Safe & Effective Treatment of Pain in an Opioid Overdose Epidemic

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February 16, 2019

Ascension

Disclosures

- All speakers have no financial conflicts to disclose
- The content of this talk does NOT apply to patients who are receiving end of life or palliative care, on hospice

Objectives

- Learn about the Origin, Scope and Consequences of the Opioid Crisis
- Review the evidence for using Opioids in the tx of Acute & Chronic Pain
- Increase provider confidence understanding Indiana Opioid Laws
- Understand best practices that can mitigate opioid harm to our patients and communities
- Discuss Strategies & Challenges when Treating the Opioid Dependent Population
- Review Ascension efforts to support providers and patients as it relates to the Opioid Epidemic

United States Pain Paradigm

- **USA ~4.5%** of world population
- Consume **99%** global hydrocodone
- Consume **73%** global oxycodone
- Consume **2/3** global illicit drugs



Narcotic Drugs — Estimated World Requirements for 2018 — Statistics for 2016
https://www.incb.org/documents/Narcotic-Drugs/Technical-Publications/2017/Narcotic_drugs_technical_publication_2017.pdf

Therapeutic Opioids Use in the U.S. (mg/person) from 1997 – 2007

Table 6. *The increase in therapeutic opioids use in the U.S. (mg/person) from 1997 to 2007.*

Type	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	% of Change from 1997
Methadone	1.94	2.60	3.47	5.14*	6.81	9.54	13.26	17.03	19.31	23.84	25.50	1214%
Oxycodone	16.68	24.66	34.99	55.11	71.75	80.56	95.97	105.05	110.27	133.33	154.73	899%
Fentanyl	0.28	0.34	0.39	0.53*	0.67	0.87	1.14	1.33	1.40	1.54	1.67	496%
Hydrocodone	32.49	38.93	43.57	50.83	56.15	67.77	80.44	86.70	92.90	107.49	118.70	265%
Morphine	22.20	24.01	24.50	28.11	31.72	36.95	44.30	51.55	54.20	63.03	68.59	209%
Total	73.59	90.54	106.92	139.72	167.1	195.69	235.11	261.66	278	329.23	369.19	402%

* For year 2000 data is not available, the average of 1999 and 2001 was taken.

Source: Data taken from U.S. Drug Enforcement Administration. Automation of Reports and Consolidated Orders System (ARCOS); www.deadiversion.usdoj.gov/arcos/retail_drug_summary/index.html. Access date: 8/25/2010

Source for 2007 data - http://www.justice.gov/ndic/pubs33/33775/dlinks.htm

↑ 402% PER CAPITA

Epidemic of Chronic Pain

- Lasting >3 months
- Persists beyond what's expected, given degree of pathology
- Elicited by injury/disease
- Likely perpetuated factors pathogenically & physically remote from original cause
- Prevalence of chronic pain in US
  - 10-25%
  - Rate increases with age/ chronic illness/obesity
  - Opioids recommended therapies for management of several types of non-cancer related pain

Why the Opioid Increase?

- Liberalization of laws governing opioid prescribing
- Joint Commission Standards – 2000
- Growing public awareness of the right to pain relief
- HCAPS- Patient Satisfaction Surveys
- Aggressive marketing



“The Promotion and Marketing of OxyContin: Commercial Triumph, Public Health Tragedy”



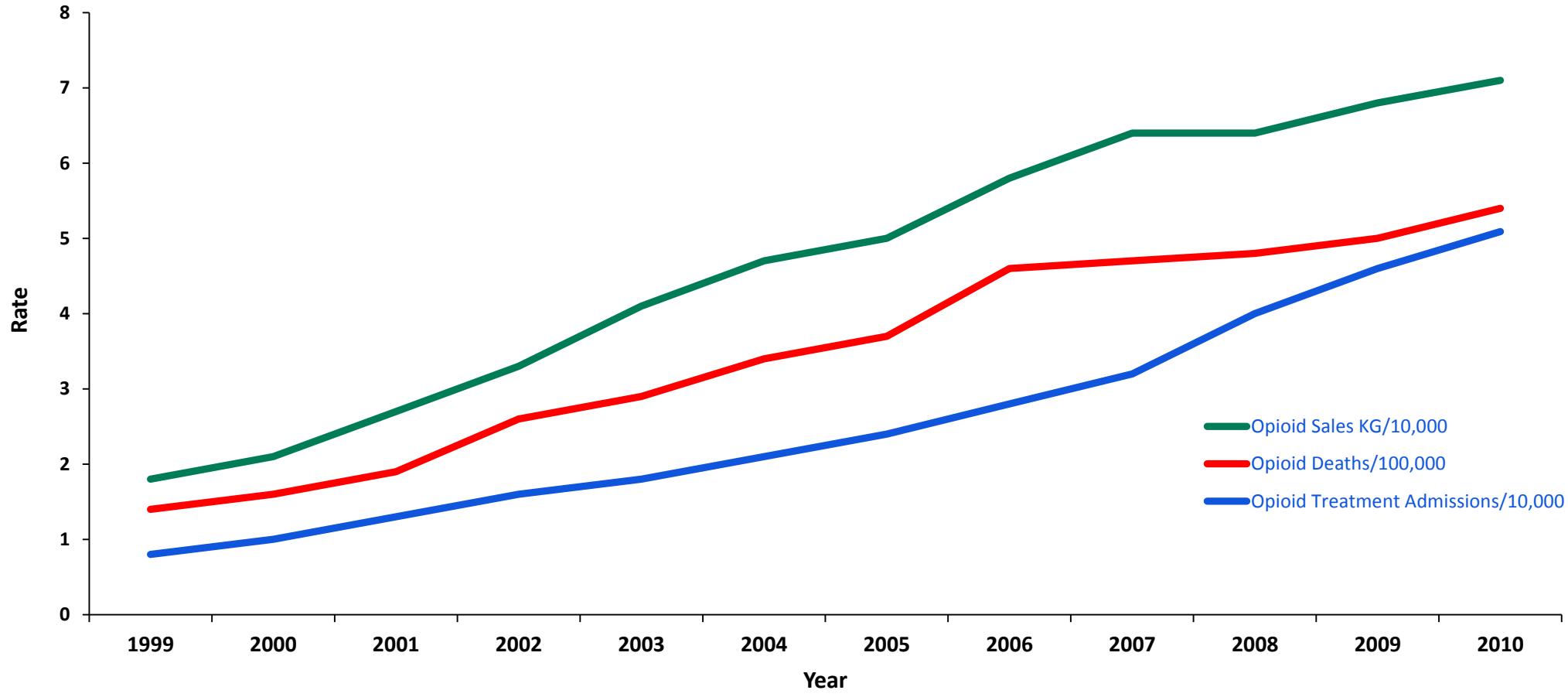
No studies support benefit over other opioids

