

# WENNBERG INTERNATIONAL COLLABORATIVE SPRING POLICY MEETING 2018

## Inter-regional Variation In Opioid Prescription Patterns In Emilia-romagna And Tuscany

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**Smarter Health Care**  
National Research Programme



# THE OPIOID EPIDEMIC IN THE US

EDITORIAL

**JAMA** The Journal of the  
American Medical Association

## Addressing the Opioid Epidemic

Lewis S. Nelson, MD; David N. Juurlink, MD, PhD; Jeanmarie Perrone, MD



The NEW ENGLAND JOURNAL of MEDICINE

Perspective  
DECEMBER 22, 2016

## Ending the Opioid Epidemic — A Call to Action

Vivek H. Murthy, M.D., M.B.A.

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The New York Times

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## *Inside a Killer Drug Epidemic: A Look at America's Opioid Crisis*

The opioid epidemic killed more than 33,000 people in 2015. What follows are stories of a national affliction that has swept the country, from cities on the West Coast to bedroom communities in the Northeast.

JAN. 6, 2017

# PRESCRIPTION OPIOID USE AND MISUSE IN THE US AND EUROPE

In the past two decades the **medical use of prescription** opioids has shown an increase up to 14-fold in the US and Canada.

The US is experiencing a **dramatic opioid epidemic** with more opioid deaths than those due to automobile accidents.

In the past two decades, **opioid-related death rates** have nearly tripled, **opioid-related hospital visits** have dramatically increased, and misuse of prescription opioids has reached alarming levels.

In the same period, **Europe** has shown **increasing rates** as well, but much **slower rates** than in the US, with still rare prescription opioid-related fatal incidents.

# THE OPIOID EPIDEMIC IN THE US

BEHAVIORAL HEALTH CARE

By Dario Tedesco, Steven M. Asch, Catherine Curtin, Jennifer Hah, Kathryn M. McDonald, Maria P. Fantini, and Tina Hernandez-Boussard

## DATAWATCH

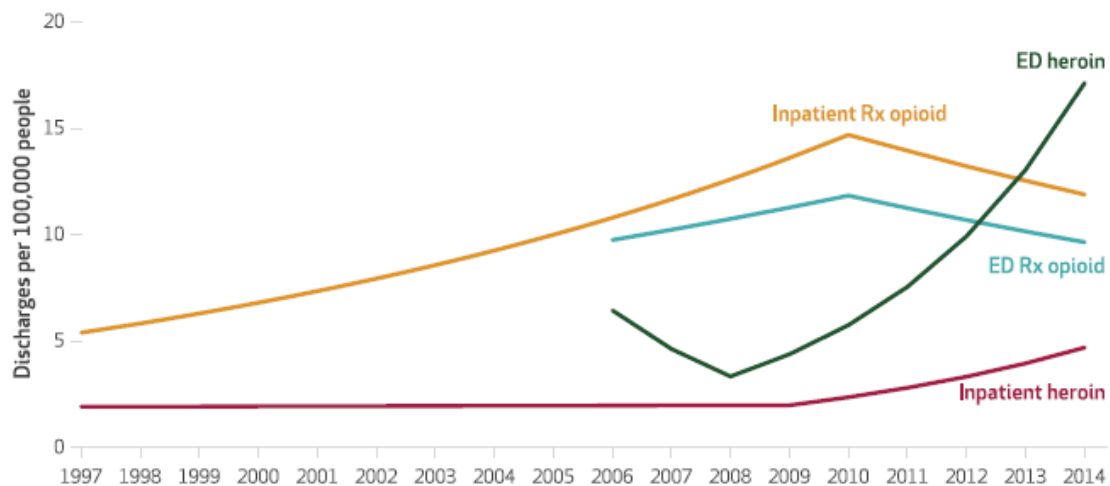
### Opioid Abuse And Poisoning: Trends In Inpatient And Emergency Department Discharges



Health Aff (Millwood). 2017 Oct 1;36(10):1748-1753.

1

Population-based inpatient (1997-2014) and emergency department (ED) (2006-14) discharges for prescription opioid and heroin poisoning in the United States, by diagnostic group



Declining rates in Inpatient and  
Emergency Department discharges  
from 2010

Striking increase in Emergency  
Department heroin discharges!

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# THE DEBATE IN EUROPE

## Controversial role for opioid analgesics in persistent pain

The rise in opioid prescribing in both the USA and the UK is almost wholly attributable to an increase in their use for persistent non-cancer pain

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*Current Drug Abuse Reviews*, 2015, 8, 3-14

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## The Misuse of Prescription Opioids: A Threat for Europe?


