



The Illusion of Opioid Pain Medications. Why Do We Love These Pills?

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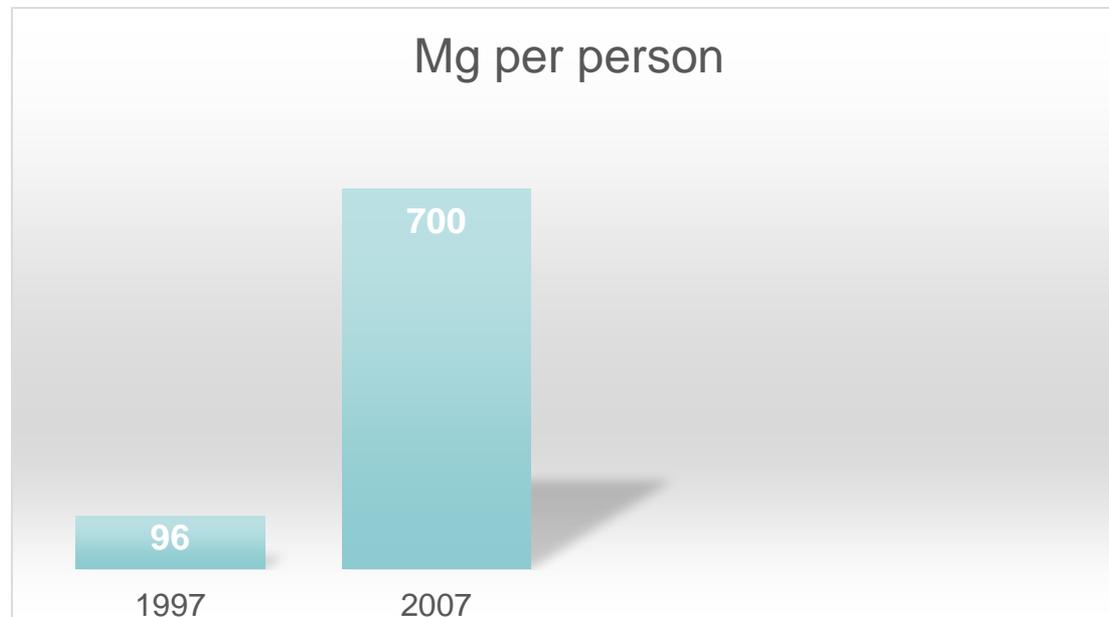
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Opioid increase

Drug distribution through the pharmaceutical supply chain was the equivalent of 96 mg of morphine per person in 1997

and approximately 700 mg per person in 2007, an increase of >600%.²





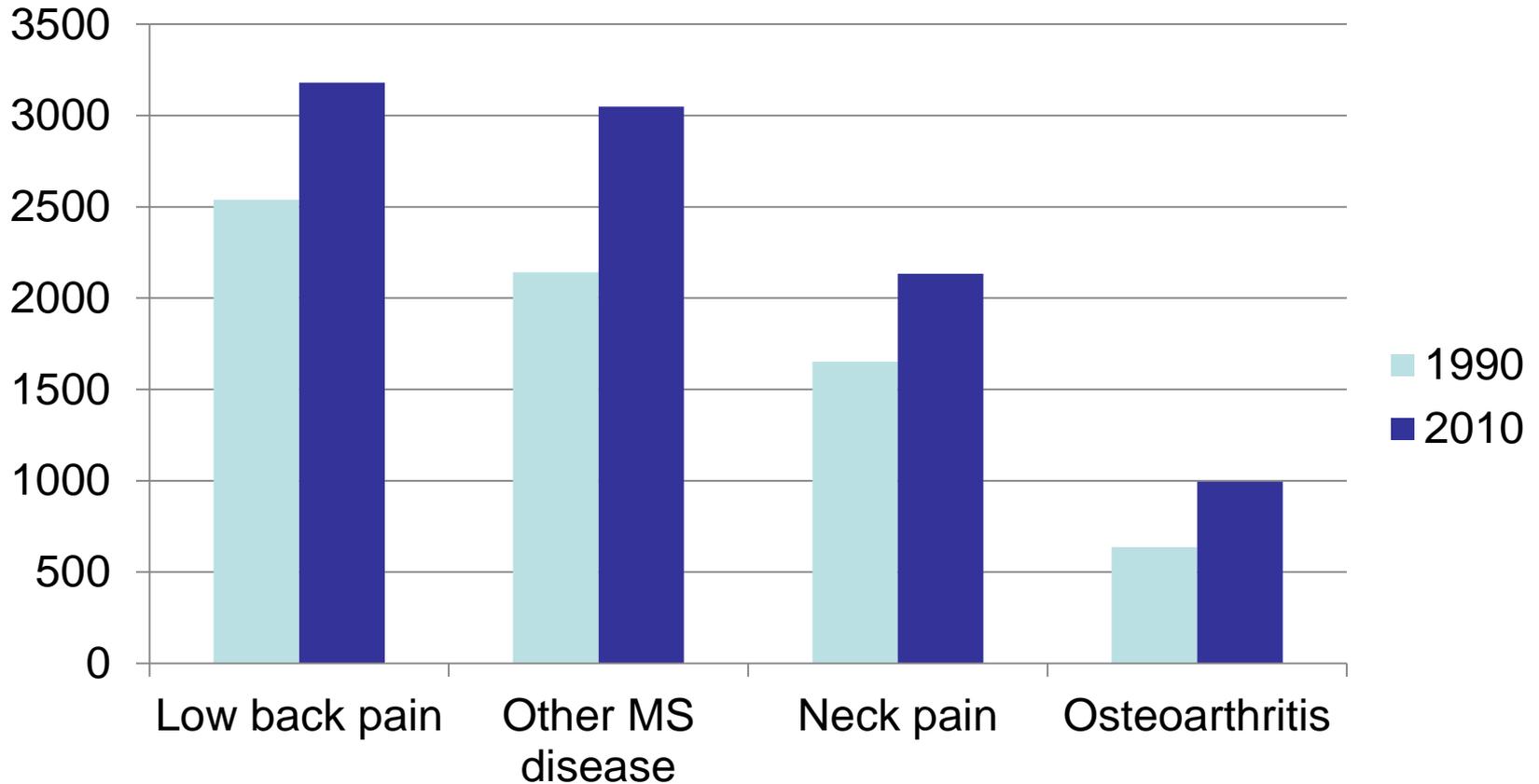
U.S. consumption

- The United States has 4.6% of the world's population.
 - Yet we consume 80% of the world's opioids.
- Because of our demand for opioids, 83% of the world's population has no access to opioids – even for those dying in severe pain.



