Opioids in Workers Comp

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My goals today

I want you to understand:

- Opioids are not very effective pain medications.
- Workers Comp studies show that the use of opioids results in worse outcomes and higher costs.
- It is appropriate to restrict the type of opioids used in the formulary.
- It is appropriate to restrict the dose and duration of opioids used after a workplace injury.

Opioid facts

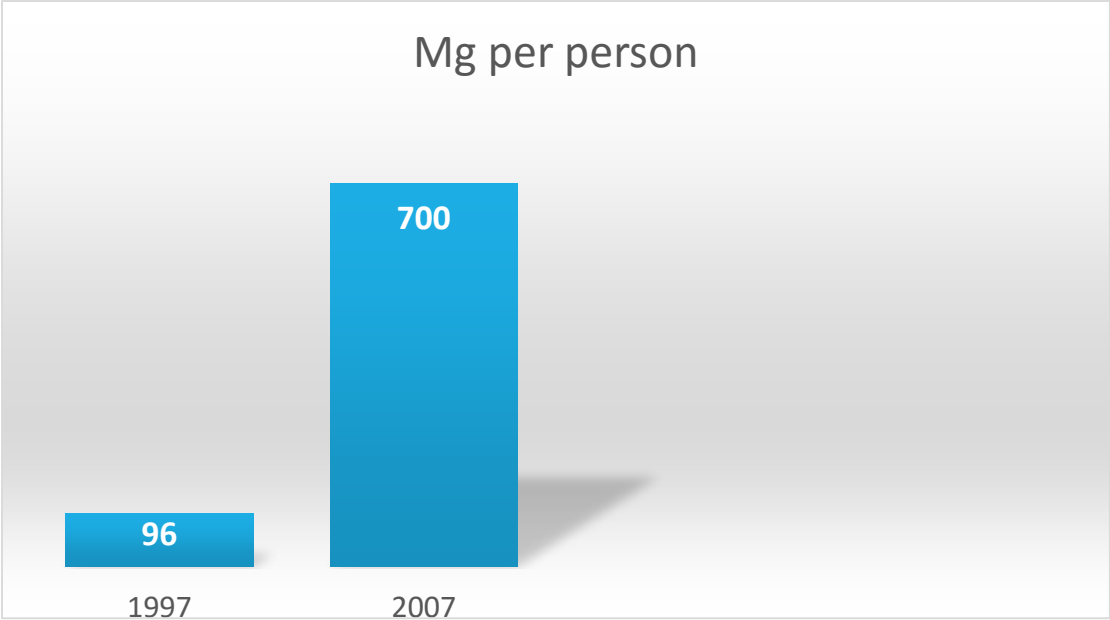
The United States has 4.6% of the world's population.

- We use 80% of the worlds opioids![1]
- 83% of the world's population has no access to any opioids.[2]

Opioid increase

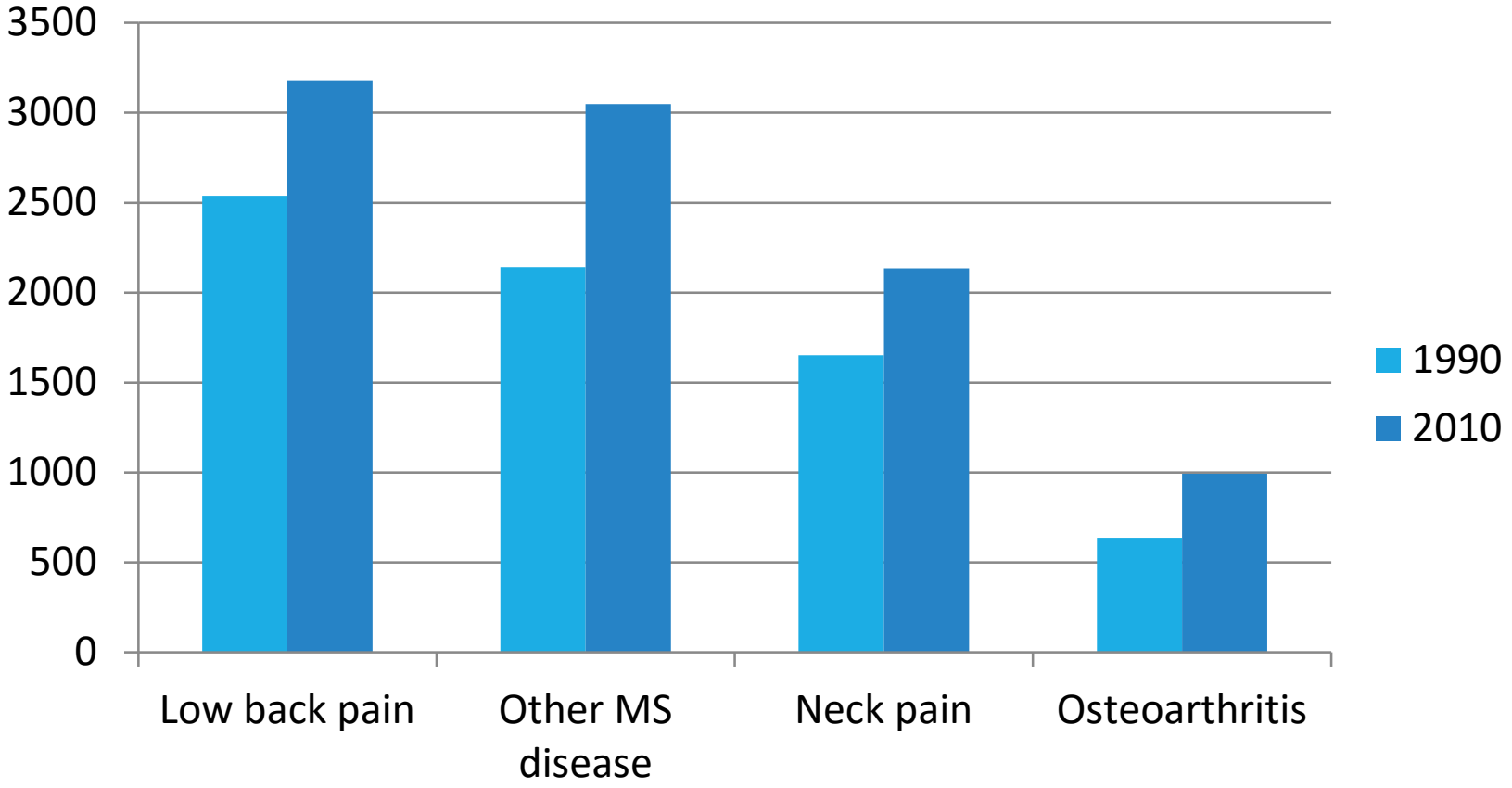
Drug distribution through the pharmaceutical supply chain was the equivalent of 96 mg of morphine per person in 1997

