RADARS® SYSTEM 12TH ANNUAL SCIENTIFIC MEETING

Evolution of the Opioid Overdose Epidemic

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RADARS® SYSTEM INTERNATIONAL PRE-SYMPOSIUM

International Landscape of Prescription Medication Misuse

WELCOME

- **The Global Mosaic: Is Prescription Drug Misuse Really Different Among Countries?**

  – Janetta Iwanicki, MD

  – *Associate Medical Director – RADARS®, Rocky Mountain Poison and Drug Center, Denver Health and Hospital Authority*

- **The Growing Nexus Between NARCOS and Counterfeit Medicines**

  – J. Aaron Graham

  – *Executive Director - Brand Safety & Security, Boehringer Ingelheim Pharmaceuticals, Inc.*

  – John J. Burke

  – *President, Pharmaceutical Diversion Education Inc., President and Co-Founder, International Health Facility Diversion Association*

WELCOME

- **Acute Harms of Prescription Drug Misuse: What Can We Learn from the European Drug Emergencies Network (Euro-DEN) Plus Project**
  - David Wood, MD
  - *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*

- **Understanding the Evolution of the Opioid Epidemic in Canada, and the Risks of Poly-Substance Use**
  - Tara Gomes, PhD
  - *Scientist, St. Michael's Hospital*

- **Panel Discussion**

- **Networking Welcome Reception**

The Global Mosaic:
# Is Prescription Drug Misuse Really Different Among Countries?

Janetta Iwanicki, MD

RADARS®, Rocky Mountain Poison and Drug Center, Denver Health and Hospital Authority

The Global Mosaic: Can We Compare Apples and Oranges?

- **Prescription medications vary widely across countries**
  - Prescribing patterns
  - Medication availability
  - Cultural and social trends
- **Each country measures the impacts of nonmedical use differently**
  - Nationwide surveys
  - National databases
- **How can we transition to comparing apples to apples?**
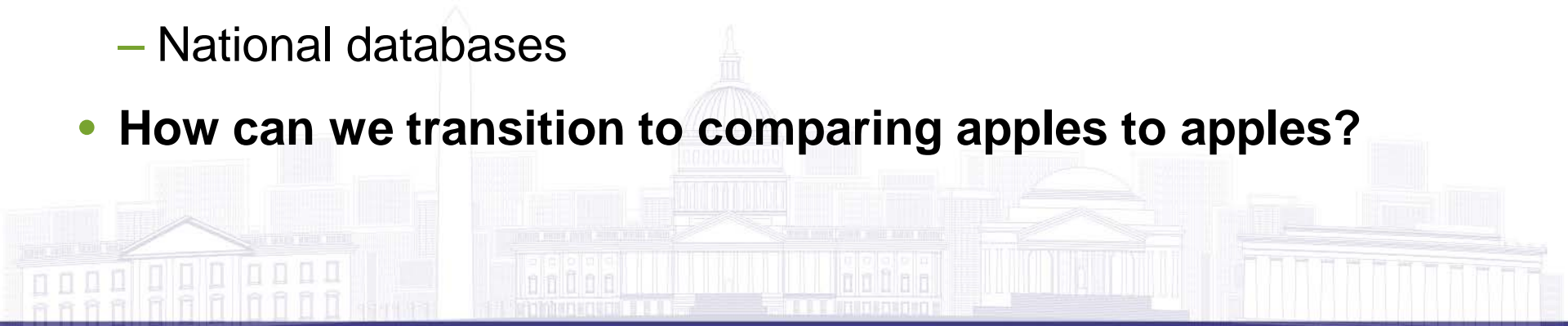
WHO: Total Opioid Consumption (Morphine Equivalence Mg/Capita), 1980-2015
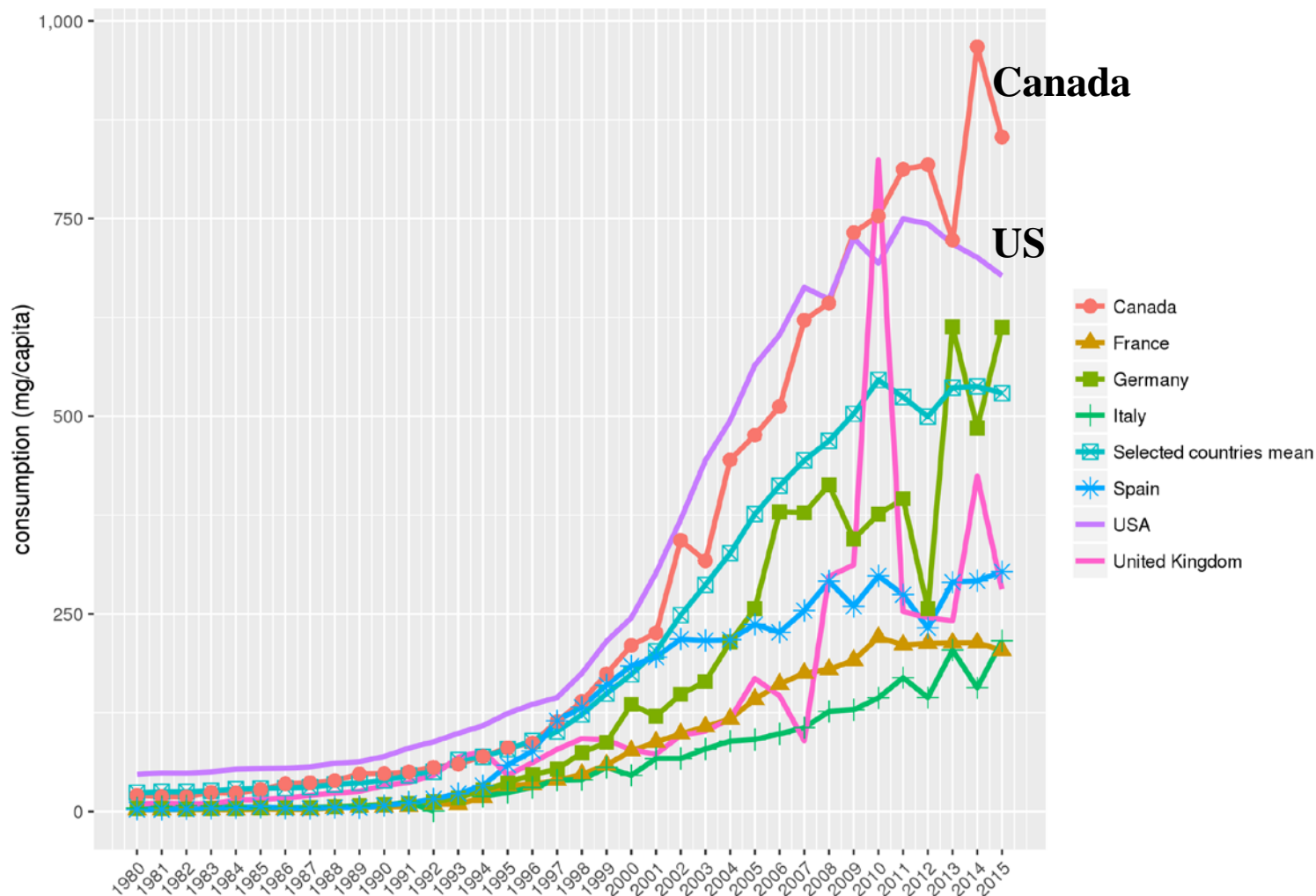
Sources: International Narcotics Control Board; World Health Organization population data

By: Pain & Policy Studies Group, University of Wisconsin/WHO Collaborating Center, 2018
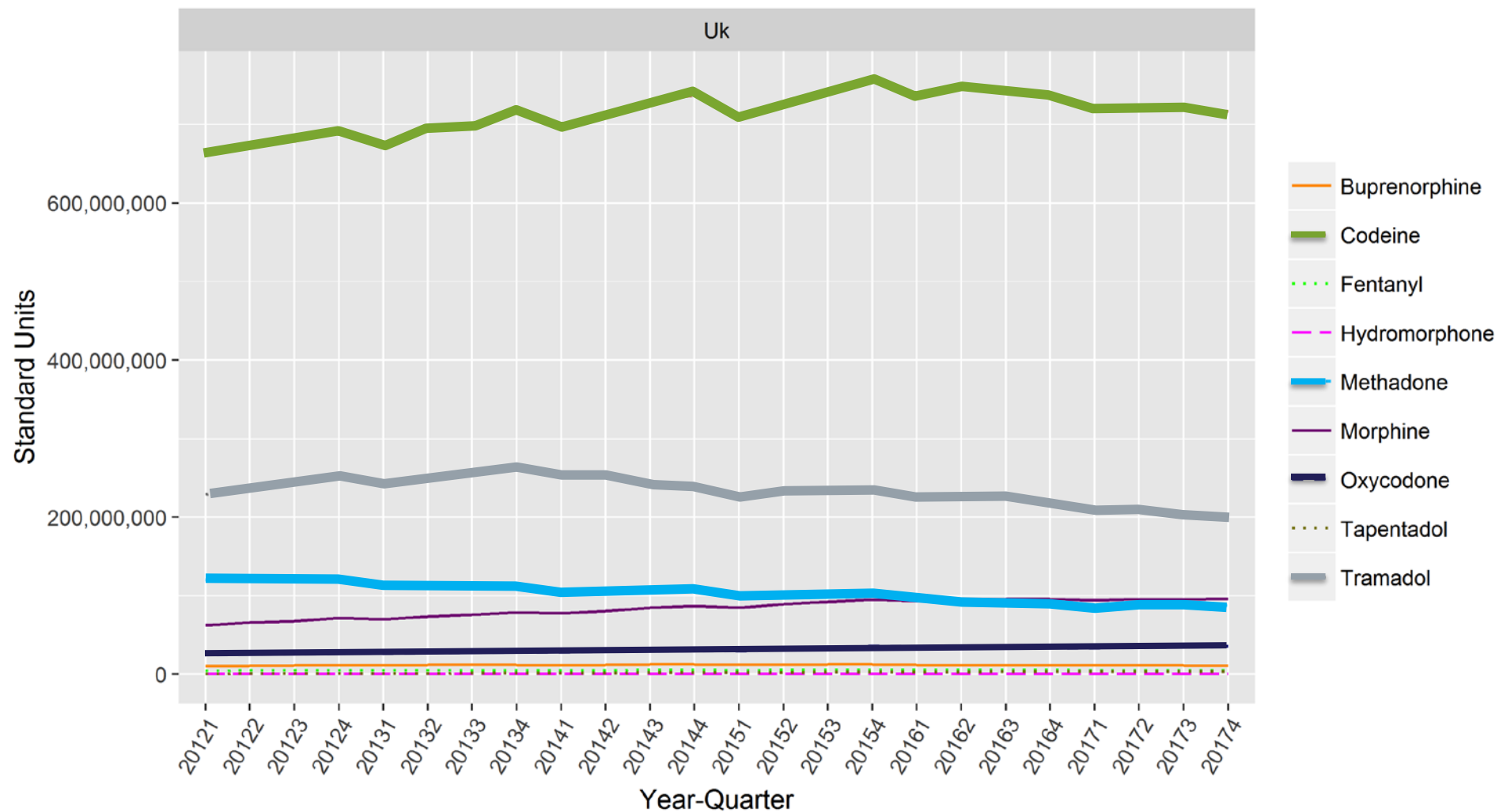
Global Mosaic: Canada
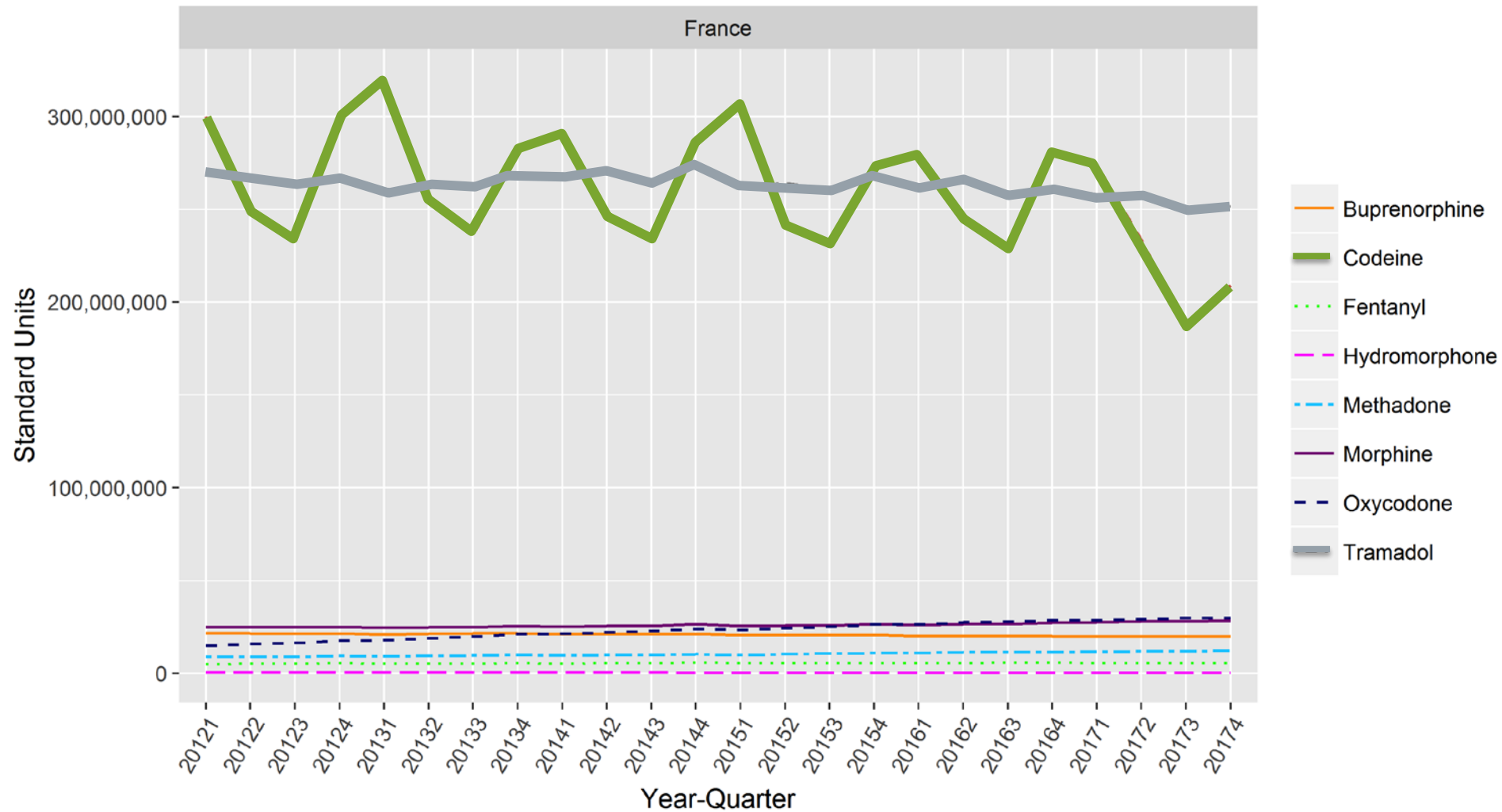# IQVIA, Standard Units per Population
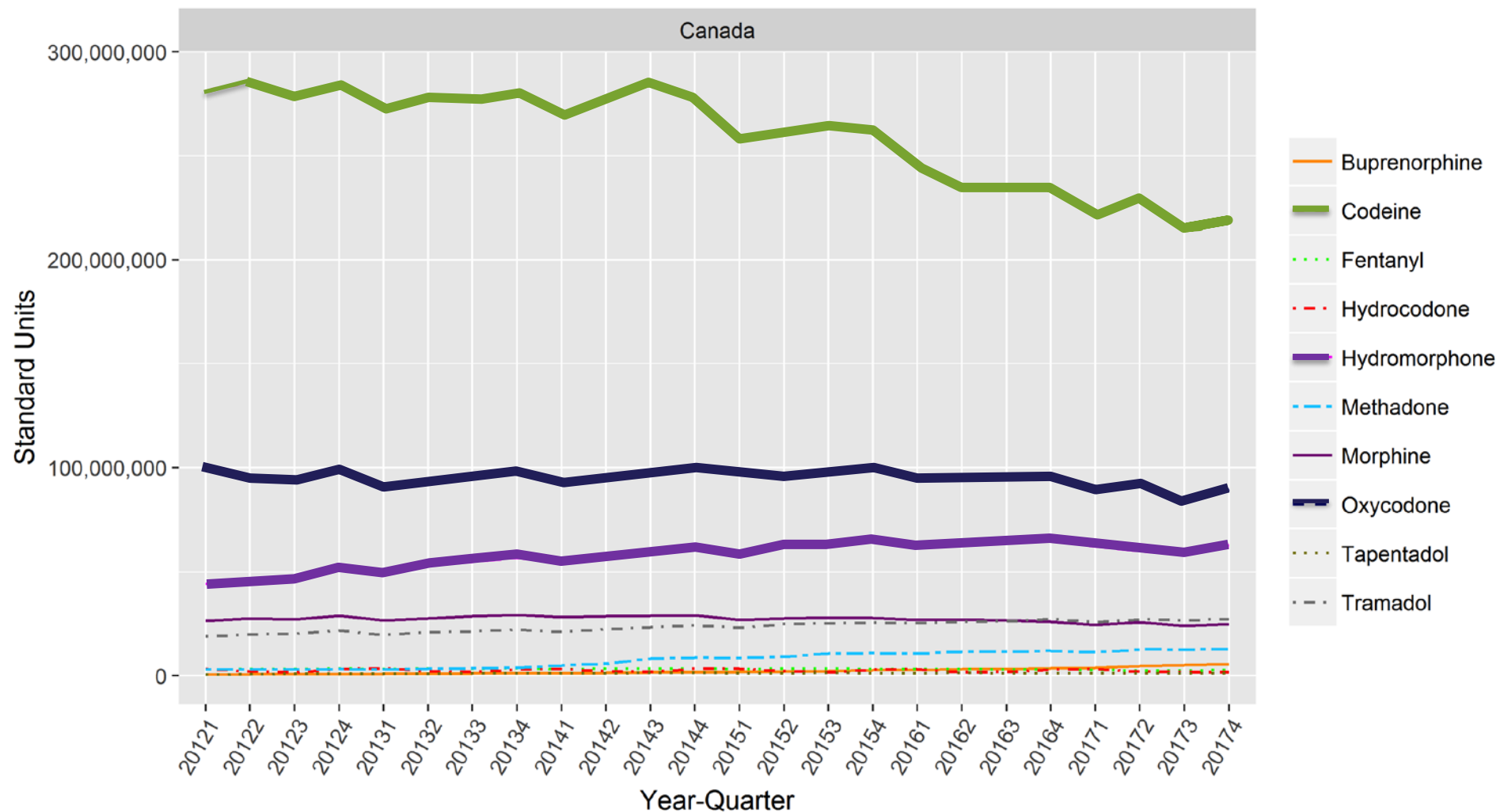
Global Mosaic: UK
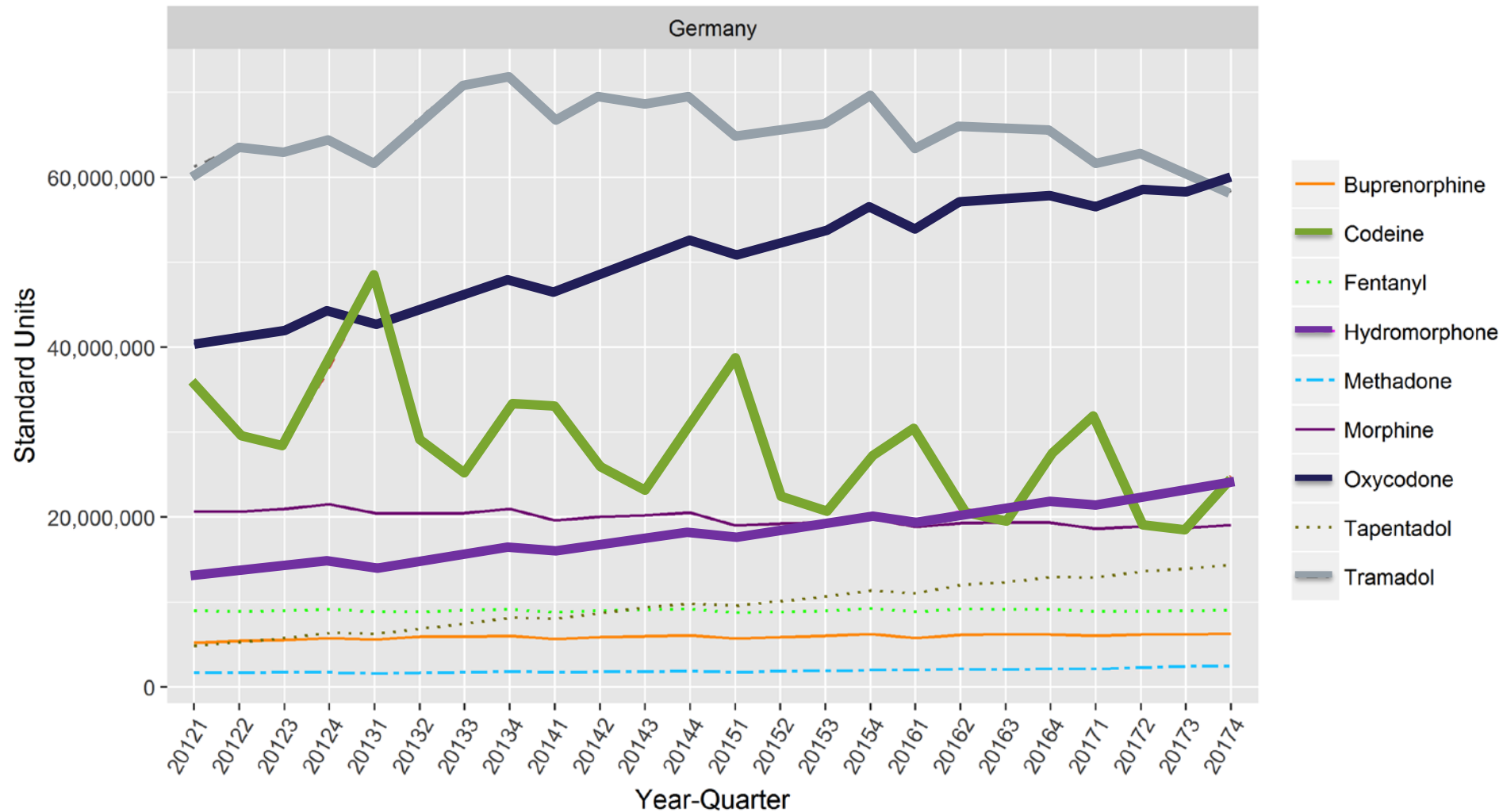# IQVIA, Standard Units per Population
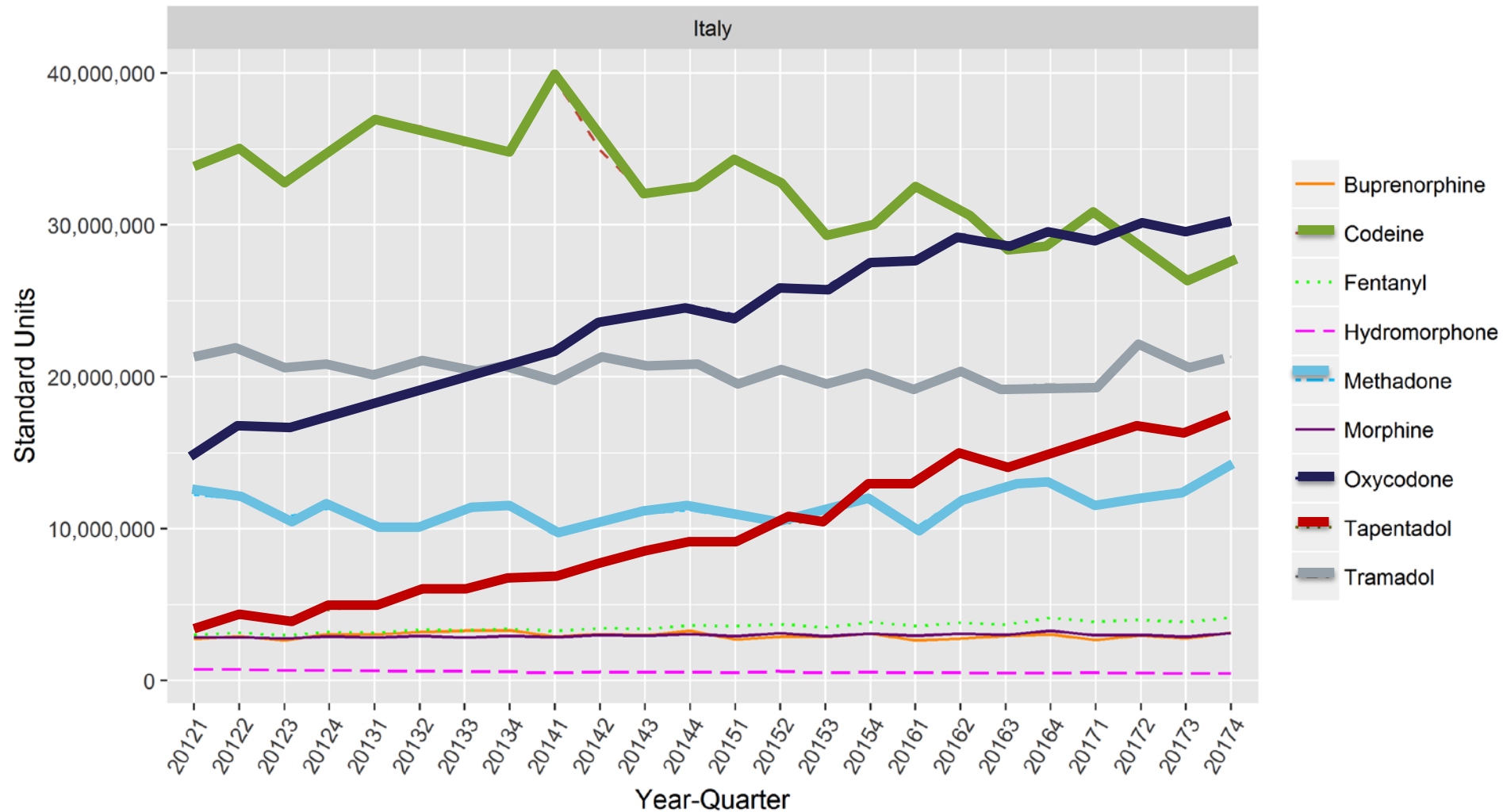
Global Mosaic: France
IQVIA, Standard Units per Population