Jan van Amsterdam\* and Wim van den Brink

*Department of Psychiatry, Academic Medical Center, Amsterdam, Netherlands*

**Abstract:** In the the past two decades the medical use of prescription opioids (POs), in particular oxycodone, increased up to 14-fold in the U.S. and Canada. The high consumption of these pain relievers also led to non-medical use and abuse of these substances which in turn resulted in a dramatic increase in the number of PO related fatalities and opioid dependent subjects. In the U.S. POs became the second most prevalent type of abused drug (4.5 million abusers; 1.7% of the population) after marijuana (8 million abusers) with currently 1.9 million (0.7% of the population) people dependent on opioid pain relievers. Pain relief was the leading motive for non-medical use in about 40% of the cases, but about half of non-medical PO users reported non-pain relief motives only, like to get high or




The Bone & Joint Journal, VOL. 99-B, NO. 7 | Instructional review

 normal

An epidemic of the use, misuse and overdose of opioids and deaths due to overdose, in the United States and Canada

is Europe next?

Helmerhorst G. T. T., Teunis T., Janssen S. J., Ring D. 

# THE DEBATE IN EUROPE

Levels of consumption of narcotics in DDD per million inhabitants per day 2013-2015

Country	Total Opioids	Oxycodone	Codeine	Buprenorphine	Fentanyl
United States	47.580	7.281	-	3.843	7.196
Canada	34.444	3.719	902	445	10.283
Western Europe	13.378	944	26	3.946	7.736
Germany	30.796	1.234	1	2.031	22.045
Denmark	22.670	1.818	1	4.434	7.746
Belgium	20.484	747	126	22.770	14.177
Switzerland	19.715	1.317	20	4.742	8.598
United Kingdom	12.058	1.567	-	22.165	4.792
Norway	11.824	1.997	1	2.009	6.586
France	8.520	779	5	2.646	5.284
Italy	7.541	654	29	424	4.132
Portugal	7.428	14		1.204	2.182

*International Narcotics Control Board (INCB)  
Narcotic drugs technical report: New York 2016.*

# PRESCRIPTION OPIOID USE IN ITALY

Italy historically has had **restrictive policies** towards the use of opioids, **even for palliative care**.

In order to address this issue, in 2010 the Italian Parliament has approved a law aimed at **improving pain management** and **access to palliative care**, simplifying the access to pain drugs, particularly opioids (L. 38/2010).

Since 2012, Sant'Anna School of Advanced Studies has measured **out-of-hospital opioid consumption** in 14 out of 20 Italian Regions.

The indicator shows **variation in opioid consumption** among the Regions, with DDD per million inhabitants per 365 days ranging from **1.08-3.78**.

# INTER-REGIONAL VARIATION IN OPIOID PRESCRIPTION PATTERNS IN EMILIA-ROMAGNA AND TUSCANY

The aim of the study is to **analyze** and **compare** trends of **outpatient opioid consumption** between oncological and non-oncological patients in **Emilia-Romagna** and **Tuscany**



# METHODS

Retrospective analysis of administrative data extracted from the **Outpatient Pharmaceutical, Hospital Discharge Record and Outpatient visit databases** in Emilia-Romagna and Tuscany between 2012-2016.

Patients  $\geq 18$  years old, resident in Emilia-Romagna and Tuscany.

Patients with at least one ICD-9-CM diagnosis code 140-208 (neoplasms), or a procedure or outpatient code of chemotherapy/radiotherapy in the 2 previous years were defined as **“oncological”**.

**Opioid Defined Daily Doses (DDD)** were calculated per million inhabitants per 365 days, according to the MeS protocol developed by Sant'Anna School of Advanced Studies.

Linear regression was used to estimate prescription trends.

# RESULTS (1)

**Total population: 681,060**

Emilia-Romagna: 337,487

Tuscany: 343,525

**Oncological patients: 88,623 (13.0%)**

Emilia-Romagna: 56,443 (16.7%)

Tuscany: 32,180 (9.4%)

**Gender distribution** between oncological and non-oncological groups:

F= 443,830 (65.2%)

**Oncological patients**

F= 44,928 (50.7%)

**Non-oncological patients**

F= 398,902 (67.3%)