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

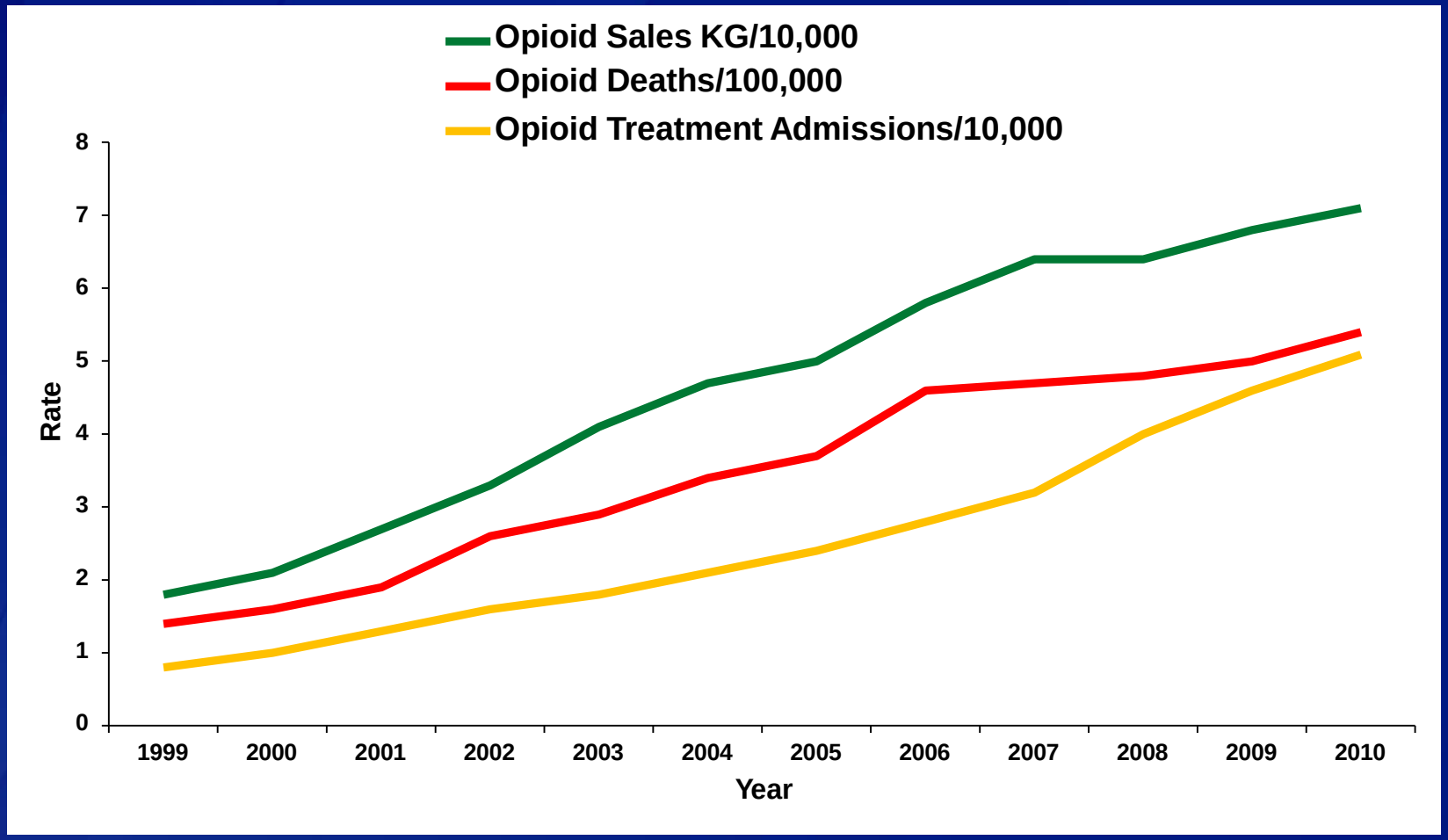


The State of US Health[5]

Years lived with disability (in thousands)



Rates of opioid overdose deaths, sales and treatment admissions, US, 1999-2010.[7]



National Vital Statistics System, DEA's Automation of Reports and Consolidated Orders System, SAMHSA's TEDS

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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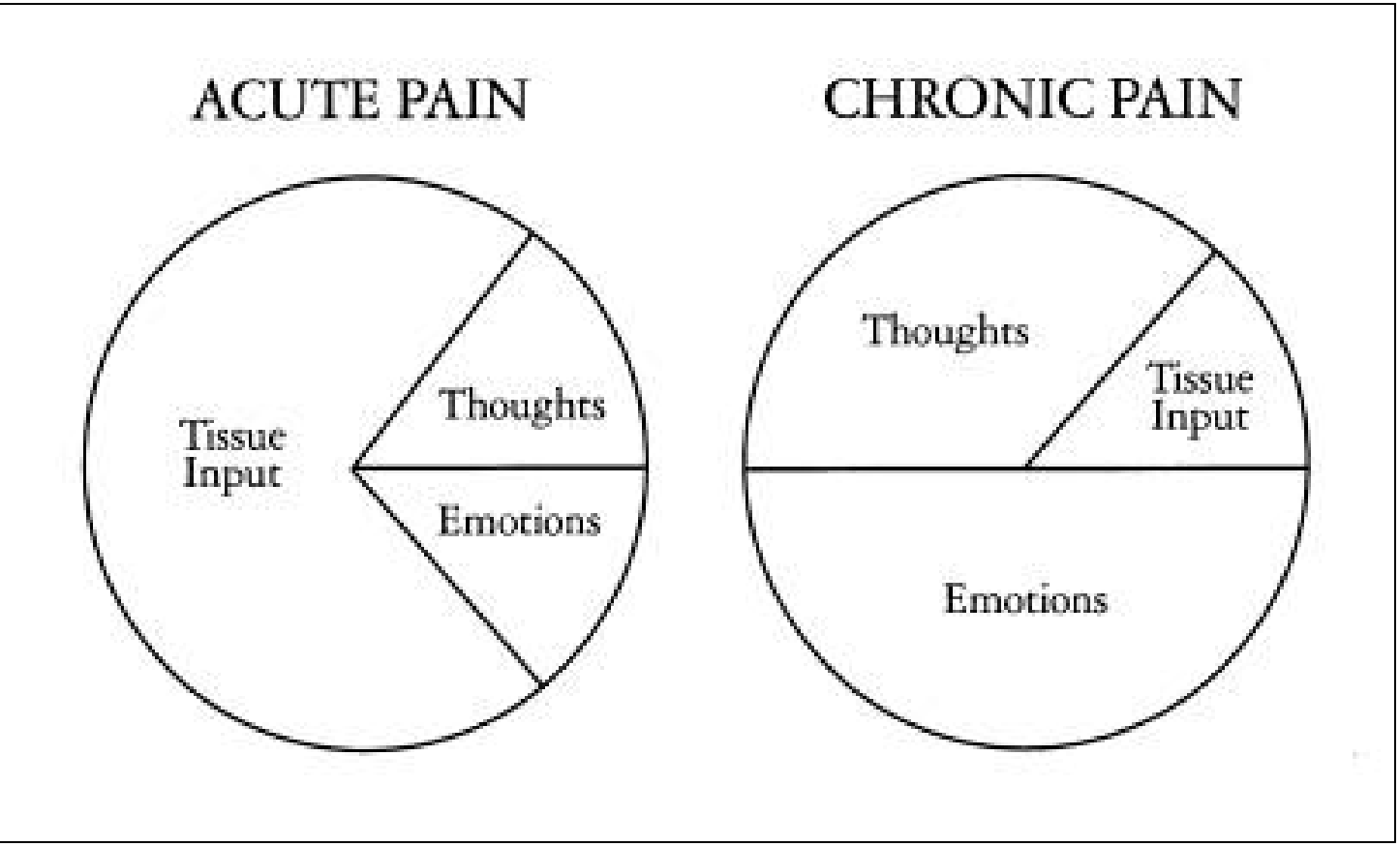
Pain

