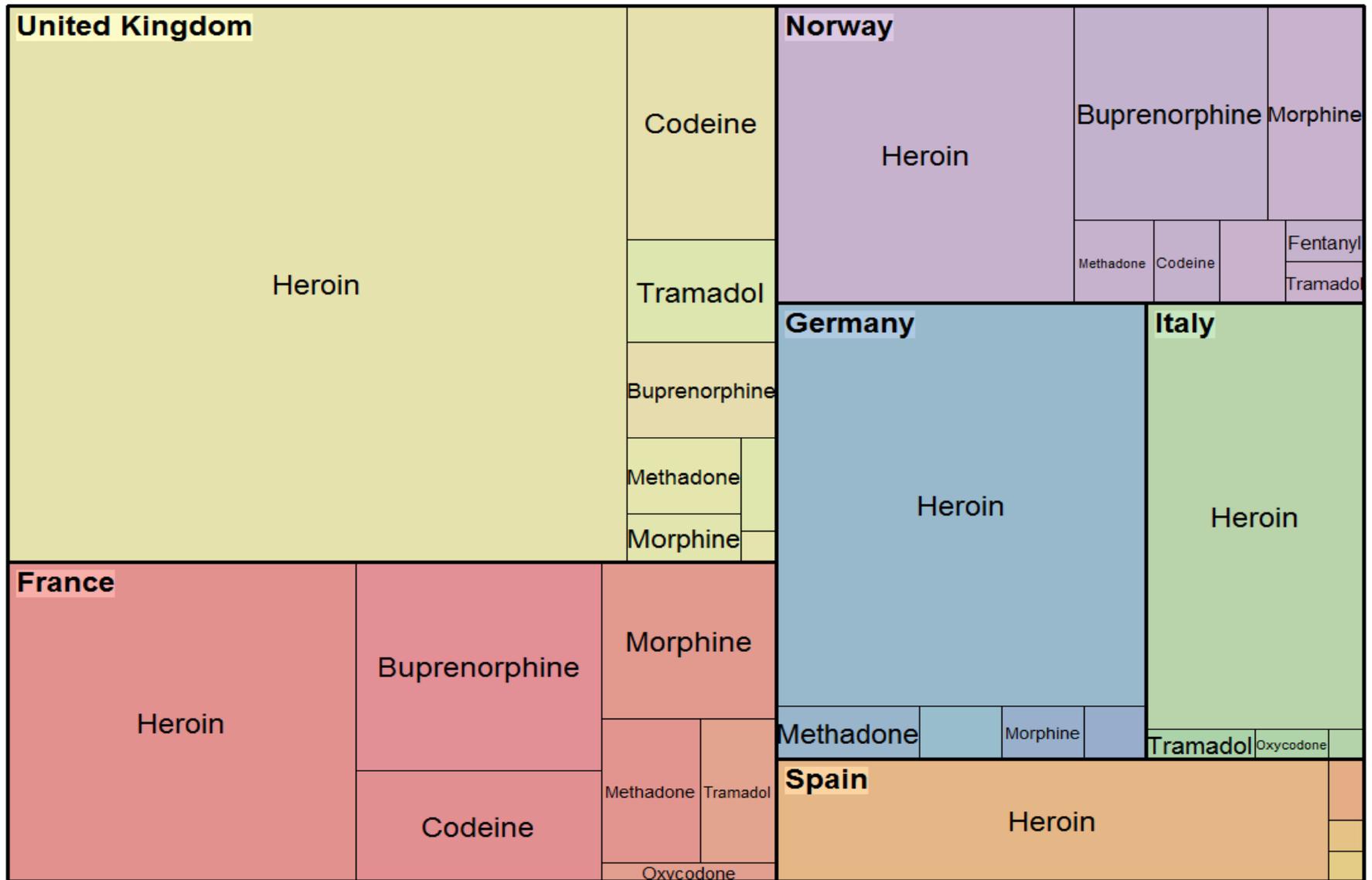
- Codeine most commonly utilized opioid, morphine utilization increasing
- Patients entering substance abuse treatment most often report heroin and codeine as their primary drug of abuse
  - Smoking reported most often (46%)