The State of US Health

Years lived with disability (in thousands)



Murray, C. (2013). The state of US health, 1990-2010: burden of diseases, injuries, and risk factors. *JAMA: The Journal of the American Medical Association*, 310(6), 591-608.

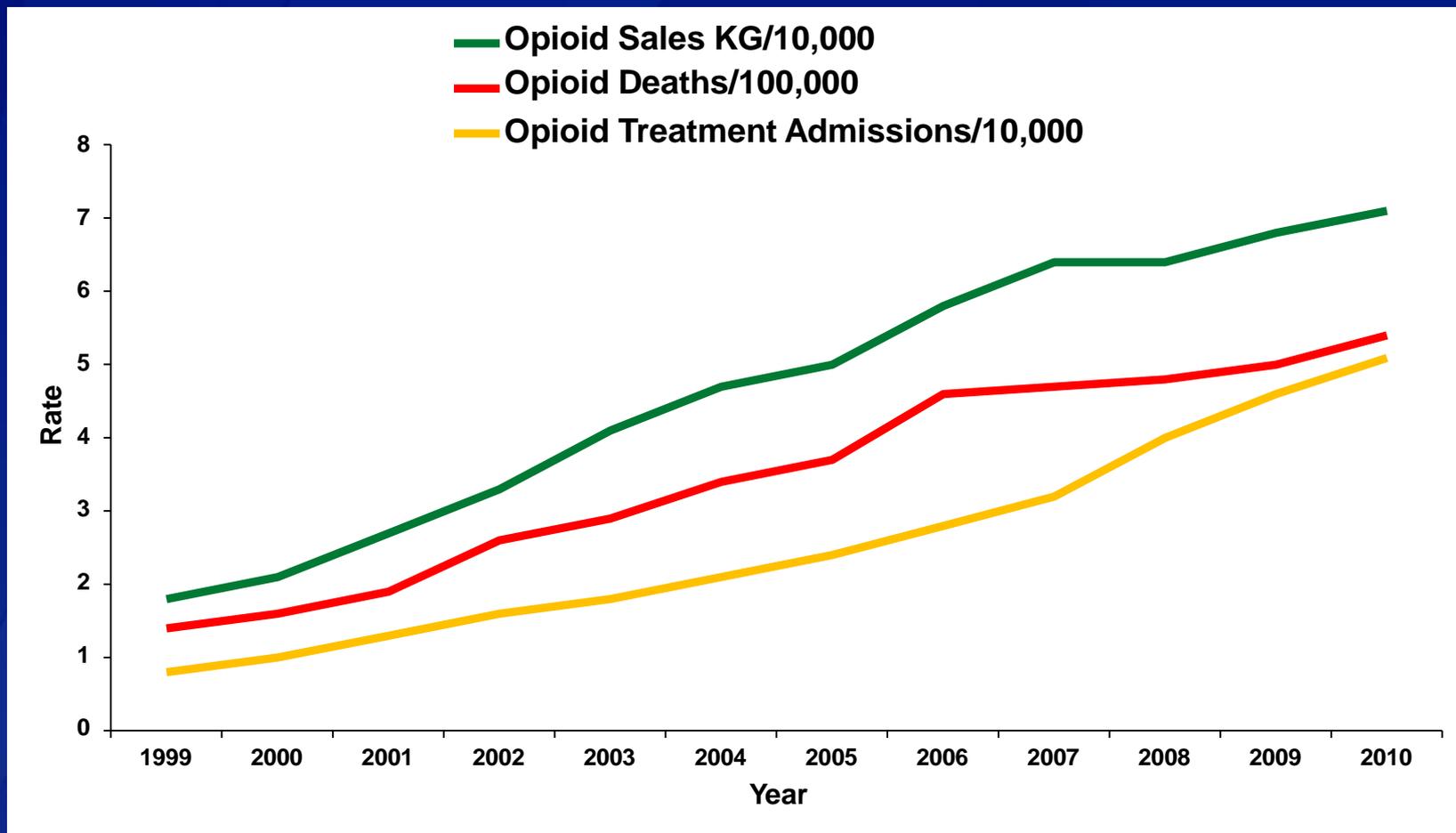


Societal cost

- \$55.7 billion per year
- \$170 per person per year
- 24 cents per mg (morphine equivalent)
 - Bottle of Percocet 5 mg, #30:

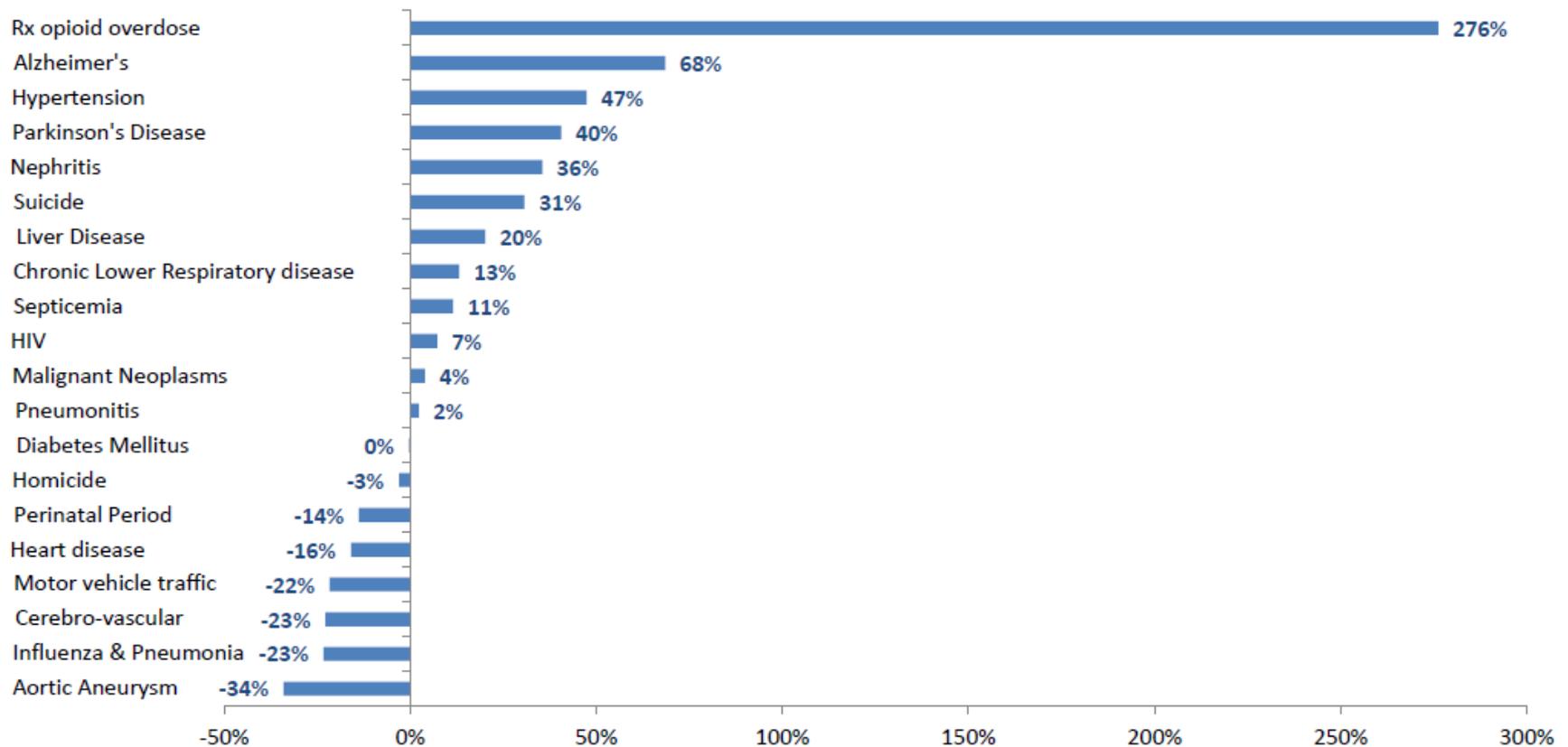
Cost to society is \$54

Rates of opioid overdose deaths, sales and treatment admissions, US, 1999-2010



Opioid pain reliever-related overdose deaths increasing at a faster rate than deaths from any major cause

% change in number of deaths, United States, 2000-2010



Poppy plant







Pain

An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.

International Association for the Treatment of Pain



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An unpleasant sensory **and emotional** experience associated with actual or potential tissue damage, or described in terms of such damage.

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Opioid receptors

- Enable us to achieve a goal (short term)
 - Decrease pain (minimal effect)
 - Increase motivation
 - Increase confidence
 - Increase reward
 - Reduce depression and anxiety
 - Increase pleasure in current activity
 - Increase “warmth-liking”
 - Liking warm things
 - Love
 - Interpersonal bonding





Pain

- Acute pain: Pain < 3 months
- Chronic pain: Pain > 3 months



Acute pain: treatment

- Acetaminophen
- NSAIDS
- Opioids
- Topical agents
- Nonpharmacologic (PT, ice, heat, etc.)



Side Effects

- NSAIDs:
 - GI (ulcer)
 - Renal (kidney damage)
 - Cardiac (heart attack)

- Acetaminophen
 - Liver

- Opioid...



Opioid side effects

- Mentally impairing
- Delay recovery
- Increase medical costs
- Opioid hyperalgesia
- Double the chance of disability
- Increase falls
- Cardiac, GI?
- Neuroplastic brain changes
- Antidepressant effects
- Addiction



