

# The Opioid Crisis

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# Aims

- Does it exist?
- Does post –operative opioid use matter?
- Can the risks of opioid dependence be mitigated?
- What are the new paradigms in post operative pain management?

# Chronology of An Opioid Epidemic

- 1995 Sharp increase in opioid prescriptions
- 1999 86% for non cancer pain
- 2010 Efforts to reduce opioid use result in a heroin epidemic
- 2013 Synthetic opioid use kills 20,000



# The Opioid Epidemic in the U.S.

In 2015...



12.5 million

People misused prescription opioids<sup>1</sup>



2.1 million

People misused prescription opioids for the first time<sup>1</sup>



33,091

People died from overdosing on opioids<sup>2</sup>



2 million

People had prescription opioid use disorder<sup>1</sup>



15,281

Deaths attributed to overdosing on commonly prescribed opioids<sup>2,3</sup>



828,000

People used heroin<sup>1</sup>



9,580

Deaths attributed to overdosing on synthetic opioids<sup>2,4</sup>



135,000

People used heroin for the first time<sup>1</sup>



12,989

Deaths attributed to overdosing on heroin<sup>2,4</sup>





\$78.5 billion

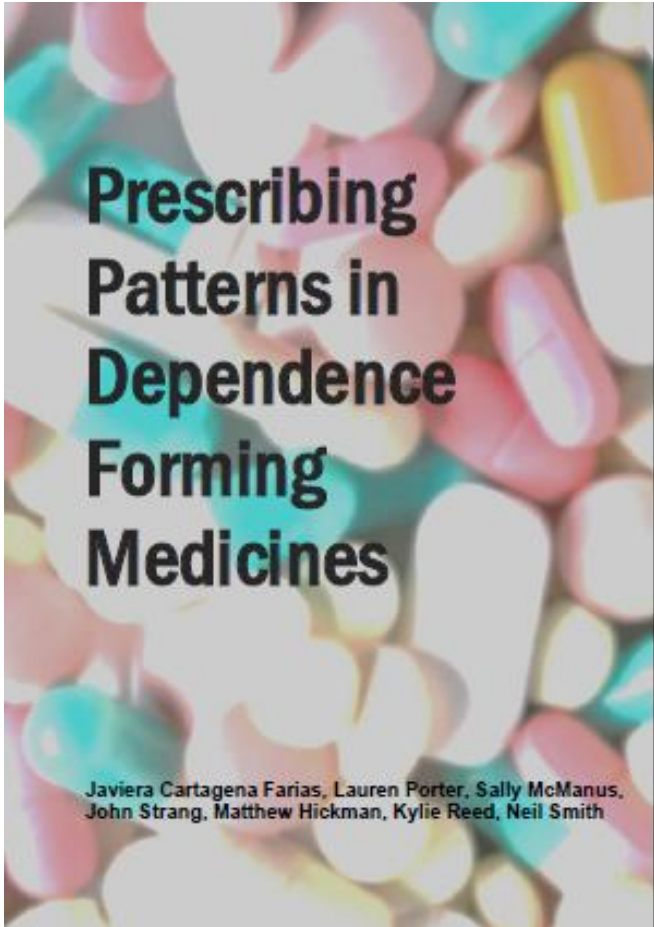
In economic costs (2013 data)<sup>6</sup>

**Sources:** <sup>1</sup> 2015 National Survey on Drug Use and Health (SAMHSA), <sup>2</sup> MMWR, 2016; 65(50-51):1445-1452 (CDC), <sup>3</sup> Prescription Overdose Data (CDC).

<sup>4</sup> Heroin Overdose Data (CDC), <sup>5</sup> Synthetic Opioid Data (CDC), <sup>6</sup> The Economic Burden of Prescription Opioid Overdose, Abuse, and Dependence in the United States, 2013. Florence CS, Zhou C, Luo F, Xu L. Med Care. 2016 Oct;54(10):901-6.