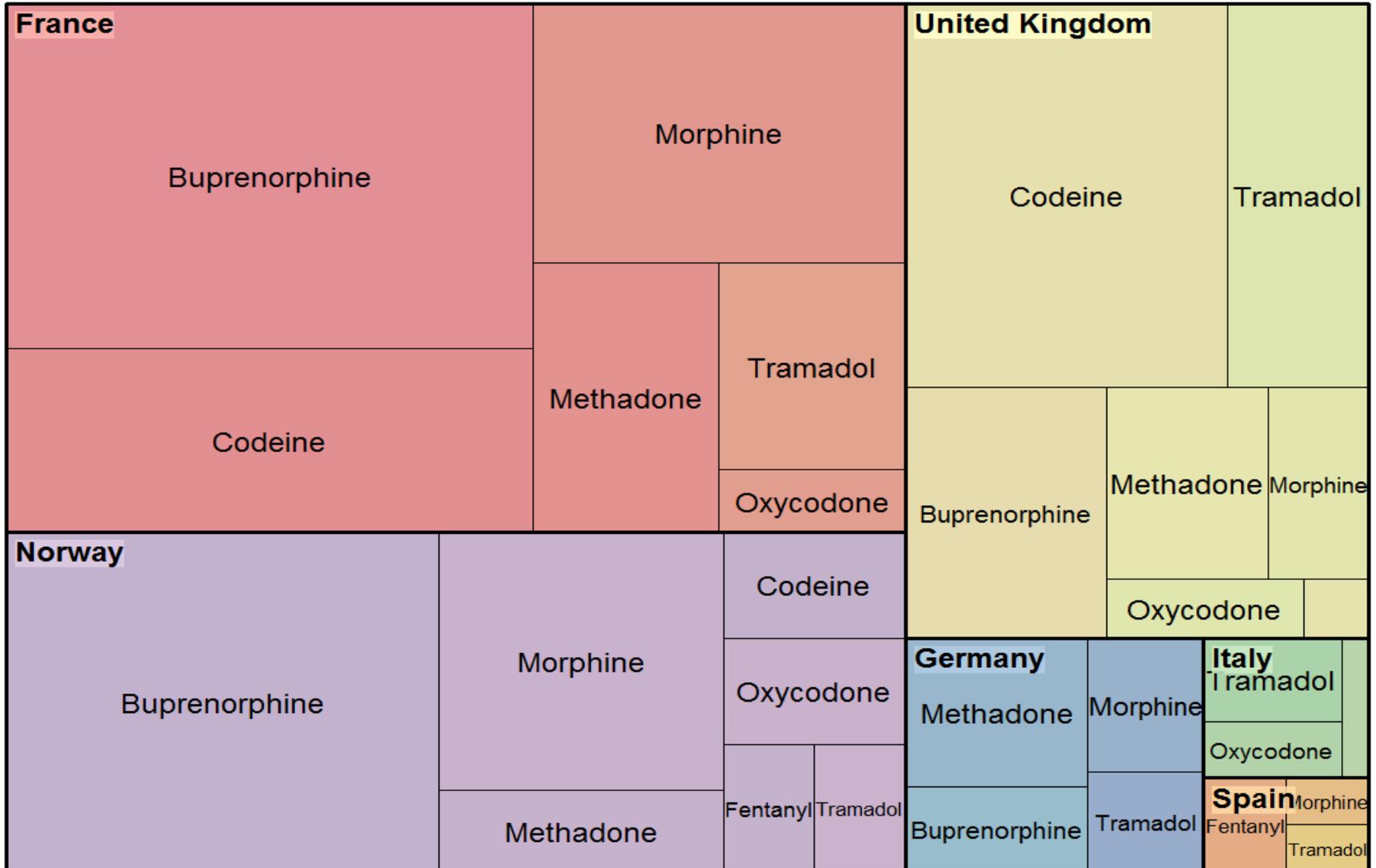
# Europe – Dosage Units per Population



# EUROPAD – Primary Drug Used to Get High

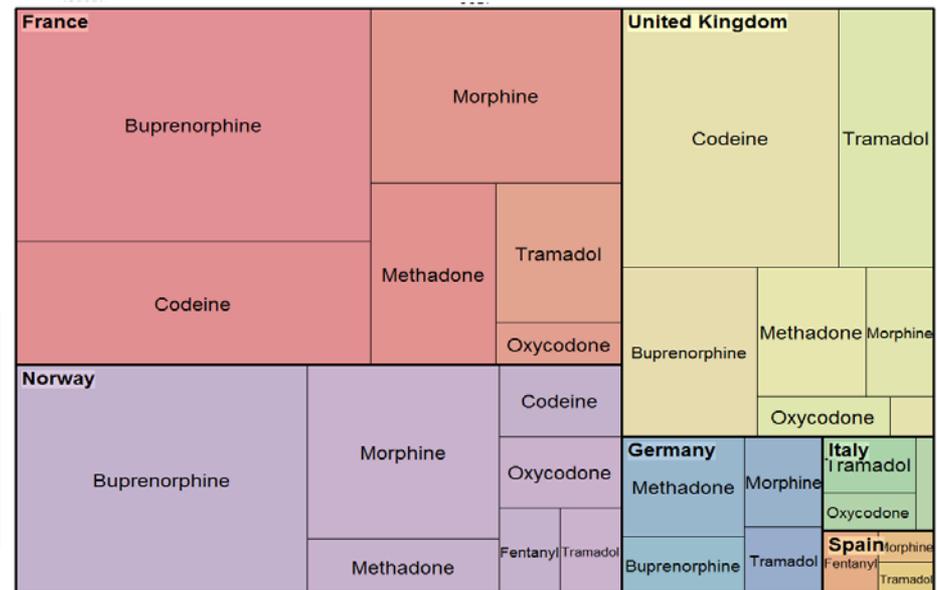
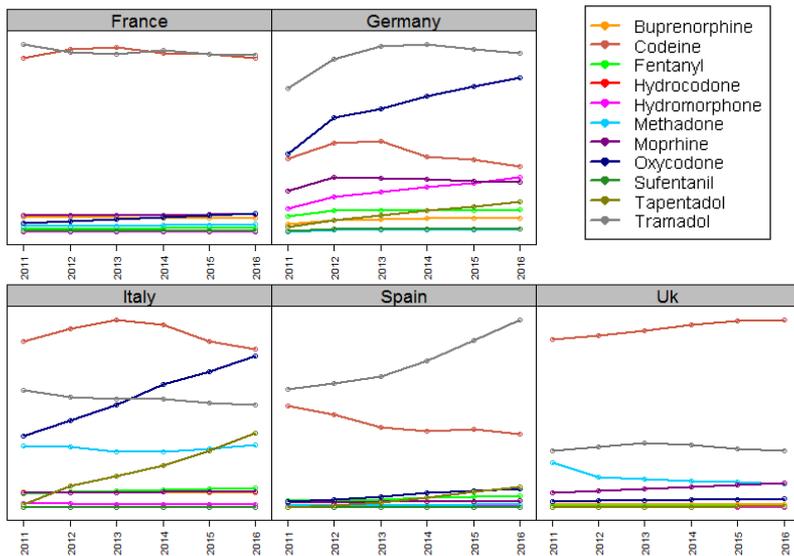