Addiction

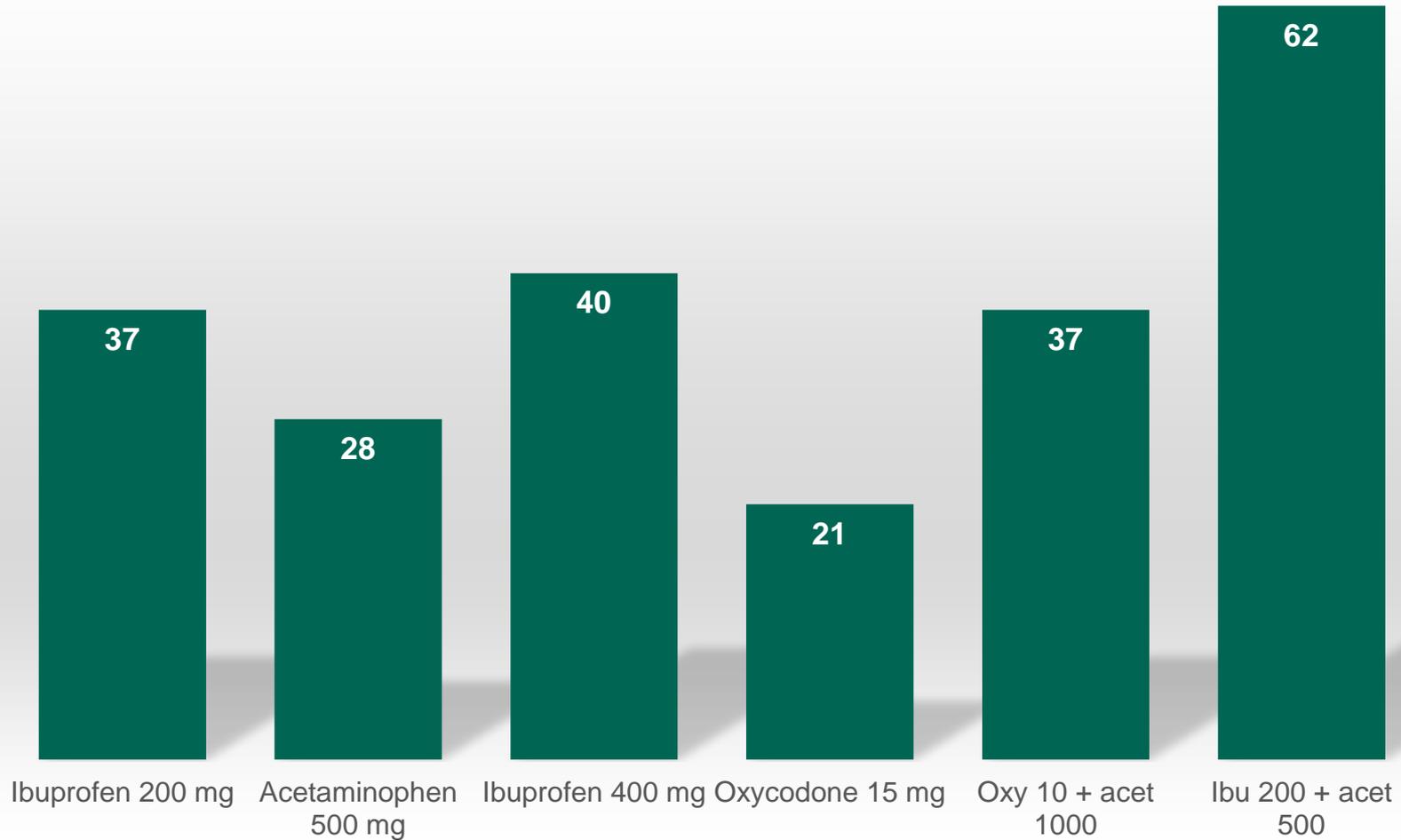
- It's all about the dopamine...
- Dopamine is our primary reward that reinforces behavior
 - Dopamine is what we live for.

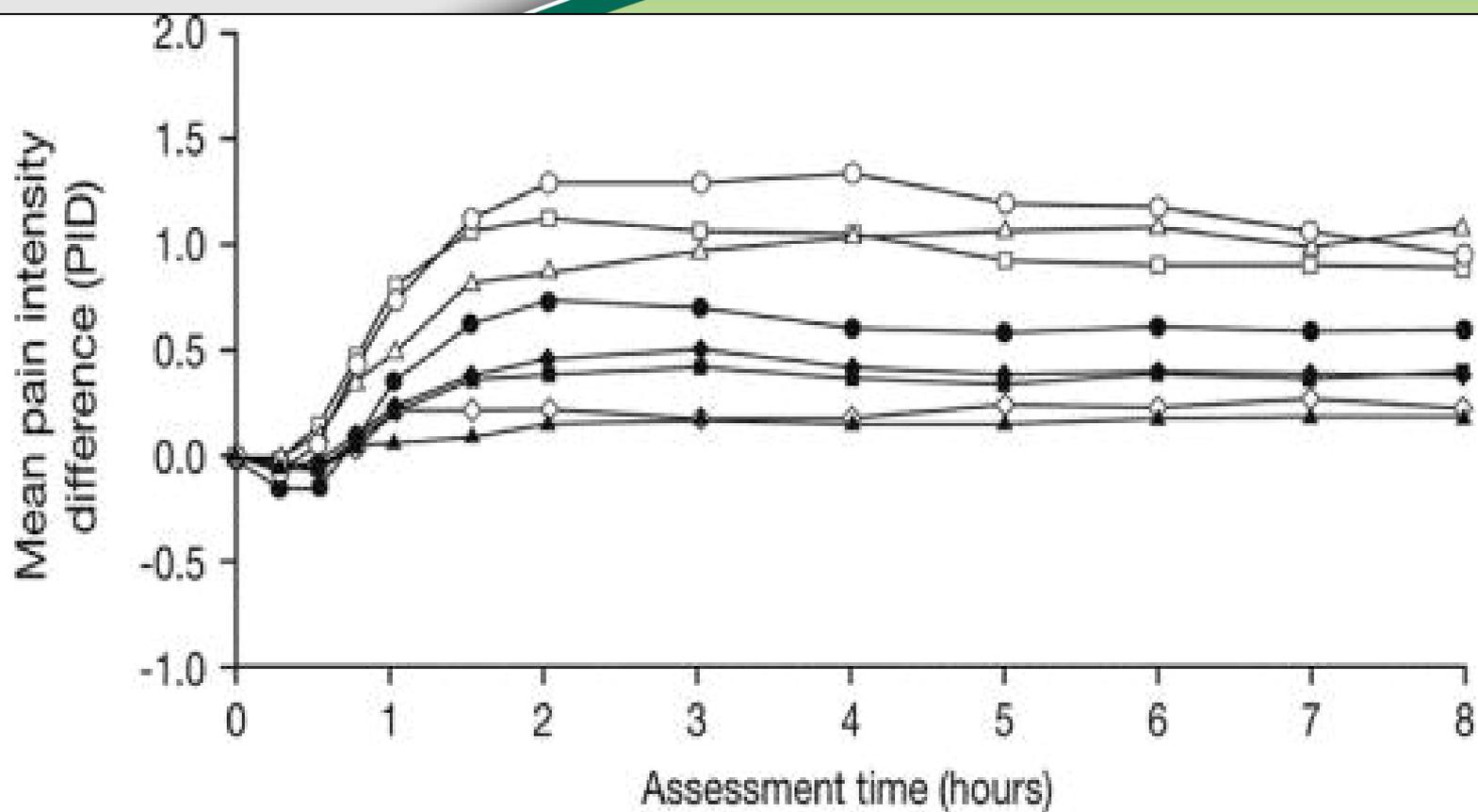


Efficacy of pain mediations

Acute pain

Percent with 50% pain relief





- Tapentadol HCl 25 mg (N = 49)
- Tapentadol HCl 50 mg (N = 50)
- ◆ Tapentadol HCl 75 mg (N = 50)
- Tapentadol HCl 100 mg (N = 48)
- Tapentadol HCl 200 mg (N = 49)
- ◆ Tapentadol HCl 200 mg (N = 49)
- △ Morphine sulfate 60 mg (N = 51)
- Ibuprofen 400 mg (N = 51)
- ▲ Placebo (N = 51)

