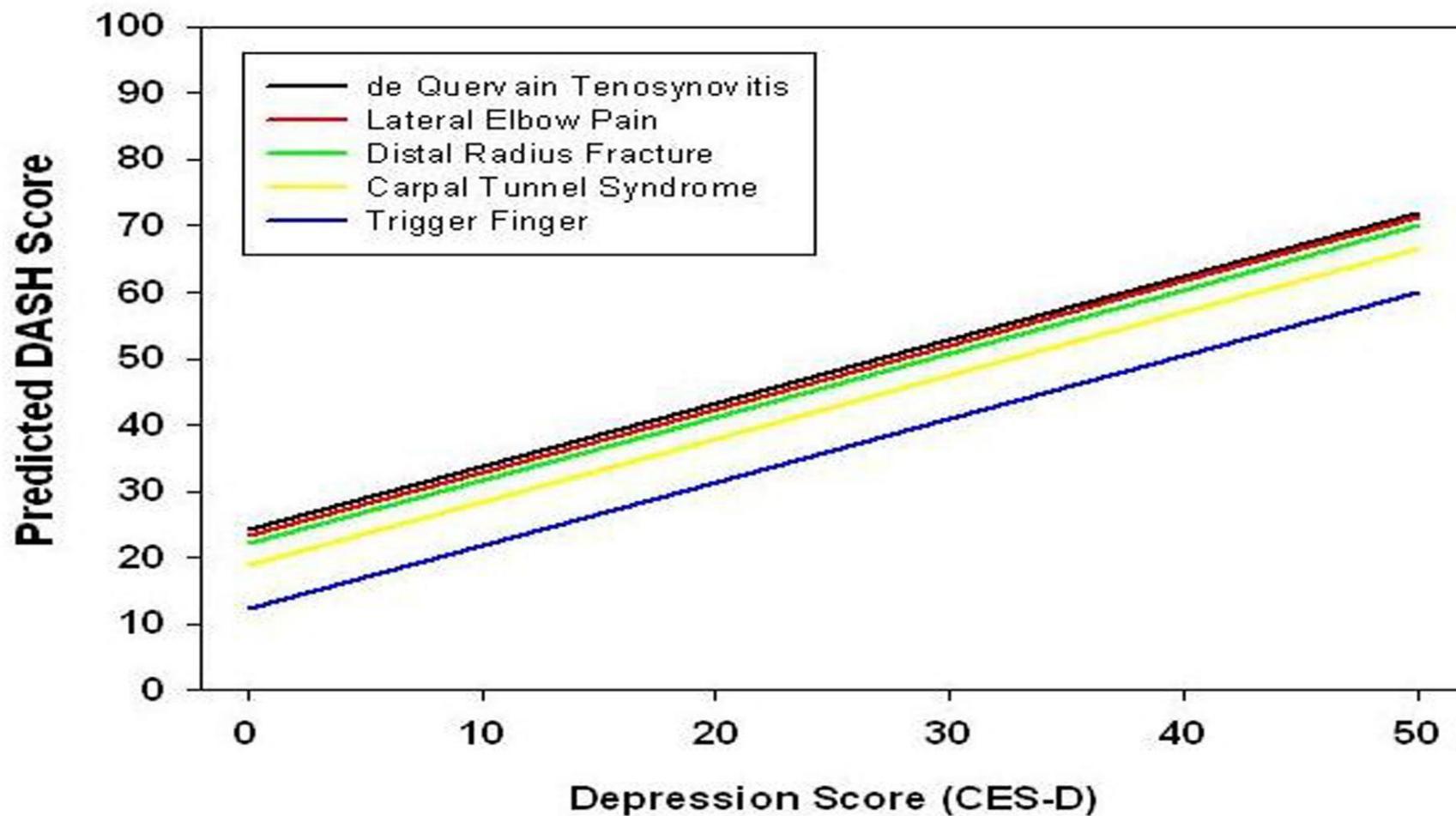


Safe and Effective Alleviation of Pain

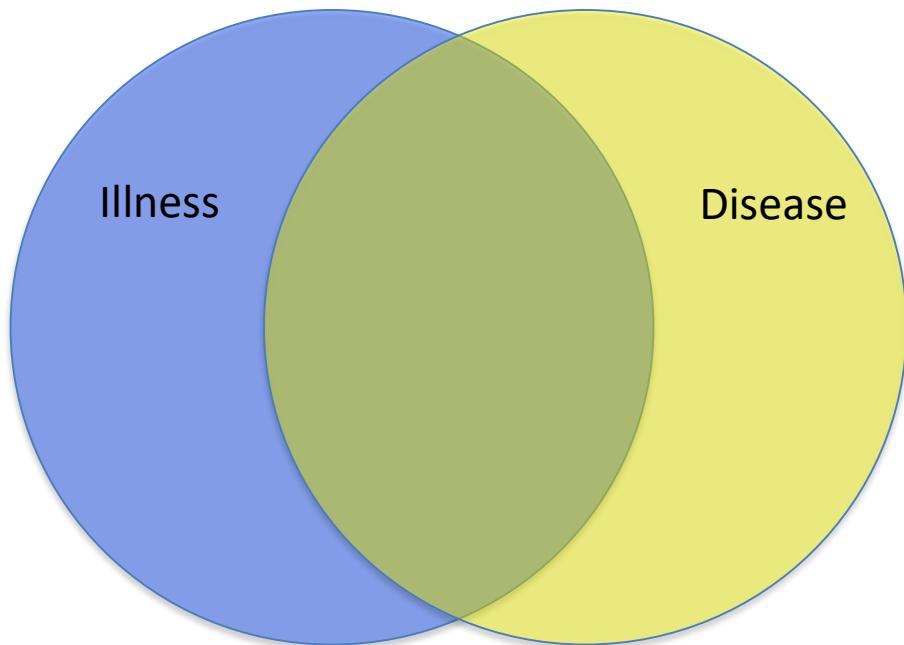
David Ring MD PhD

Disease vs. Illness





Biopsychosocial Paradigm

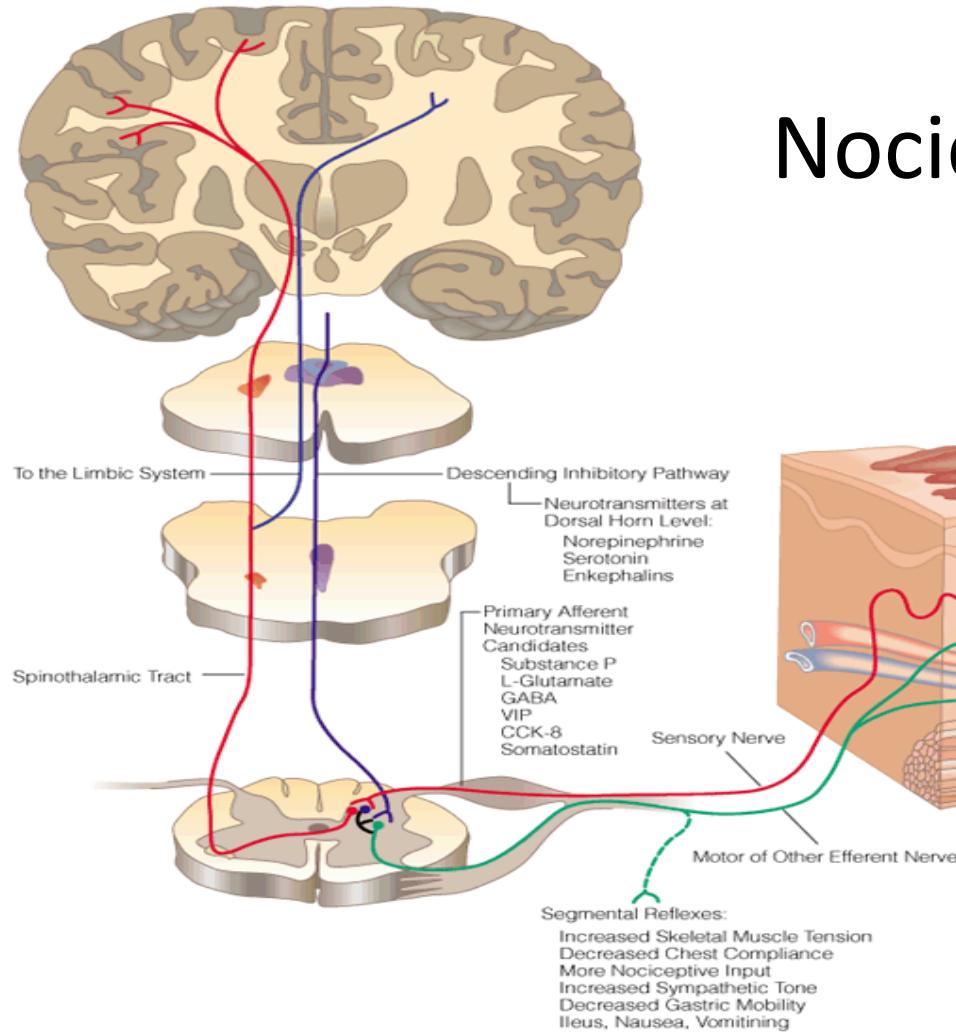


Biomedical Paradigm

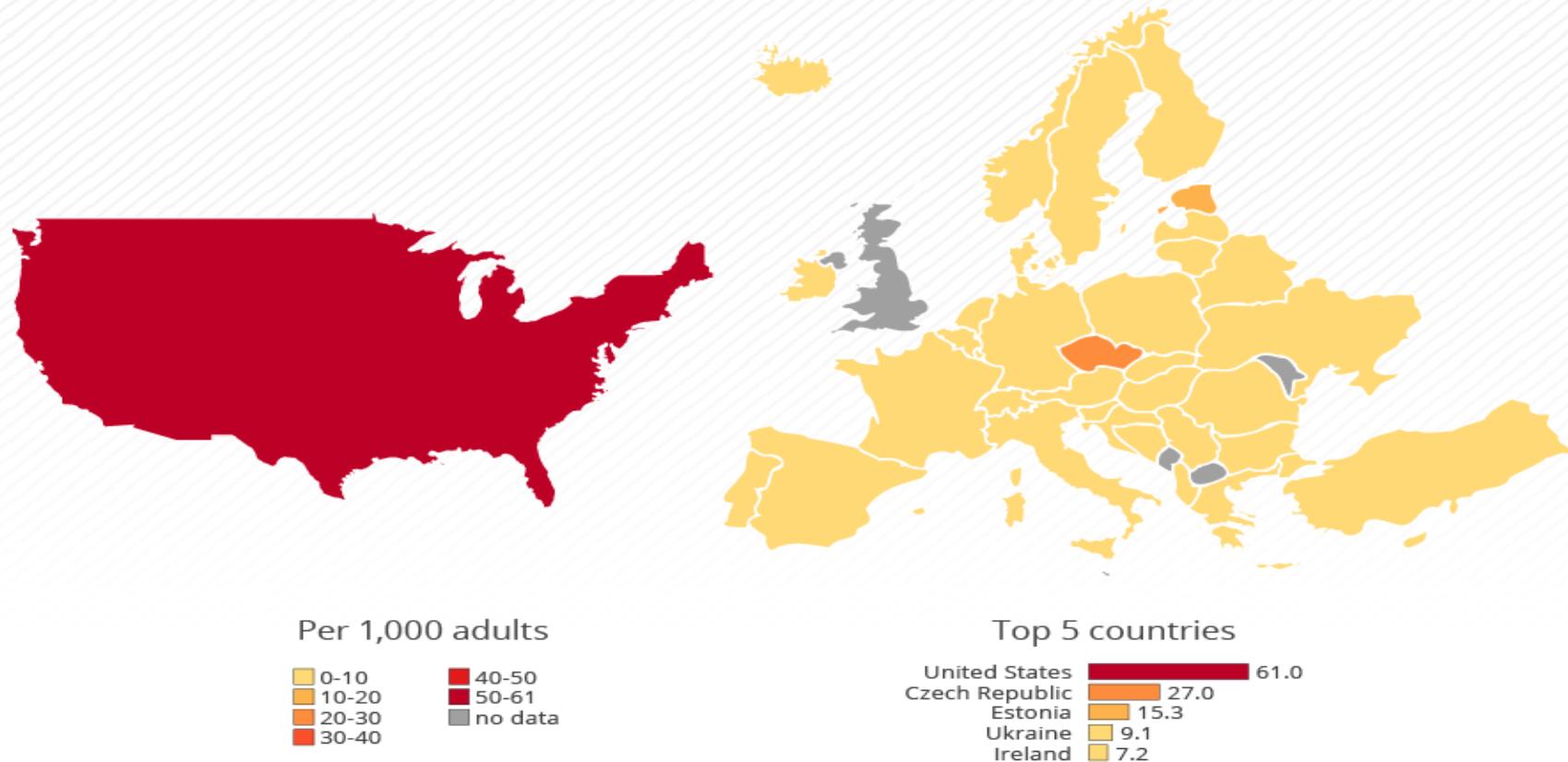




Nociception vs. Pain

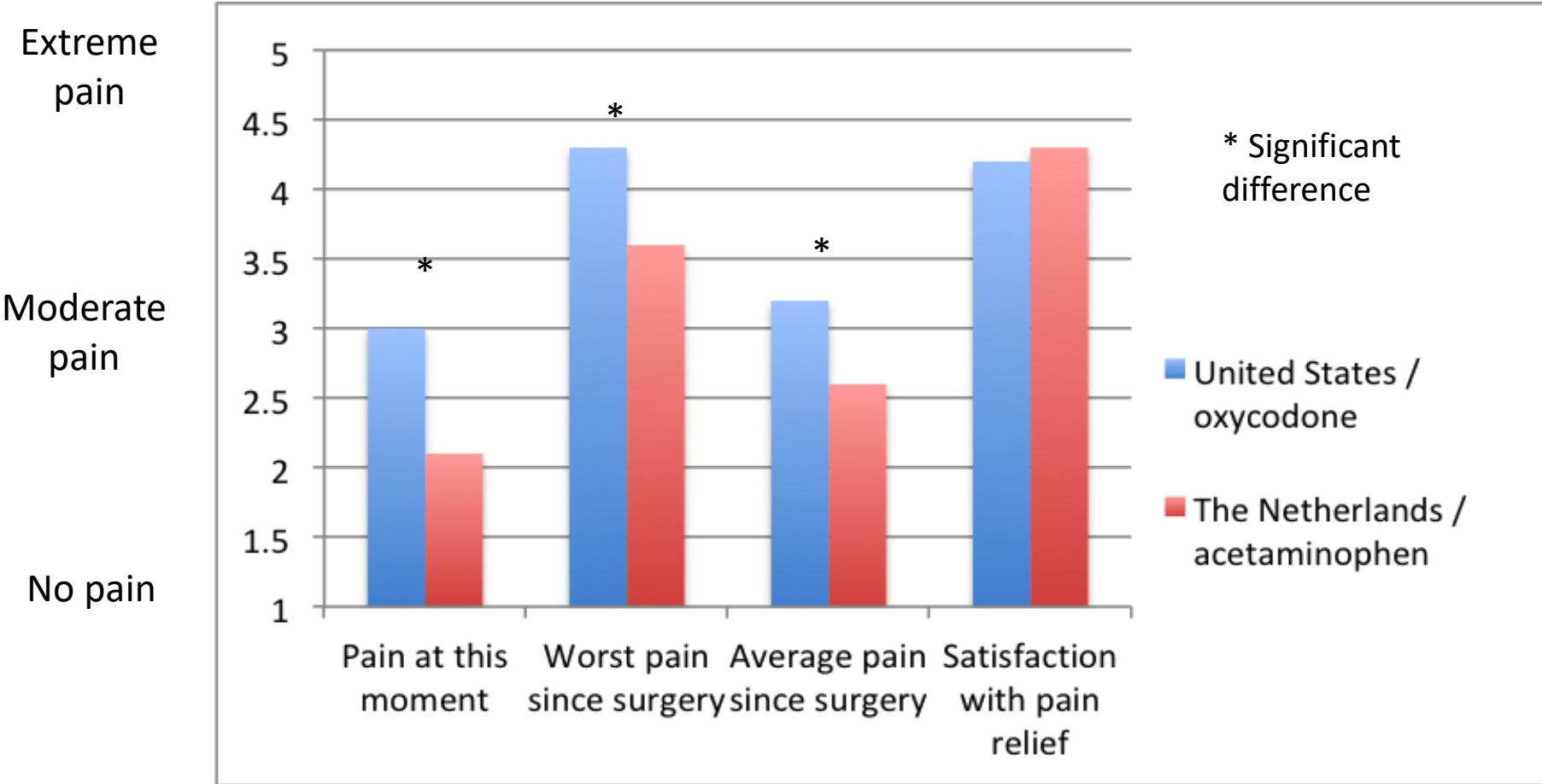


Prevalence of opioid use at least once during past year



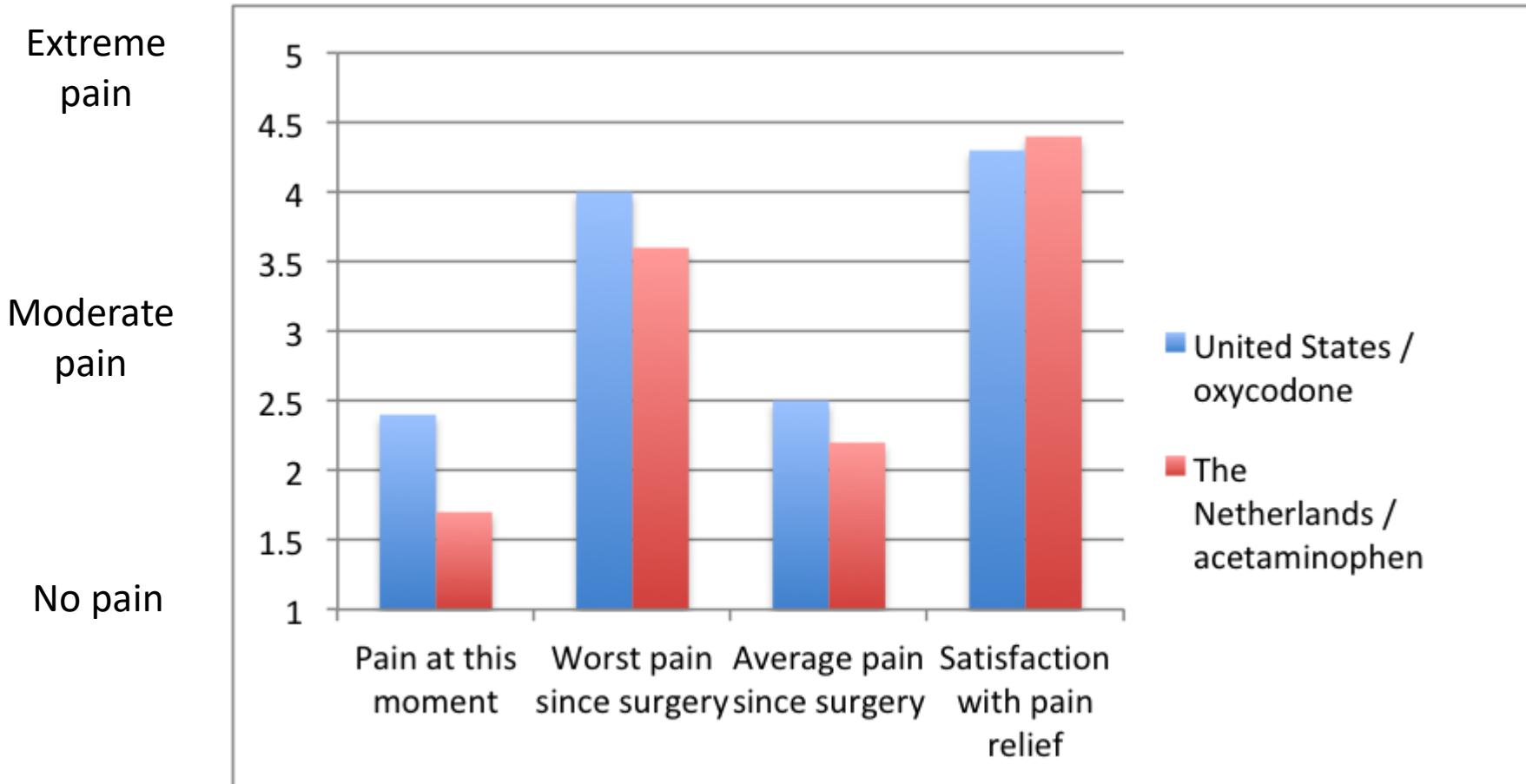
ORIF Ankle Fracture: First Day After Surgery

Helmerhorst GT, et al. . Injury. 2012
Nov;43(11):1958-61.



ORIF Ankle Fracture: At Suture Removal