- **Unprecedented Marketing**
- **Sales Reps trained “Risk of Addiction <1%”**
- **Original FDA Label- Risk of Abuse/Addiction – 1996 “Very Rare”**
- **Could be crushed, injected, inhaled or swallowed**
- **Risk of Abuse consistently minimized**
- **2007 Purdue Pharma fined $634M / 3 exec. Felony charges**
- **2009 OxyContin Sales $3B**
- **Oxycontin 2018 FDA package insert**

“A double-blind, placebo-controlled, fixed-dose, parallel group, two-week study was conducted in 133 patients with persistent, moderate to severe pain, who were judged as having inadequate pain control with their current therapy. In this study, OXYCONTIN 20 mg, but not 10mg, was statistically significant in pain reduction compared with placebo.”

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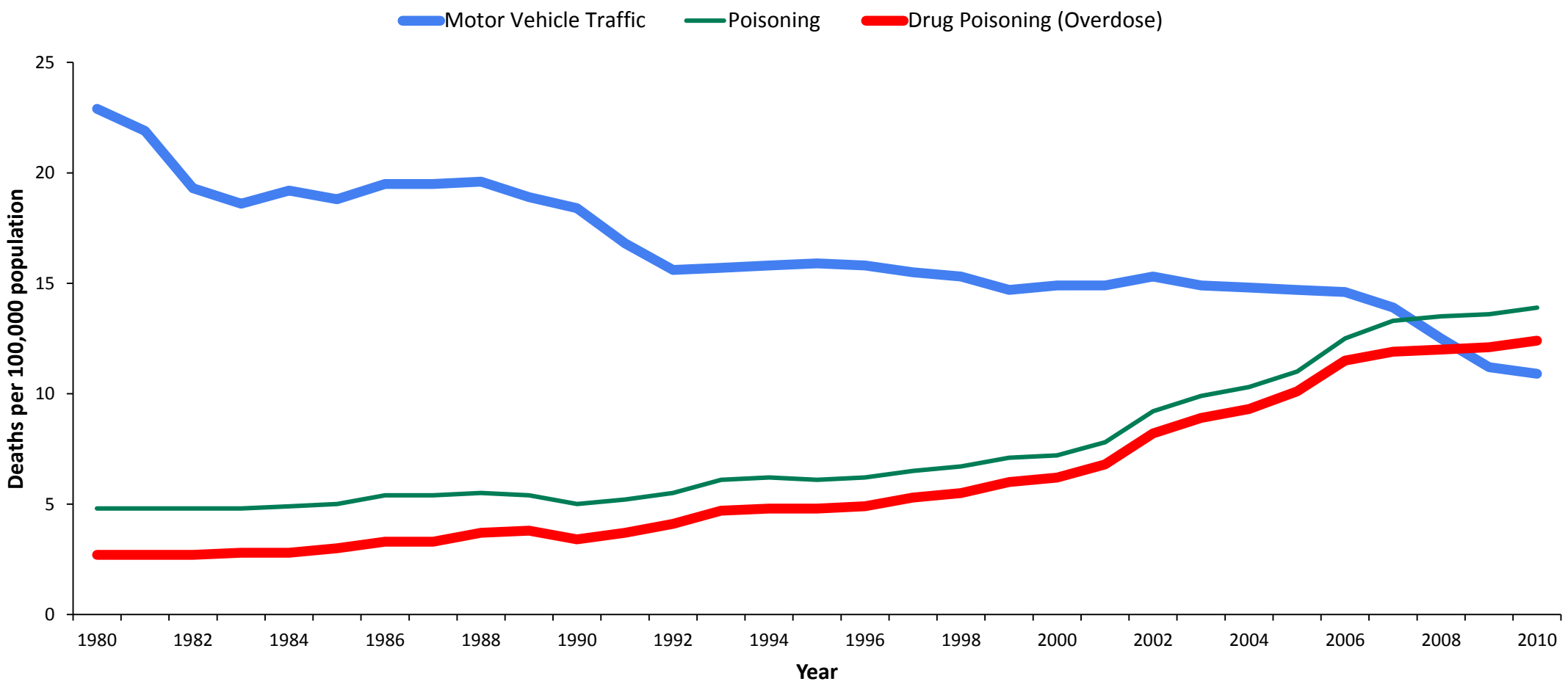
Rates of Opioid Overdose Deaths, Sales, and Treatment Admissions United States, 1999–2010



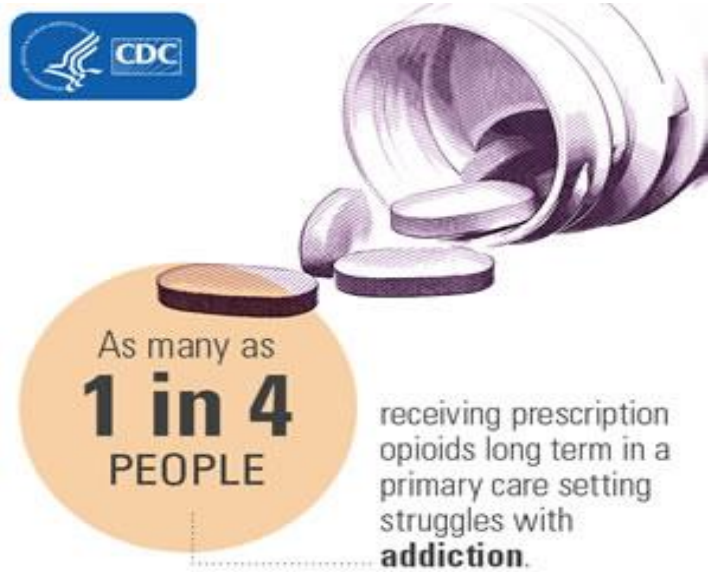
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CDC. *MMWR* 2011. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm60e1101a1.htm?s_cid=mm60e1101a1_w. Updated with 2009 mortality and 2010 treatment admission data.