Acute pain: Pain < 3 months

Chronic pain: Pain > 3 months

Acute vs. Chronic Pain



Sensory – tissue input

Affective – emotions

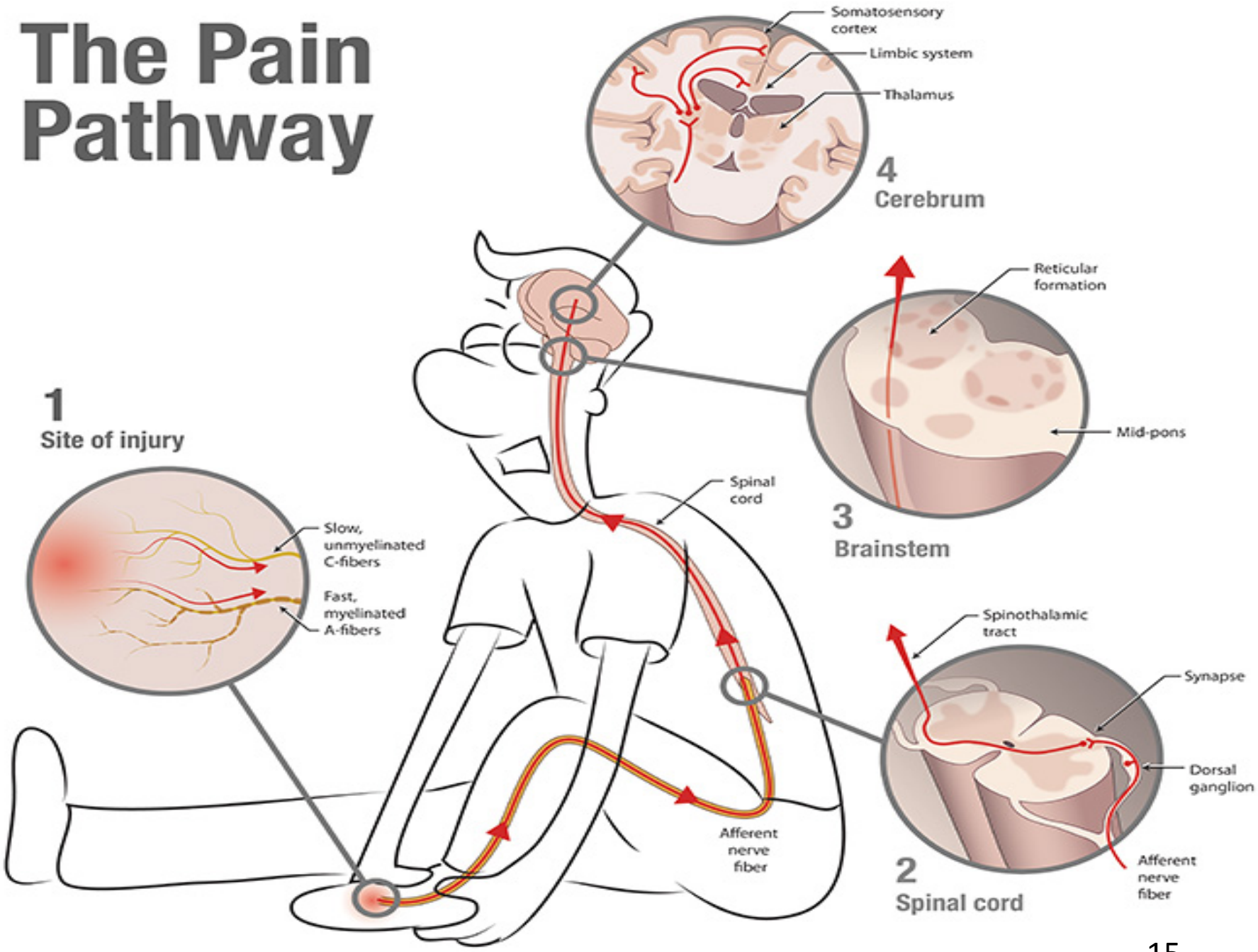
Cognitive - thoughts

A new paradigm for pain?

- Nociceptive pain
- Neuropathic pain
- “Pain for psychological reasons” (Central sensitization)

- Davis, B., & Vanderah, T. (2016). A new paradigm for pain? *The Journal of Family Practice*, *65*(9), 598–605.

The Pain Pathway



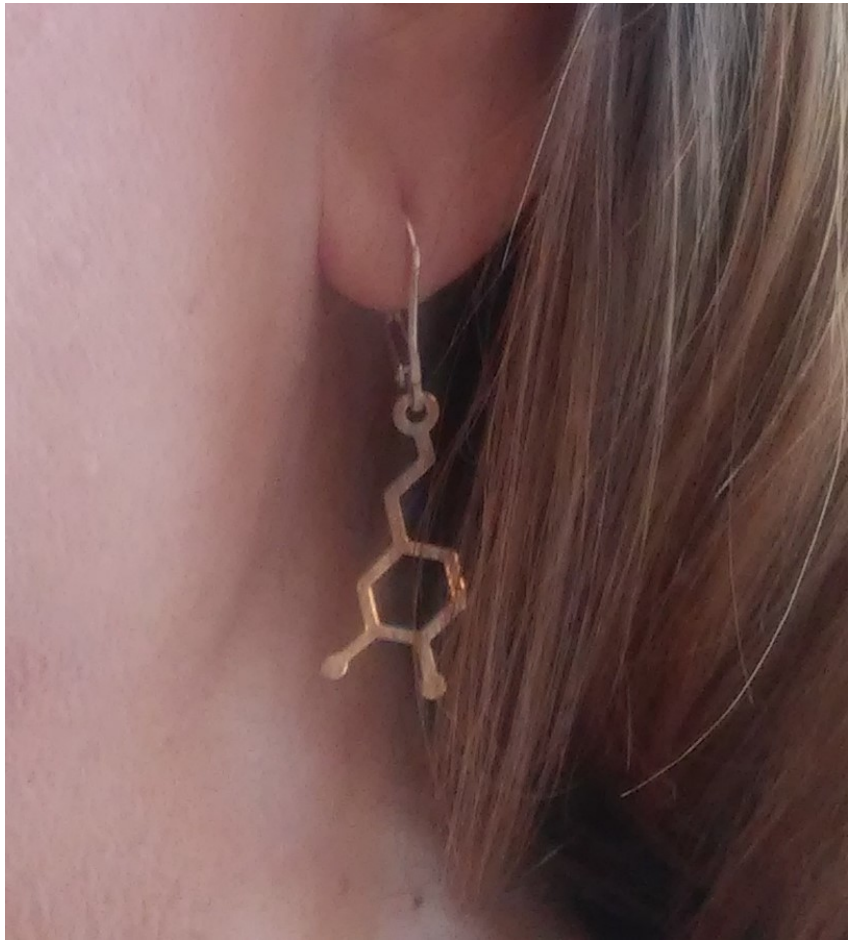
Opioids are different…

Dopamine

+

Opioid receptors

Dopamine



Opioid receptors

Enable us to achieve a goal (short term).[23,24]