Helmerhorst GT, et al. . Injury. 2012
Nov;43(11):1958-61.



Opioid Use 1-2 months after Skeletal Trauma

- Symptoms of
 - PTSD
 - Depression
 - Anxiety
- Less effective coping strategies (catastrophic thinking)

Not: Age, sex, fracture location or severity, number of fractures

Inpatients after Orthopedic Surgery

Greater pain intensity / lower satisfaction:

- More opioids (oral morphine equivalents)

Lower pain intensity / higher satisfaction:

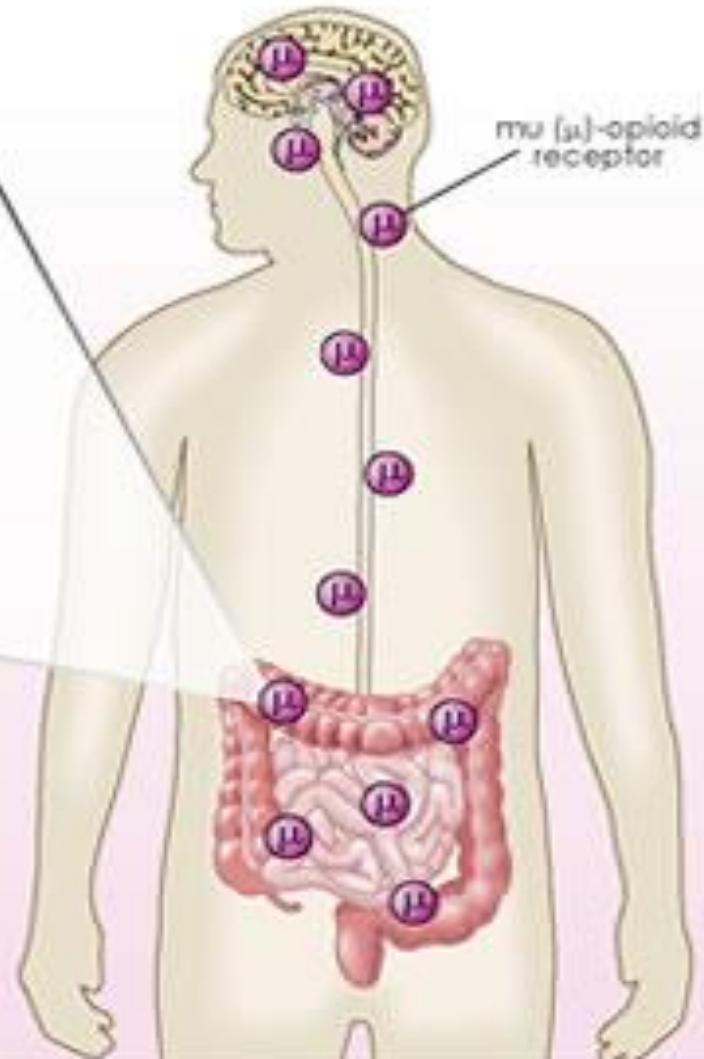
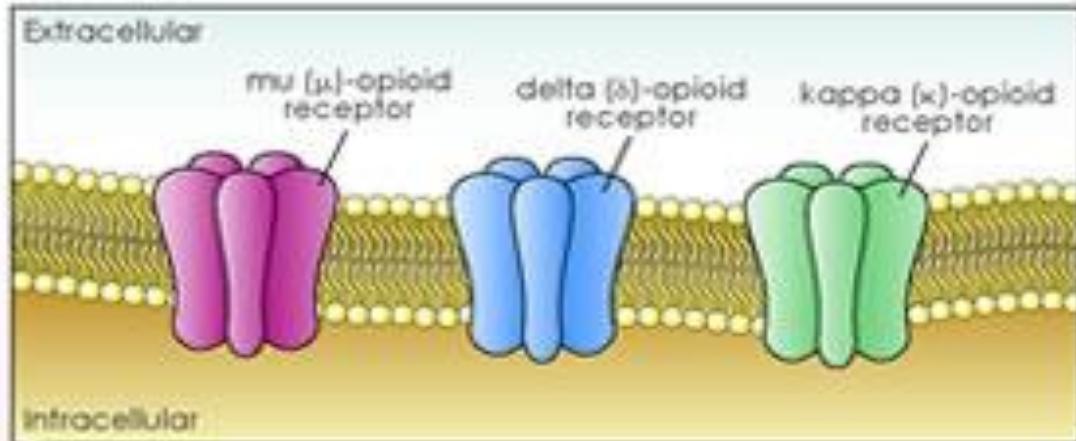
- Fewer symptoms of depression
- Greater self-efficacy