Motor Vehicle Accident vs. Overdose Deaths

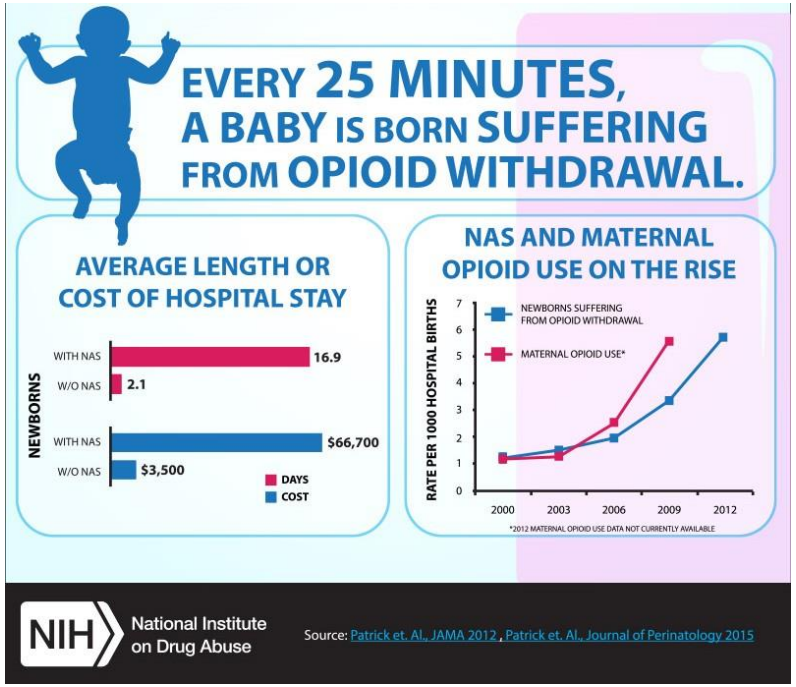


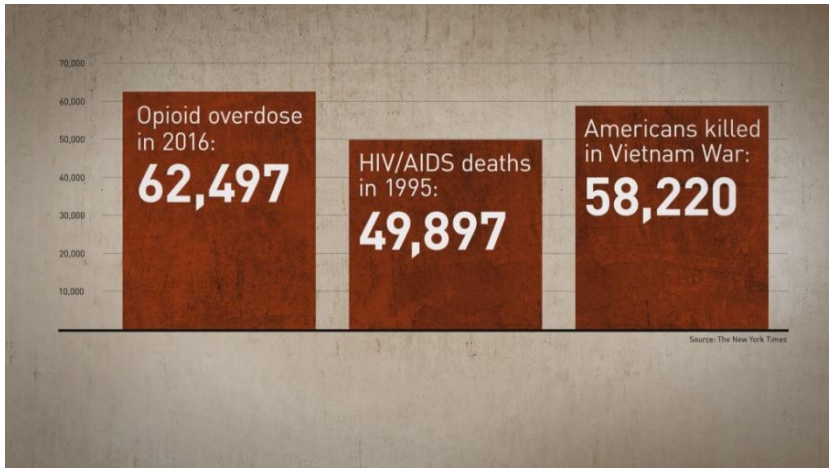
NCHS Data Brief, December, 2011. Updated with 2009 and 2010 mortality data

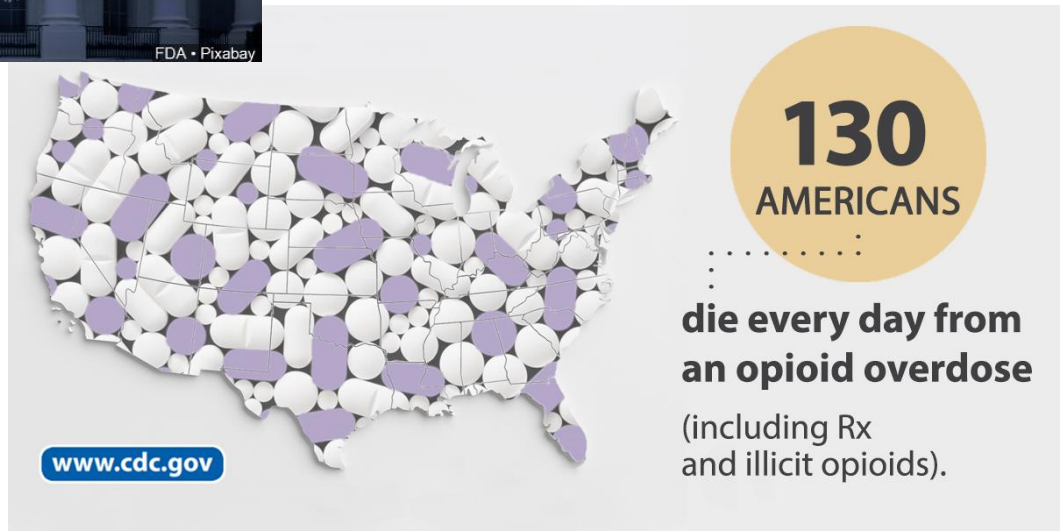

CDC
As many as
1 in 4
PEOPLE
receiving prescription opioids long term in a primary care setting struggles with addiction.