- Decrease pain (minimal effect).
- Increase motivation.
- Increase confidence.
- Increase reward.
- Reduce depression and anxiety.
- Increase pleasure in current activity.
- Increase “warmth-liking”.[25]
  - Liking warm things.
  - Love.
  - Interpersonal bonding.

Primary purpose:

Dopamine – Our primary reward system. This is what we live for.

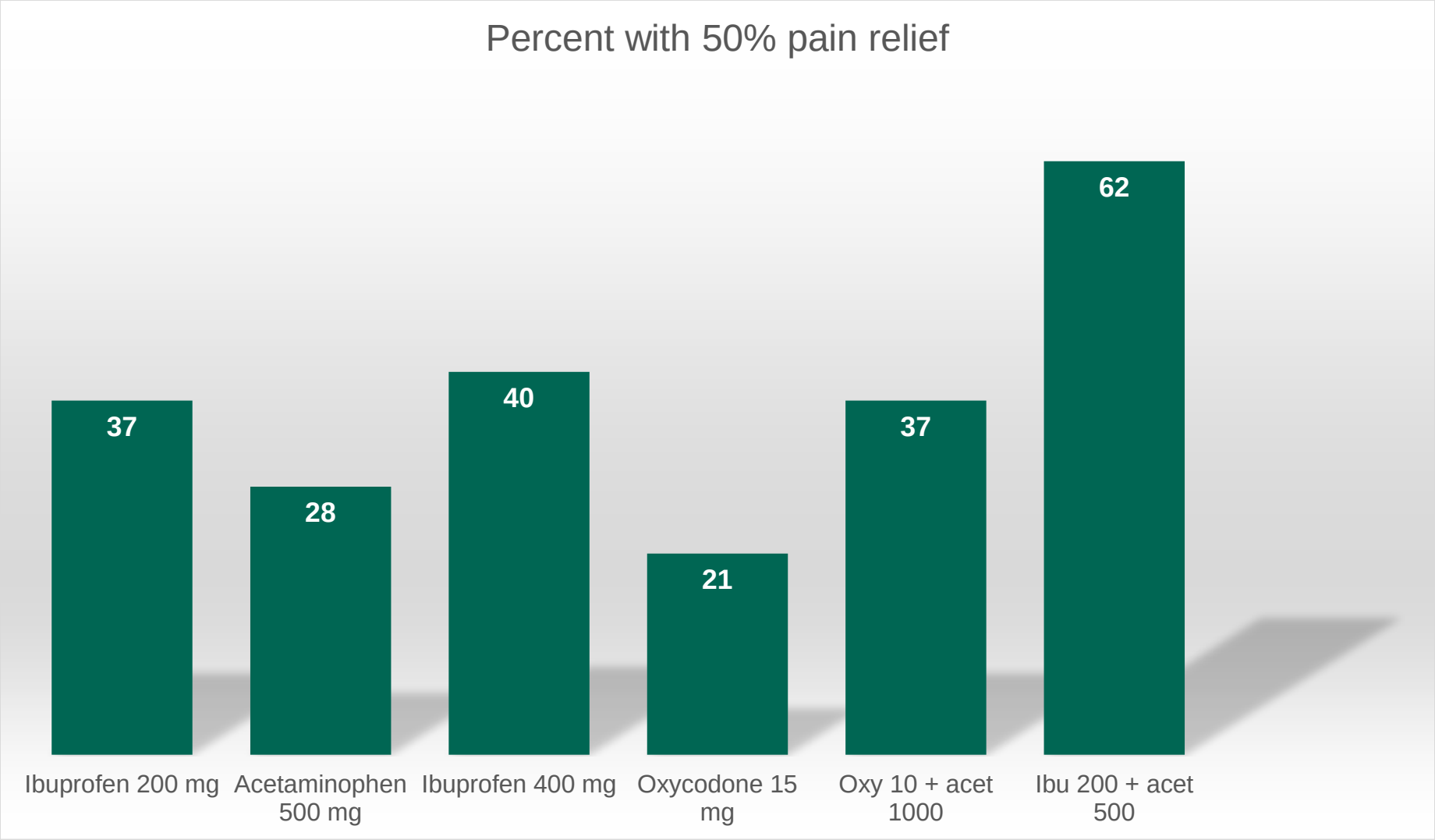
Endorphins and opioid receptors – These maximize our ability to achieve the reward

Opioids

Side Effects:

- Mentally impairing.[8,9]
- Delay recovery.[10,11]
- Increase medical costs.[12]
- Opioid hyperalgesia.[13,14]
- Double the chance of disability (if prescribed for 7 days or more).[15]
- Increase falls.[16]
- Cardiac, GI?[17,18]
- Treat depression.[19]
- Brain changes.[20]
- Addiction.[21,22]

Efficacy of pain mediations
Acute pain[26,27]



Chronic pain

No evidence that opioids are effective for long-term treatment of chronic pain.[30]

"Safe and effective" use of opioids for chronic pain is an invalid concept.