France

Global Mosaic: Germany
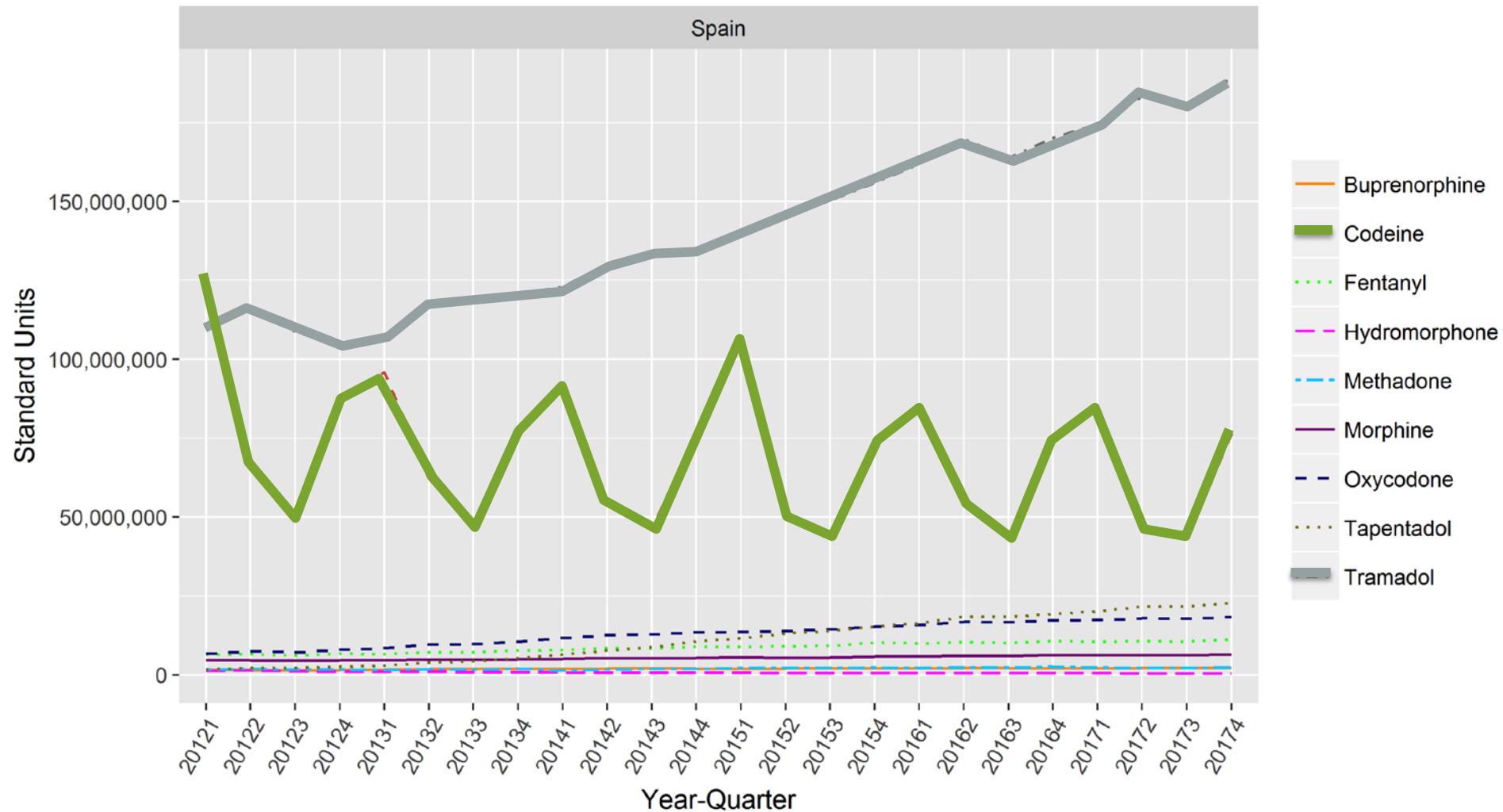# IQVIA, Standard Units per Population

Global Mosaic: Italy
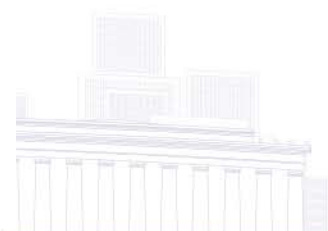# IQVIA, Standard Units per Population
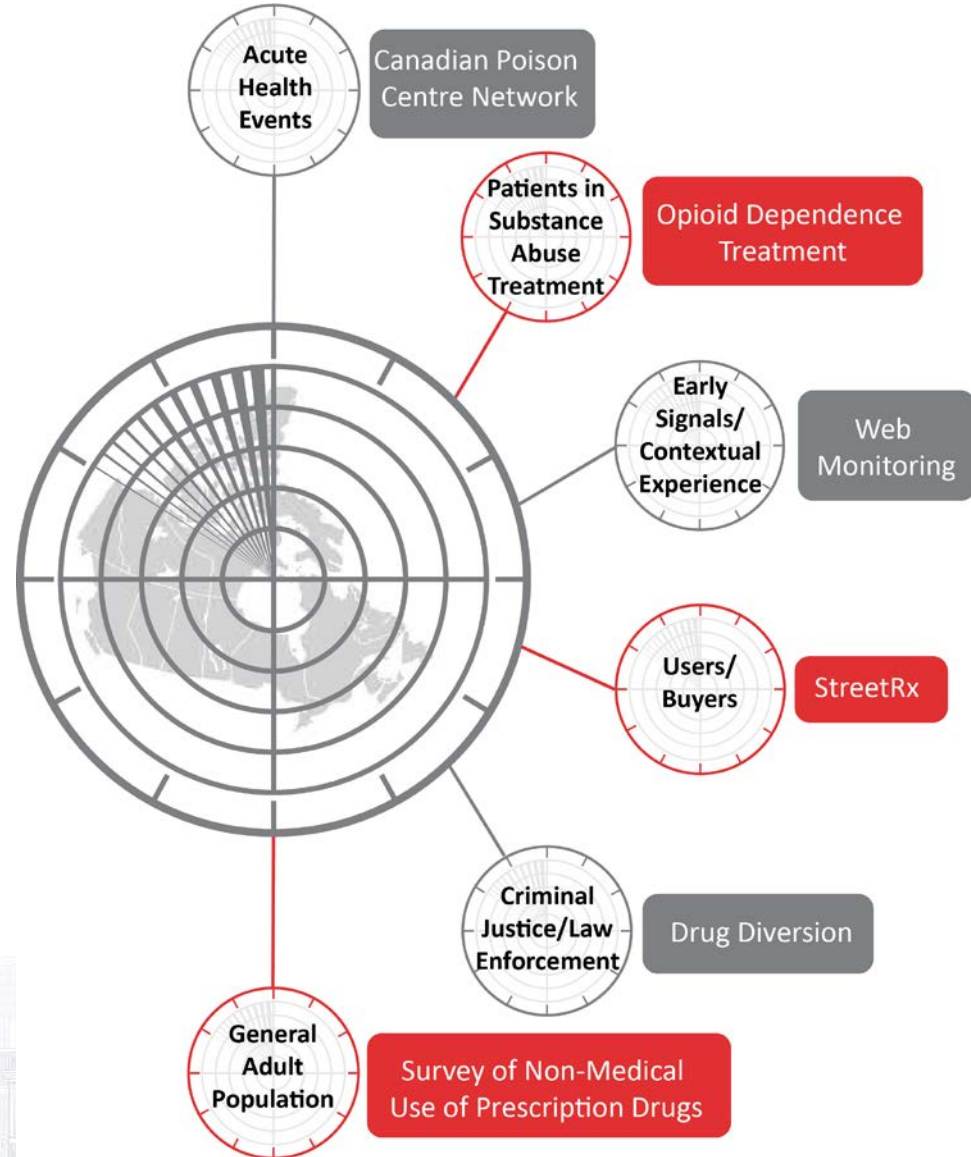
Global Mosaic: Spain
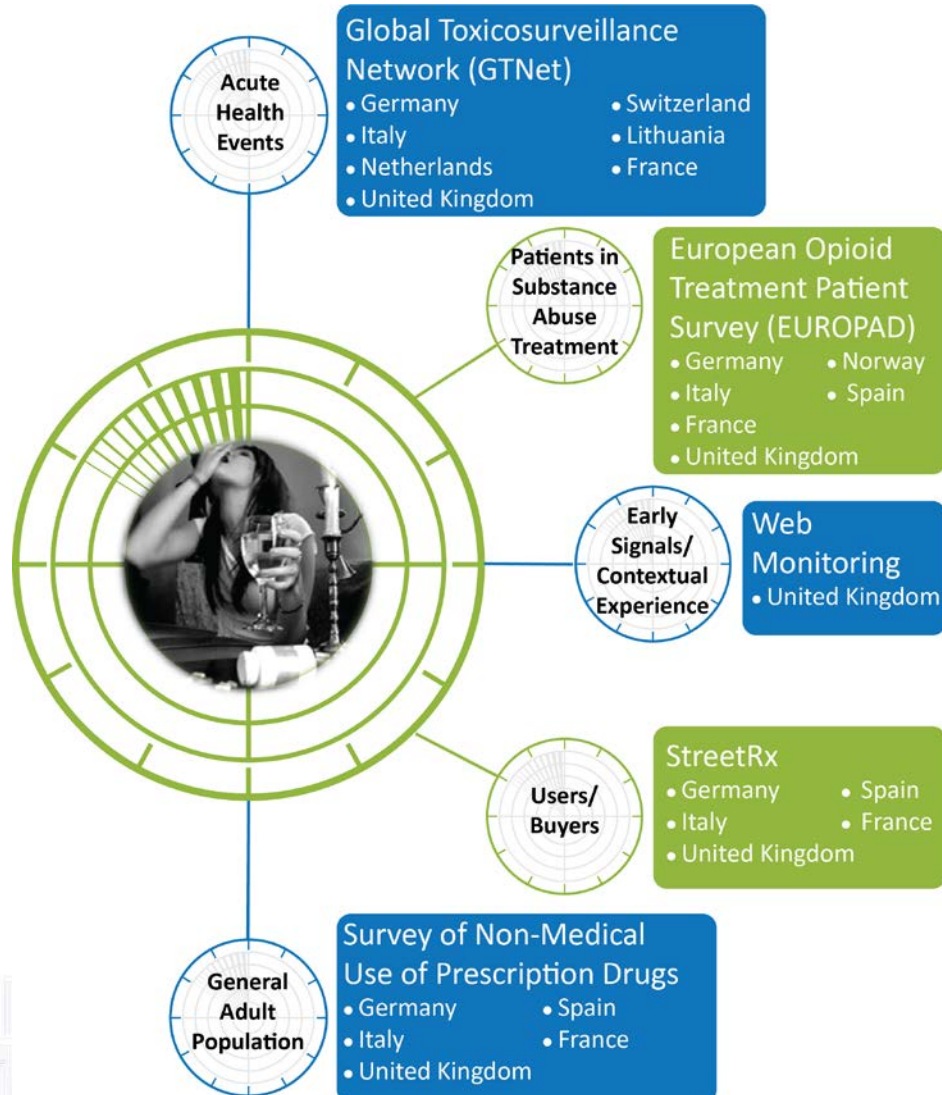# IQVIA, Standard Units per Population

RADARS® International Program Development

- **2007**: Global Toxicosurveillance 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

- **2015**: SKIP (CA)

- **2014**: Drug Diversion (CA)

- **2016**: Survey of Non-Medical Use of Prescription Drugs (US, CA)

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

- **2018:** Canadian Poison Centre Network (CA)

RADARS® International Program: Canadian Consumer Products & Pharmaceutical Safety, Inc.