# And the UK?

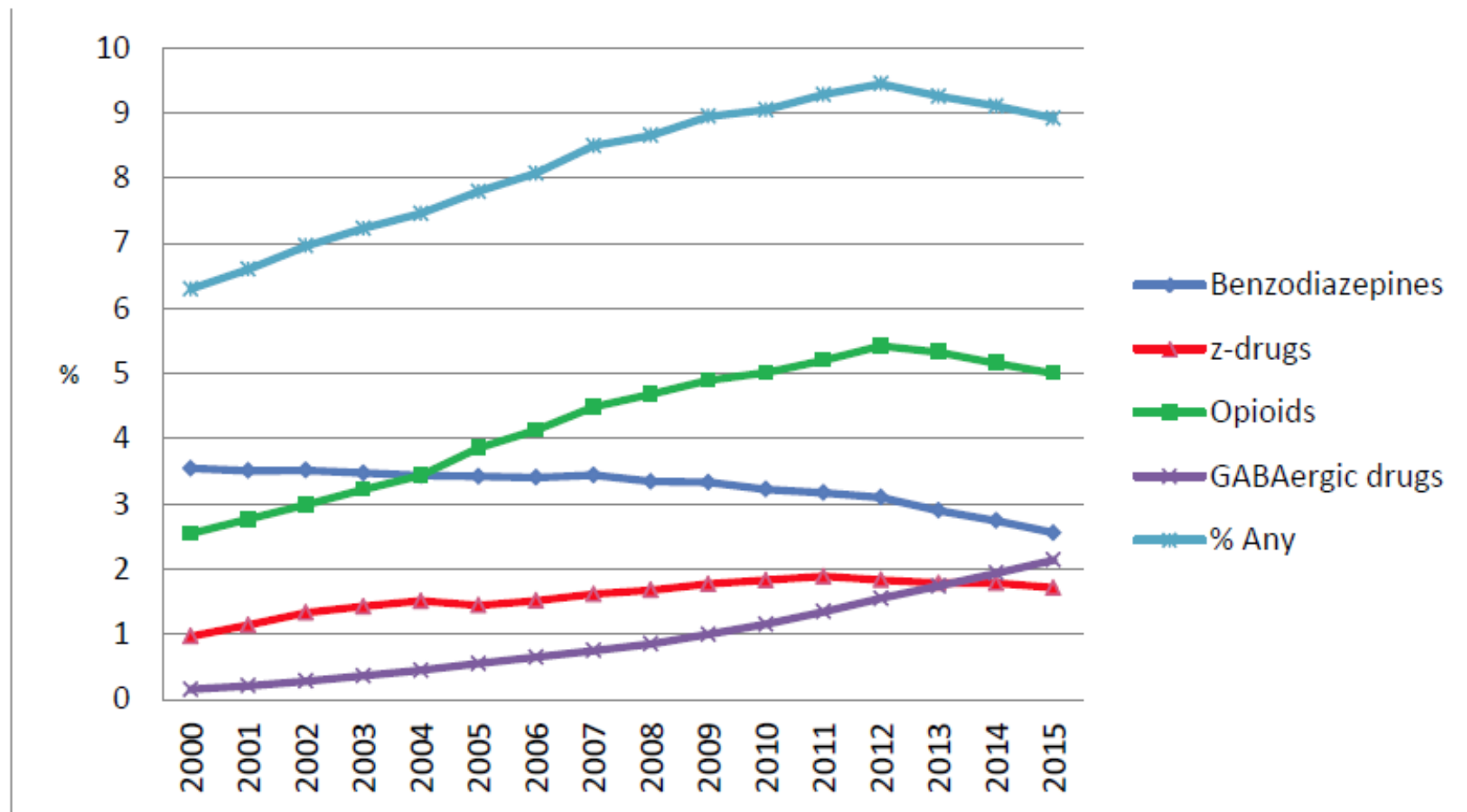
- UK uses the most opioid in the EU
- Opioid prescribing  400% in 10 years
- 10 million received an opioid prescription
- 4 million in France
- Codeine usage  9 to 15 million 2010-11



# **Prescribing Patterns in Dependence Forming Medicines**

Javiera Cartagena Farias, Lauren Porter, Sally McManus,  
John Strang, Matthew Hickman, Kylie Reed, Neil Smith

**Figure 1.1: Proportion of patients prescribed benzodiazepines, Z-drugs, opioids, GABAergic medicines, and any of these drugs, 2000 to 2015**