Single Dose Analgesic Efficacy of Tapentadol in Postsurgical Dental Pain: The Results of a Randomized, Double-Blind, Placebo-Controlled Study.

Kleinert, Regina; Lange, Claudia; MD, MSc; Steup, Achim; Black, Peter; Goldberg, Jutta; Desjardins, Paul; DMD, PhD

Anesthesia & Analgesia. 107(6):2048-2055, December 2008. DOI: 10.1213/ane.0b013e31818881ca



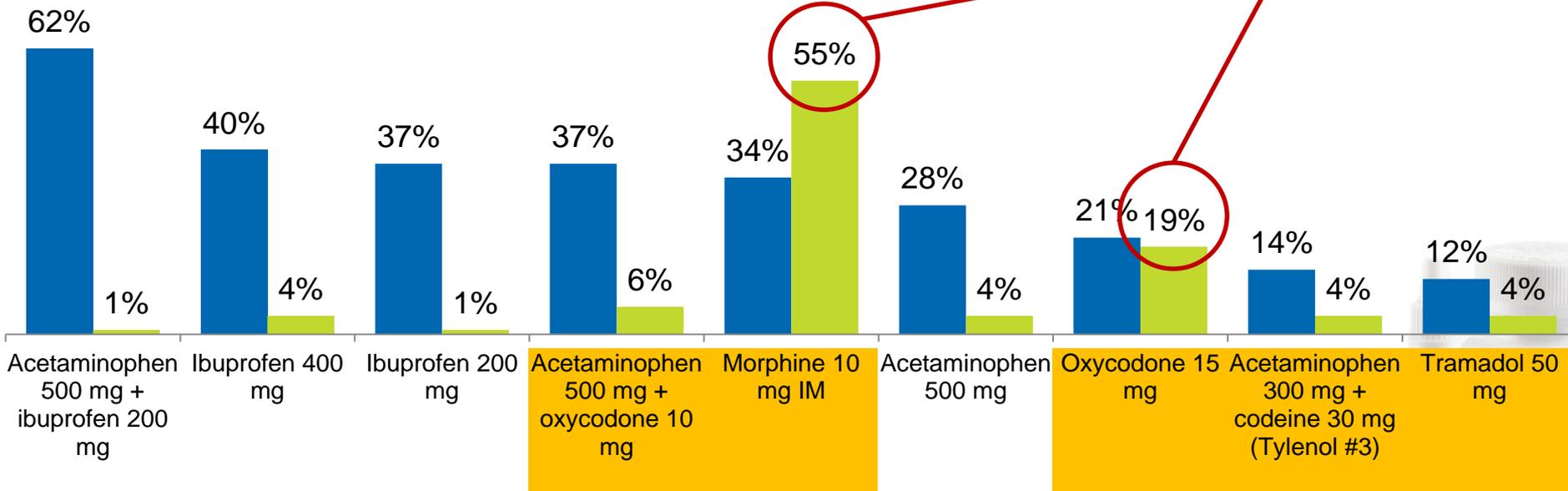
Doctors overestimate the efficacy of opioids and underestimate the impact of safer alternatives.

Percent with 50% pain relief

Opioid medications

74% believe these opioids to be the most effective way to treat pain

■ Actual Efficacy
■ % of Prescribers rank as most effective



Source: (Blue) Cochran research cited in the NSC white paper, Evidence for the efficacy of pain medications
(Green) NSC Rx Study – Q8. Please rank the following medications in terms of how successful you feel they are at providing pain control or relief. (Total –n=201)





Acute prescriptions

- Approximately 30% of ALL ER visits end with a prescription for a opioid.
- Approximately 60% of patients going to the ER with back pain will get an opioid prescription.
 - Primary care doctors give opioids to about 35% of their patients presenting with back pain.
- Pain is the most common reason for people to go to the ER or to their primary care doctor.





Renal colic

A 2005 Cochran review concluded:

NSAID medications and opioids have equal effectiveness in treatment of acute renal colic...

but opioids have **more** side-effects.



One opioid prescription after an injury:

- Increases medical costs by 30%
- Increases the risk of surgery by 33%
- Doubles the risk of being disabled at one year

Webster BS, Verma SK, Gatchel RJ. Relationship between early opioid prescribing for acute occupational low back pain and disability duration, medical costs, subsequent surgery and late opioid use. *Spine (Phila Pa 1976)*. 2007;32(19):2127-2132. doi:10.1097/BRS.0b013e318145a731.

Franklin GM, Stover BD, Turner J a, Fulton-Kehoe D, Wickizer TM. Early opioid prescription and subsequent disability among workers with back injuries: the Disability Risk Identification Study Cohort. *Spine (Phila Pa 1976)*. 2008;33(2):199-204. doi:10.1097/BRS.0b013e318160455c.



Enhanced Recovery After Surgery

- After colorectal surgery, change to an ERAS protocol
 - reduced LOS from 6.8 to 4.6 days.
 - Readmissions decreased from 17% to 9%
 - Satisfaction on Press Ganey scores increased across all areas
 - Pain control satisfaction increased from 43rd to 98th percentile
 - \$7,129 reduction in hospital cost per patient.
 - Surgical site infection decreased from 20% to 7%

Thiele RH, Rea KM, Turrentine FE, et al. Standardization of Care: Impact of an Enhanced Recovery Protocol on Length of Stay, Complications, and Direct Costs after Colorectal Surgery. *J Am Coll Surg*. 2015;220(4):430-443. doi:10.1016/j.jamcollsurg.2014.12.042.