RADARS® International Program: European Mosaic

Global Toxicosurveillance Network (GTNet)
- Germany
- Italy
- Netherlands
- United Kingdom
- Switzerland
- Lithuania
- France

Acute Health Events

European Opioid Treatment Patient Survey (EUROPAD)
- Germany
- Italy
- France
- United Kingdom
- Norway
- Spain

Patients in Substance Abuse Treatment

Web Monitoring
- United Kingdom

Early Signals/ Contextual Experience

StreetRx
- Germany
- Italy
- United Kingdom
- Spain
- France

Users/ Buyers

Survey of Non-Medical Use of Prescription Drugs
- Germany
- Italy
- United Kingdom
- Spain
- France

General Adult Population

Canadian Poison Centre Network and Global Toxicosurveillance Network (GTNet)

▶ Methodology

- Standardized data are collected during routine daily management of acute medical events then queried for cases involving drugs of interest

Key Measures

Date of event

Demographics (gender, age, postal code)

Reason for exposures (e.g. intentional abuse, misuse, unintentional, suicide)

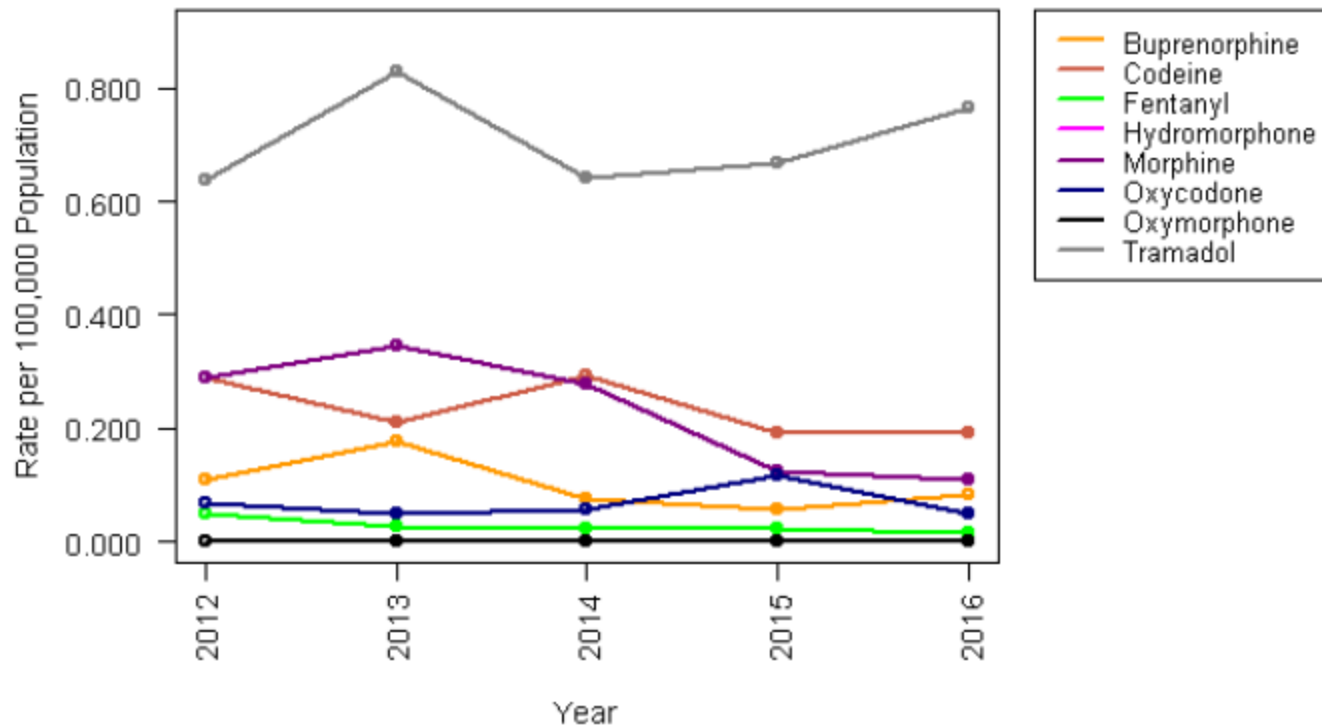Drugs/drug products involved in the exposure (product-specific)
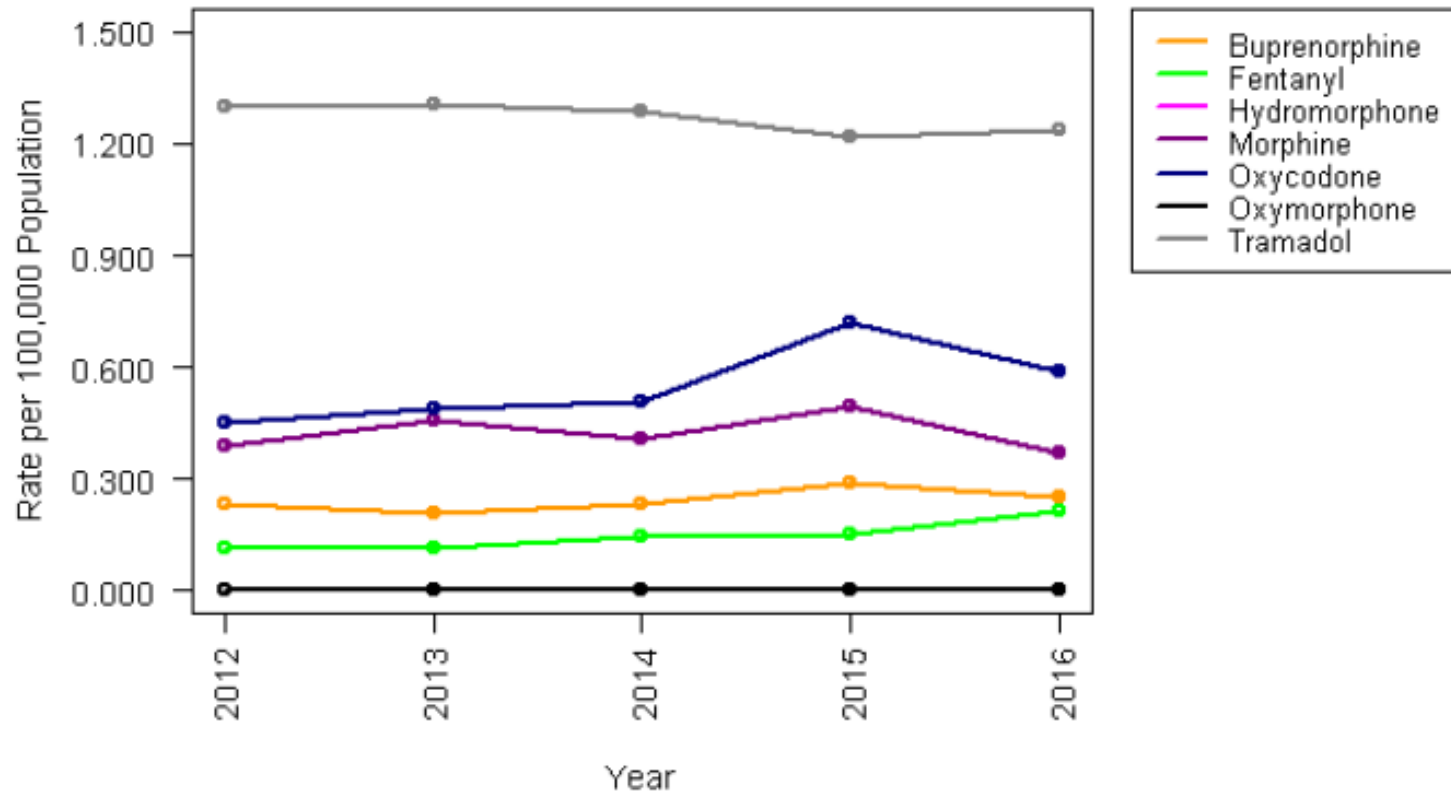
Routes of abuse

Outcome (e.g. death)

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Global Mosaic: GTNet, France
Exposures per 100,000 Population

There were no reports of hydromorphone and oxymorphone during the surveillance period

Global Mosaic: GTNet, Germany Exposures per 100,000 Population

There were no reports of hydromorphone and oxymorphone during the surveillance period

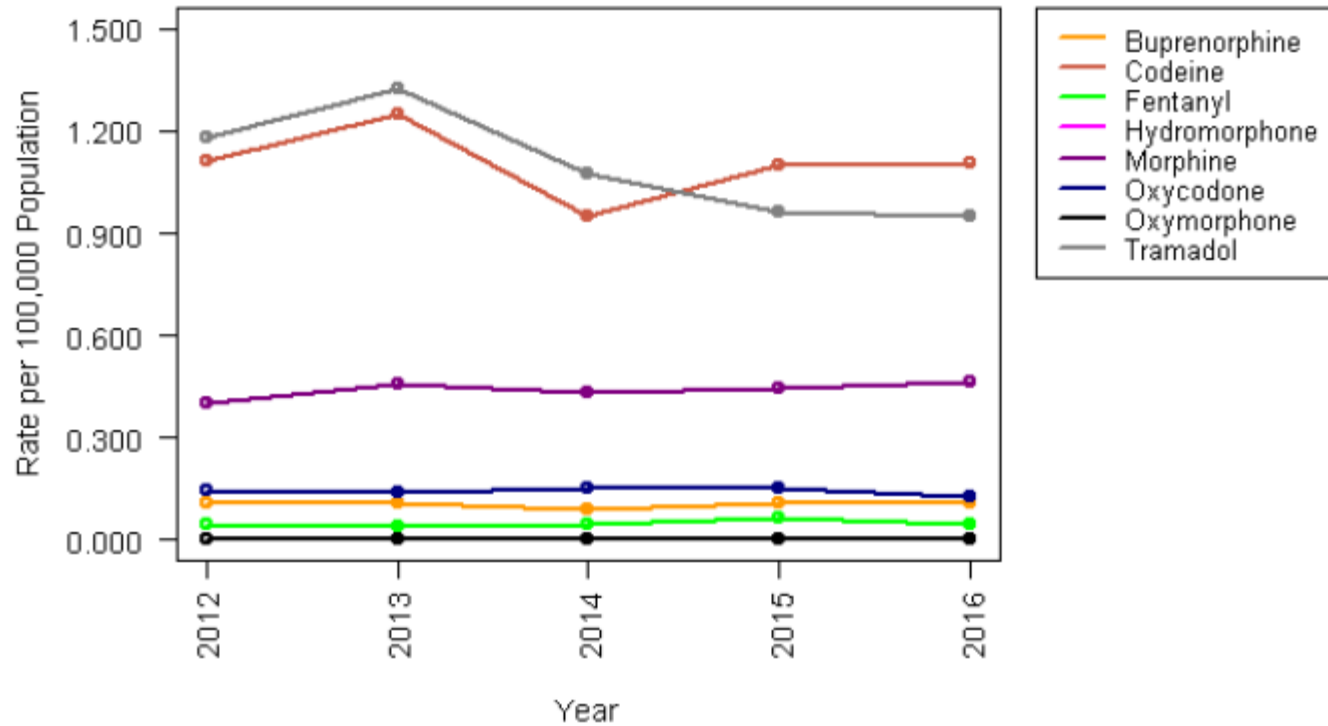# Global Mosaic: GTNet, Italy
Exposures per 100,000 Population
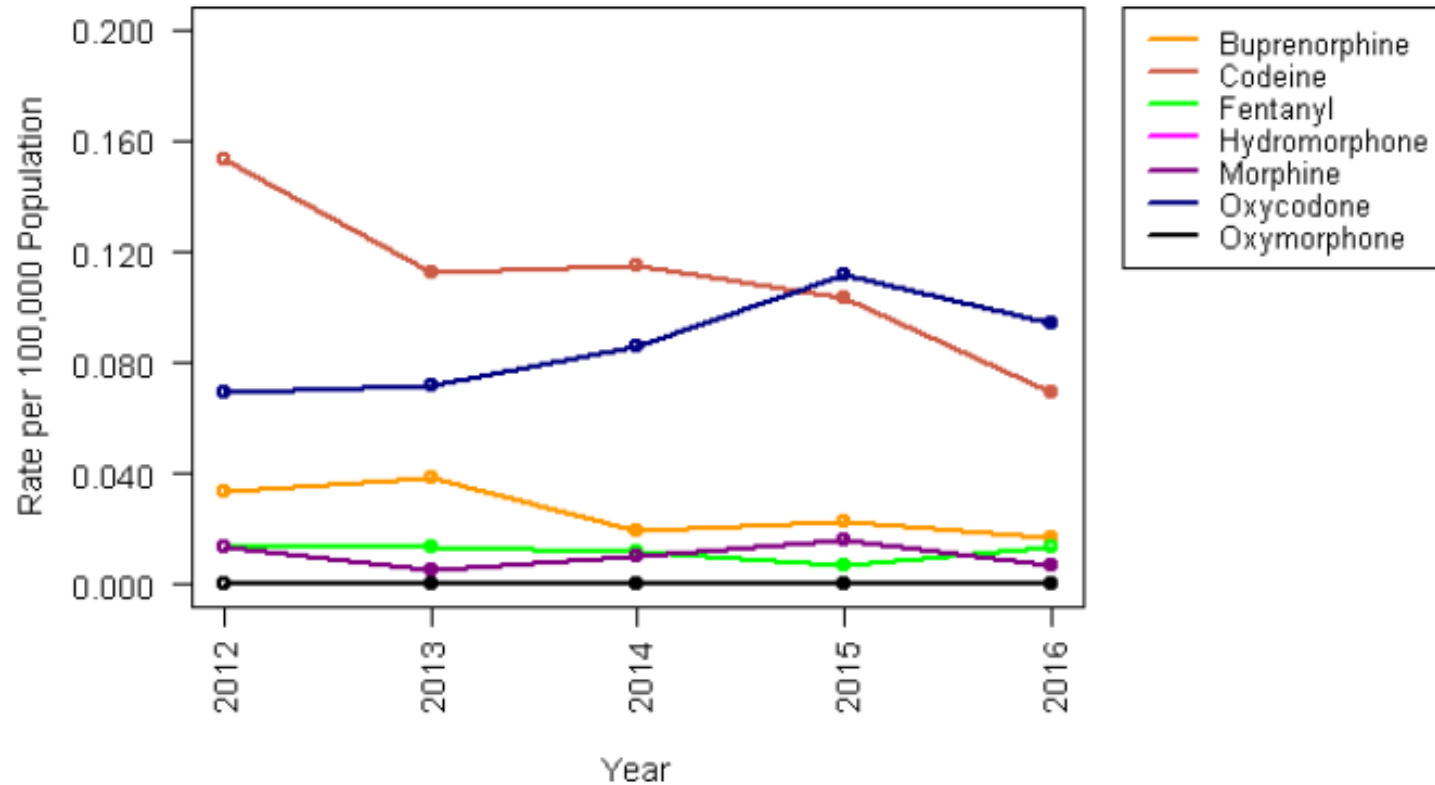
There were no reports of hydromorphone or oxymorphone during the surveillance period

Global Mosaic: GTNet, UK
Exposures per 100,000 Population

There were no reports of oxymorphone during the surveillance period

Canadian Opioid Depedence Treatment and European Opioid Treatment Patient Survey Program (EUROPAD)

▸ Methodology

- Patients entering treatment for opioid addiction are asked to voluntarily complete the questionnaire

- Questionnaires are sent to central data coordination site for quality review and data entry

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 prescription drugs "to get high" in the past 30 or 90 days (product-specific)

Route of abuse (chewed, snorted, smoked, injected)