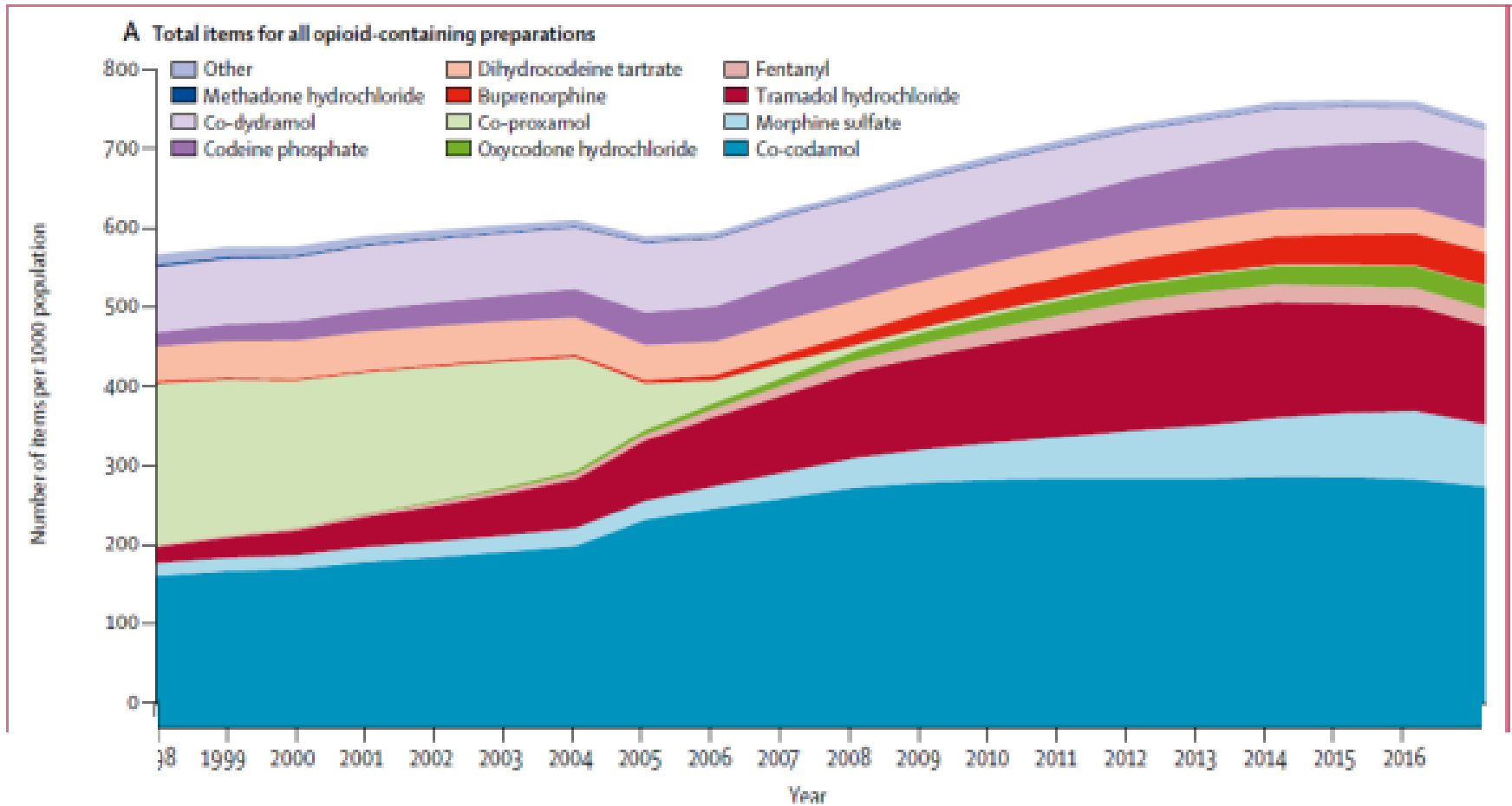


Source: CPRD. Figures presented in Appendix 3. Base: 15.8 million patients.