# EUROPAD – Primary Prescription Drug Used to Get High



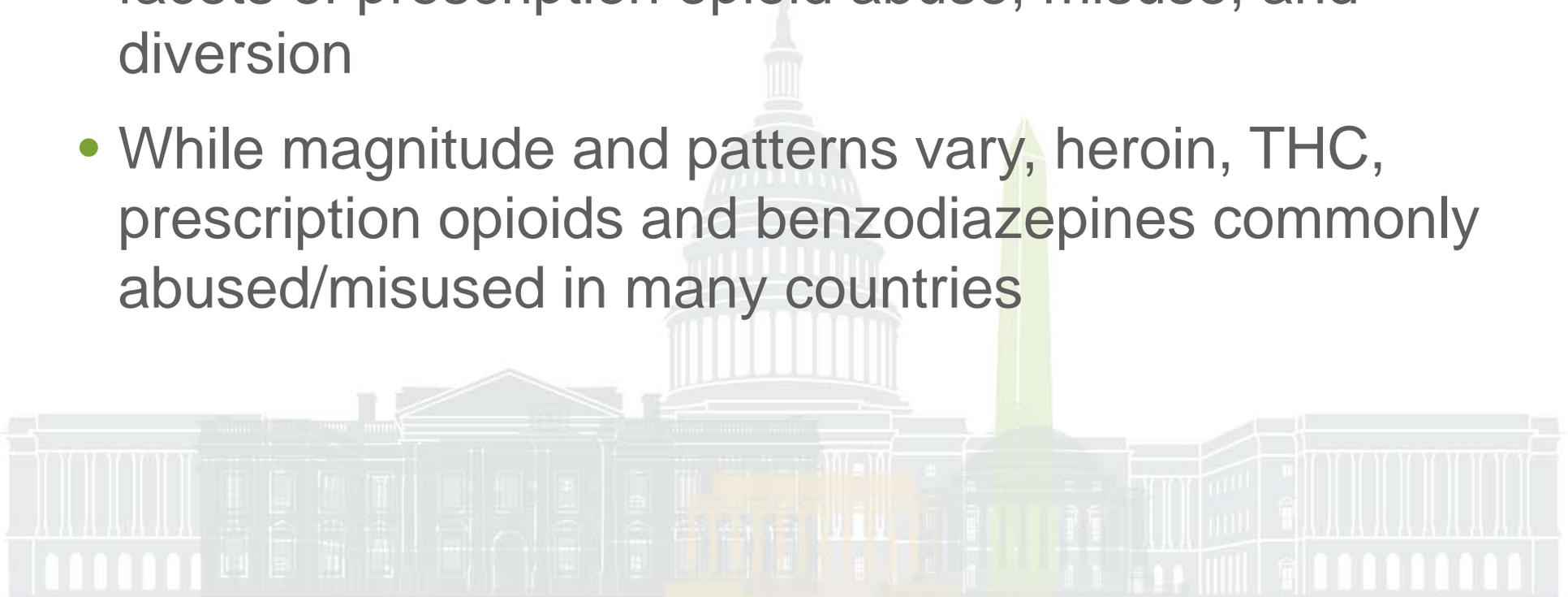
# Assembling the Mosaic

- UK and France endorsements match dispensing
- Fentanyl and morphine in Spain were endorsed more frequently than expected by dispensing
- While oxycodone use is increasing in Germany, endorsements were low, but methadone was endorsed more than expected
- But in Italy, the increase in oxycodone dispensing is reflected in treatment centre endorsements



# Conclusion

- A mosaic approach to surveillance provides valuable insight from multi-dimensional perspectives
- Each of the programs presented target different facets of prescription opioid abuse, misuse, and diversion
- While magnitude and patterns vary, heroin, THC, prescription opioids and benzodiazepines commonly abused/misused in many countries



Questions?

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