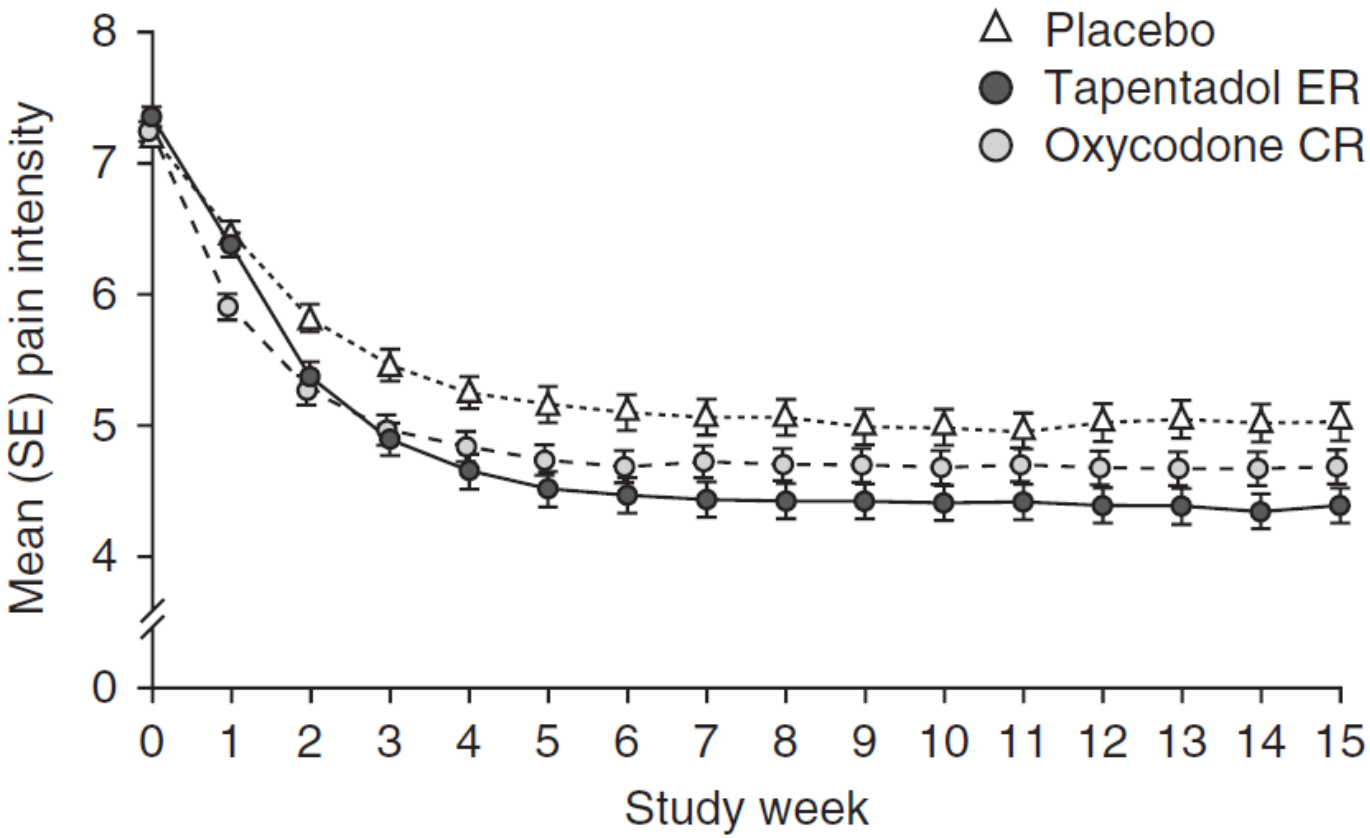
- No evidence that these can be used safely
- No evidence that they can be used effectively

Epidemiologic studies have shown that those on chronic opioid therapy have worse quality of life than those with chronic pain who are not.[31]

The AAN recommends against using opioids for back pain, headaches, or fibromyalgia.[36]

A Cochrane review recommends against using opioids for OA of the hip or knee.[37]

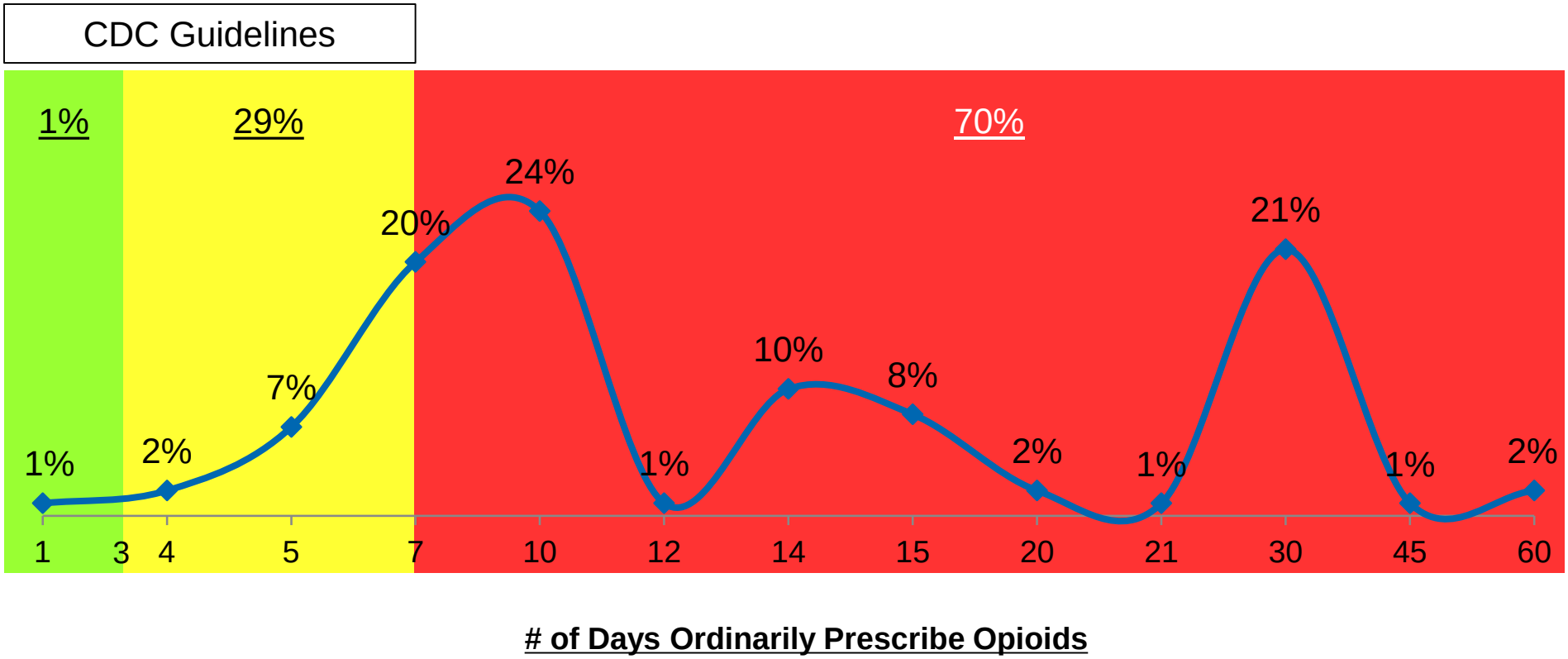
Tapentadol study[32]



CDC Guideline for Prescribing Opioids for Chronic Pain — United States, 2016

1. Nonopioid tx is preferred for chronic pain. (Opioids are the exception)
2. Establish realistic treatment goals.
3. Discuss risk, *realistic* benefits, patient and provider responsibilities.
4. Start with immediate-release.
5. Caution with 50 MME and avoid going to 90 MME or above.
6. Treat acute pain for ≤ 3 days. Should almost never treat for > 7 days.
7. Re-evaluate in 1-4 weeks and at least q 3 months.
   a) Taper if benefit does not exceed the risk.
8. Evaluate and mitigate risk. Consider naloxone co-prescription.
9. Check the CSRS at least every 3 months.
10. Do UDS at initiation and periodically.
11. Do not use with benzodiazepines.
12. Offer or arrange treatment of OUD for those who need it.