Opioid Dependence Treatment Program, Canada Quarterly Rates per 100,000 Population
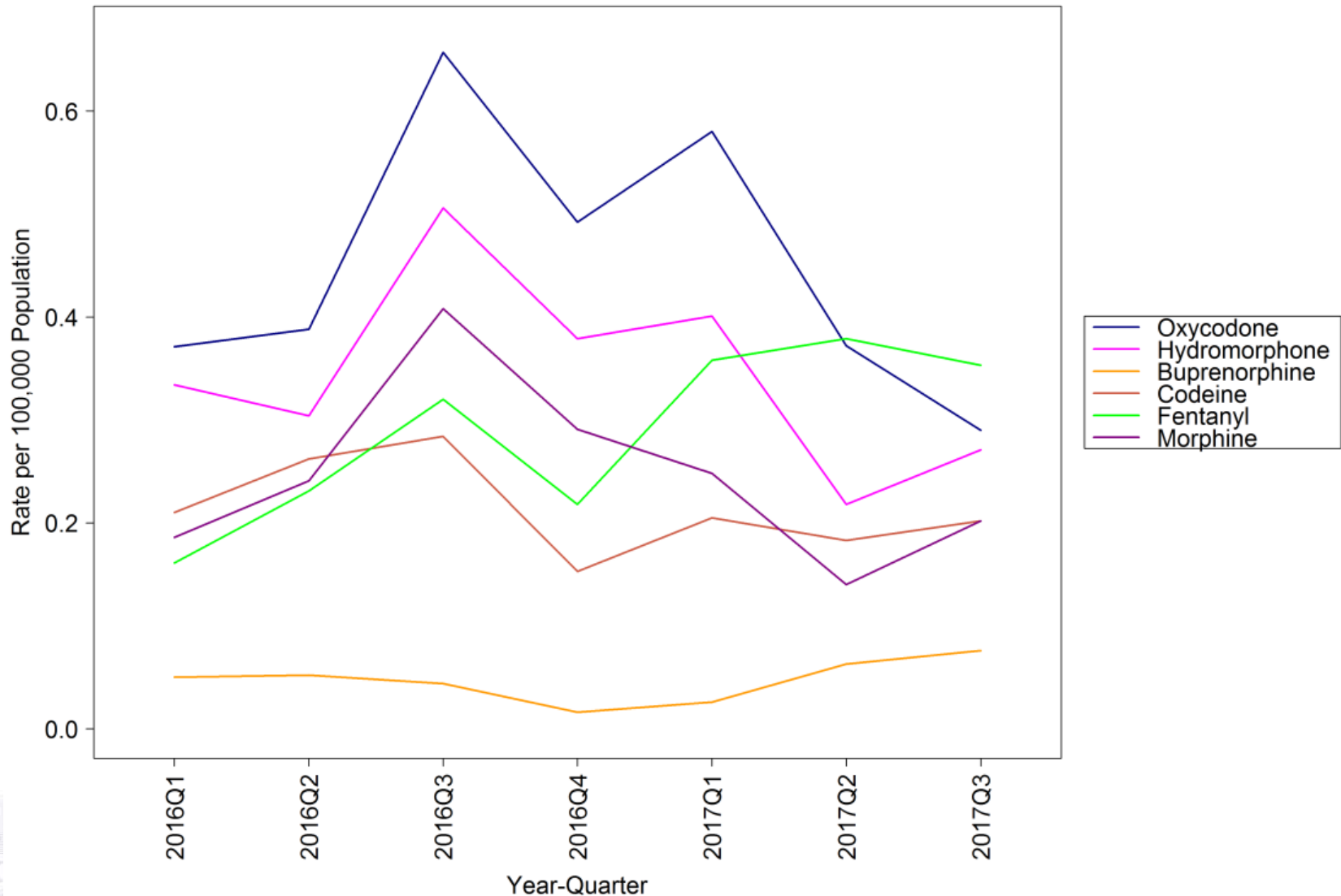
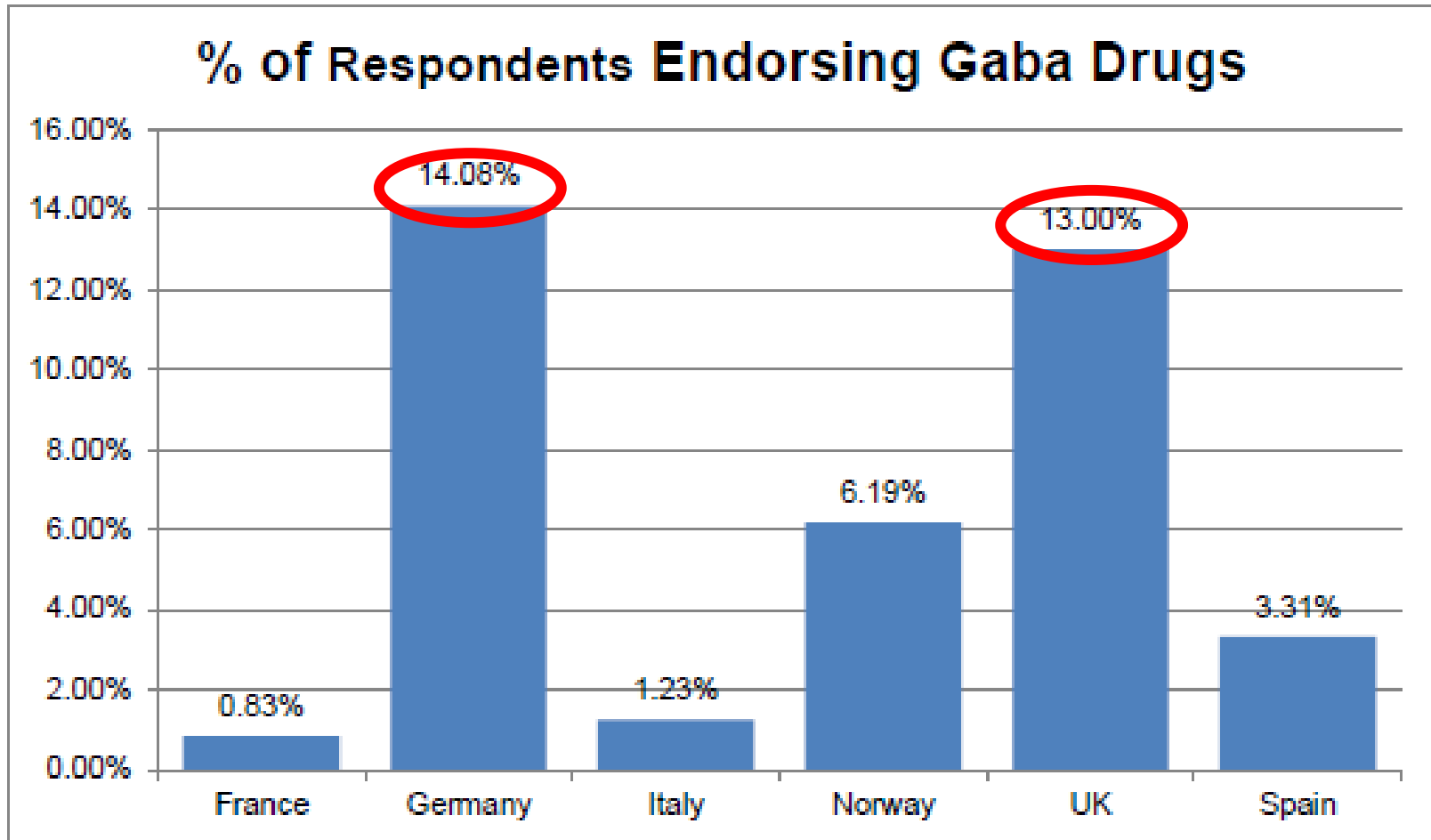# Opioid Dependence Treatment Program, Canada Cumulative Rates per 100,000 Population
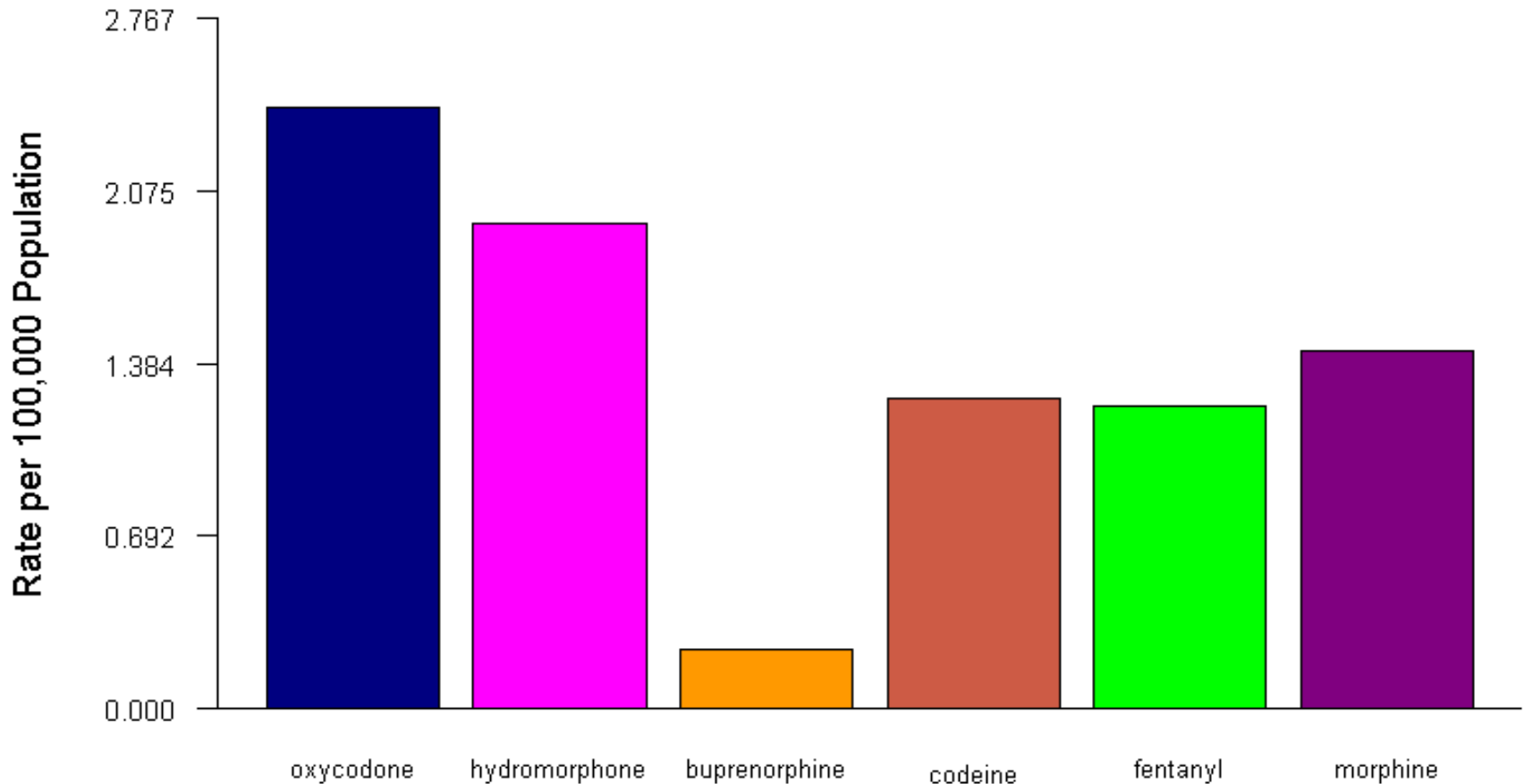
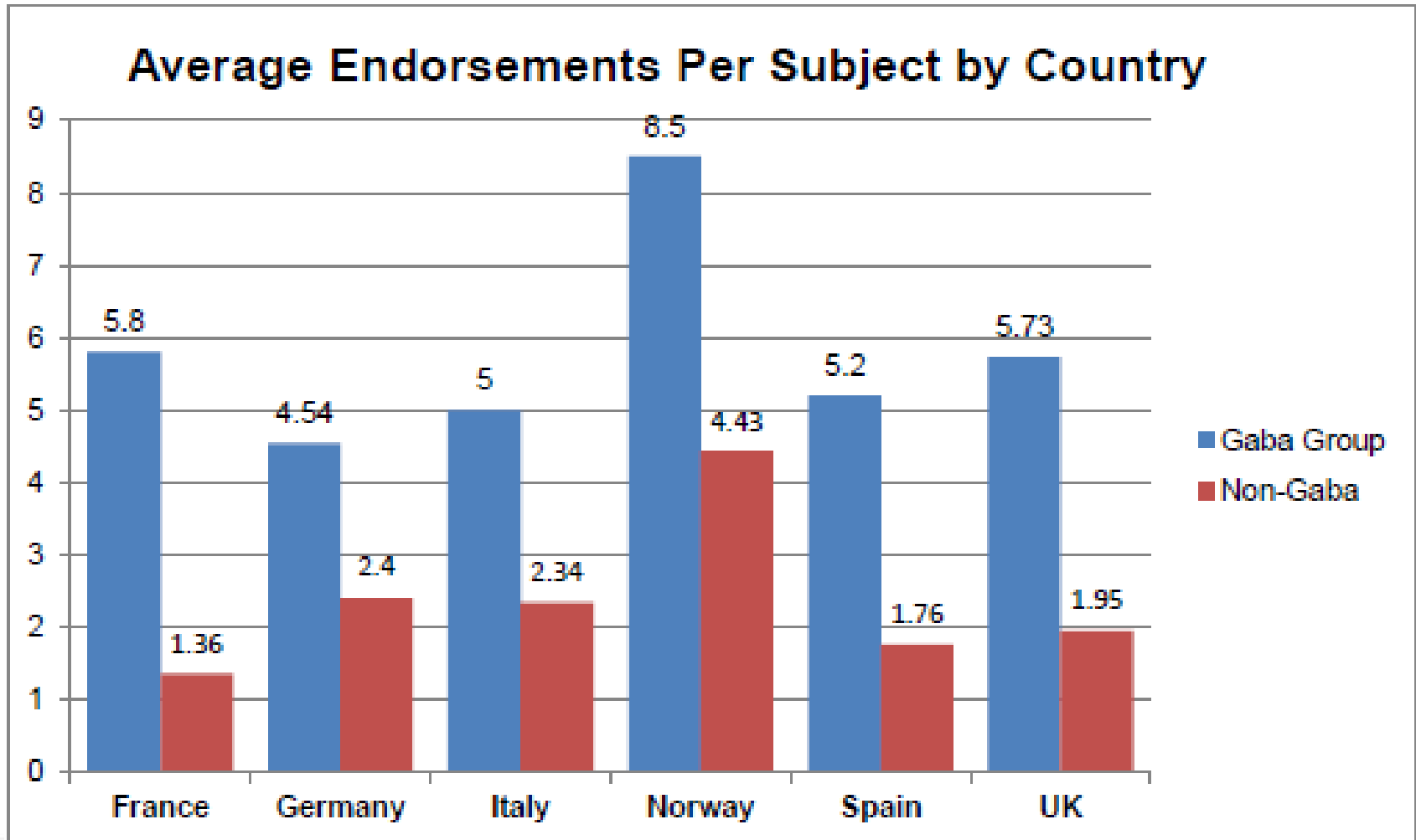# Opioid Dependence Treatment Program, Canada
Routes of Opioid Misuse

Distribution of Route of Abuse

Legend: Chew, Smoke, Snort, Inject

EUROPAD, GABA Analogues

% of Respondents Endorsing Gaba Drugs

- France: 0.83%
- Germany: 14.08%
- Italy: 1.23%
- Norway: 6.19%
- UK: 13.00%
- Spain: 3.31%
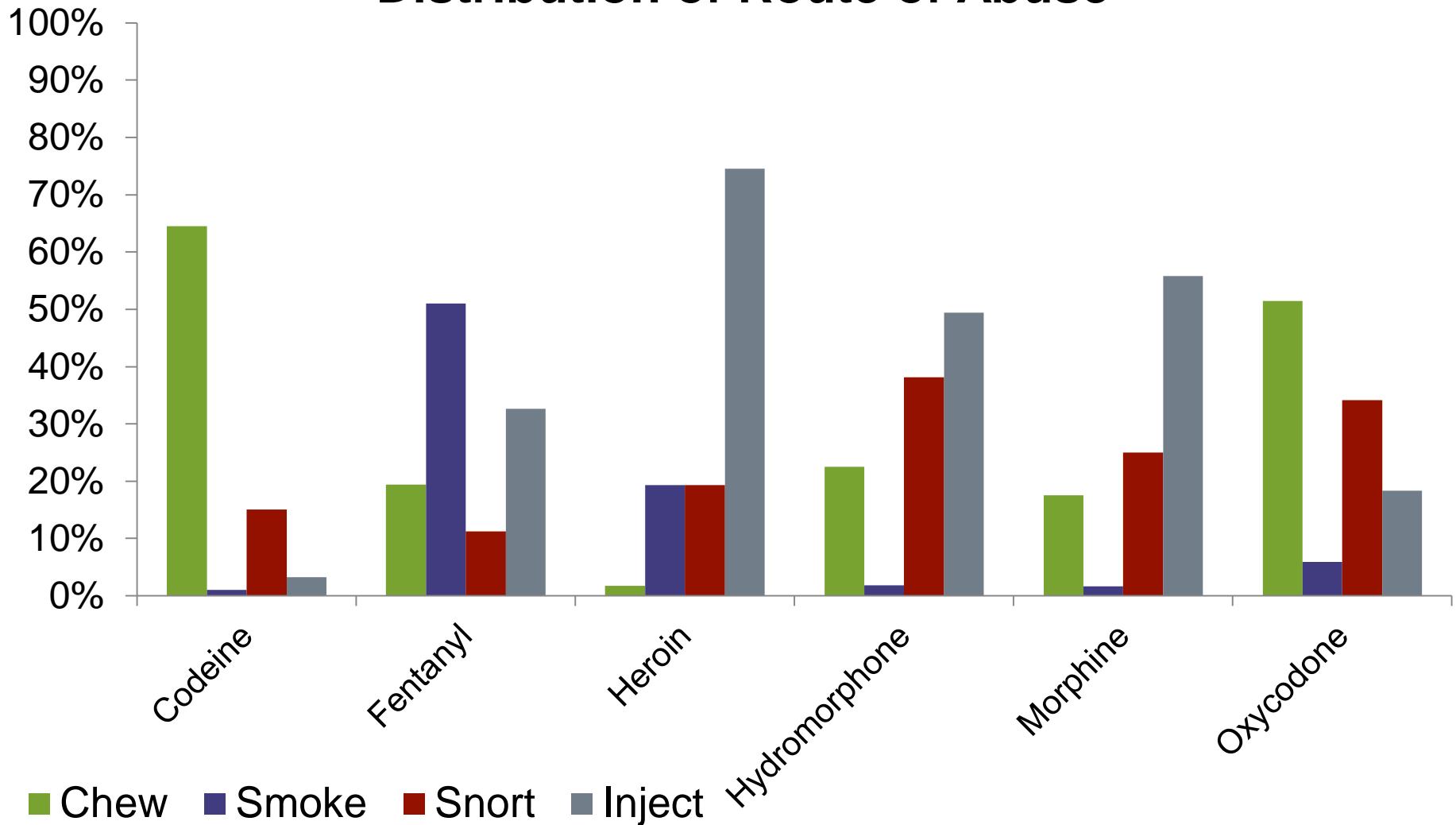
EUROPAD, GABA Analogues & Polysubstance Misuse

Average Endorsements Per Subject by Country

StreetRx Program

http://streetrx.com

▸ Methodology

- Street price information is voluntarily submitted to the open access websites

Key Measures

Date of submission

Geographical locator (country, state/province, city)

Drugs/drug products purchased (product, formulation and dosage strength specific)

Amount purchased

Price paid for purchase

Web Monitoring Program

Key Measures

- Number of monthly, weekly, daily mentions (product specific)
- Reason for use (e.g. abuse, misuse)
- Route of abuse
- Outcomes (e.g. addiction, overdose, death)
- Frequency of pre-identified themes
- Sentinel events, new trends