JOHN SMITH
OXYCODONE
Hydrochloride 80mg

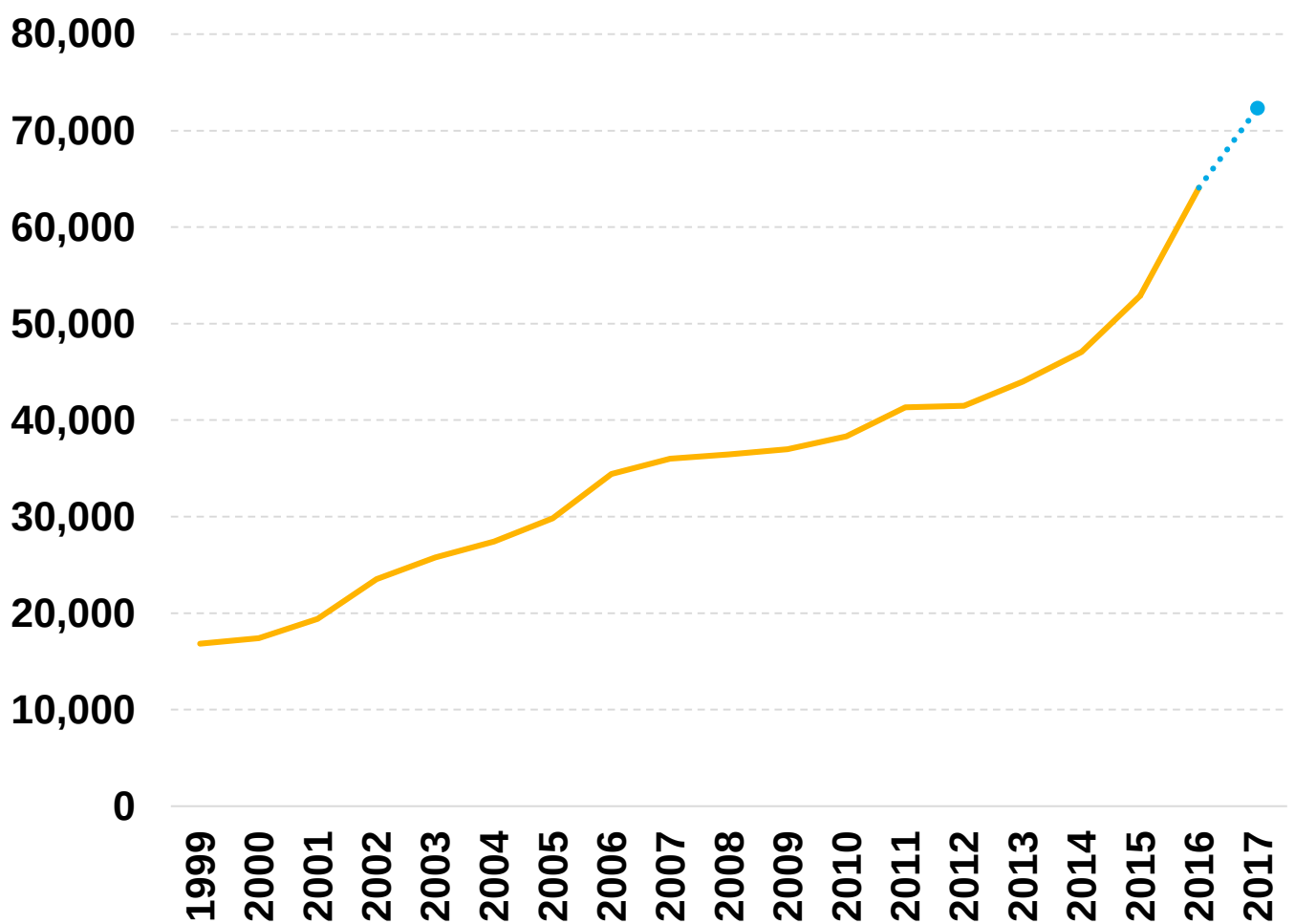

OPIOID
CRISIS
FDA • Pixabay


EVERY 25 MINUTES, A BABY IS BORN SUFFERING FROM OPIOID WITHDRAWAL.
AVERAGE LENGTH OR COST OF HOSPITAL STAY
NEWBORNS
WITH NAS
16.9
W/O NAS
2.1
WITH NAS
$66,700
W/O NAS
$3,500
DAYS
COST
NAS AND MATERNAL OPIOID USE ON THE RISE
RATE PER 1000 HOSPITAL BIRTHS
NEWBORNS SUFFERING FROM OPIOID WITHDRAWAL
MATERNAL OPIOID USE*
2000
2003
2006
2009
2012
*2012 MATERNAL OPIOID USE DATA NOT CURRENTLY AVAILABLE
NIH
National Institute on Drug Abuse
Source: Patrick et. Al., JAMA 2012 , Patrick et. Al., Journal of Perinatology 2015


Opioid overdose in 2016:
62,497
HIV/AIDS deaths in 1995:
49,897
Americans killed in Vietnam War:
58,220
Source: The New York Times


www.cdc.gov
130
AMERICANS
die every day from an opioid overdose
(including Rx and illicit opioids).