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



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

Additional tx in chronic pain

- Counseling[33]
- PT
- Treatment of mood disorders
- Exercise
- Acupuncture
- Amitriptyline
- Duloxetine (and other antidepressants)
- Gabapentin (and other anticonvulsants)

Don’t use opioids for back pain!

When used for acute episodes of back pain they result in higher medical costs, increased risk of surgery and delayed recovery.[41] They also double the risk of future disability.[42]

When used for acute exacerbations of chronic low back pain they dramatically increase the risk of future abuse and addiction.[43]

When used prior to back surgery, they result in worse outcomes from surgery.[44]

When used for chronic low back pain the effect on pain is felt to be clinically insignificant[45] and they result in worse outcomes and worse quality of life.[46] In fact, the American Academy of Neurology recommends against using opioids for chronic back pain.[37]

Opioid effects on costs (Michigan study)

- No prescription - $13,295
- Non-opioid rx - $16,918
- SA opioid rx - $47,742
- LA opioid rx - $156,748
- The presence of LA opioids on a claim is almost 4 times more likely than a claim without any prescription to have a final cost of $100,000 or more.
- Claims with only an SA opioid had an odds ratio of 1.76 to ultimately have a final claim cost of $100,000 or more compared with claims without any medication prescribed.

White, J. a, Tao, X., Talreja, M., Tower, J., & Bernacki, E. (2012). The effect of opioid use on workers' compensation claim cost in the State of Michigan. Journal of Occupational and Environmental Medicine, 54(8), 948–53. http://doi.org/10.1097/JOM.0b013e318252249b

Closed formulary

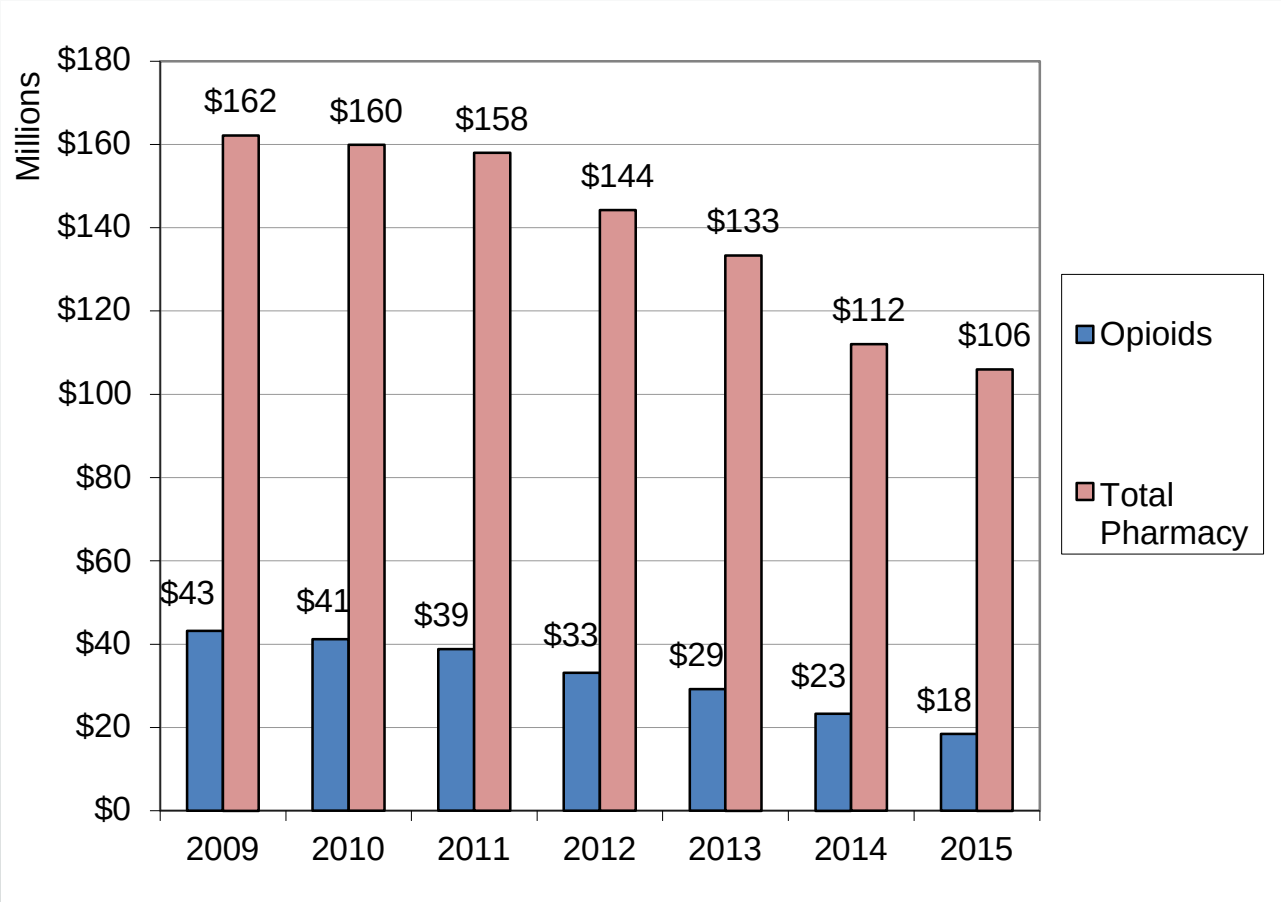
- Texas – Since Sept, 2011
- Washington
- Ohio
- North Dakota
- Oklahoma
- Delaware
- Tennessee
- Arizona
- California – passed law. Formulary by 7/1/17

Texas results

- Began FY 2011 (Sept 2010)
- Opioid costs decreased from 27 percent of the total pharmacy costs in 2009 to 18 percent in 2015.
- The number of claims receiving N-drug opioids with 90+ MMEs/day decreased from almost 15,000 in 2009 to less than 500 in 2015.
- The number of claims receiving “other-drug” opioids with 90+ MMEs/day decreased from approximately 8,400 in 2009 to less than 5,000 in 2015.