Nota SP, et al. Psychosomatics. 2015; 56(5):479-85.

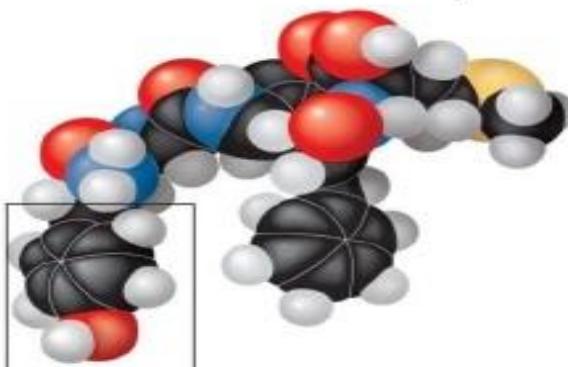
Bot AG, et al. Clin Orthop Relat Res. 2014; 472(8):2542-9

Opioid

A molecule that binds to and activates opioid receptors



Natural endorphin



Key

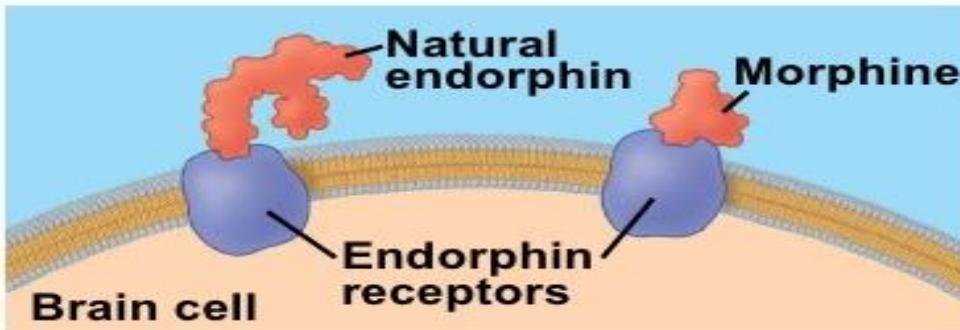
■ Carbon
■ Hydrogen

■ Nitrogen
■ Sulfur
■ Oxygen

Morphine



(a) Structures of endorphin and morphine



(b) Binding to endorphin receptors



“Studies show that people who allow art into their lives can substantially reduce their dependency on selective serotonin reuptake inhibitors.”



