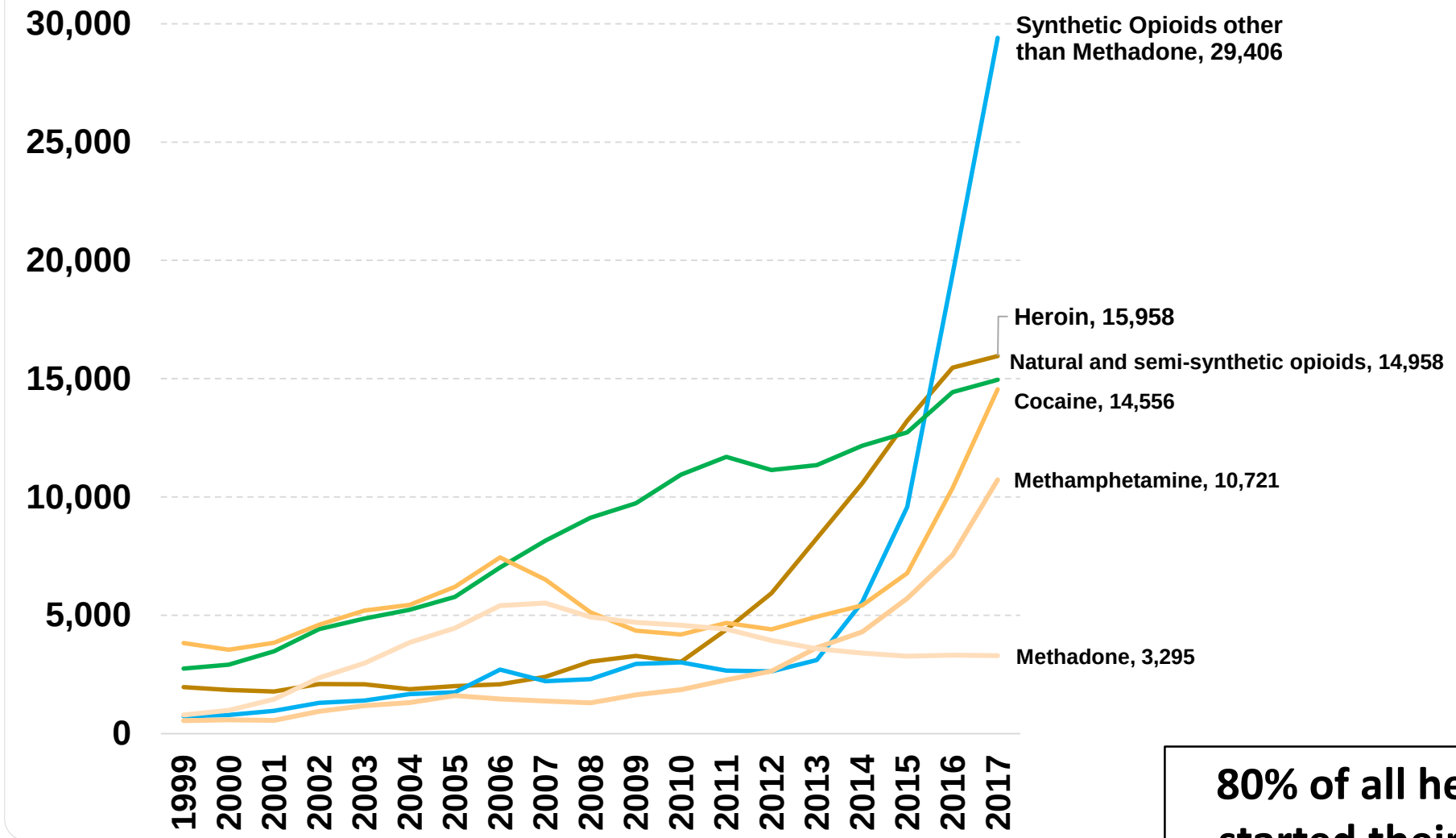
Total US Drug Deaths



72,000

Americans died in 2017

Drugs Involved in U.S. Overdose Deaths, 1999 to 2017



CDC Wonder Data

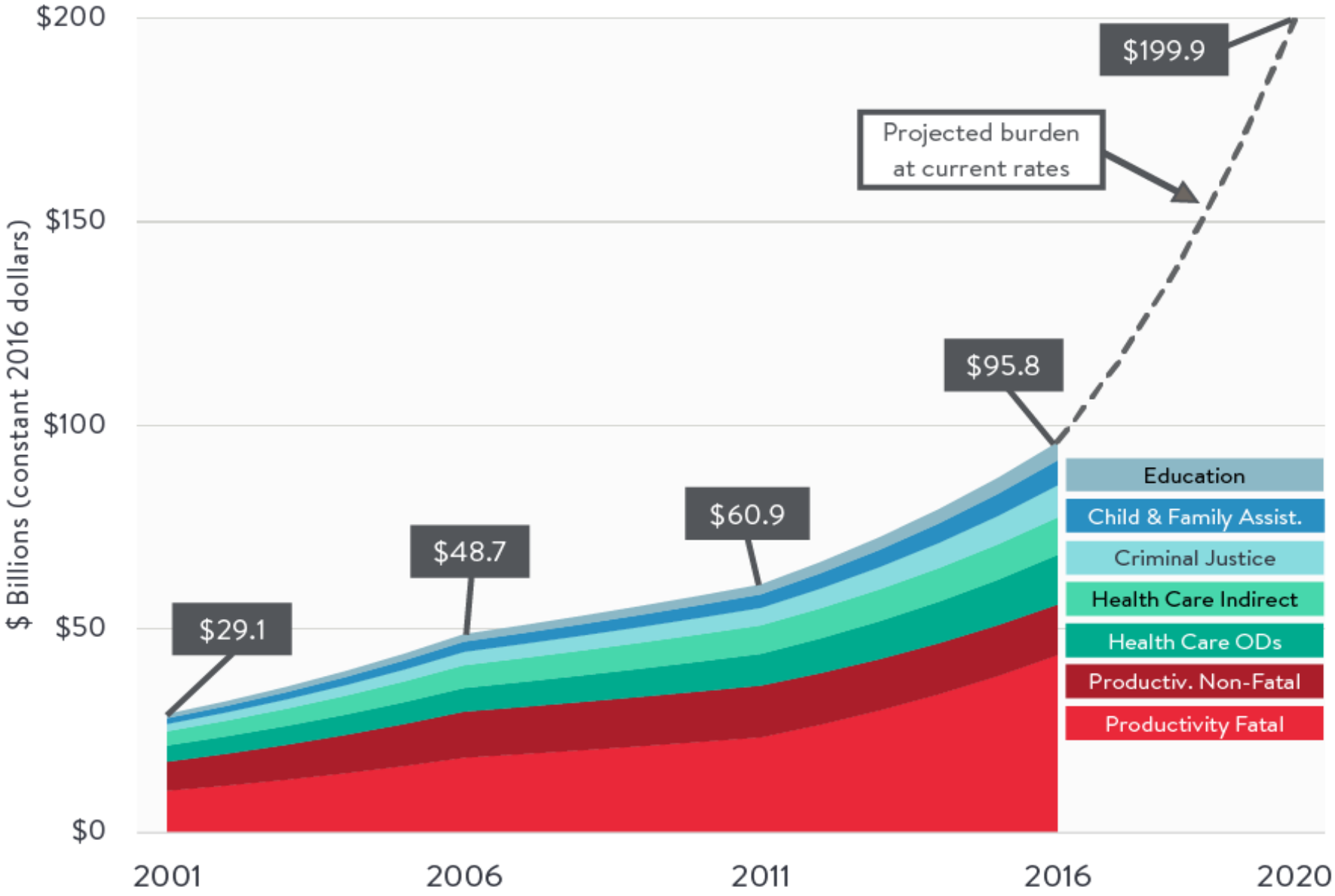
80% of all heroin users started their addiction with a prescription drug