TEXAS TOTAL PHARMACY AND OPIOID COSTS, BY SERVICE YEAR

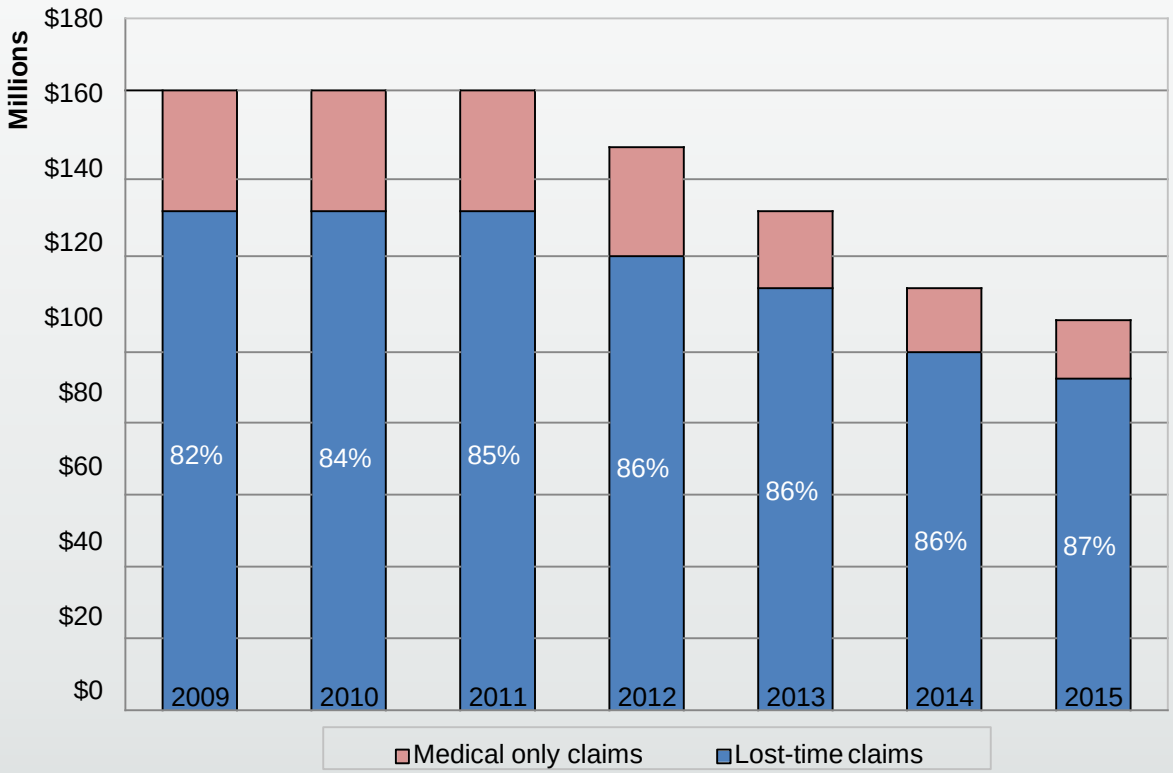
New injury claims are subject to the pharmacy closed formulary beginning September 1, 2011



Note: Service year 2015 data may be incomplete and subject to change.
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

- The share of Opioids decreased from 27% of total pharmacy cost in 2009 to 18% in 2015.
- Since 2009, total pharmacy cost decreased by 35%, while Opioid cost decreased by 57%.

TOTAL COST AND COST SHARES BY CLAIM TYPE, BY SERVICE YEAR



Note: Service year 2015 data may be incomplete and subject to change.
Source: Texas Department of Insurance, Workers' Compensation Research and Evaluation Group, 2016.

Opioid benefit?

I know of no study that shows improved outcomes with the use of opioids.

Key Thoughts

- We prescribe way too many opioids for acute and chronic pain
- No evidence that opioids improve outcome (except when used short-term for severe, acute trauma to prevent PTSD)
- Opioids:
  - Increase costs
  - Delay recovery
  - Increase disability

Recommendations

- Develop (or adopt) a formulary like Texas.
- Use ibuprofen (or other NSAID medication) and acetaminophen whenever possible for oral treatment of acute pain. Opioids are seldom needed for outpatient treatment of pain.
- Long-acting opioids must have prior-authorization and only in exceptional circumstances.
- Generic drugs.
- No abuse-deterrent formulations.
- Restrictions on opioid duration and dose.
- Restrictions for:
  - Back pain
  - Headaches
  - Pre-op

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

-- Franz Kafka, “A Country Doctor”

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References:

1. Solanki DR, Koyyalagunta D, Shah R V, Silverman SM, Manchikanti L. Monitoring opioid adherence in chronic pain patients: assessment of risk of substance misuse. *Pain Physician*. 2011;14(2):E119-E131. http://www.ncbi.nlm.nih.gov/pubmed/21412377.

2. Seya M-J, Gelders SF a M, Achara OU, Milani B, Scholten WK. A first comparison between the consumption of and the need for opioid analgesics at country, regional, and global levels. *J Pain Palliat Care Pharmacother*. 2011;25(1):6-18. doi:10.3109/15360288.2010.536307.

3. NIDA. Safe Prescribing for Pain. 2016. https://www.drugabuse.gov/nidamed/etools/safe-prescribing-pain.

4. Paulozzi LJ, Baldwin G. CDC Grand Rounds: Prescription Drug Overdoses — a U.S. Epidemic. *MMWR*. 2012;61(1):10-13.

5. Murray C. The state of US health, 1990 -2010: burden of diseases, injuries, and risk factors. *JAMA*. 2013;310(6):591-608. doi:10.1001/jama.2013.13805.

6. Birnbaum HG, White AG, Schiller M, Waldman T, Cleveland JM, Roland CL. Societal Costs of Prescription Opioid Abuse , Dependence , and Misuse in the United States. *Pain Med*. 2011;12:657-667.

7. Paulozzi LJ, Jones CM, Mack KA, Rudd RA. Vital signs: overdoses of prescription opioid pain relievers ---United States, 1999--2008. *MMWR Morb Mortal Wkly Rep*. 2011;60(43):1487-1492. http://www.ncbi.nlm.nih.gov/pubmed/22048730.

8. Cherrier MM, Amory JK, Ersek M, Risler L, Shen DD. Comparative cognitive and subjective side effects of immediate-release oxycodone in healthy middle-aged and older adults. *J Pain*. 2009;10(10):1038-1050. doi:10.1016/j.jpain.2009.03.017.

9. Gooch CM, Rakitin BC, Cooper ZD, Comer SD, Balsam PD. Oxycodone lengthens reproductions of suprasecond time intervals in human research volunteers. *Behav Pharmacol*. 2011;22(4):354-361. doi:10.1097/FBP.0b013e328348d8b8.

10. 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.

11. Woller S a., Hook M a. Opioid administration following spinal cord injury: Implications for pain and locomotor recovery. *Exp Neurol*. 2013;247:328-341. doi:10.1016/j.expneurol.2013.03.008.

12. White J a, Tao X, Talreja M, Tower J, Bernacki E. The effect of opioid use on workers' compensation claim cost in the State of Michigan. *J Occup Environ Med*. 2012;54(8):948-953. doi:10.1097/JOM.0b013e318252249b.

References:

13. Edlund MJ, Martin BC, Russo JE, Devries A, Braden JB, Sullivan MD. The Role of Opioid Prescription in Incident Opioid Abuse and Dependence Among Individuals With Chronic Noncancer Pain. *Clin J Pain*. 2014;30(7):557-564.

14. Chu LF, Clark DJ, Angst MS. Opioid tolerance and hyperalgesia in chronic pain patients after one month of oral morphine therapy: a preliminary prospective study. *J Pain*. 2006;7(1):43-48. doi:10.1016/j.jpain.2005.08.001.

15. 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.

16. Miller M, Stu ÃT, Azrael D. Opioid Analgesics and the Risk of Fractures in Older Adults with Arthritis. *J Am Geriatr Soc*. 2011;59:430-438. doi:10.1111/j.1532-5415.2011.03318.x.