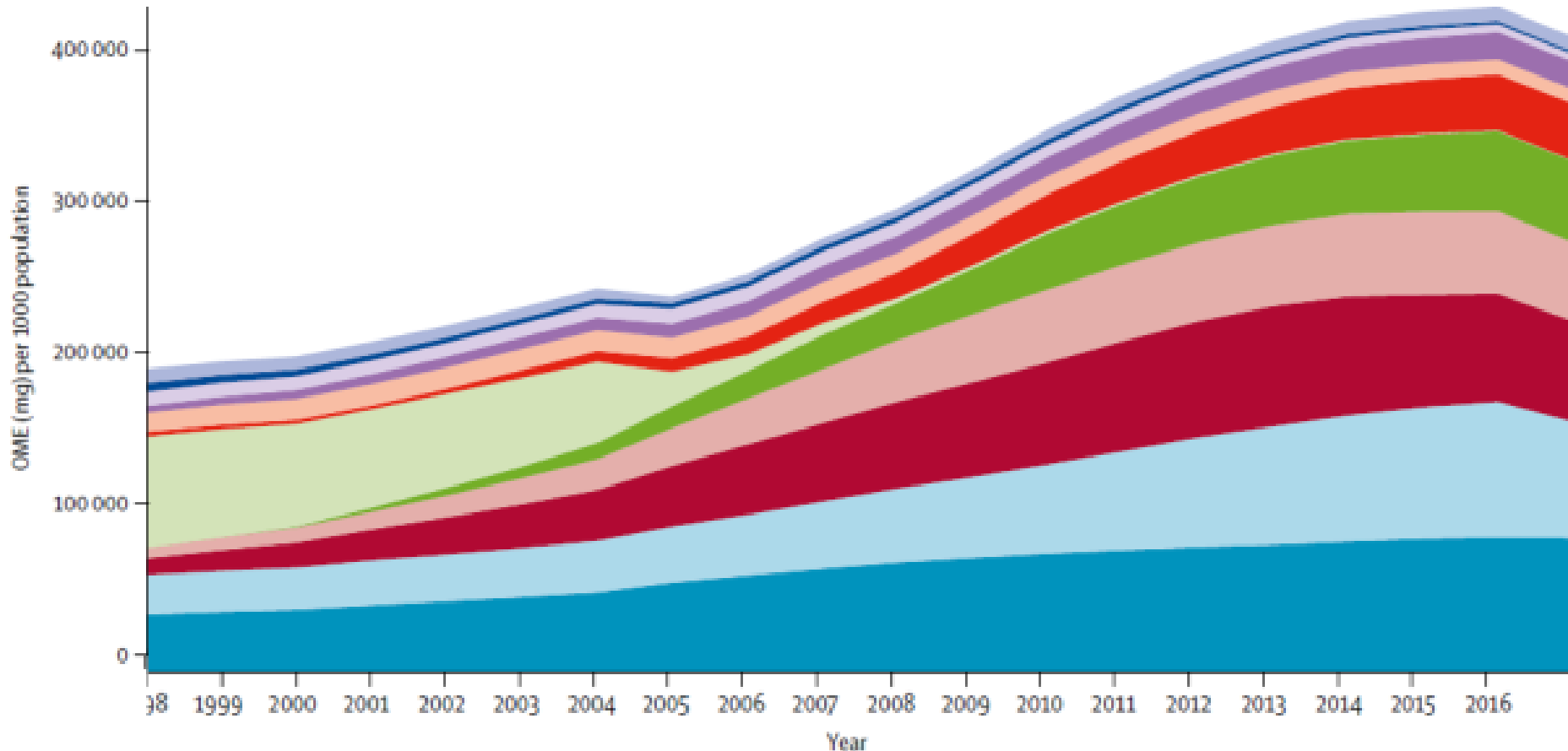
# Opioid Prescriptions

( 1000/UK population)



# Oral Morphine Equivalents

( 1000/UK population)



- |                         |                         |                        |
|-------------------------|-------------------------|------------------------|
| Other                   | Dihydrocodeine tartrate | Fentanyl               |
| Methadone hydrochloride | Buprenorphine           | Tramadol hydrochloride |
| Co-dydramol             | Co-proxamol             | Morphine sulfate       |
| Codeine phosphate       | Oxycodone hydrochloride | Co-codamol             |

# Pseudoaxioms

- A false principle or rule handed down through generations of medical providers and accepted without serious challenge or investigation
- “The greater the ignorance the greater the dogmatism” William Osler

# Pseudoaxioms



# Evidence?

- 2 RCTs 103 patients
- 9 hand surgeons
- > 3000 digital blocks with LA and epinephrine
- No infarction
- No phentolamine rescue
- 120 years medical literature
- 21 cases of digital necrosis



# Pseudoaxioms and Opioid Use

- Prescribed opioids are not addictive
- Pain is the 5<sup>th</sup> Vital Sign
- Oxycontin is a vital part of “fast track” surgery
- Codeine and Tramadol are less addictive
- The WHO analgesia ladder is useful in acute pain

# The genesis of an epidemic



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**Editor's Note:** For reasons of public health, readers should be aware that this letter has been "heavily and uncritically cited" as evidence that addiction is rare with opioid therapy. We describe its history.