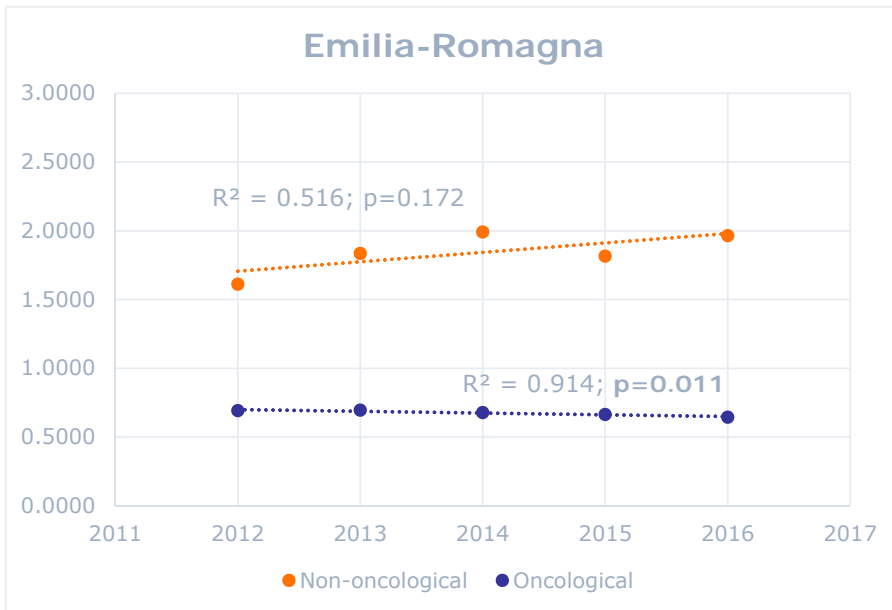
# RESULTS (2)

## Prescription trends between 2012-2016 by Region

Overall opioid consumption in DDD per million inhabitants per 365 days

Emilia-Romagna: 2.30 to 2.61,  $p=0.255$

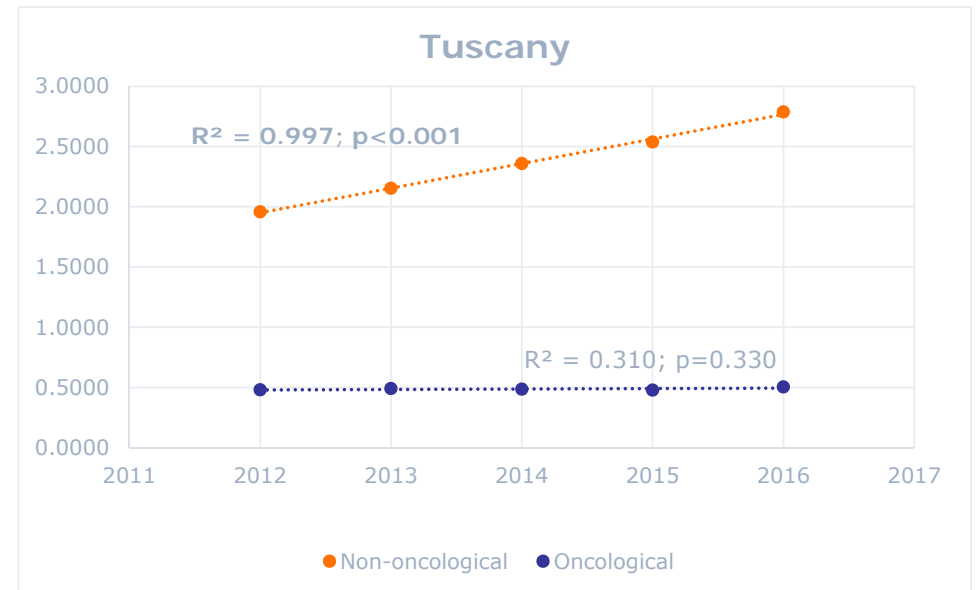
Tuscany: 2.44 to 3.29,  $p<0.001$  ↑



### Oncological patients

Emilia-Romagna: 0.69 to 0.65,  $p=0.011$  ↓

Tuscany: 0.48 to 0.51,  $p=0.330$



### Non-oncological patients

Emilia-Romagna: 1.61 to 1.97,  $p=0.172$

Tuscany: 1.96 to 2.79,  $p<0.001$  ↑

# CONCLUSIONS

Opioids are a **key tool** to address and manage pain, particularly among **oncological patients**. However, **addiction and overdose risk** are dangerous.

An **effective yet not excessive pain management** with opioids is the **main goal** for appropriate pain management.

We found **substantial variation** in outpatient opioid consumption between Emilia-Romagna and Tuscany and patient categories (oncological vs non-oncological, females vs males) suggesting a **different implementation** of the national law in the two Regions.

Opioid consumption **increased** among **non-oncological patients**, while it **decreased** among **oncological patients**.

The law still needs to be **fully and homogeneously implemented**, with a special focus on **malignant pain** and **palliative care**.

Current policies need to be discussed and updated to obtain **appropriate and safe pain management**.