17. Ray WA, Chung CP, Murray KT, et al. Prescription of Long-Acting Opioids and Mortality in Patients With Chronic Noncancer Pain. *JAMA*. 2016;315(22):2415. doi:10.1001/jama.2016.7789.

18. Solomon DH, Rassen J a, Glynn RJ, Lee J, Levin R, Schneeweiss S. The comparative safety of analgesics in older adults with arthritis. *Arch Intern Med*. 2010;170(22):1968-1976. doi:10.1001/archinternmed.2010.391.

19. Tenore PL. Psychotherapeutic benefits of opioid agonist therapy. *J Addict Dis*. 2008;27(3):49-65. doi:10.1080/10550880802122646.

20. Younger JW, Chu LF, D'Arcy NT, Trott KE, Jastrzab LE, Mackey SC. Prescription opioid analgesics rapidly change the human brain. *Pain*. 2011;152(8):1803-1810. doi:10.1016/j.pain.2011.03.028.

21. Martell B, O'Connor P, Kerns R, et al. Systematic review: opioid treatment for chronic back pain: prevalence, efficacy, a nd association with addiction. *Ann Intern Med*. 2007;146(2):116-127. http://annals.org/article.aspx?articleid=732048. Accessed August 9, 2014.

22. Odgers CL, Caspi A, Nagin DS, et al. Is it important to prevent early exposure to drugs and alcohol among adolescents? *Psychol Sci*. 2008;19(10):1037-1044. doi:10.1111/j.1467-9280.2008.02196.x.

23. Polunina AG, Bryun E a. Neuropsychological Functions of μ- and δ-Opioid Systems. *ISRN Addict*. 2013;2013:1-13. doi:10.1155/2013/674534.

24. Inagaki TK, Ray LA, Irwin MR, Way BM, Eisenberger NI. Opioids and social bonding: Naltrexone reduces feelings of social connection. *Soc Cogn Affect Neurosci*. 2016;epub ahead:1-8. doi:10.1093/scan/nsw006.

25. Schweiger D, Stemmler G, Burgdorf C, Wacker J. Opioid receptor blockade and warmth-liking: Effects on interpersonal trust and frontal asymmetry. *Soc Cogn Affect Neurosci*. 2014;9(10):1608-1615. doi:10.1093/scan/nst152.

26. Teater D. *Evidence for the Efficacy of Pain Medications*. Itasca, Illinois; 2014. www.nsc.org/painmedevidence.

References:

27. Moore RA, Derry S, McQuay HJ, Wiffen PJ. Single dose oral analgesics for acute postoperative pain in adults. *Cochrane Database Syst Rev*. 2011;9(9):CD008659. doi:10.1002/14651858.CD008659.pub2.

28. Holdgate A, Pollock T. Nonsteroidal anti-inflammatory drugs (NSAIDs) versus opioids for acute renal colic. *Cochrane Database Syst Rev*. 2004;(1):Art. No.: CD004137. doi:10.1002/14651858.CD004137.pub3.

29. Kleinert R, Lange C, Steup A, Black P, Goldberg J, Desjardins P. Single dose analgesic efficacy of tapentadol in postsurgical dental pain: The results of a randomized, double-blind, placebo-controlled study. *Anesth Analg*. 2008;107(6):2048-2055. doi:10.1213/ane.0b013e31818881ca.

30. Dowell D, Haegerich TM, Chou R. CDC Guideline for Prescribing Opioids for Chronic Pain — United States, 2016. *MMWR*. 2016;65. doi:10.1001/jama.2016.1464.

31. Eriksen J, Sjøgren P, Bruera E, Ekholm O, Rasmussen NK. Critical issues on opioids in chronic non -cancer pain: an epidemiological study. *Pain*. 2006;125(1-2):172-179. doi:10.1016/j.pain.2006.06.009.

32. Afilalo M, Etropolski MS, Kuperwasser B, et al. Efficacy and Safety of Tapentadol Extended Release Compared with Oxycodone Controlled Release for the Management of Moderate to Severe Chronic Pain Related to Osteoarthritis of the Knee: A Randomized, Double-Blind, Placebo- and Active-Controlled Phase III. *Clin Drug Investig*. 2010;30(8):489-505. doi:1 [pii]\n10.2165/11533440-000000000-00000.

33. Cherkin DC, Sherman KJ, Balderson BH, et al. Effect of Mindfulness-Based Stress Reduction vs Cognitive Behavioral Therapy or Usual Care on Back Pain and Functional Limitations in Adults With Chronic Low Back Pain. *JAMA*. 2016;315(12):1240. doi:10.1001/jama.2016.2323.

34. 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.

35. 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.

36. da Costa B, Nüesch E, Aws R, et al. Oral or transdermal opioids for osteoarthritis of the knee or hip (Review) Oral or transdermal opioids for osteoarthritis of the knee or hip. *Cochrane Database Syst Rev*. 2014;(9). doi:10.1002/14651858.CD003115.pub3.Copyright.

37. Franklin GM. Opioids for chronic noncancer pain: a position paper of the American Academy of Neurology. *Neurology*. 2014;83(14):1277-1284. doi:10.1212/WNL.0000000000000839.

References:

38. Balague F, Mannion AF, Pellise F, Cedraschi C. Non-specific low back pain. *Lancet*. 2012;379(9814):482-491. doi:10.1016/S0140-6736(11)60610-7.

39. Artus M, van der Windt DA, Jordan KP, Hay EM. Low back pain symptoms show a similar pattern of improvement following a wide range of primary care treatments: A systematic review of randomized clinical trials. *Rheumatology*. 2010;49(12):2346-2356. doi:10.1093/rheumatology/keq245.

40. Cherkin DC, Sherman KJ, Balderson BH, et al. Effect of Mindfulness-Based Stress Reduction vs Cognitive Behavioral Therapy or Usual Care on Back Pain and Functional Limitations in Adults With Chronic Low Back Pain. *JAMA*. 2016;315(12):1240. doi:10.1001/jama.2016.2323.

41. 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.

42. 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.

43. Edlund MJ, Martin BC, Russo JE, Devries A, Braden JB, Sullivan MD. The Role of Opioid Prescription in Incident Opioid Abuse and Dependence Among Individuals With Chronic Noncancer Pain. *Clin J Pain*. 2014;30(7):557-564.

44. 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*. 2014;96(11):e89-e89. doi:10.2106/JBJS.M.00865.

45. Shaheed CA, Maher CG, Williams KA, Day R, Mclachlan AJ. Efficacy, Tolerability, and Dose-Dependent Effects of Opioid Analgesics for Low Back Pain A Systematic Review and Meta-analysis. *JAMA Intern Med*. 2016;176(7):958-968. doi:10.1001/jamainternmed.2016.1251.

46. Eriksen J, Sjøgren P, Bruera E, Ekholm O, Rasmussen NK. Critical issues on opioids in chronic non-cancer pain: an epidemiological study. *Pain*. 2006;125(1-2):172-179. doi:10.1016/j.pain.2006.06.009.