CORRESPONDENCE ARCHIVE

## Addiction Rare in Patients Treated with Narcotics

N Engl J Med 1980; 302:123 | January 10, 1980 | DOI: 10.1056/NEJM198001103020221

Article Citing Articles (257)

To the Editor:

Recently, we examined our current files to determine the incidence of narcotic addiction in 39,946 hospitalized medical patients<sup>1</sup> who were monitored consecutively. Although there were 11,882 patients who received at least one narcotic preparation, there were only four cases of reasonably well documented addiction in patients who had no history of addiction. The addiction was considered major in only one instance. The drugs implicated were meperidine in two patients,<sup>2</sup> Percodan in one, and hydromorphone in one. We conclude that despite widespread use of narcotic drugs in hospitals, the development of addiction is rare in medical patients with no history of addiction.

## ADDICTION RARE IN PATIENTS TREATED WITH NARCOTICS

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JANE PORTER  
HERSHEL JICK, M.D.  
Boston Collaborative Drug  
Surveillance Program  
Boston University Medical Center  
Waltham, MA 02154

1. Jick H, Miettinen OS, Shapiro S, Lewis GP, Siskind Y, Slone D. Comprehensive drug surveillance. *JAMA*. 1970; 213:1455-60.
2. Miller RR, Jick H. Clinical effects of meperidine in hospitalized medical patients. *J Clin Pharmacol*. 1978; 18:180-8.





# Celebrity Addictions: Painkillers and Hollywood

LAUREN CAHOON, LAUREN COX AND RADHA CHITALE Feb. 22, 2008  
By ABC NEWS MEDICAL UNIT



Hollywood stars usually set the trends that the rest of us follow — in the cities, to suburbia and beyond.



But not in the case of painkiller addictions.



What started as a problem among the rural poor in America has now spread across the nation and into the Hollywood spotlight. The effective chemicals in prescription painkillers — called opioids — are derived from the same poppy plant used to make opium and heroin. Painkillers give a feeling of euphoria and, just like heroin or opium, carry a high risk for abuse and recreational use.





## Demons that drove Ant to a painkiller and drink addiction: How a botched knee operation and struggles to have a family forced the presenter into £6k a week rehab

By CLEMMIE MOODIE FOR THE DAILY MAIL

PUBLISHED: 23:41, 18 June 2017 | UPDATED: 08:43, 19 June 2017



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Just five months ago, Ant McPartlin was beaming on the steps of Buckingham Palace in a morning suit, clutching his OBE. He had been honoured as one half of Britain's most popular and enduring television duo and his career appeared



### *After a recent operation, I started taking opioid painkillers – and realised a horrible truth*



Constipation is just one of the side effects of these drugs, as well as insomnia, and doctors prescribe extra medication for both. It's not long before you've got so many prescriptions you're in a spiral

**Janet Street-Porter** Friday 27 July 2018 14:00 | 93 comments

JAMA Surgery | Original Investigation

## New Persistent Opioid Use After Minor and Major Surgical Procedures in US Adults

Chad M. Brummett, MD; Jennifer F. Waljee, MD, MPH, MS; Jenna Goesling, PhD; Stephanie Moser, PhD; Paul Lin, MS; Michael J. Englesbe, MD; Amy S. B. Bohnert, PhD, MHS; Sachin Kheterpal, MD, MBA; Brahmajee K. Nallamothu, MD, MPH

The risk of opioid addiction following surgery in opioid naïve patients may be as high as 1 in 16 (6%)

# Persistent post-operative opioid use

**0.6% to 26%** opioid-naïve patients and  
**35% to 77%** patients with previous opioid  
exposure continue to take opioids for more than  
3 months postoperatively when healing is  
complete and acute pain would have ceased

Kent et al. Persistent Postoperative Opioid Use: Definition, Incidence, Risk Factors, and Health Care System Initiatives. *Anesth Analg* 2019

# Pseudoaxioms and Opioid Use

- Prescribed opioids are not addictive
- Pain is the 5<sup>th</sup> Vital Sign
- Oxycontin is a vital part of “fast track” surgery
- Codeine and Tramadol are less addictive
- The WHO analgesia ladder is useful in acute pain

# Pain as the 5th Vital Sign

- 1996 American Pain Society Initiative
- NRS triggers analgesic administration
- Remuneration linked to pt satisfaction
- All major medical associations in US have withdrawn support

Levy N, Sturgess J, Mills P. "Pain as the fifth vital sign" and dependence on the "numerical pain scale" is being abandoned in the US: why?