MRS. WINSLOW'S

SOOTHING
SYRUP

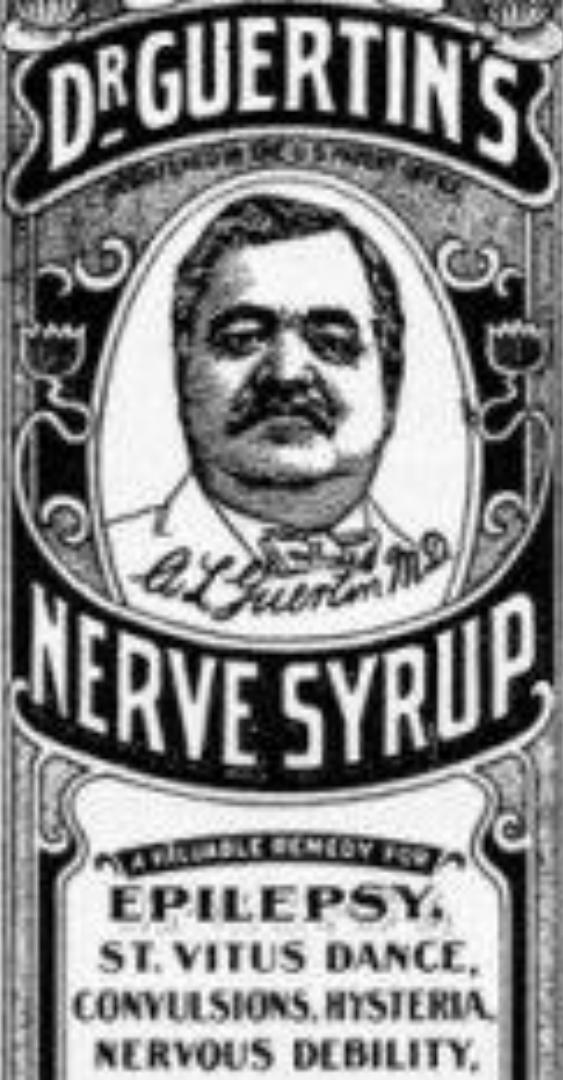


MRS. WINSLOW'S
Soothing
Syrup
FOR
CHILDREN
TEETHING.



FOR CHILDREN TEETHING

Dr. GUERTIN'S NERVE SYRUP, is
tried, careful and prolonged experiment,
diseases of the Brain and Nervous System.



NERVE SYRUP • • • Brain and Nerve Medicine
strengthens the Nerves. It is pleasant to the taste
than Alcohol, Opium, or other dangerous Drugs.

ST. JACOBS OIL

CONQUERS
PAIN.

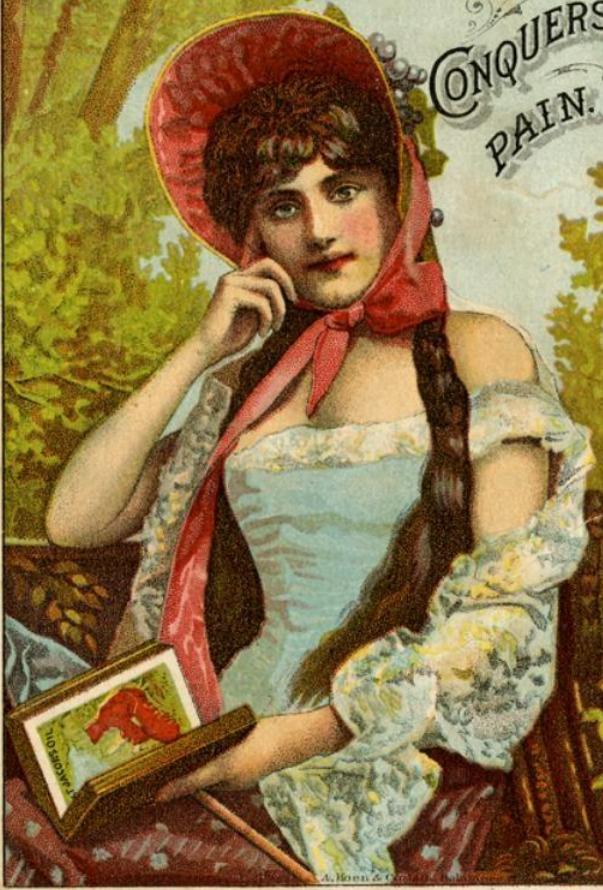
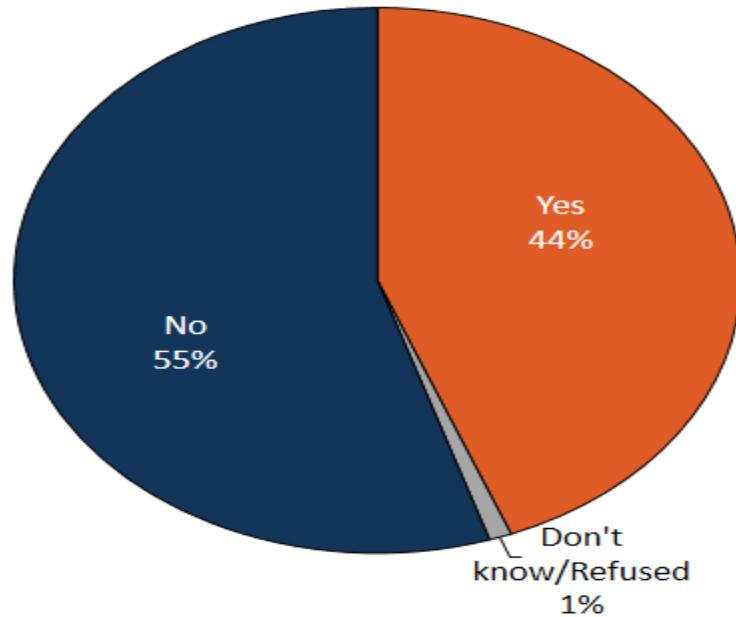


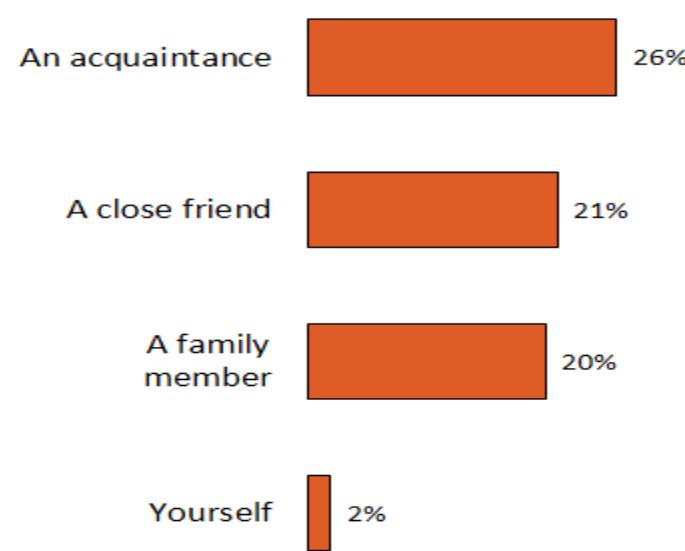
Figure 3

Over Four in Ten Americans Know Someone Who Has Been Addicted to Prescription Painkillers