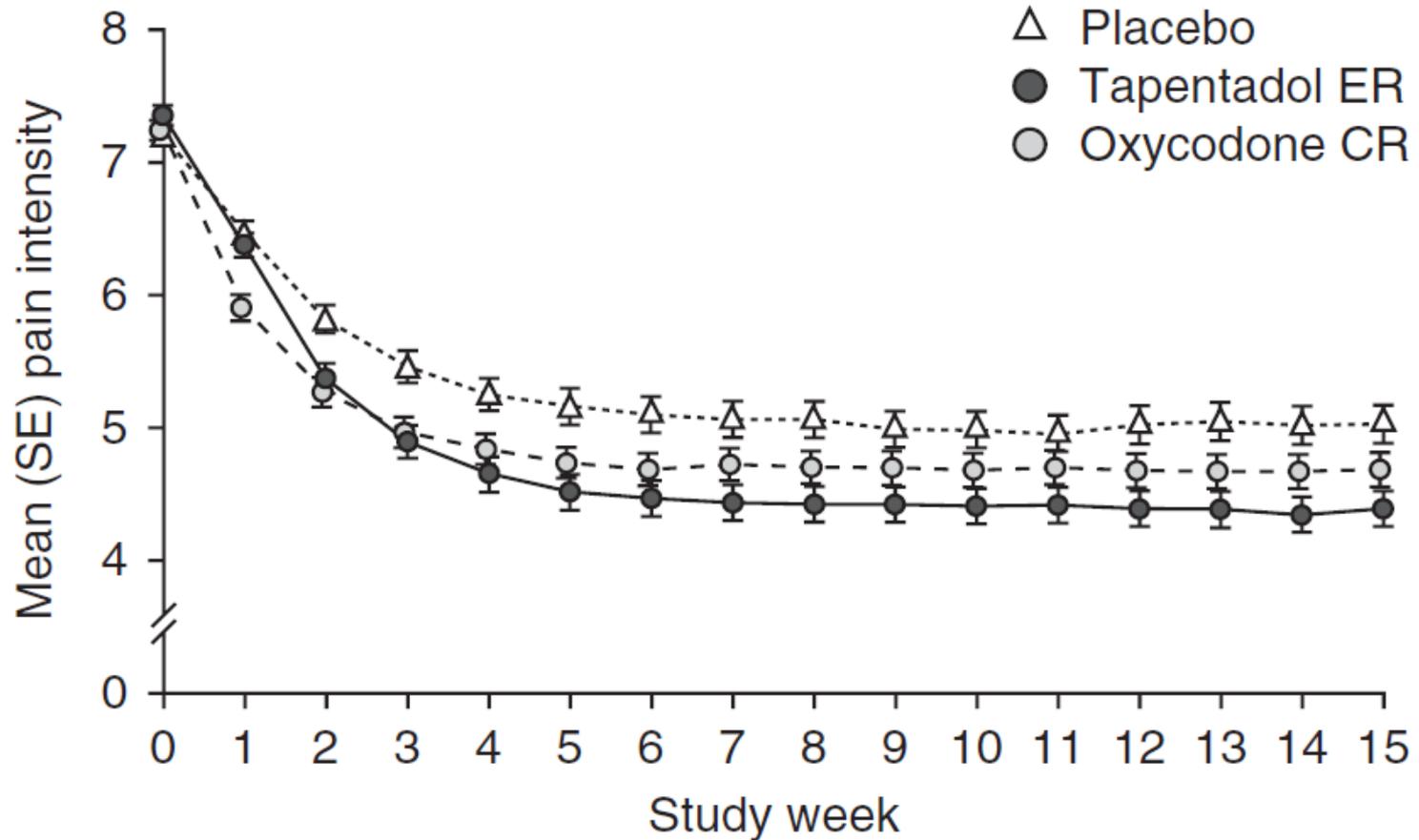


Chronic pain

- No evidence that opioids are effective for long-term treatment of chronic pain.
- “Safe and effective” use of opioids for chronic pain is an invalid concept.
 - No evidence that these can be used safely
 - No evidence that they can be used effectively
- Epidemiologic studies have shown that those on chronic opioid therapy have worse quality of life than those with chronic pain who are not.