Br J Anaesth 2018; 120: 435e8



# Pain as the 5<sup>th</sup> Vital Sign

## Measuring Pain as the 5th Vital Sign Does Not Improve Quality of Pain Management

*Richard A. Mularski, MD, MSHS,<sup>1,2</sup> Foy White-Chu, MD,<sup>3</sup> Devorah Overbay, MS, RN,<sup>4</sup> Lois Miller, PhD, RN,<sup>4</sup> Steven M. Asch, MD, MPH,<sup>1,2</sup> Linda Ganzini, MD, MPH<sup>5,6</sup>*

## **The Efficacy and Safety of Pain Management Before and After Implementation of Hospital-Wide Pain Management Standards: Is Patient Safety Compromised by Treatment Based Solely on Numerical Pain Ratings?**

The incidence of opioid over sedation adverse drug reaction increased from 11/100,000 inpatient episodes to 24.5 following introduction of the numerical pain treatment algorithm

(*Anesth Analg* 2005;101:474–80)



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# Oxycontin

- 1995 Purdue pharmaceuticals obtained FDA approval to market CR oxycodone
- Epidemic of untreated pain...
- 1997 APS and ASPM guidance
- 1999 Reuben et al ACL reconstruction
- 2005 De Beer et al Joint Arthroplasty
- 2000 First Reports ....abuse/misuse
- Biphasic absorption easily bypassed

Levy N, Mills P. Controlled-release opioids cause harm and should be avoided in the management of post-operative pain in opioid naive patients.

Br J Anaesth 2019; 122: e86e90

# Purdue and The Sacklers

- 1996-2002 funded 20,000 pain related “educational programmes”
- Financially supported the APS and AAPM
- Despite backlash – stayed on message
- Plaintiffs chose to use, misuse or abuse oxycontin
- Richard Sackler “we have to hammer abusers in every way possible. They are reckless criminals”







Museums

# Science Museum 'hiding dirty money' over £2m Sackler donation

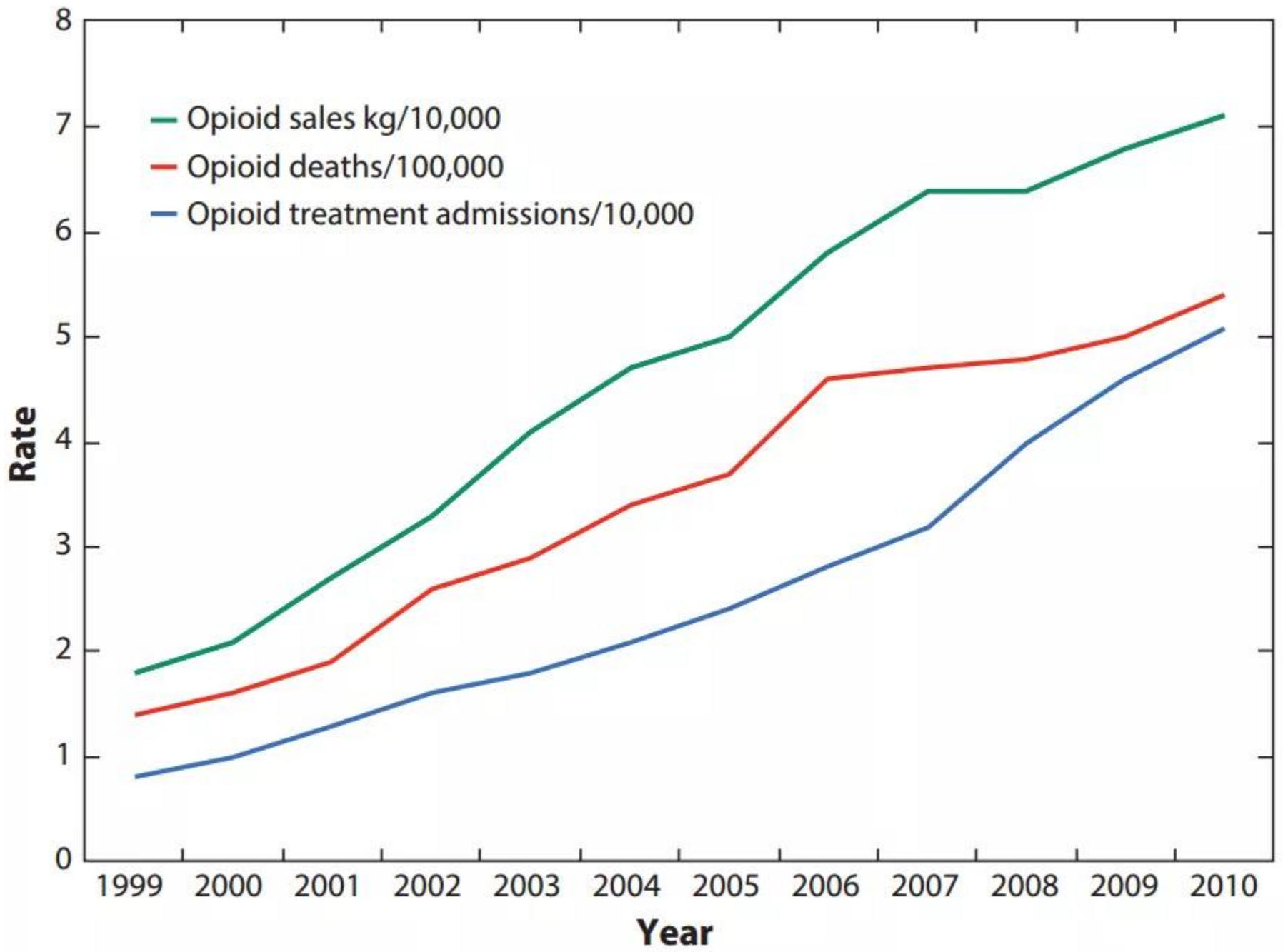
**Funds intended for specific project will instead be spread across Science Museum's work**