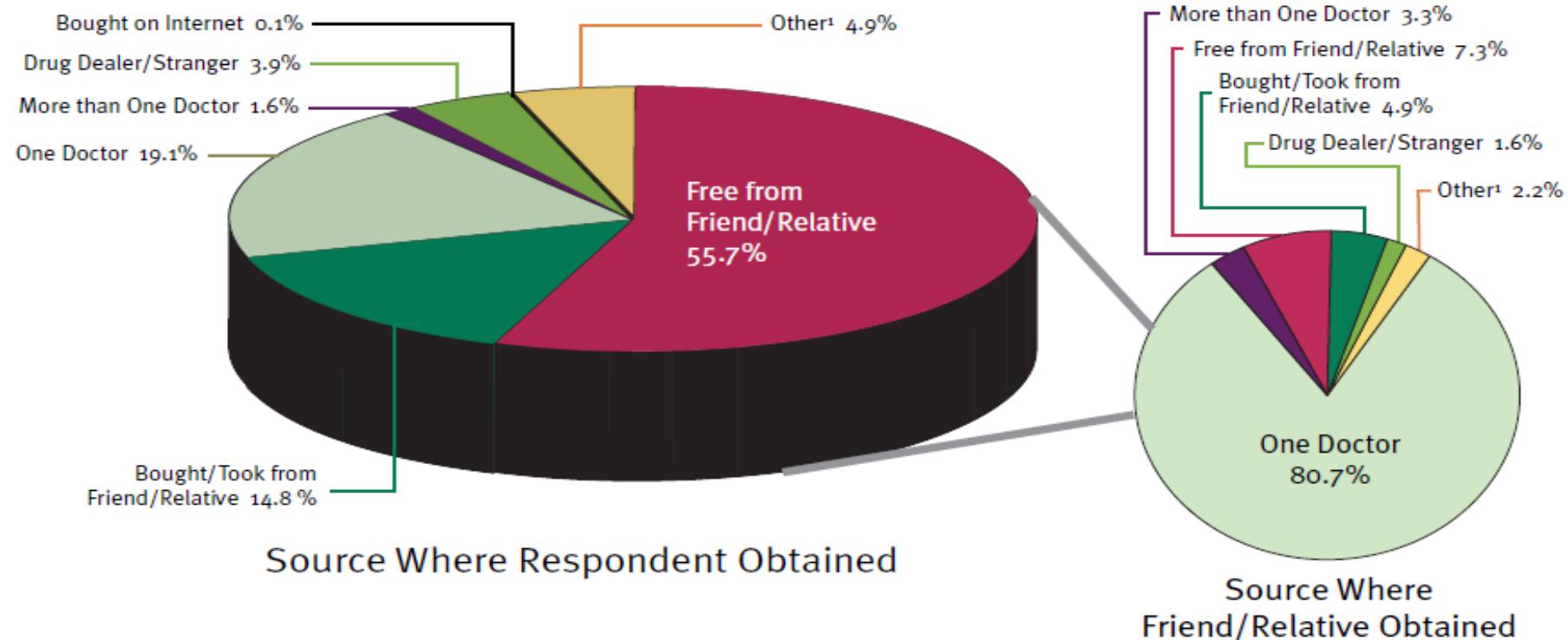
Do you personally know anyone who has ever been addicted to prescription painkillers, or not?



ASKED OF THE 44% WHO SAY THEY KNOW SOMEONE WHO HAS BEEN ADDICTED: Who do you know that has ever been addicted to prescription painkillers? (percentages based on total)



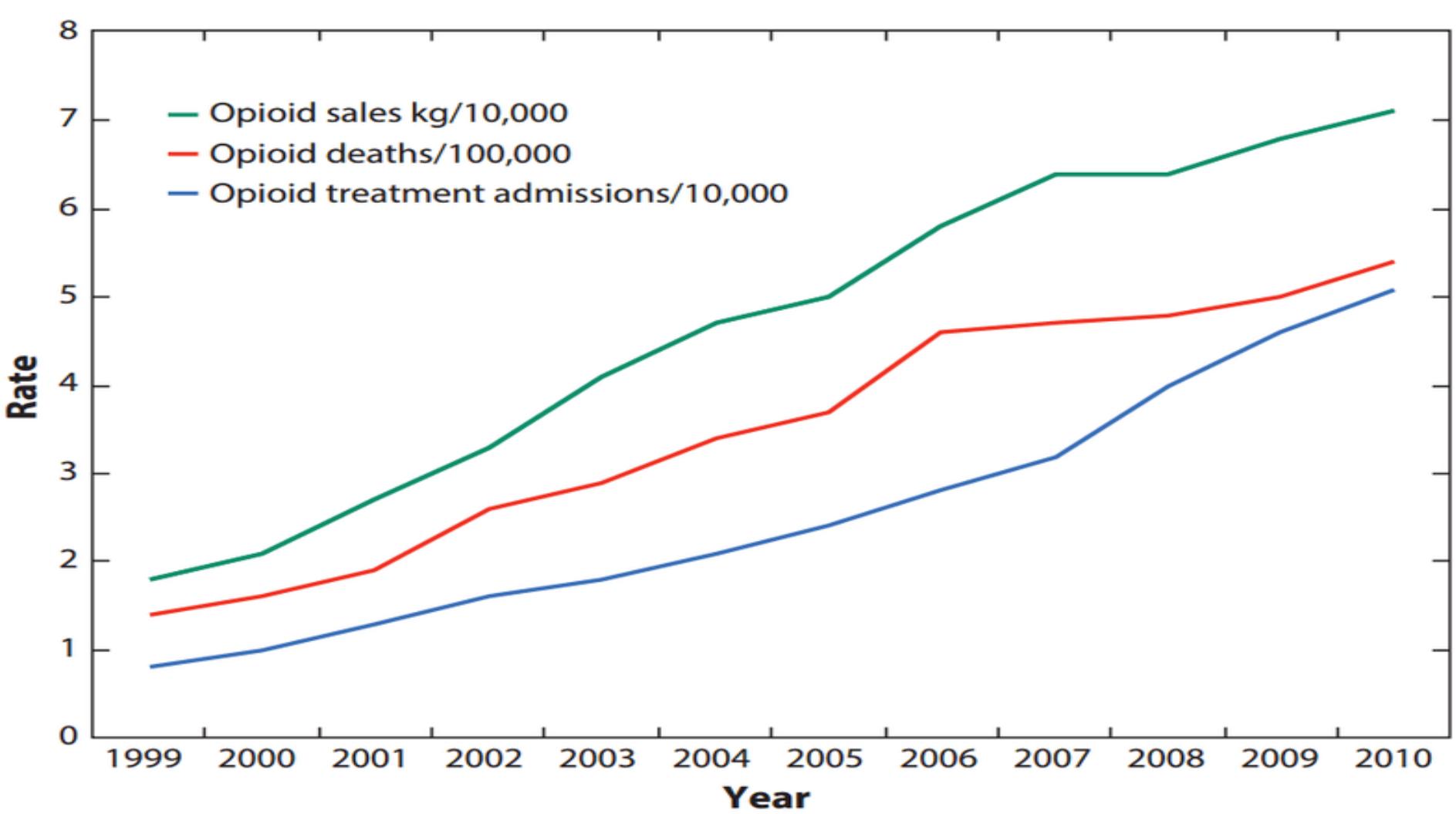
SOURCE: Kaiser Family Foundation Health Tracking Poll (conducted April 12-19, 2016)



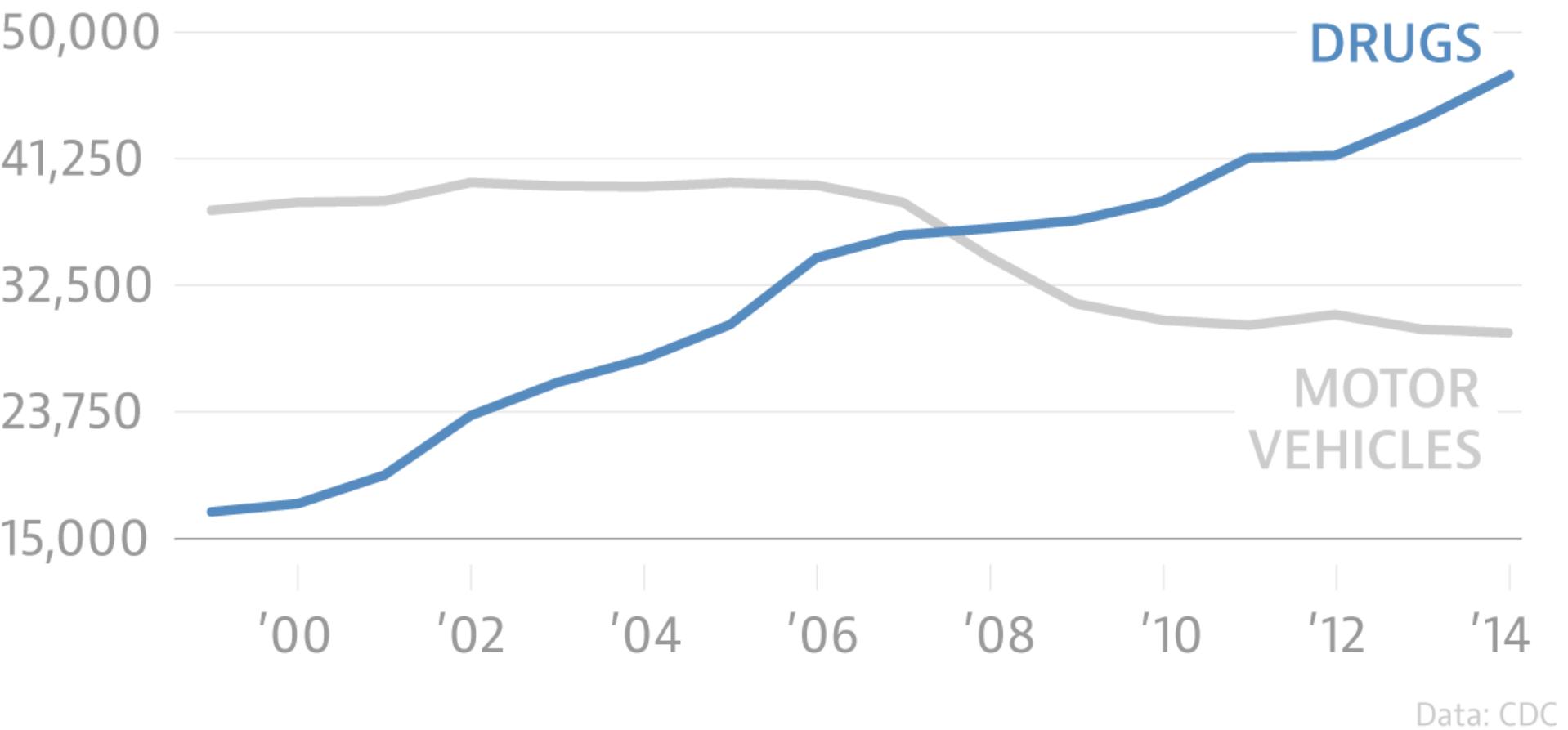
Note: Totals may not total to 100% because of rounding or because suppressed estimates are not shown.