Tapentadol study





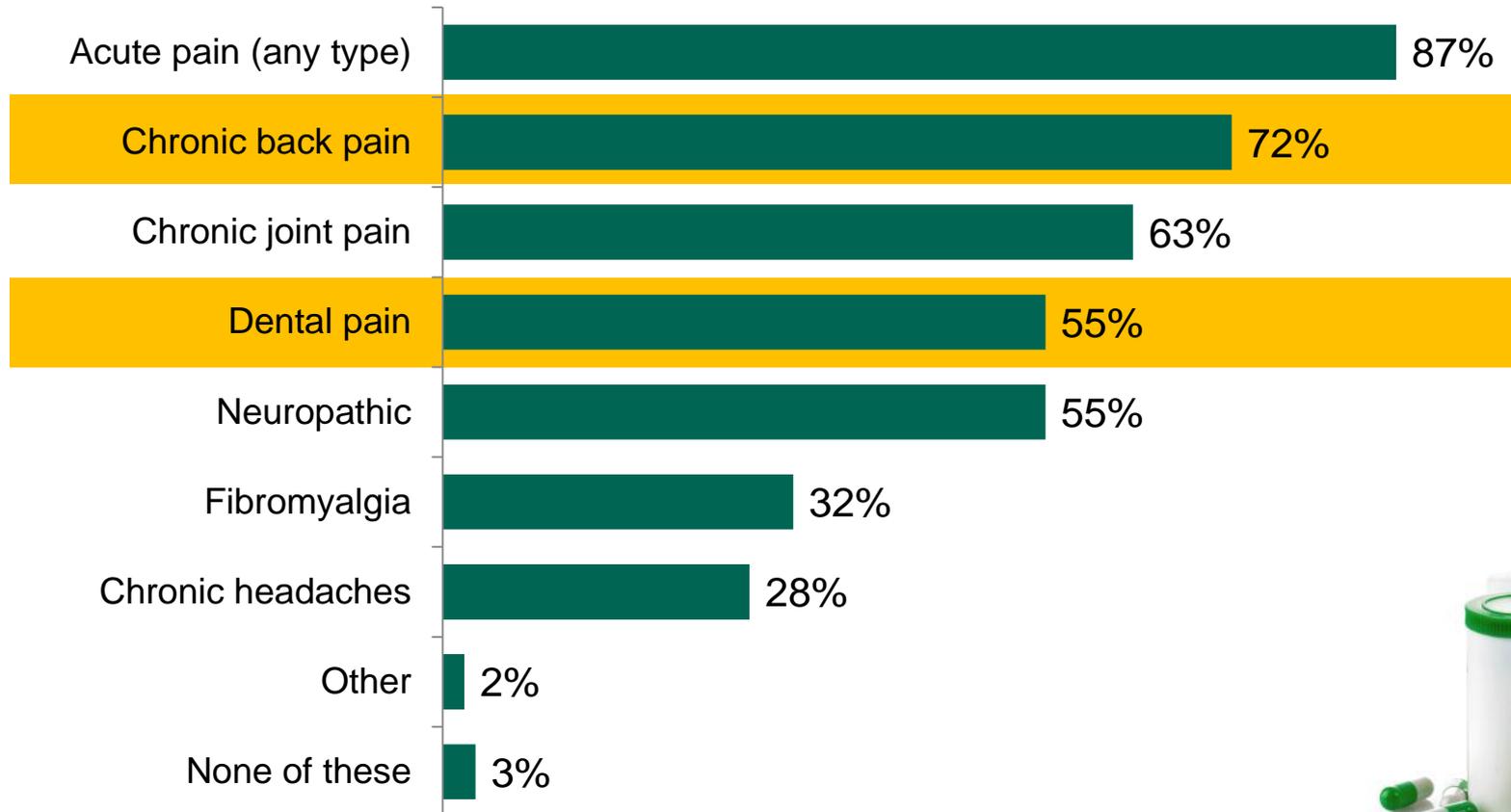
Additional tx in chronic pain

- PT
- Counseling
- Treatment of mood disorders
- Exercise
- Acupuncture
- Amitriptyline
- Duloxetine (and other antidepressants)
- Gabapentin (and other anticonvulsants)



Far too many physicians prescribe opioids for acute and chronic pain.

Conditions Prescribe Opioids For - % Prescribe

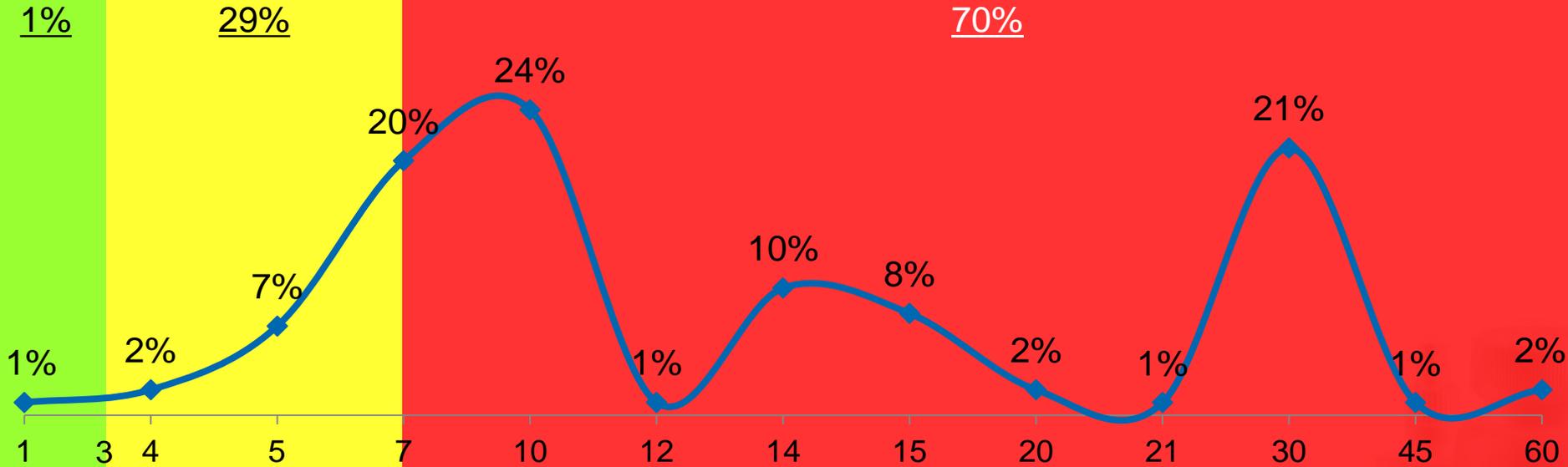


Source: NSC Rx Study - Q9. For which of the following will you occasionally prescribe opioid pain medication? (Total - n=201)



99% of doctors prescribe opioids for longer than the CDC guideline for acute pain relief (3 days).

CDC Guidelines



of Days Ordinarily Prescribe Opioids



Source: NSC Rx Study – Q10. For what period of time do you ordinarily prescribe opioid pain medication? (Total - n=201)



Treatment of Opioid Use Disorder

- Detox and abstinence
- Methadone
- Buprenorphine (Suboxone®)
- Naltrexone injection (Vivitrol®)



Tapering opioids

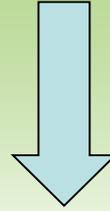
- Opioid taper in people on COT resulted in average pain decrease from 7.1 to 5.4. A 24% decrease in pain. About ½ of patients ended up going back on opioids but their pain was not improved on the opioids.
- Taper off of COT reduces pain in all ages. Approximate 20% reduction. Also reduction in depression and pain catastrophizing.