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StreetRx, Canada
Price per Milligram, 2012-2017
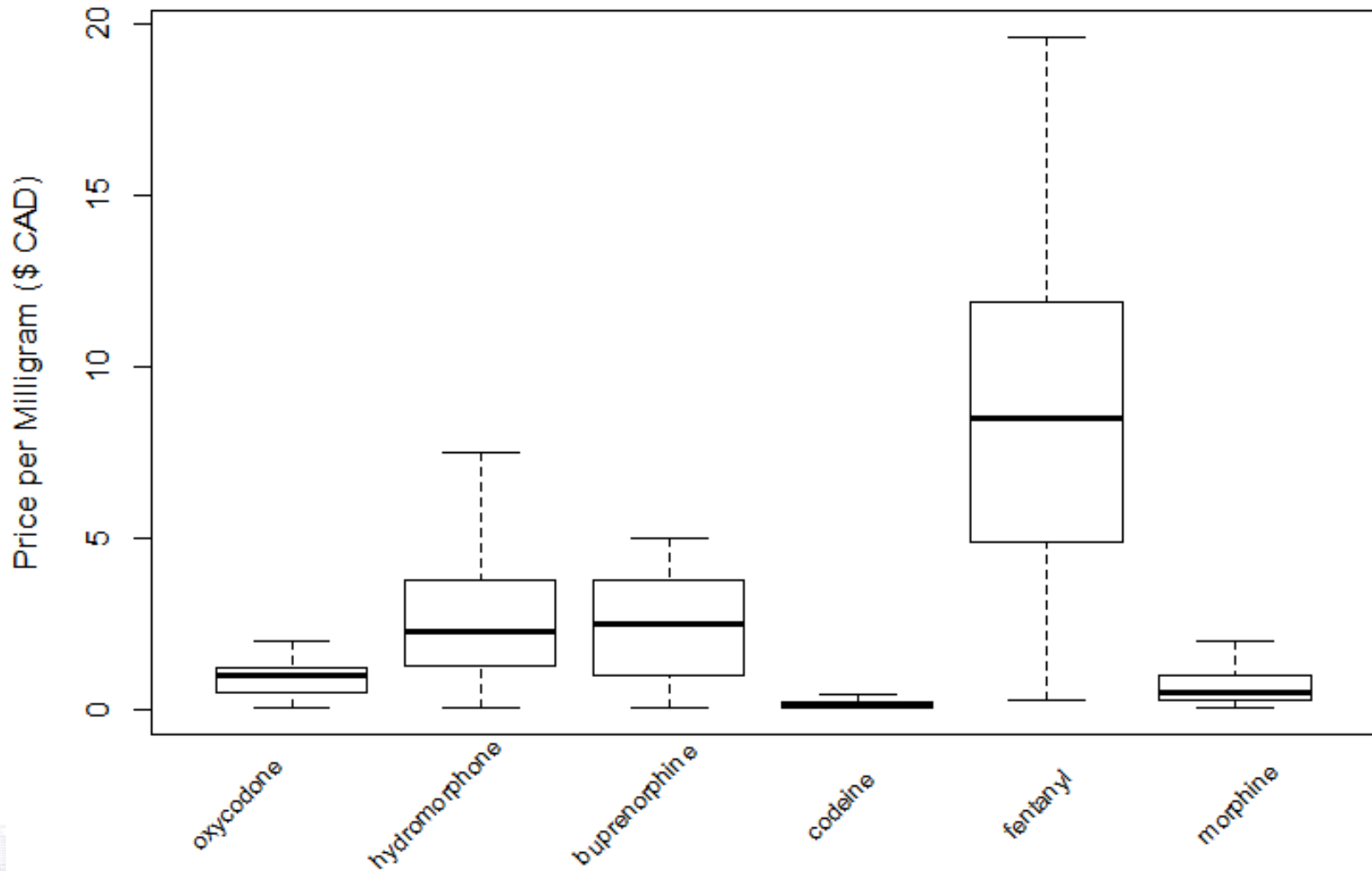
Global Mosaic: Web Monitoring, UK
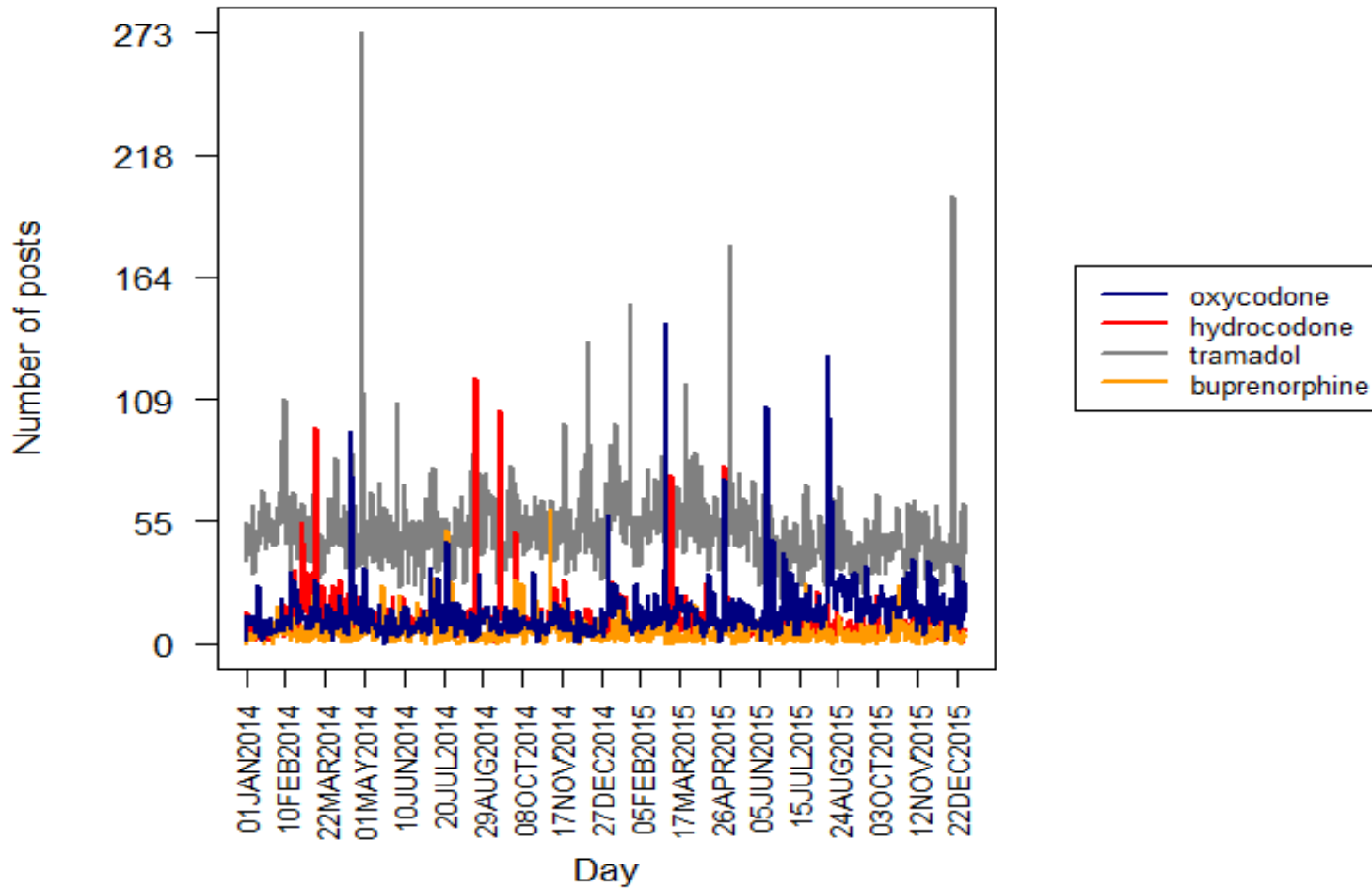
Survey of Non-Medical Use of Prescription Drugs Program (NMURx)

Key Measures

Gender, age, income, geographic location, veteran and student status

General use and non-medical use of prescription drugs by active pharmaceutical ingredient and by specific product

Co-ingestants and use of illicit drugs and alcohol

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

History of chronic and acute pain and prescription drug therapy

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The Global Mosaic: How Can We Compare Apples and Oranges?