¹The Other category includes the sources: "Wrote Fake Prescription," "Stole from Doctor's Office/Clinic/Hospital/Pharmacy," and "Some Other Way."

Fig. 9. *Where pain relievers were obtained for most recent nonmedical use among past year users aged 12 or older: 2006 .*
 Source: www.oas.samhsa.gov/nsduh/2k6nsduh/2k6results.pdf



Drug Overdose & Motor Vehicle Accident Deaths



LYDIA E. PINKHAM'S VEGETABLE COMPOUND



Has
Cured More
Women Than
Any Other
Medicine in the
World.

Its annual sales are greater than those of any other medicine exclusively for women. It holds the record for the greatest number of actual cures of woman's ills. This fact is attested by hundreds of thousands of letters from grateful women which are on file in the Pinkham laboratory, and which are available to all who apply.





MORPHINE!

EASY HOME CURE, Permanent, Painless We will send any one addicted to OPIUM, MORPHINE, LAUDANUM, or other drug habit, a TRIAL TREATMENT, FREE OF CHARGE, of the most remarkable remedy ever discovered. Containing GREAT VITAL PRINCIPLE heretofore unknown. REFRACTORY CASES solicited. Confidential correspondence invited from all, especially PHYSICIANS.

ST. JAMES SOCIETY, 1181 BROADWAY, NEW YORK.

When you write, mention Conkey's Home Journal.



WORN
THEN
DRINK
Coca-Cola

IT RELIEVES EXHAUSTION

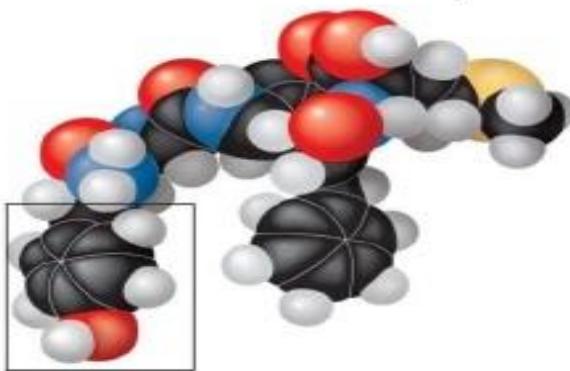
When the BRAIN is running under full pressure send down to the FOUNTAIN for a glass of

Coca-Cola

you **will** be surprised how quickly it will ease the Tired Brain—sooth the Rattled Nerves
and restore Wasted Energy to both Mind and Body.
It enables the entire system to readily cope with the strain of any excessive demands
made upon it.

AT ALL FOUNTAINS
ALSO IN BOTTLES 5c.

Natural endorphin



Key

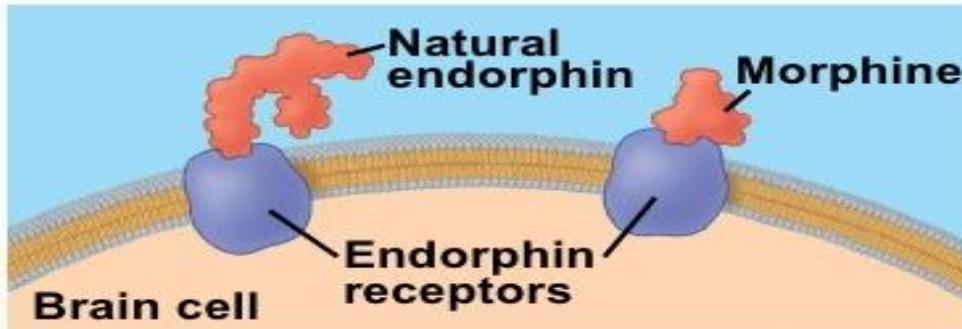
■ Carbon
■ Hydrogen

■ Nitrogen
■ Sulfur
■ Oxygen

Morphine



(a) Structures of endorphin and morphine



(b) Binding to endorphin receptors

Opioids of the 20th Century

Semisynthetic (from thebaine alkloid)

- 1916 Oxycodone
- 1920 Hydrocodone
- 1924 Hydromorphone

Synthetic

- 1932 Demerol
- 1937 Methadone
- 1960 Fentanyl
- 1977 Tramadol

Legislation

- Opium Exclusion Act 1909
- Harrison Narcotics Tax Act 1914
- Heroin Act 1924
- Food, Drug, and Cosmetic Act 1938
- Controlled Substances Act 1970
- DEA formed 1973

Bonica's MANAGEMENT *of PAIN*



THIRD EDITION

John D. Loeser

Stephen H. Burke
C. Richard Chapman
Dennis C. Turk



ARCHIVE

The Onetime 'Masked Marvel' John Bonica Now Wrestles with His Toughest Foe—Pain

BY JANE ESTES

POSTED ON AUGUST 29, 1977 AT 12:00PM EDT

 SHARE

 TWEET

 EMAIL

Few medical students have shown as much ingenuity raising tuition money as Dr. John Bonica, 60, of Seattle, Wash. From 1938 to 1942 he managed to stay in med school by wrestling professionally—as the Masked Marvel, no less.

"We don't claim to solve every problem sent here, but we do help about 70 percent of the patients," Bonica says. For the others, "We are able to teach the patient how to live with pain."

Now grandparents (their three daughters and a son are grown), John and Emma Bonica live comfortably on the shore of Lake Washington. The doctor limits himself to a 75-calorie vegetable lunch so that for dinner, he explains, "I can have a martini and some of that good Italian food."

Although he will continue to teach, Bonica will retire as department chairman at the end of the year to establish a basic research center on pain at the university. "I would like to find out why," he says, "of the 21 million people with arthritis, one-third are disabled while others have pain in only one hand."

ADDICTION RARE IN PATIENTS TREATED WITH NARCOTICS

To the Editor: Recently, we examined our current files to determine the incidence of narcotic addiction in 39,946 hospitalized medical patients¹ 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,² 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.