1. Krumova EK, Bennemann P, Kindler D, Schwarzer A, Zenz M, Maier C. Low pain intensity after opioid withdrawal as a first step of a comprehensive pain rehabilitation program predicts long-term nonuse of opioids in chronic noncancer pain. *Clin J Pain.* 2013;29(9):760-769. doi:10.1097/AJP.0b013e31827c7cf6.

2. Darchuk KM, Townsend CO, Rome JD, Bruce BK, Hooten WM. Longitudinal treatment outcomes for geriatric patients with chronic non-cancer pain at an interdisciplinary pain rehabilitation program. *Pain Med.* 2010;11(9):1352-1364. doi:10.1111/j.1526-4637.2010.00937.x.



Prescriber behavior



Initial use

Extra use

Abuse

Addiction

Criminal Activity

Overdose

Death

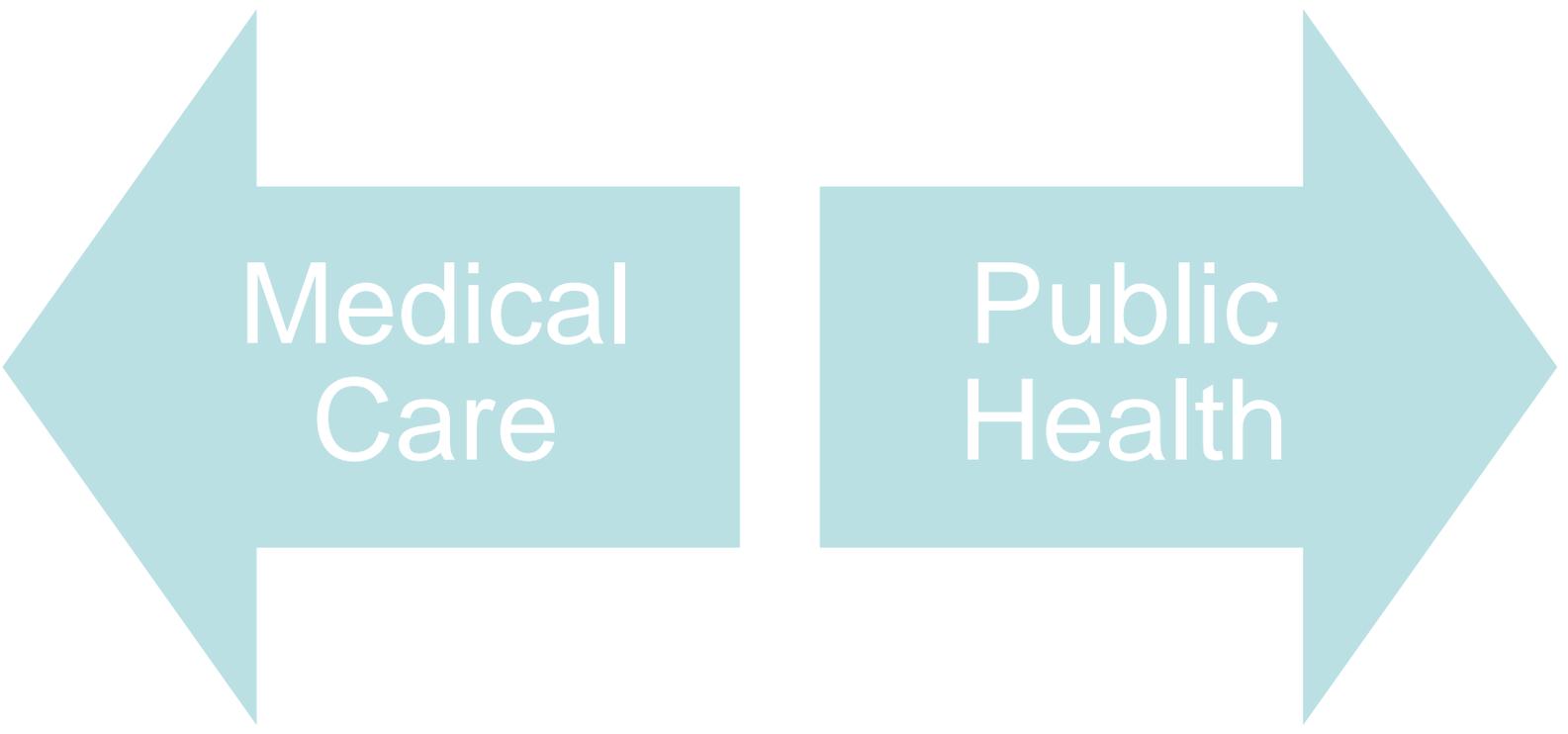
Treatment

PDMP

Naloxone



Disconnect

A diagram consisting of two large, light blue arrows pointing away from each other. The left arrow points left and contains the text "Medical Care". The right arrow points right and contains the text "Public Health". The arrows are separated by a gap, symbolizing a disconnect between the two fields.

Medical
Care

Public
Health



Summary

- Opioids are not “powerful painkillers”.
 - Ibuprofen is better.
 - These are mental health medications – but dangerous!
- Opioids have many side effects that are much worse than NSAIDs and acetaminophen
- Opioids cause brain changes
- By reducing the prescribing of opioids, we improve pain treatment
- Most people on chronic opioid therapy do better when weaned off
- Addiction is a disease and most people with addiction to opioids need methadone or buprenorphine.



250,000

- Number of deaths in the last 20 years from opioids.
- More than 4 times the number of American deaths in the Vietnam war
- This is an epidemic. And we are the vector!
- This epidemic is completely reversible with a change of behavior that will result in better pain management



“To write prescriptions is easy,
but to come to an understanding with
people is hard.”

-- Franz Kafka, “A Country Doctor”



Questions?

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