- **NMURx**

  – **Standardized survey across multiple countries**

  – **Allows direct comparisons between countries**

  – **Each country has a "fingerprint" of nonmedical use patterns**

Global Mosaic: NMURx Around the World
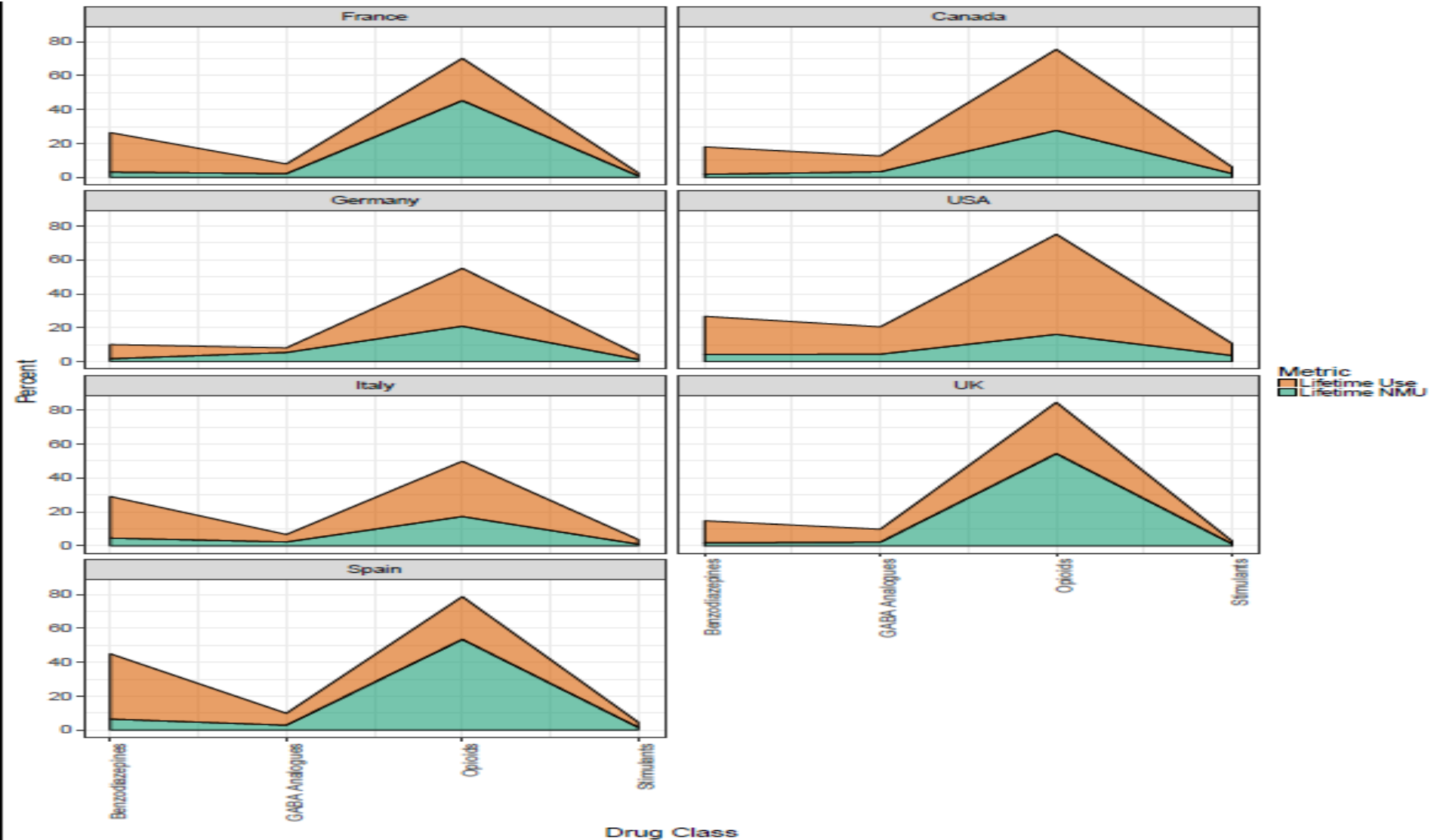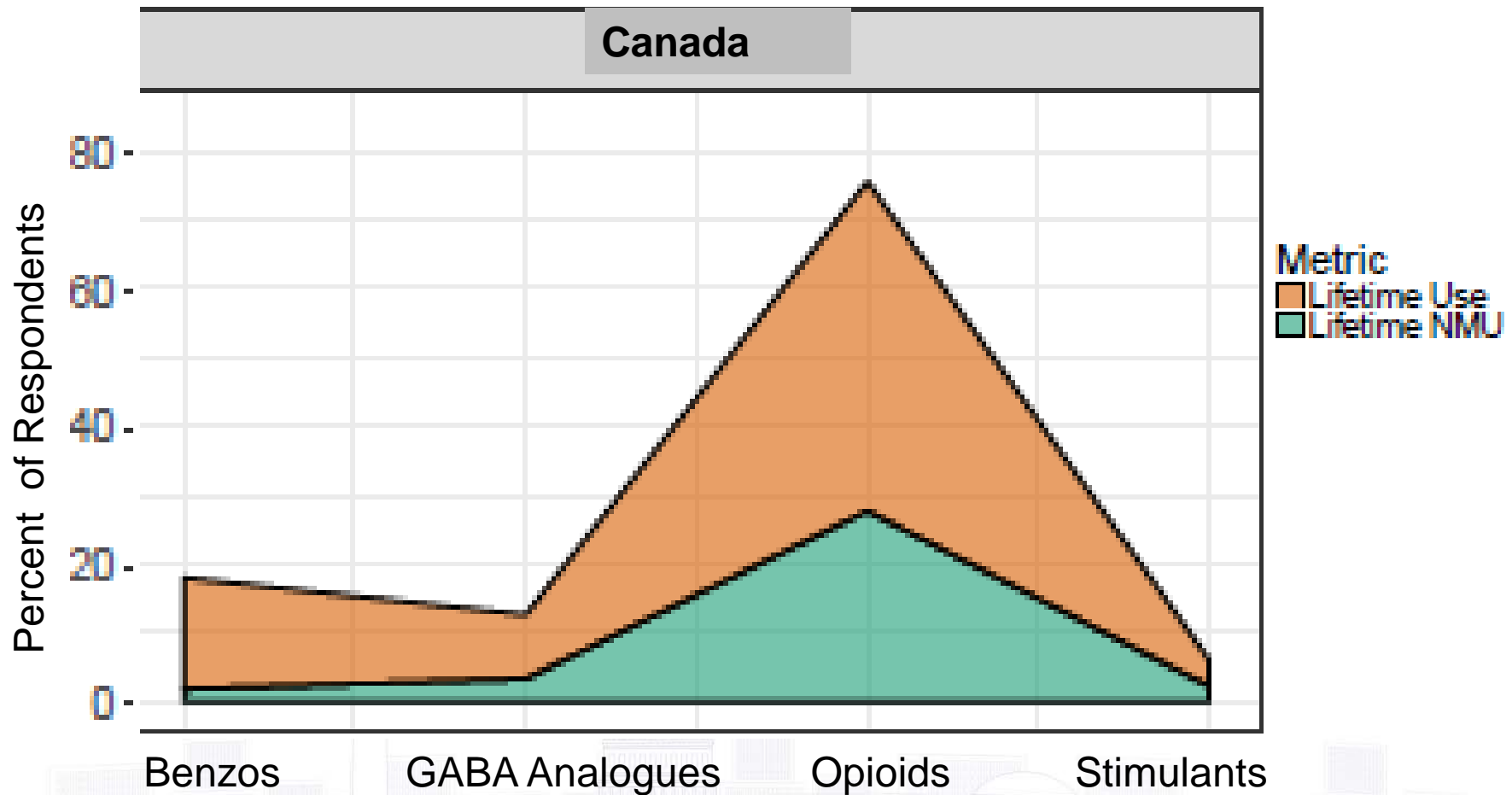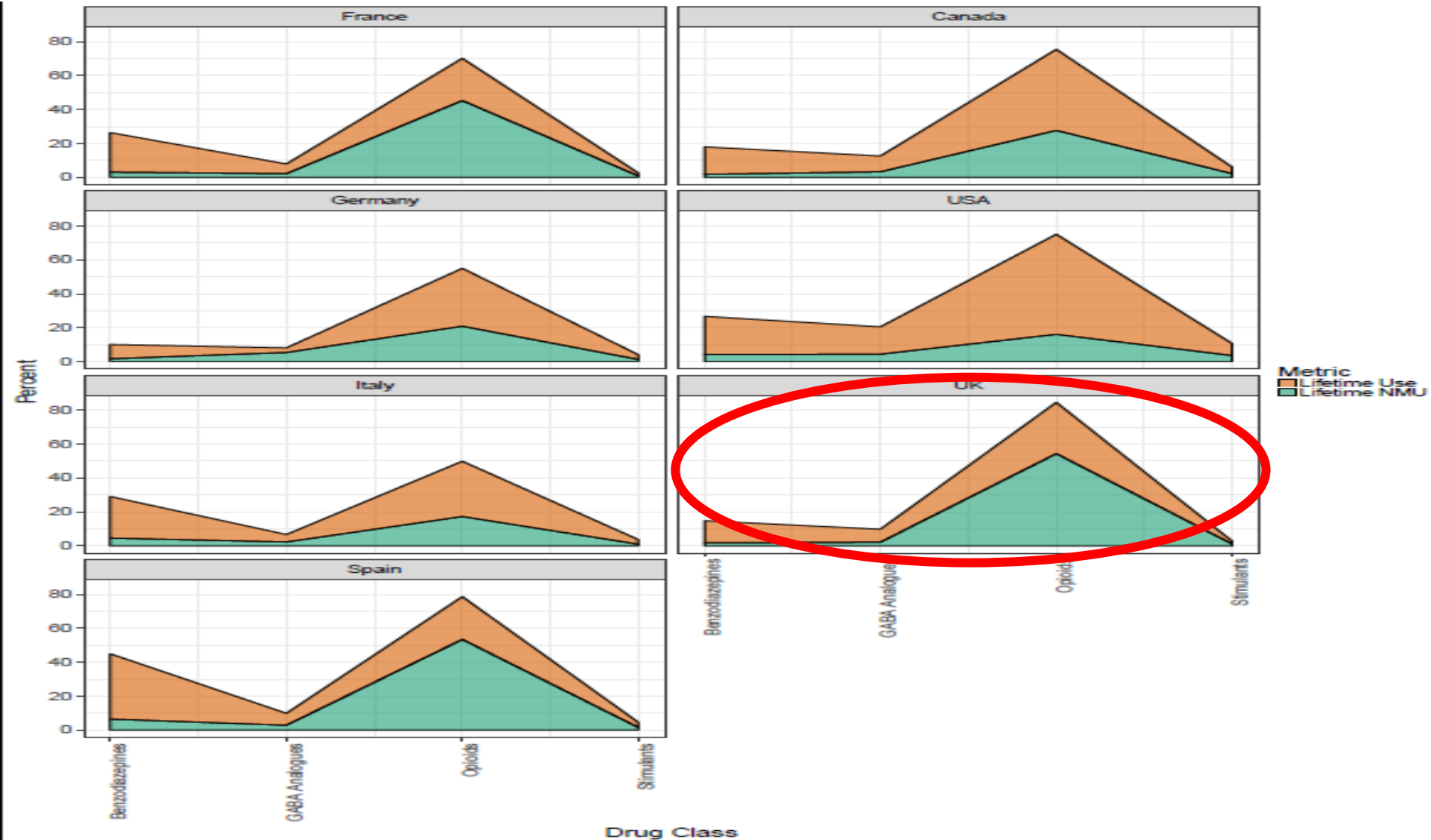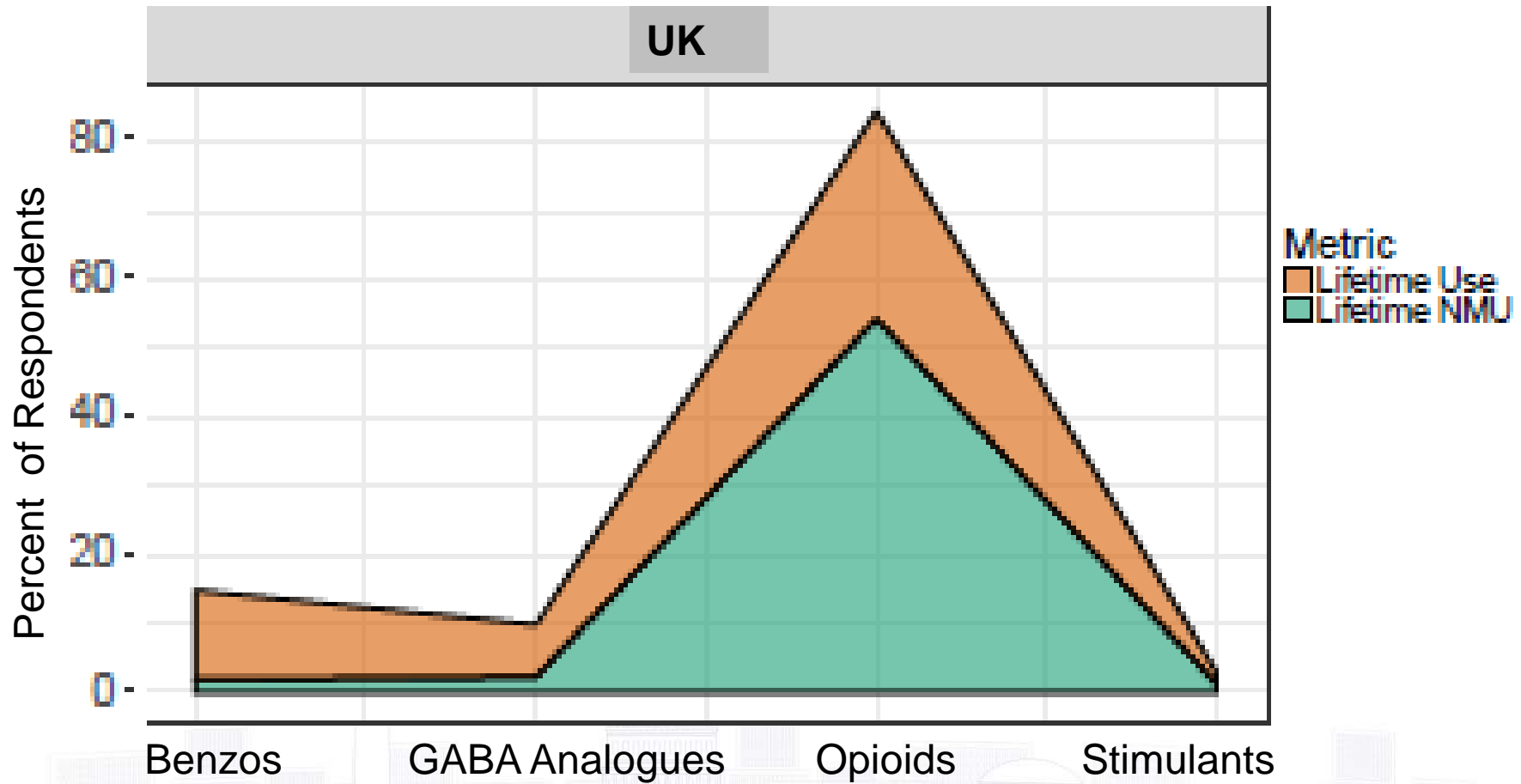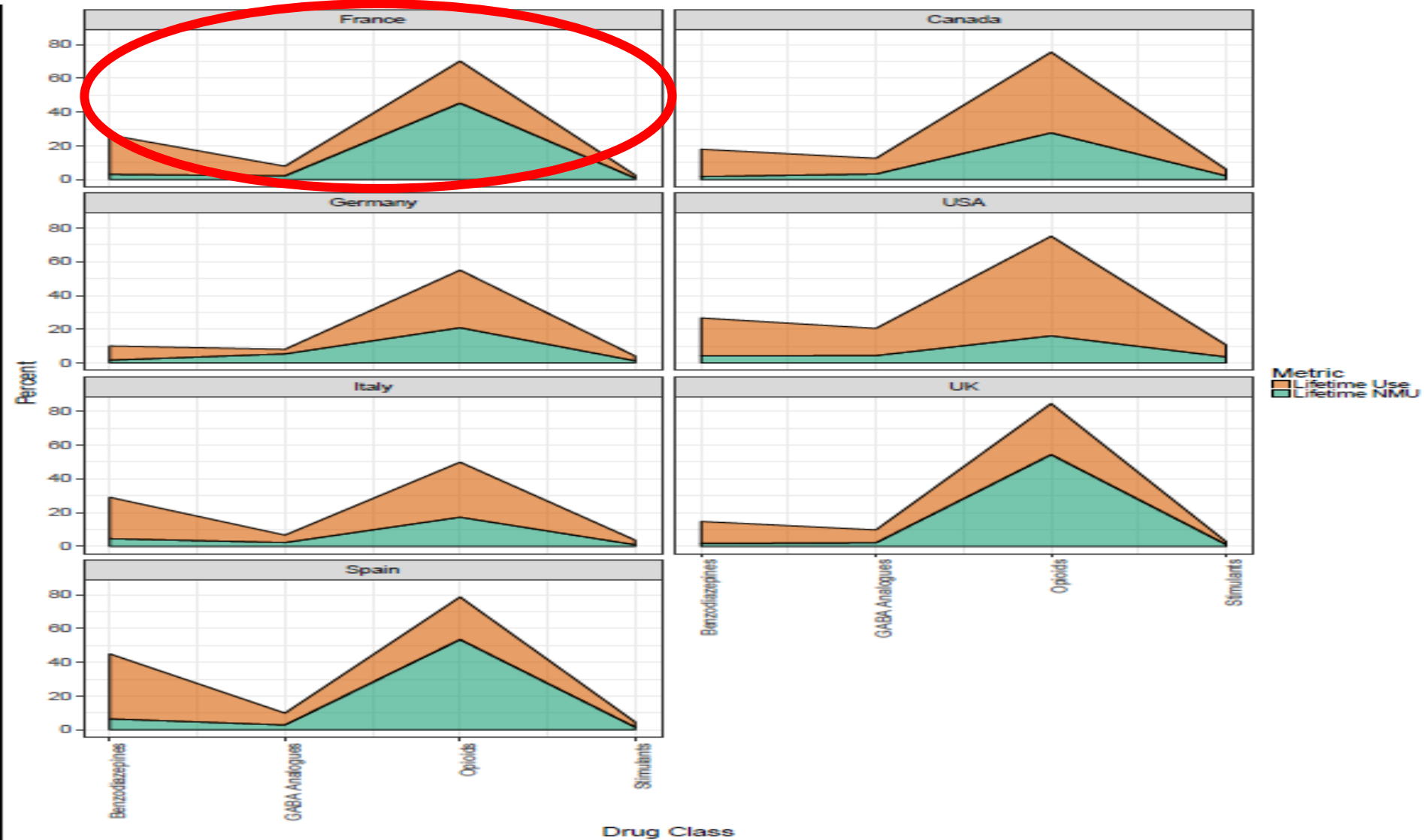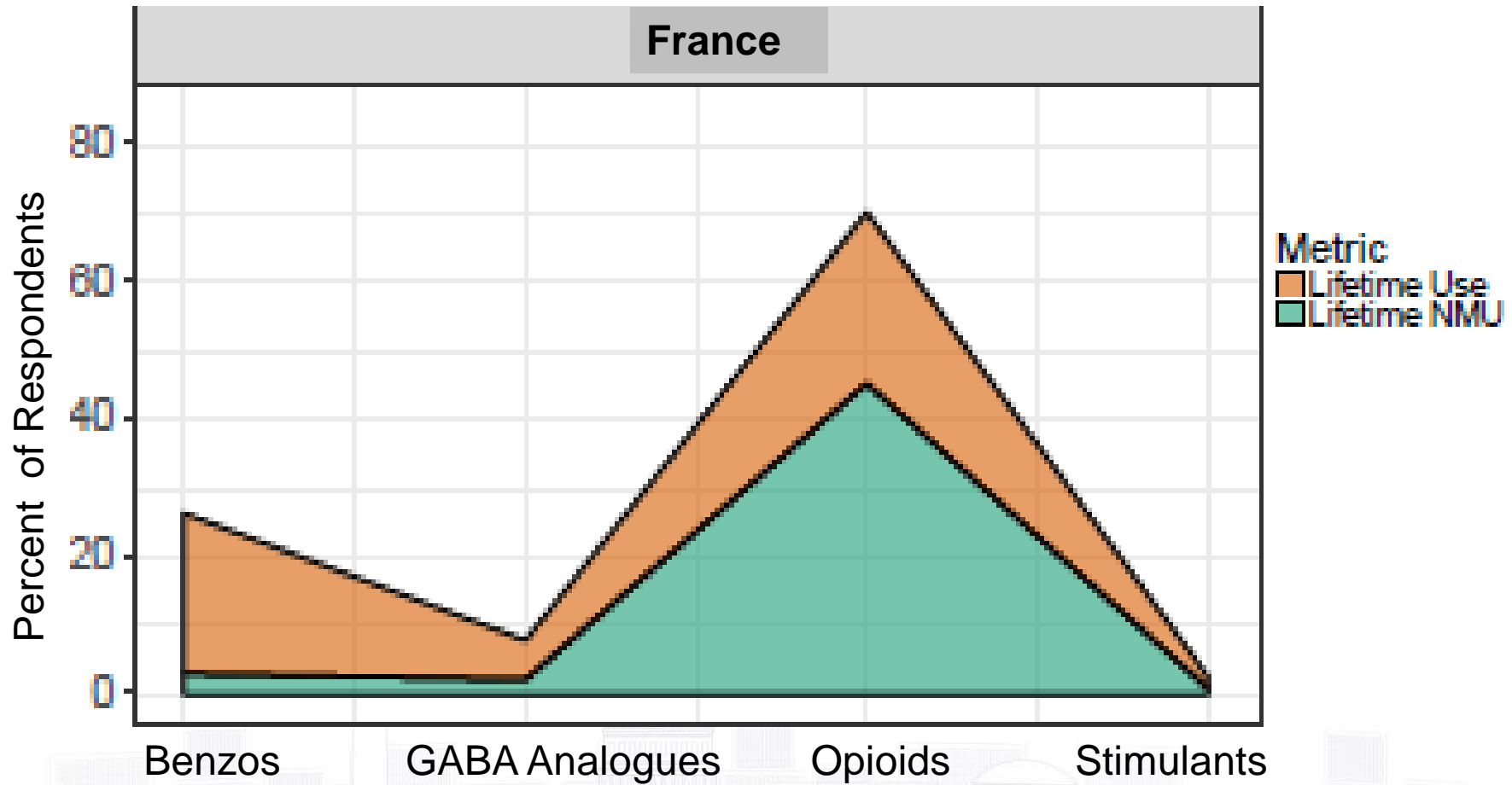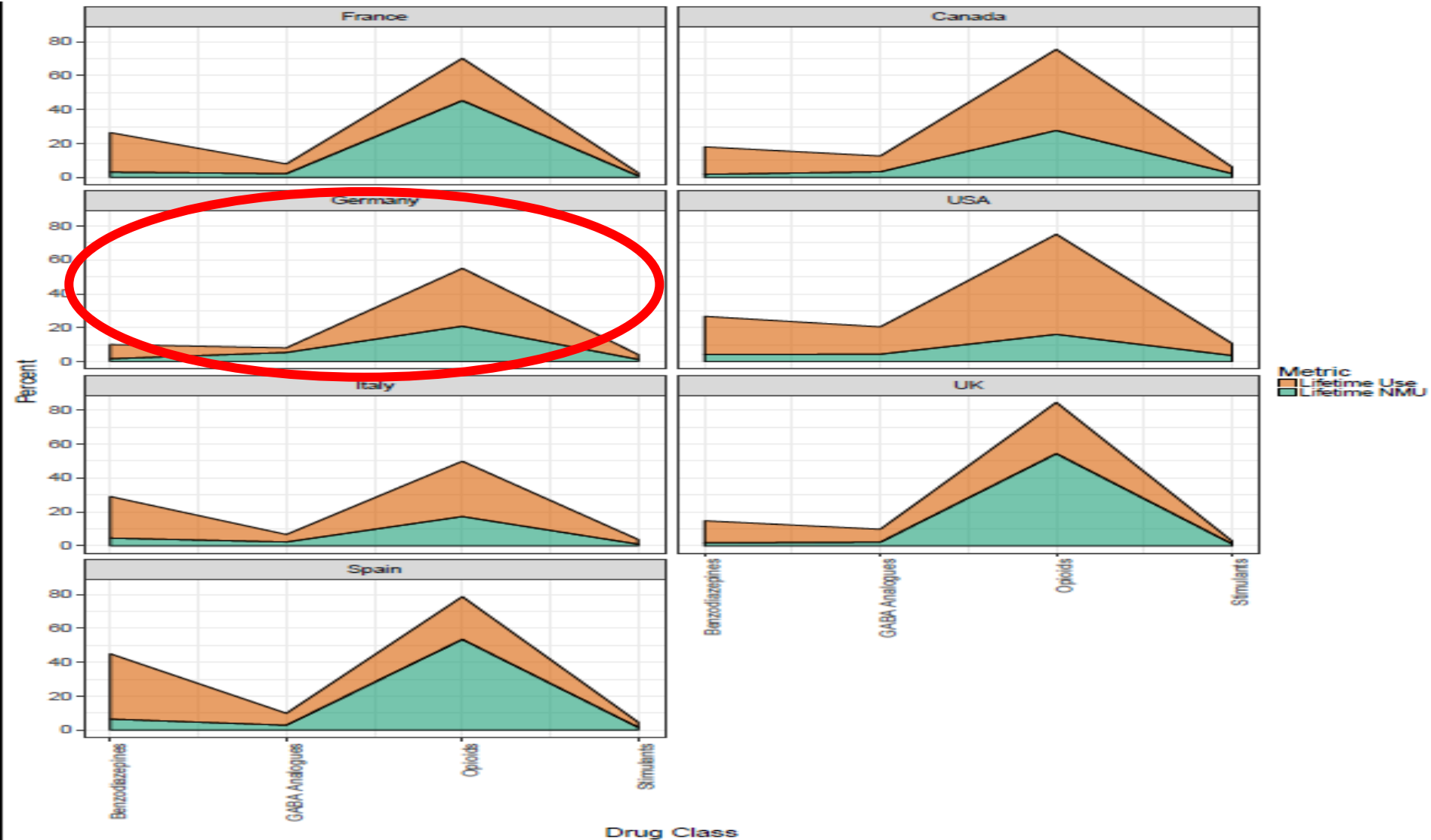
Global Mosaic: NMURx Around the World
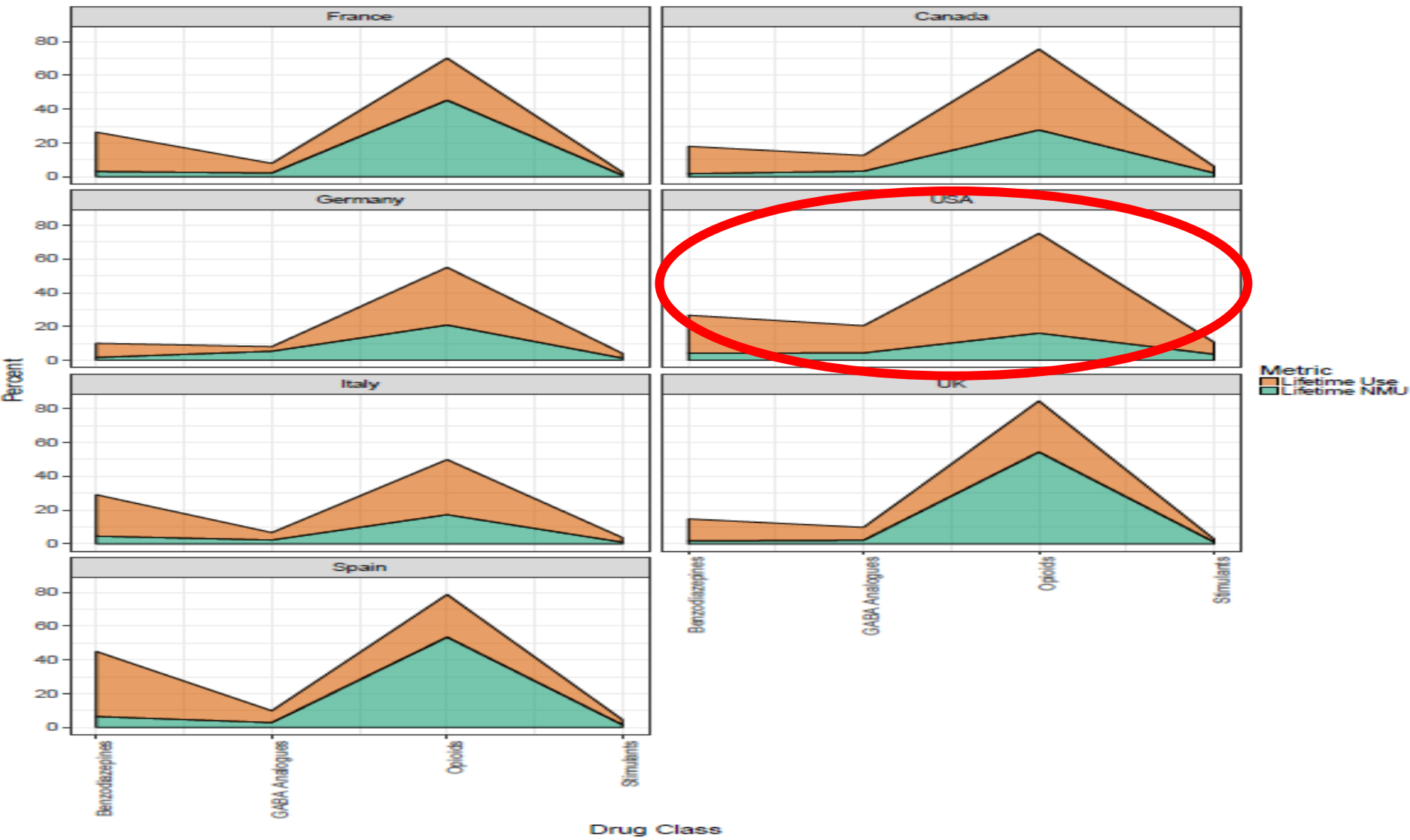
Global Mosaic: NMURx in USA
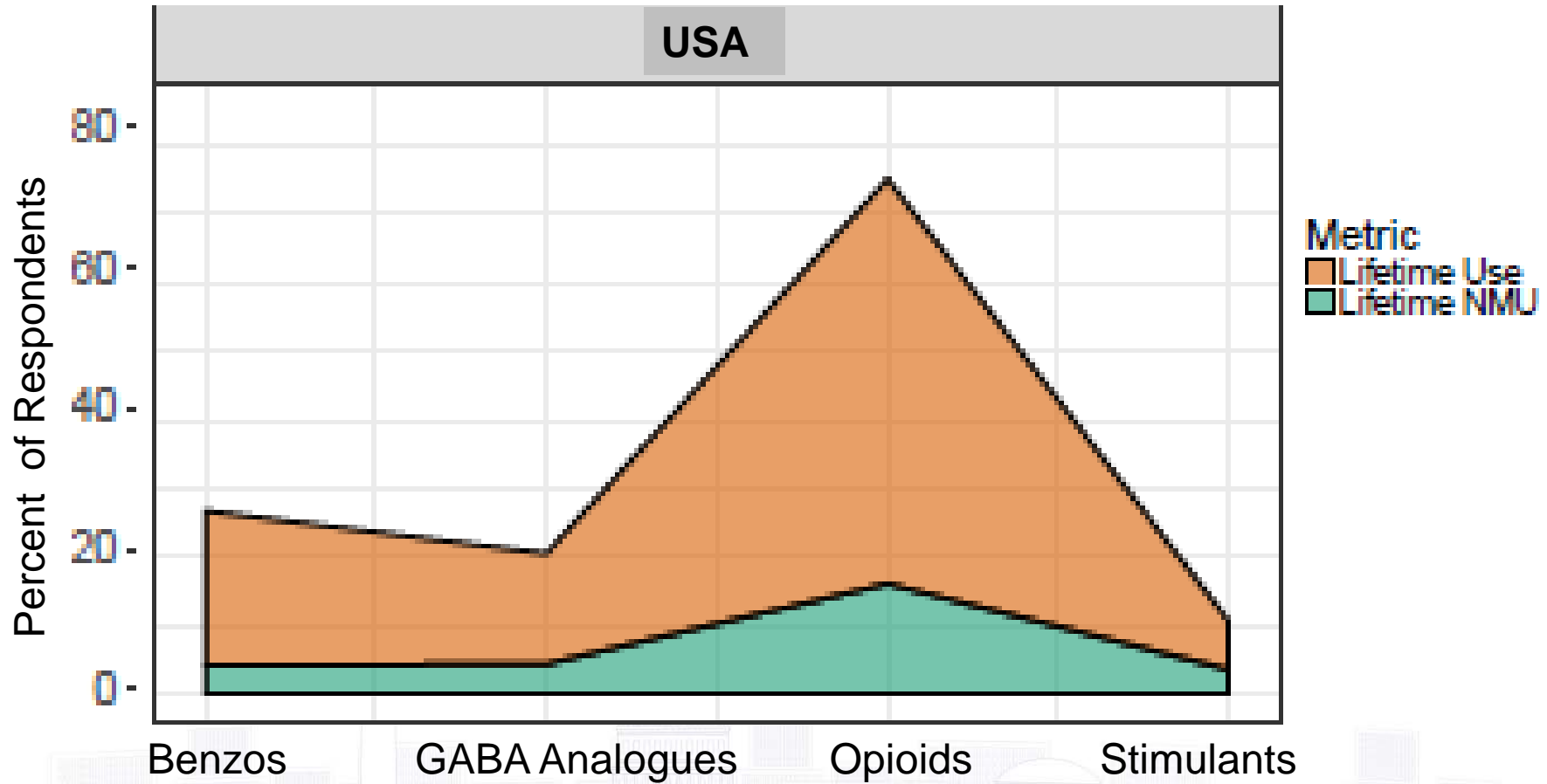
Global Mosaic: NMURx Around the World
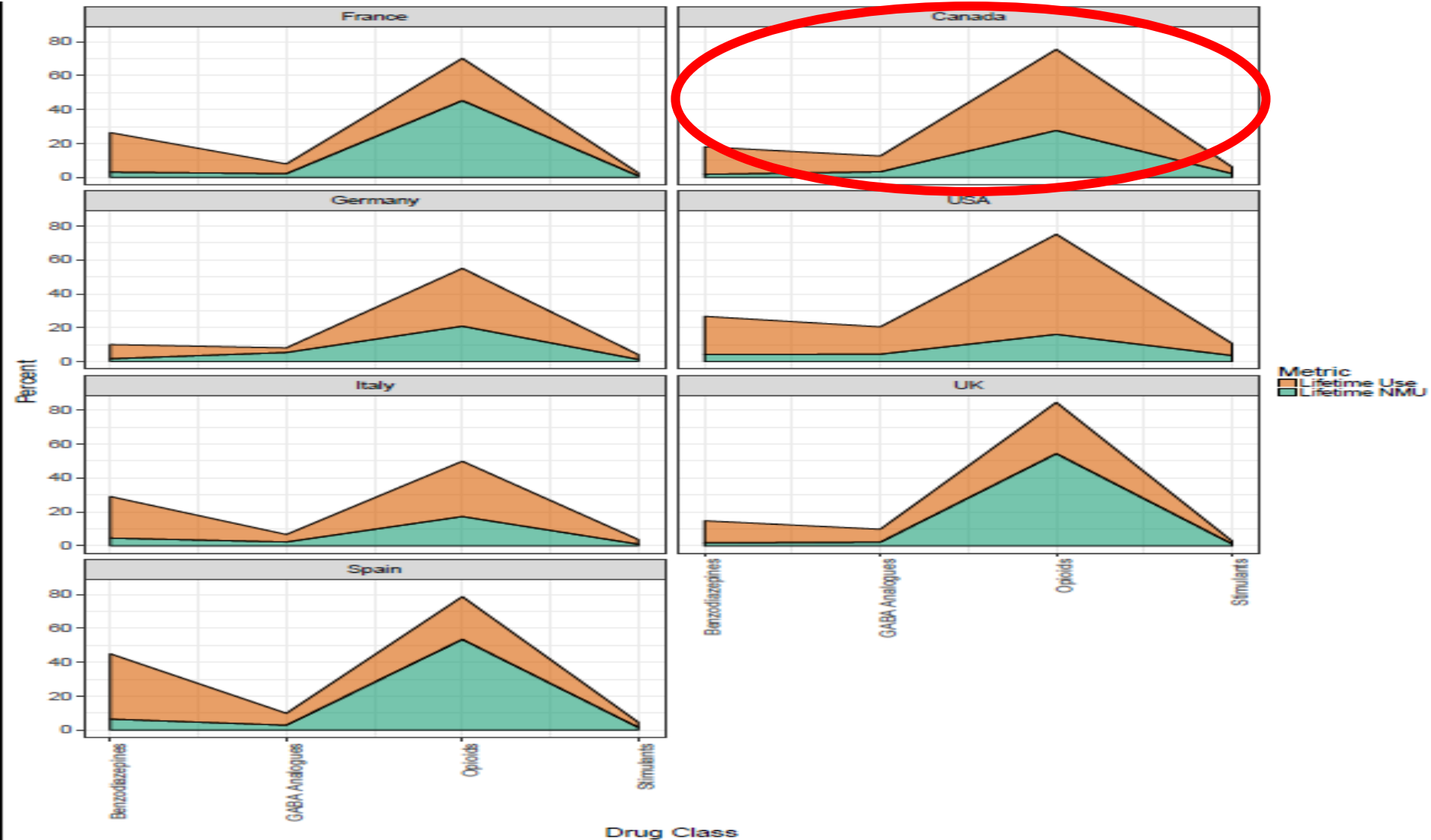
Global Mosaic: NMURx in Canada