Annual Societal Cost of Heroin Addiction

- $50,799 per patient heroin use disorder/ year
- $11,148 per patient with diabetes / year
- $2,567 per patient with COPD / year

Jiang R, Lee I, Lee TA, Pickard AS (2017) The societal cost of heroin use disorder in the United States. PLoS ONE 12(5): e0177323. https://doi.org/10.1371/journal.pone.0177323

Costs of the Opioid Epidemic by Year and Type



** Data between labeled estimates interpolated using constant growth rates*

The Human Toll of the Opioid Crisis



Who are these people?









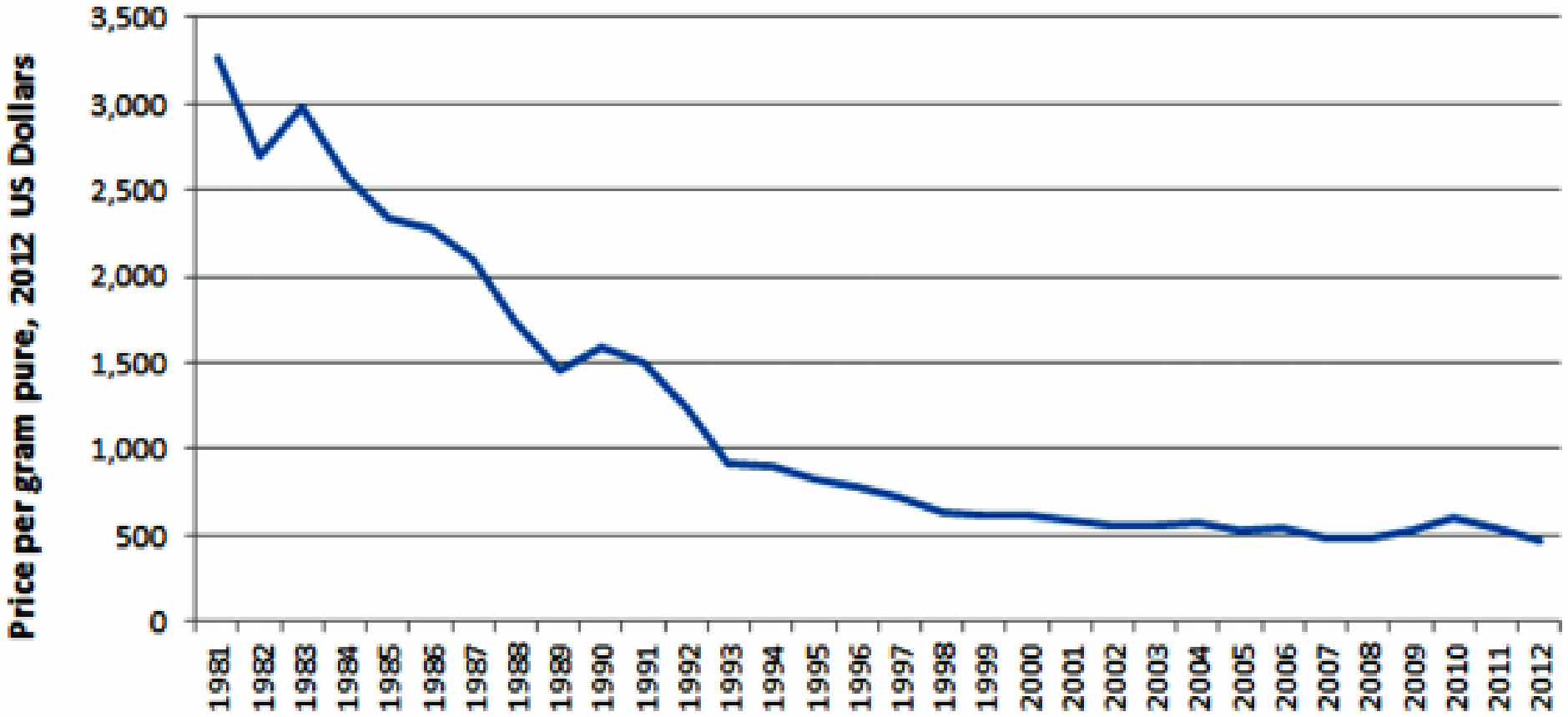








(U) Chart 6. Retail-level Average Price Per Gram Pure, for Heroin in the United States, 1981 to 2012