Lanre Bakare

🐦 @lanre\_bakare

Thu 5 Dec 2019  
19.46 GMT





## Characteristics of Initial Prescription Episodes and Likelihood of Long-Term Opioid Use — United States, 2006–2015

Anuj Shah<sup>1</sup>; Corey J. Hayes, PharmD<sup>1,2</sup>; Bradley C. Martin, PharmD, PhD<sup>1</sup>

1. Use of MR opioids
2. Refill/repeat prescriptions
3. Duration of initial prescription



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# Position statement on the use of slow-release opioid preparations in the treatment of acute pain

Mounting evidence highlights the inappropriate use of slow-release opioids for the treatment of acute pain. The recommendations in this statement are in line with the approved indications for slow-release opioids listed by regulatory authorities including the Therapeutic Goods Administration in Australia, Medsafe in New Zealand, and the US Food and Drug Administration.

This statement reflects an evaluation of best available evidence and expert advice, and is in response to significant adverse events. It has been written to inform and recommend, and to encourage practice reflection. It is not intended to mandate practice or replace clinical judgement based on individual patient circumstances.

## Recommendation

**Slow-release opioids are not recommended for use in the management of patients with acute pain.**

The inappropriate use of slow-release opioids for the treatment of acute pain has been associated with a significant risk of respiratory depression, resulting in severe adverse events and deaths.



## Guidelines on the Management of Postoperative Pain

Management of Postoperative Pain: A Clinical Practice Guideline  
From the American Pain Society, the American Society of Regional Anesthesia and Pain Medicine, and the American Society of Anesthesiologists' Committee on Regional Anesthesia, Executive Committee, and Administrative Council

# 2016

dosing during the first 24 hours. Long-acting oral opioids are generally not recommended or labeled for use in the immediate postoperative period<sup>28,9</sup> because of the need to titrate doses and the lack of evidence showing superi-

# Pseudoaxioms and Opioid Use

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# Incidence of iatrogenic opioid dependence or abuse in patients with pain who were exposed to opioid analgesic therapy: a systematic review and meta-analysis

C. Higgins<sup>1,\*</sup>, B. H. Smith<sup>2</sup> and K. Matthews<sup>1</sup>

<sup>1</sup>Division of Neuroscience, University of Dundee, Ninewells Hospital and Medical School, Dundee, UK and

<sup>2</sup>Division of Population Health Sciences, University of Dundee, Ninewells Hospital and Medical School, Dundee, UK

\*Corresponding author. E-mail: [c.y.higgins@dundee.ac.uk](mailto:c.y.higgins@dundee.ac.uk)

Weak opioids are a bigger dependence risk factor than strong opioids  
Incidence of iatrogenic opioid dependence was 4.7%

# Weak Opioids are Less Addictive

- Unclear aetiology
- Social acceptability ?
- Ease of availability ?