Global Mosaic: NMURx Around the World

Global Mosaic: NMURx in UK
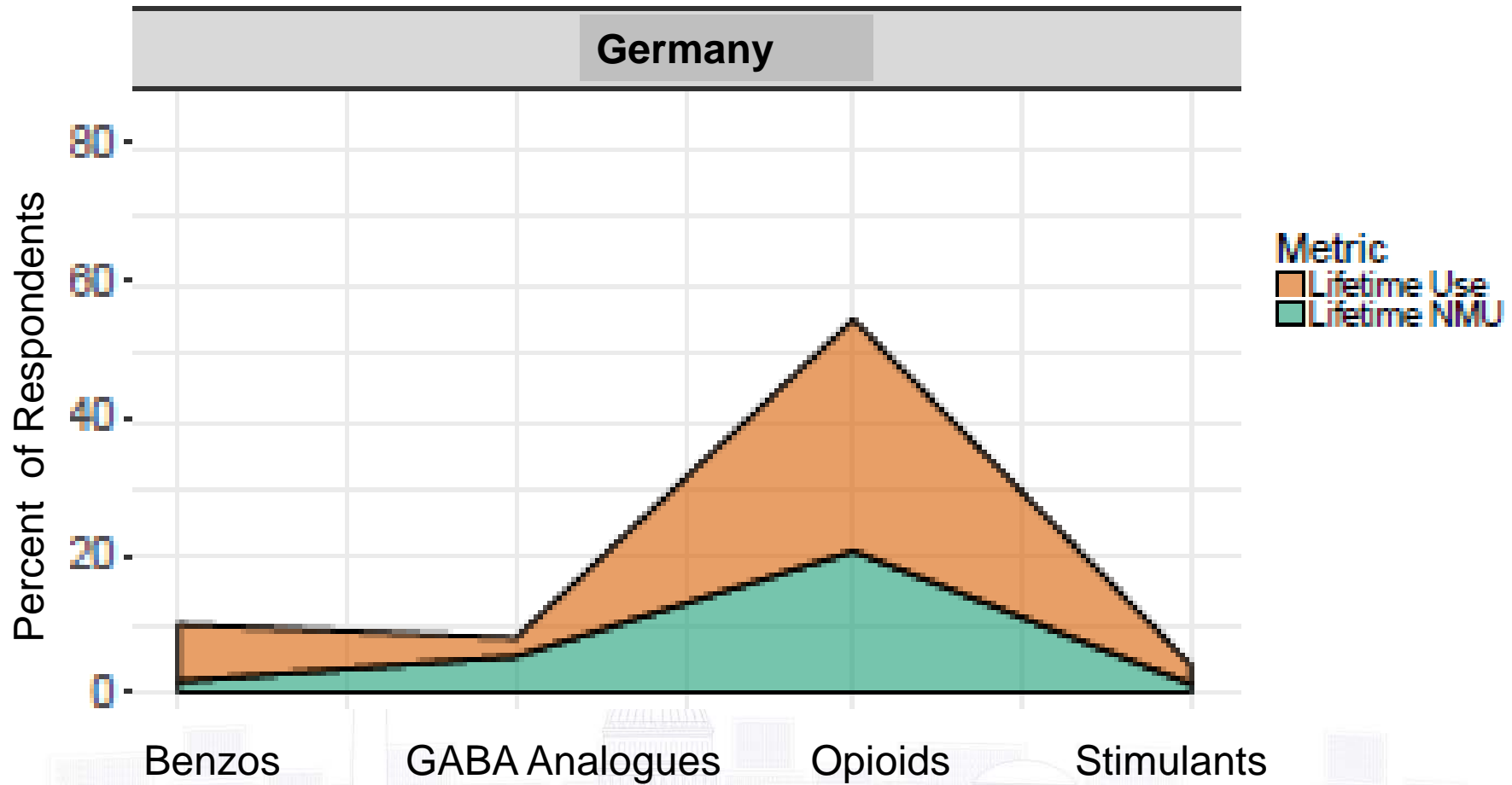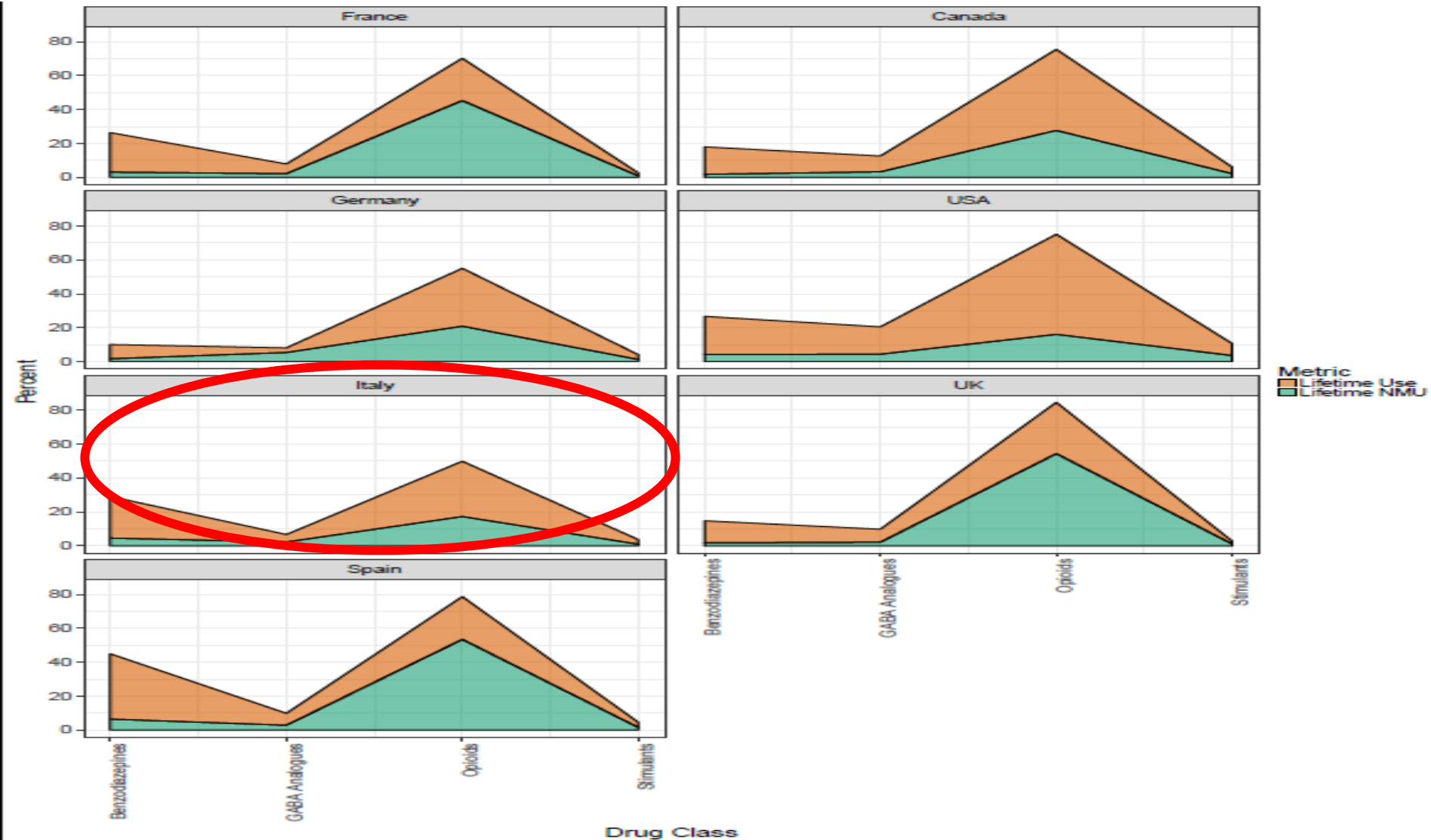
Global Mosaic: NMURx Around the World

Global Mosaic: NMURx in France

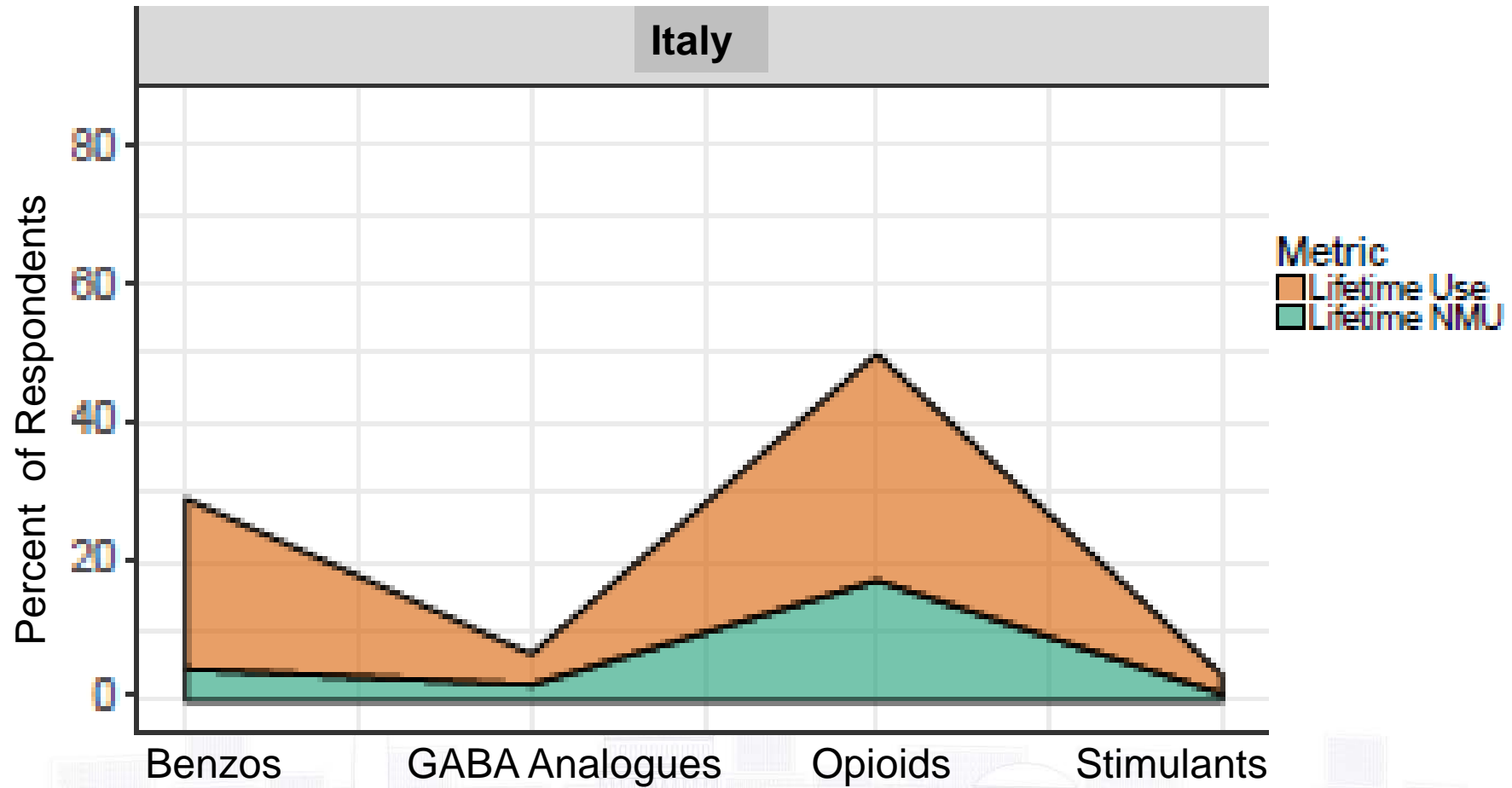# Global Mosaic: NMURx Around the World
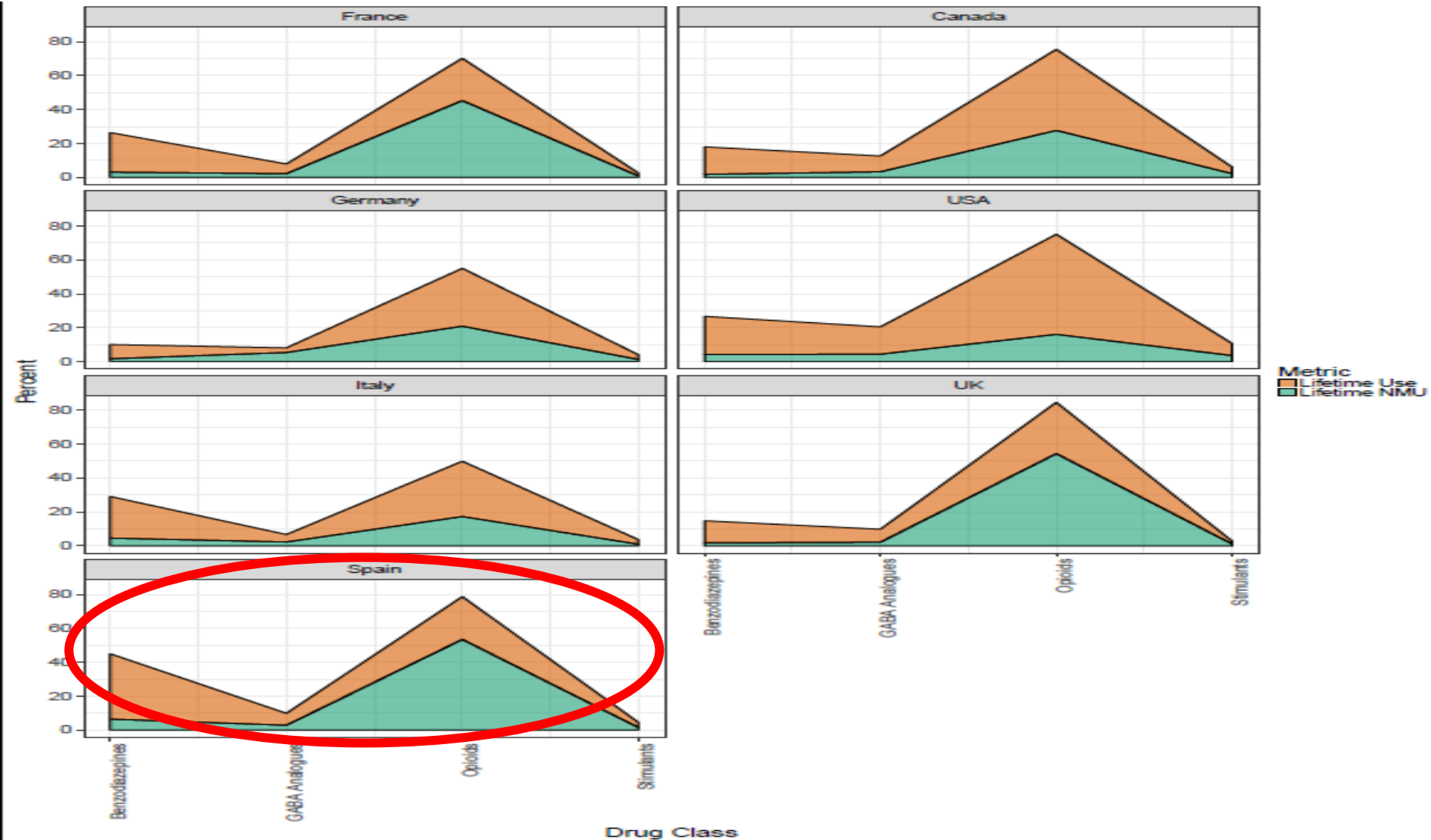
Global Mosaic: NMURx in Germany