JANE PORTER
HERSHEL JICK, M.D.
Boston Collaborative Drug
Surveillance Program

Waltham, MA 02154

Boston University Medical Center

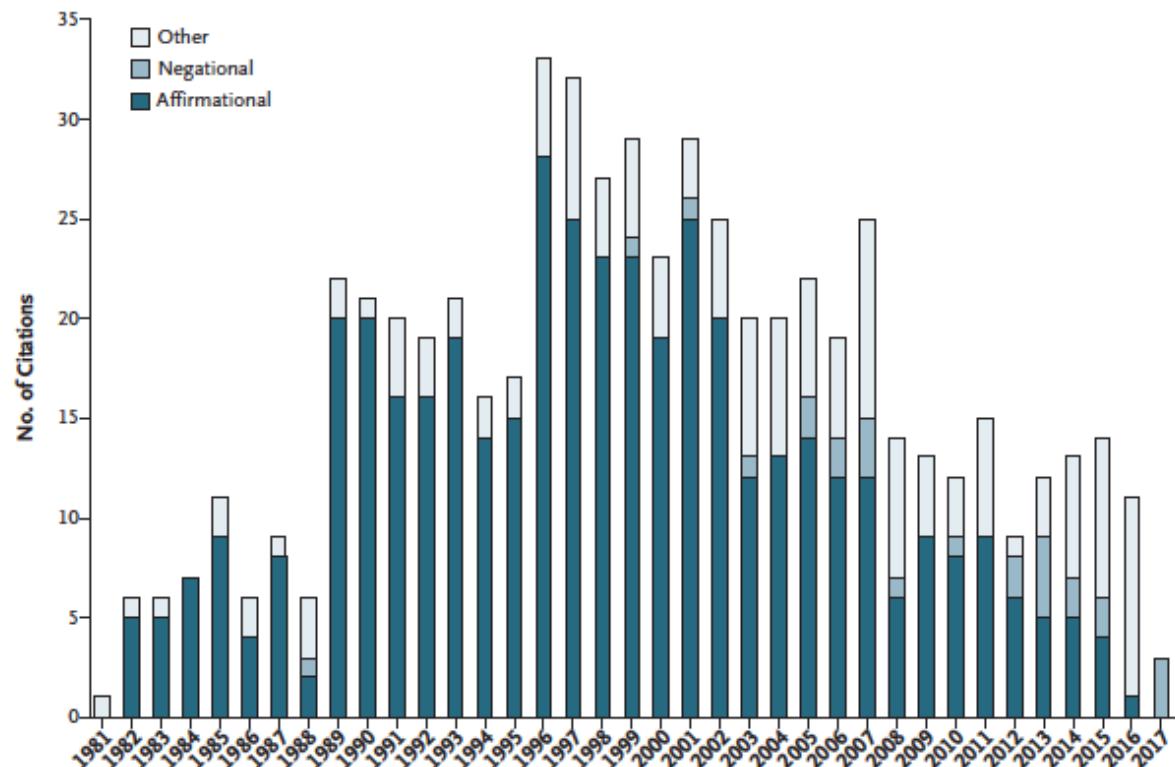


Figure 1. Number and Type of Citations of the 1980 Letter, According to Year.

Shown are number of citations of a 1980 letter to the *Journal* in which the correspondents claimed that opioid therapy rarely resulted in addiction. The citations are categorized according to whether the authors of the articles affirmed or negated the correspondents' conclusion about opioids. Details about "other" citation categories are provided in Section 2 in the Supplementary Appendix.

PAI 00878

Chronic Use of Opioid Analgesics in Non-Malignant Pain: Report of 38 Cases

Russell K. Portenoy and Kathleen M. Foley

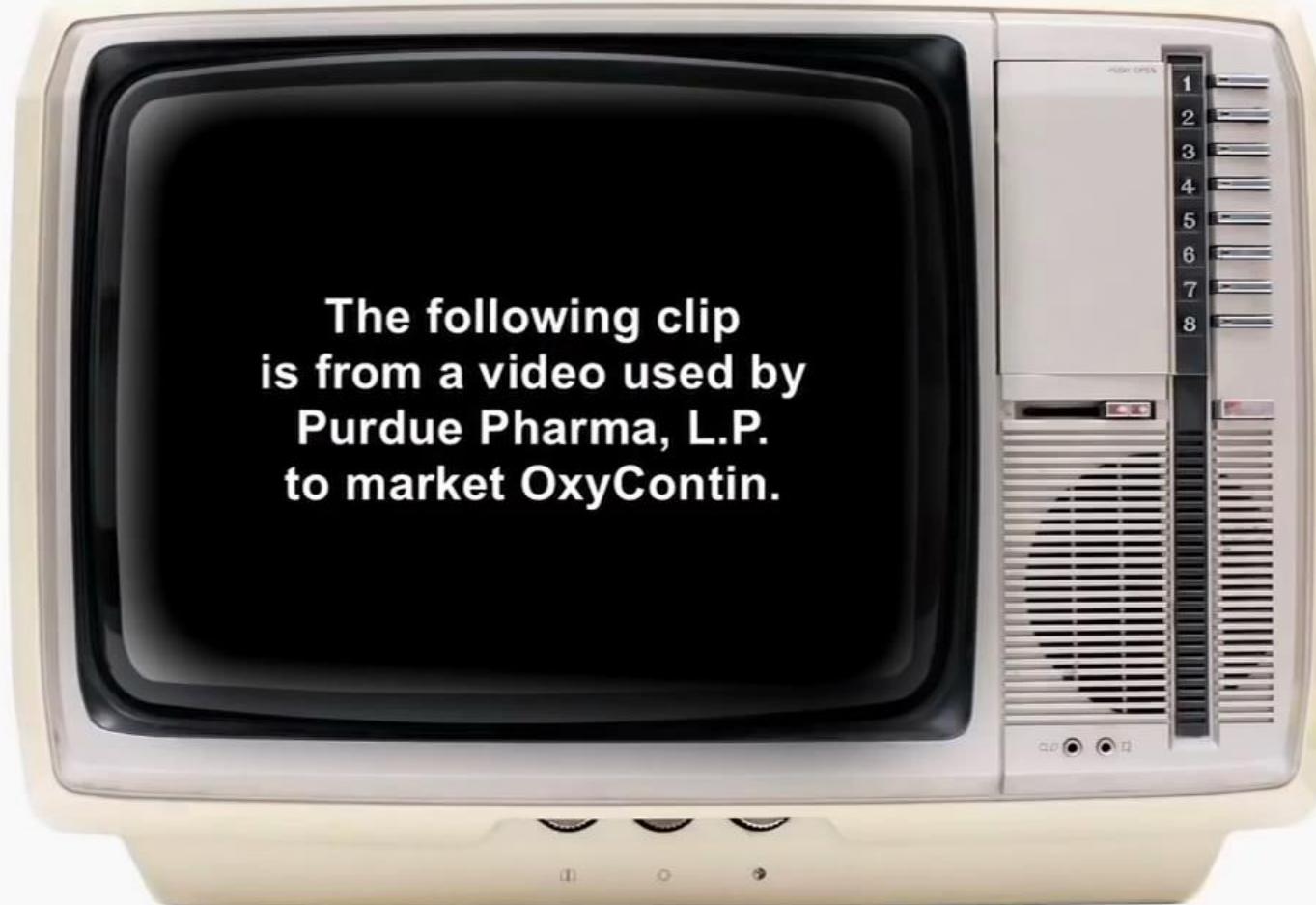
Pain Service, Department of Neurology, Memorial Sloan-Kettering Cancer Center, and Department of Neurology, Cornell University Medical College, New York, NY 10021 (U.S.A.)

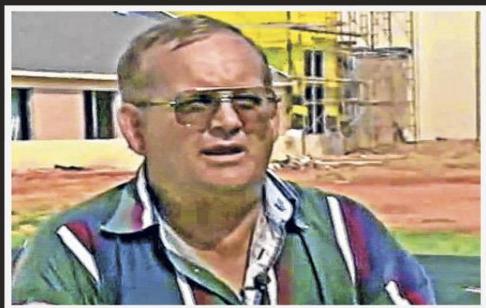
(Received 10 June 1985, accepted 28 October 1985)

Summary

Thirty-eight patients maintained on opioid analgesics for non-malignant pain were retrospectively evaluated to determine the indications, course, safety and efficacy of this therapy. Oxycodone was used by 12 patients, methadone by 7, and levorphanol by 5; others were treated with propoxyphene, meperidine, codeine, pentazocine, or some combination of these drugs. Nineteen patients were treated for

You Tube link for Video: https://youtu.be/77rGSa_hBuE





“Pain is the 5th Vital Sign”

- International Association for the study of pain (IASP)
- Initial wide adoption in VA hospitals

JACCHO (now the Joint Commission)

- 2000 release standards on pain management
 - Do not mention opioids
- Released pain CME booklet sponsored by Purdue that said:

“Some clinicians have inaccurate and exaggerated concerns” about addiction, tolerance and risk of death, the guide said. “This attitude prevails despite the fact there is no evidence that addiction is a significant issue when persons are given opioids for pain control.”

Iatrogenic & Advocatogenic

- You undertreat pain
- You over-worry addiction



N.Y. / REGION | NYT NOW

Heroin's Death Toll Rising in New York, Amid a Shift in Who Uses It

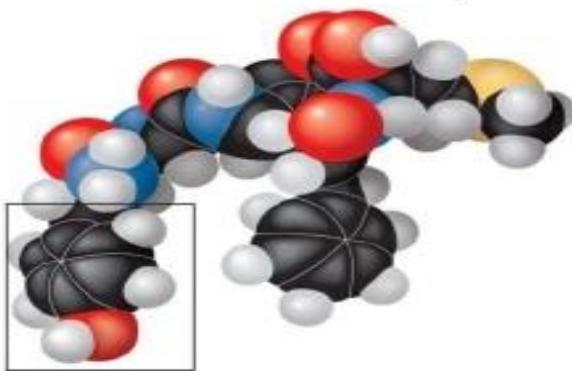
By J. DAVID GOODMAN AUG. 28, 2014

A heroin crisis gripping communities across the country deepened in New York last year, with more people in the city dying in overdoses from the drug than in any year since 2003.

In all, 420 people fatally overdosed on heroin in 2013 out of a total of 782 drug overdoses, rising to a level not seen in a decade in both absolute numbers and as a population-adjusted rate, according to preliminary year-end data from the city's health department.