Source: Institute for Defense Analyses and ONDCP

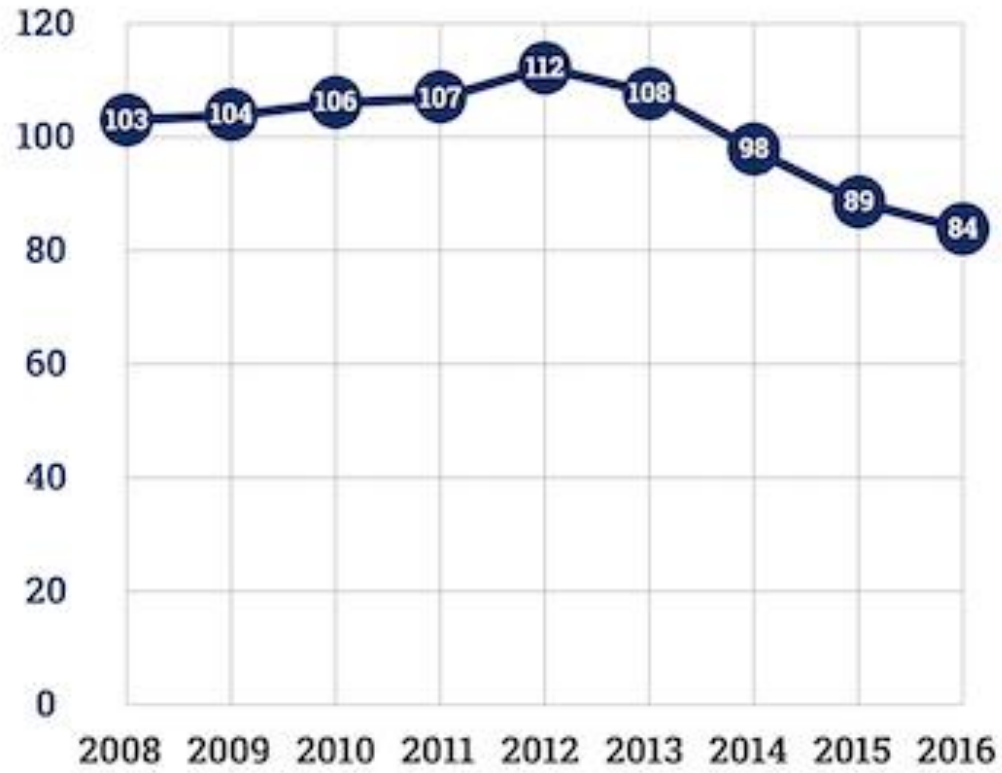
Lethal Dose of Heroin/Fentanyl

New Hampshire State Police Forensic Laboratory

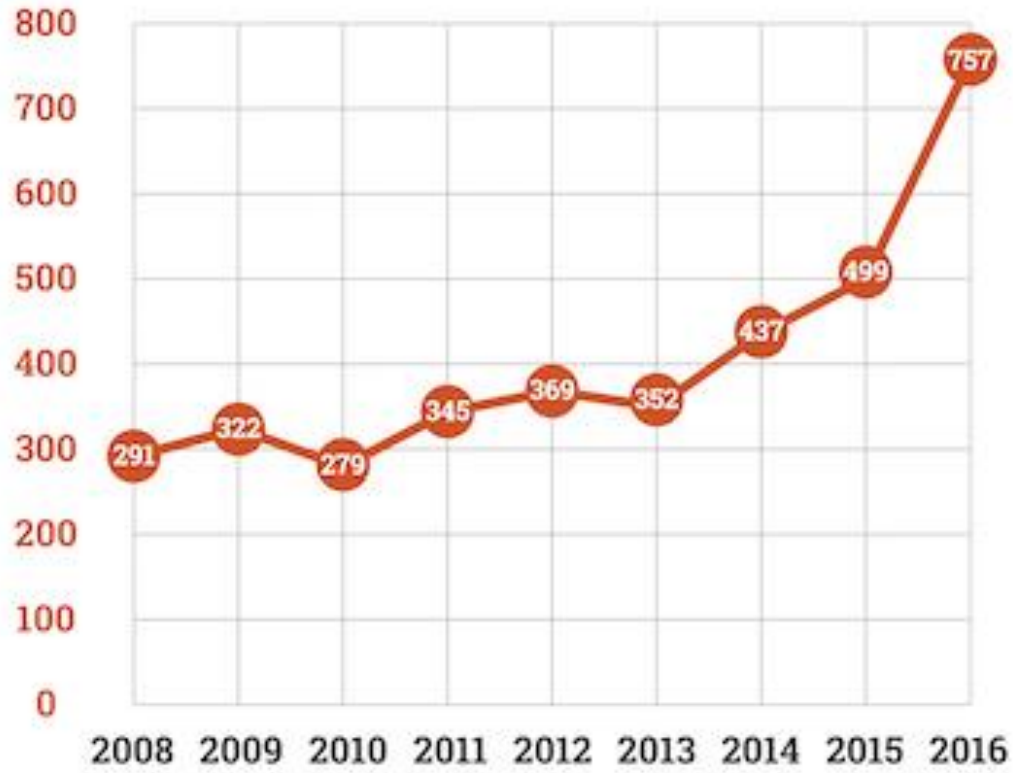


The Opioid Epidemic in Indiana

Prescriptions per 100 Residents



Opioid Deaths



Source: Centers for Disease Control and Prevention, as calculated by Indiana Management Performance Hub

Number of Americans on Long-term Opioids



10 Million

Ann Intern Med. 2017;167:181–191. doi: 10.7326/M17-0598

First, Do No Harm



Morphine Equivalent Dose (MED)
Mg Morphine Dose (MME)

1mg hydrocodone = **1**mg morphine

15mg hydrocodone = **15**mg morphine

90mg hydrocodone = **90**mg morphine

1mg oxycodone = **1.5**mg morphine

10mg oxycodone = **15**mg morphine

60mg oxycodone = **90**mg morphine

Are Opioids Effective for Pain?

Studies <16 weeks – Opioids vs placebo for pain

- Moderate reduction in pain
- Small improvement in function
- Limited by high-drop out rates, excluded patient with h/o SUD



Evidence & Expert Opinion for Chronic Opioids

2014 AAN- Opioids for chronic non-cancer Pain

"Whereas there is evidence for significant short-term pain relief, there is no substantial evidence for maintenance of pain relief or improved function over long periods of time without incurring serious risk of overdose, dependence, or addiction."

2016 CDC Opioid Guideline

"Evidence on long-term opioid therapy for chronic pain outside of end-of-life care remains limited with insufficient evidence to determine long-term benefits, though evidence suggests risk of serious harms that appears to be dose –dependent."