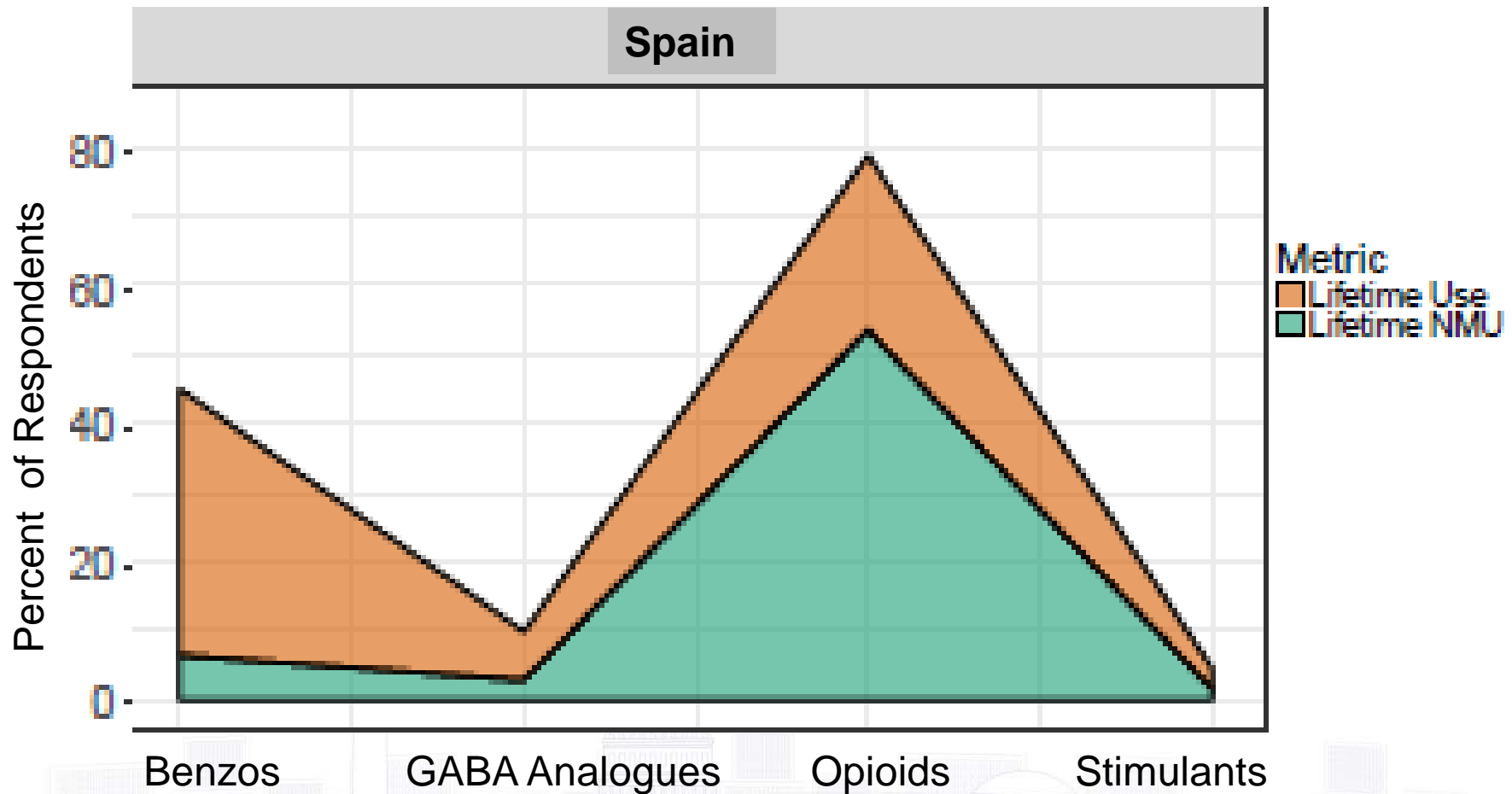# Global Mosaic: NMURx Around the World
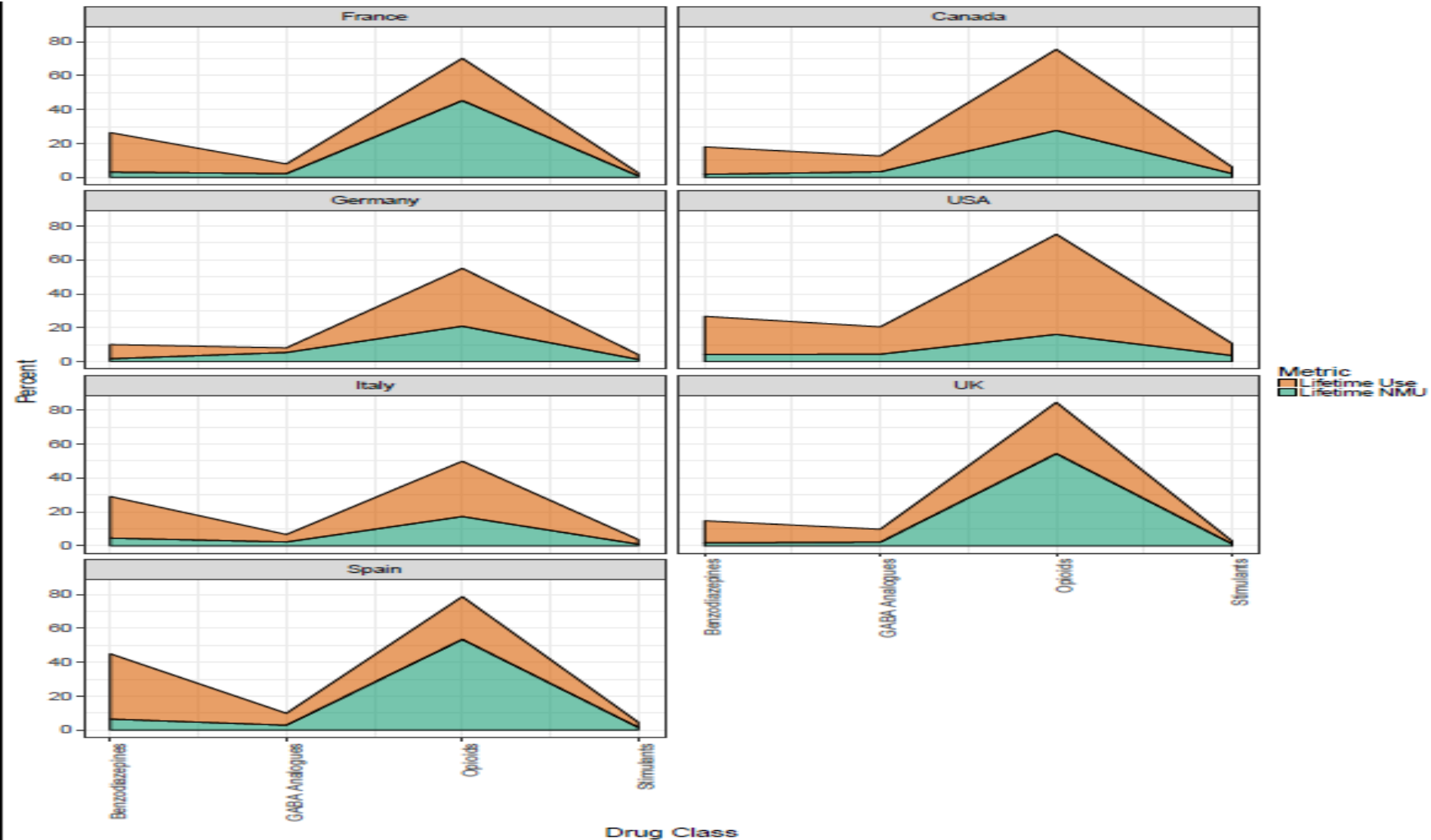
Global Mosaic: NMURx in Italy

Global Mosaic: NMURx Around the World

Global Mosaic: NMURx in Spain

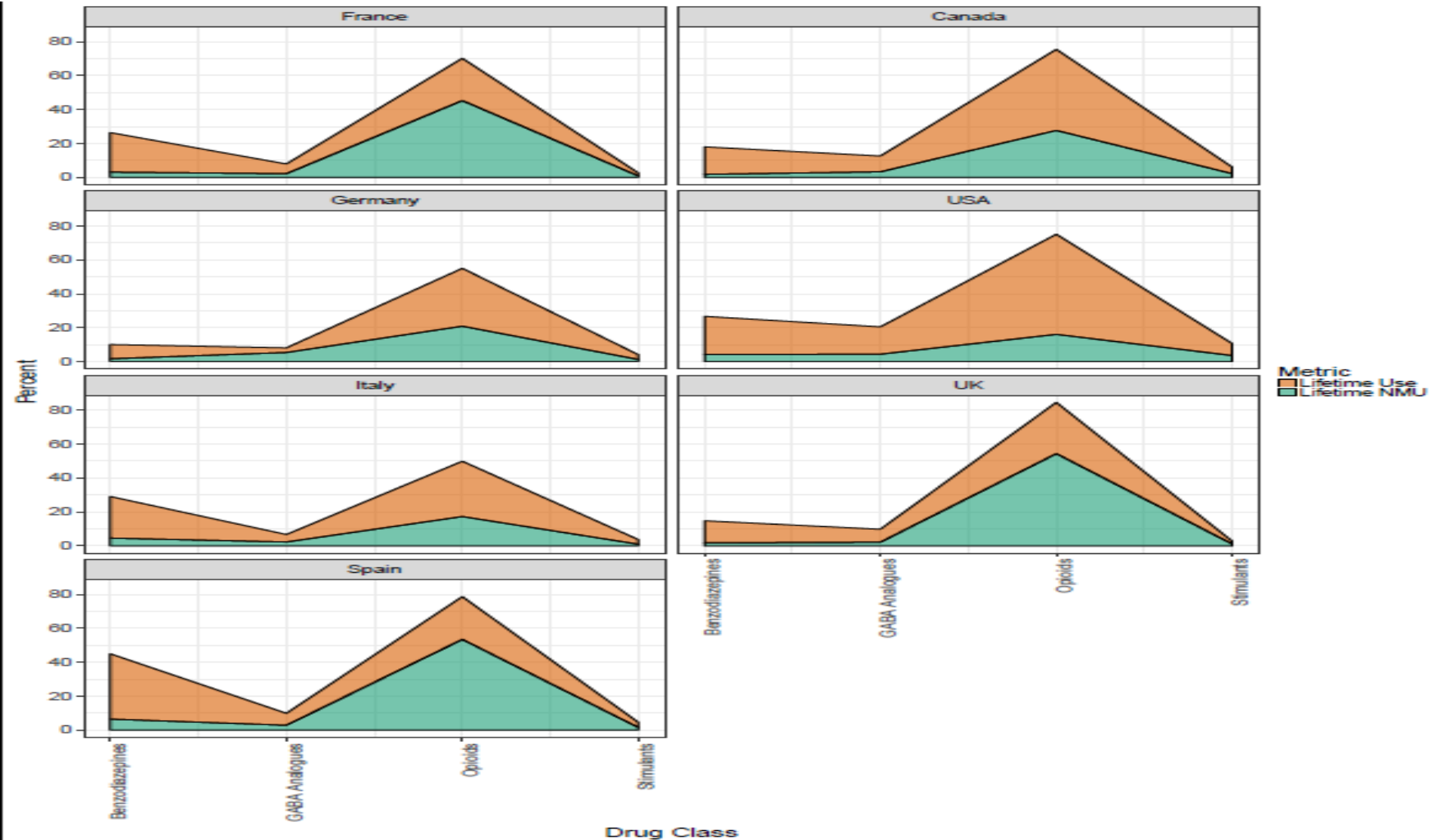# Global Mosaic: NMURx Around the World

The Global Mosaic: Conclusions

- **Comparisons between countries can be difficult**

- **NMURx allows for direct comparisons**

- **Each country has a "fingerprint" of patterns of misuse**

- **Misuse of prescription opioids is most common across all countries**
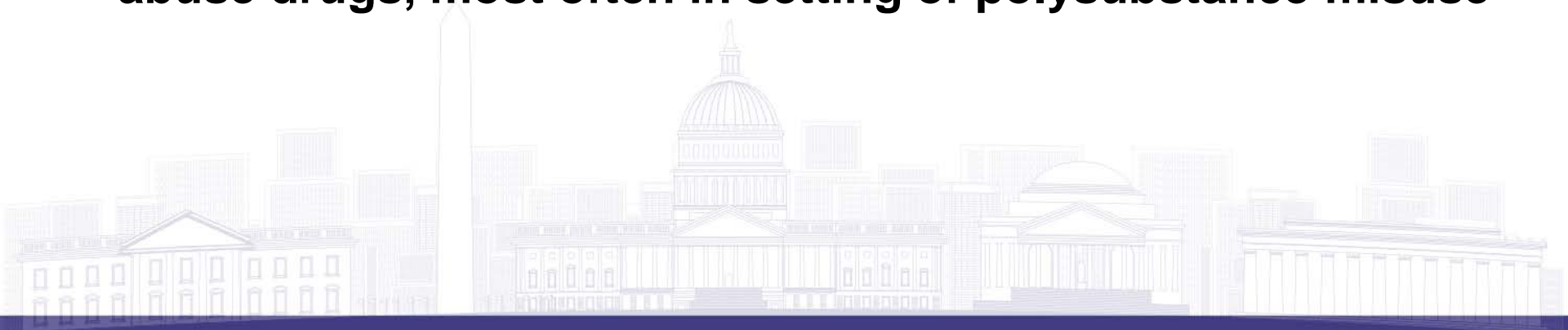
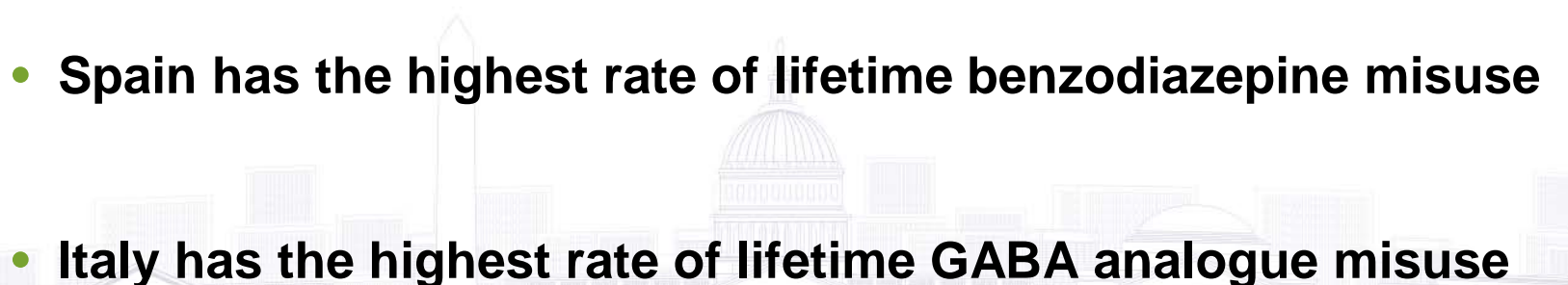# Global Mosaic: NMURx Around the World

The Global Mosaic: Conclusions

- **Each component of the global mosaic provides complementary data**

- **Codeine and tramadol are highly available in multiple countries**

- **GABA analogues are commonly misused by persons who abuse drugs, most often in setting of polysubstance misuse**

The Global Mosaic: Conclusions

- **NMURx provides comparable data across countries**

- **Opioids are most commonly misused medications across all countries**

- **UK has the highest rate of lifetime opioid misuse, followed by Spain and France**

- **Spain has the highest rate of lifetime benzodiazepine misuse**

- **Italy has the highest rate of lifetime GABA analogue misuse**

The Global Mosaic: Questions?

Questions?

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