# WHO Analgesic Ladder

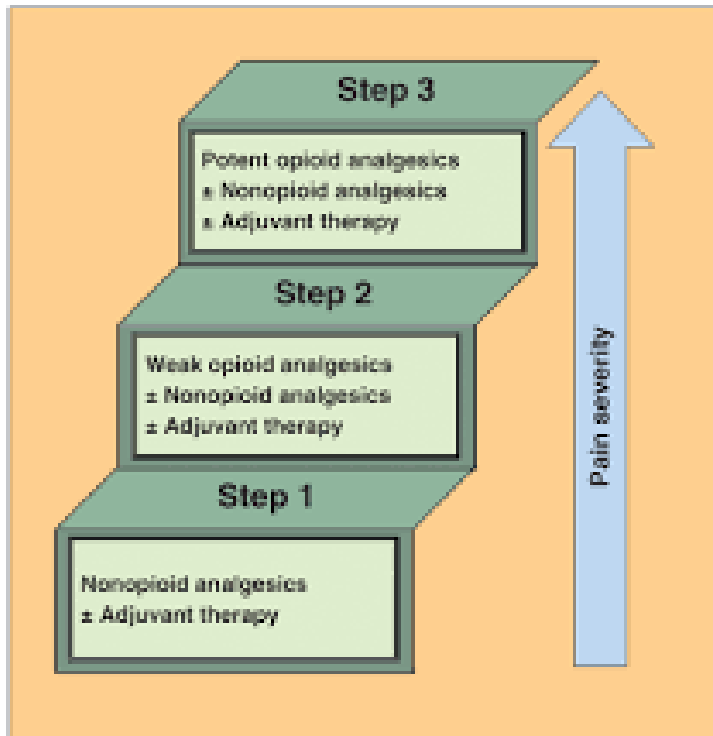


Figure 1: World Health Organization Analgesic Step Ladder—Derived from a consensus guideline published in 1982, the three-step approach to analgesic therapy for cancer pain was published in its final form in 1986.

- Designed for global use
- Terminal cancer pain
- No provision for deprescribing
- Promotes unhelpful concept of weak vs strong opioids

BJA

*British Journal of Anaesthesia*, 122 (6): e198–e208 (2019)

doi: [10.1016/j.bja.2018.11.019](https://doi.org/10.1016/j.bja.2018.11.019)

Advance Access Publication Date: 28 December 2018

The Opioid Crisis

THE OPIOID CRISIS

## The prescription opioid crisis: role of the anaesthesiologist in reducing opioid use and misuse

Ellen M. Soffin<sup>1,2</sup>, Bradley H. Lee<sup>1,2</sup>, Kanupriya K. Kumar<sup>1,2</sup> and Christopher L. Wu<sup>1,2,3,\*</sup>

<sup>1</sup>Department of Anesthesiology, Hospital for Special Surgery, New York, NY, USA, <sup>2</sup>Department of Anesthesiology, Weill Cornell Medicine, New York, NY, USA and <sup>3</sup>Armstrong Institute for Patient Safety and Quality, Johns Hopkins University, Baltimore, MD, USA

\*Corresponding author. E-mail: [wuch@hss.edu](mailto:wuch@hss.edu)

# Peri operatively

- Surgery is an important driver of new persistent opioid use 6%
- Opioid over prescription after surgery
- 42-71% all post surgery opioids unused



# Pre-op considerations

- Pre admission opioids- worse outcome
- Pre op weaning associated with improvement in disease specific and generic health measures
- Identify patients at higher risk

Smith SR, Bido J, Collins JE, Yang H, Katz JN, Losina E. Impact of preoperative opioid use on total knee arthroplasty outcomes. *J Bone Jt Surg Am* 2017; 99: 803e8

Lee D, Armaghani S, Archer KR, et al. Preoperative opioid use as a predictor of adverse postoperative self-reported outcomes in patients undergoing spine surgery. *J Bone Jt Surg Am* 2014; 96: e89

# Intra-operatively

- Regional anaesthesia
- Intrathecal morphine
- TAP blocks
- Wound Infiltration
- IV lidocaine
- IV magnesium
- ? Ketamine ? TIVA

# Post operatively

- Multi modal analgesia
- NSAIDS
- Paracetamol
- Regional Anaesthesia
- IV LA infusions - ? Dose and duration

# Post Discharge Management

- Paucity of information
- Over prescribing common in all specialities
- 42-71% of opioid tablets unused
- Lack of large scale data on pain trajectory
- Lack of specific guidance on weaning
- Post operative clinics
- Education: patient, prescribers, providers

# Summary

- Enormous personal and economic toll
- Peri op opioid use – small but significant role
- Source of new opioid users and unused opioids
- Institutional strategy