The death toll from heroin has more than doubled over the last three years, presenting a growing challenge to city officials who have so far been unable to reverse the rise. By contrast, amid a concerted effort to stem prescription pill abuse, especially on Staten Island, overdoses from opioid pills leveled off during the same time period, with 215 deaths recorded in 2013.

Natural endorphin



Key

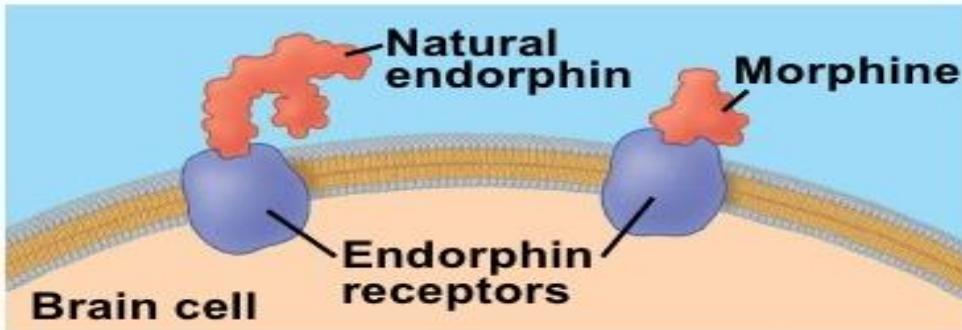
■ Carbon
■ Hydrogen

■ Nitrogen
■ Sulfur
■ Oxygen

Morphine



(a) Structures of endorphin and morphine



(b) Binding to endorphin receptors

THE
NEW YORKER

Pain Relief

- Time to rethink opioid-centric strategies
- Psychosocial factors merit greater attention

The Gift Nobody Wants

Brand, Paul W



THE GIFT

WHY WE HURT & WHAT WE CAN DO ABOUT IT

OF PAIN

DR. PAUL BRAND
PHILIP YANCEY

Previously titled *The Gift Nobody Wants*

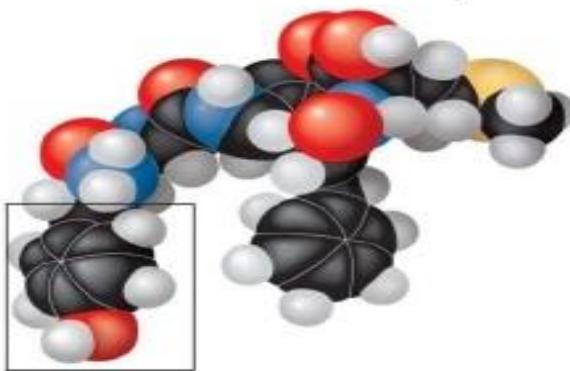






© Trent Nelson

Natural endorphin



Key

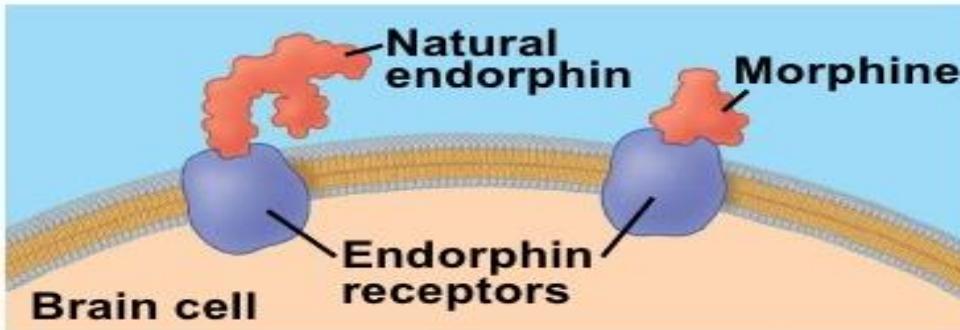
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Morphine

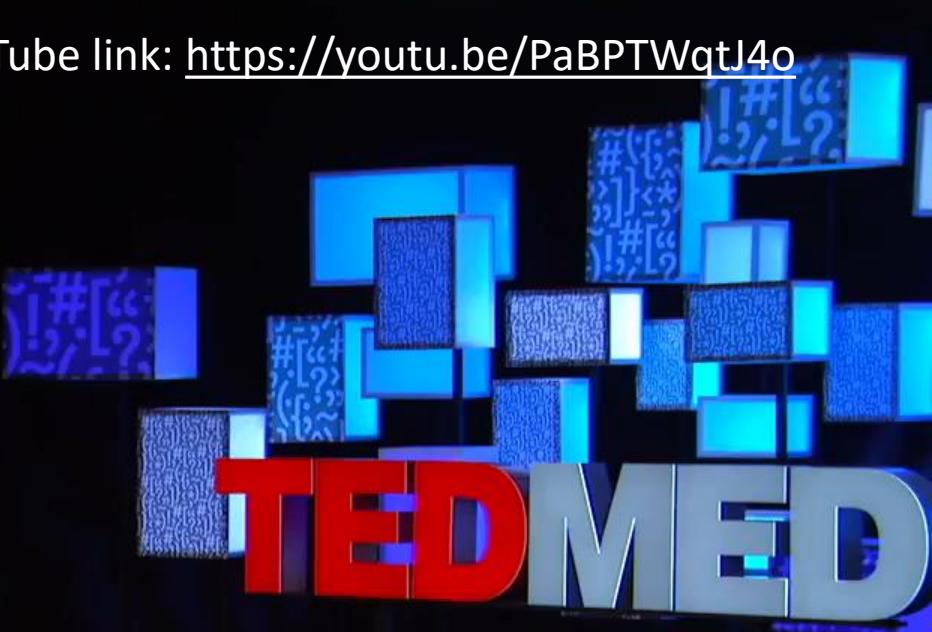
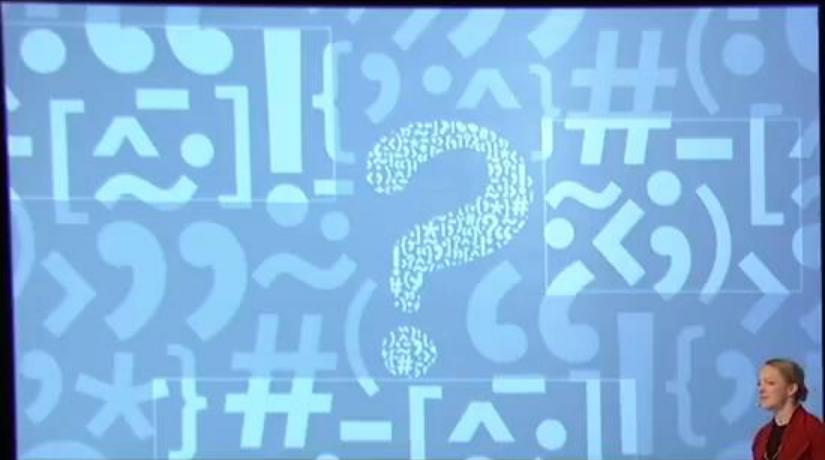


(a) Structures of endorphin and morphine



(b) Binding to endorphin receptors

YouTube link: <https://youtu.be/PaBPTWqtJ4o>



Navigation

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Outcomes Instruments

Patient Safety

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Clinicians

Patient Safety

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Patient Safety

Quality Newsletter

Appropriate Use

Criteria

Pain Relief Toolkit**Preoperative Pain Relief Discussion**

Help prepare patients for what to expect and make a plan for pain relief.

**Postoperative Pain Relief**

Pain is part of the healing process and knowing what to expect will help patients achieve peace of mind.

**Preoperative Screening Questionnaires**

Determine your patients' risk for opioid dependence.

**Emergency Dept. Opioid Strategy**

Strategies for relief of musculoskeletal pain in the Emergency Department.

**Orthopaedic Dept./Service Strategies**

Having a prescribing policy in place, such as receiving prescriptions from one provider or limiting the number of pills prescribed, will reduce the number of pills that can

**Safe Use, Storage, and Disposal**

Strategies for safely using, storing and disposing of opioids.



Pain Relief Toolkit



Preoperative Pain Relief Discuss >

Help prepare patients for what to ex...



Postoperative Pain Relief >

Pain is part of the healing process a...



Preoperative Screening Question >

Determine your patients' risk for opi...



Emergency Dept. Opioid Strateg >

Strategies for relief of musculoskele...



Orthopaedic Dept./Service Strat >

Having a prescribing policy in place, ...



Safe Use, Storage, and Disposal >

Strategies for safely using, storing a...



Doctor-Patient Scripts >

Scripts for dealing with common pai...

AAOS

AMERICAN ACADEMY OF
ORTHOPAEDIC SURGEONS



Alleviation of Pain

- Effective communication strategies
- Effective planning and preparation
- Screening
- Depersonalize it: stick to the strategy
 - Reasonable maximum amount of opioids
- Mindset:
 - Compassion, trust
 - Stress, distress, effective coping strategies

YouTube link: <https://youtu.be/cVml82GkJs4>