Ascension

Franklin GM. "Opioids for chronic noncancer pain: A position paper of the American Academy of Neurology". Neurology. 2014 Sep 30;83(14):1277-84
Dowell D, Haegerich TM, Chou R. CDC Guideline for Prescribing Opioids for Chronic Pain — United States, 2016. MMWR Recomm Rep 2016;65(No. RR-1):1–49. DOI: http://dx.doi.org/10.15585/mmwr.rr6501e

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

CDC Guideline for Prescribing Opioids 2016

- Opioids should only be continued if there is a meaningful improvement in pain & function (30% improvement)
- Exercise & CBT improve pain & function in OA, Fibromyalgia
- Avoid prescribing Opioid & Benzo whenever possible
- UDM initiation & annually
- Use lowest dose, additional precaution at 50MED/day
- **Avoid dosage >90MED/day** (if not improved DC or taper)

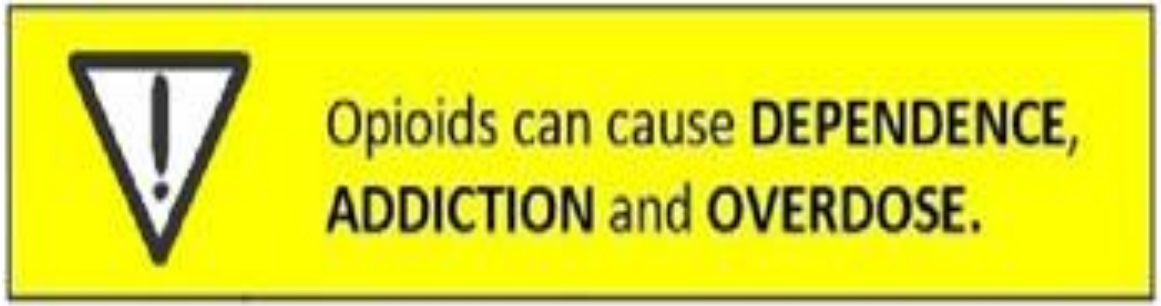
AMG Opioid Ceiling Dose = 90MED

2016 FDA Black Box Warning

Health care professionals should limit prescribing opioid pain medicines with benzodiazepines or other CNS depressants only to patients for whom alternative treatment options are inadequate. If these medicines are prescribed together, limit the dosages and duration of each drug to the minimum possible while achieving the desired clinical effect. Warn patients and caregivers about the risks of slowed or difficult breathing and/or sedation, and the associated signs and symptoms. Avoid prescribing prescription opioid cough medicines for patients taking benzodiazepines or other CNS depressants, including alcohol.

Opioid Changes in Canada

- 508 Opioids Relabeled by January 2019
- Non-Cancer Chronic Pain- Ceiling dose =90MME
- Any Non-Cancer Chronic Pain >90MME off-label
- Acute pain limits 3 days



Long Acting/ ER Opioid Evidence

- FDA label LA/ER "the management of pain severe enough to require daily, around-the-clock, long-term opioid treatment and for which alternative treatment options are inadequate."

- LA/ER should not be used in Opioid Naïve patients
  (Opioid Tolerant = 60 MED for one week)

- There are NO studies showing any benefits of long-acting opioids over short acting opioids

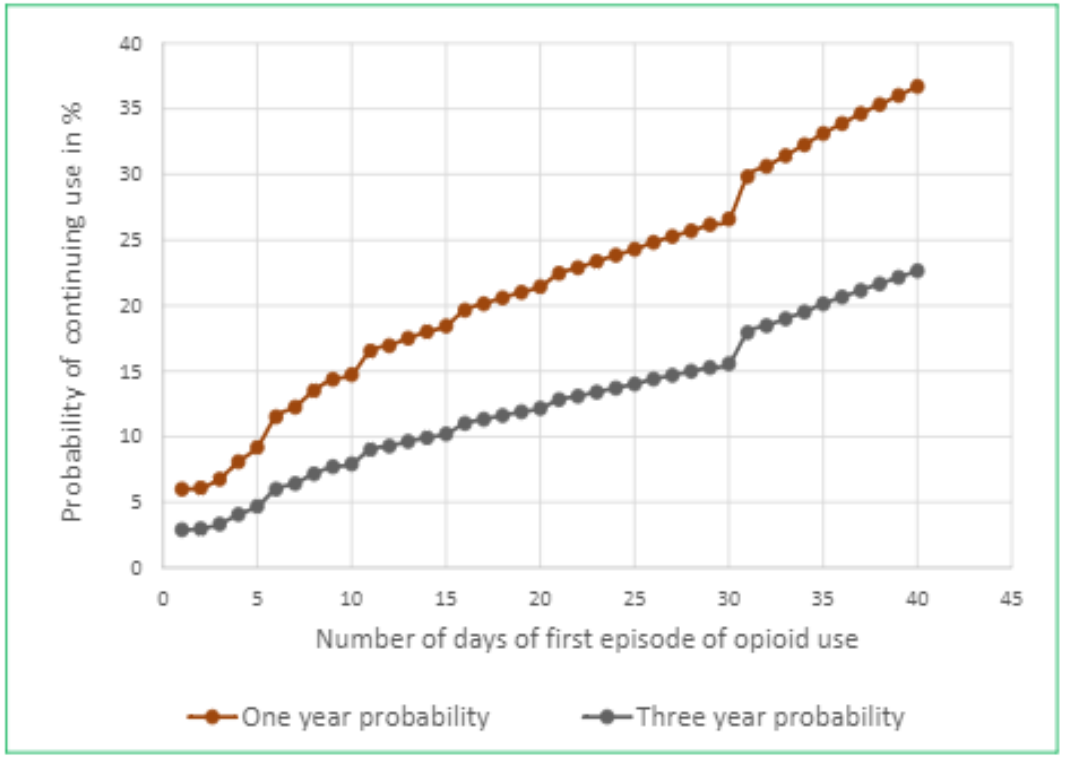
- Long acting opioids increase all-cause mortality when treating non-cancer chronic pain



JAMA. 2016;315(22):2415-2423. doi:10.1001/jama.2016.7789

Acute Pain – every day of an opioid matters

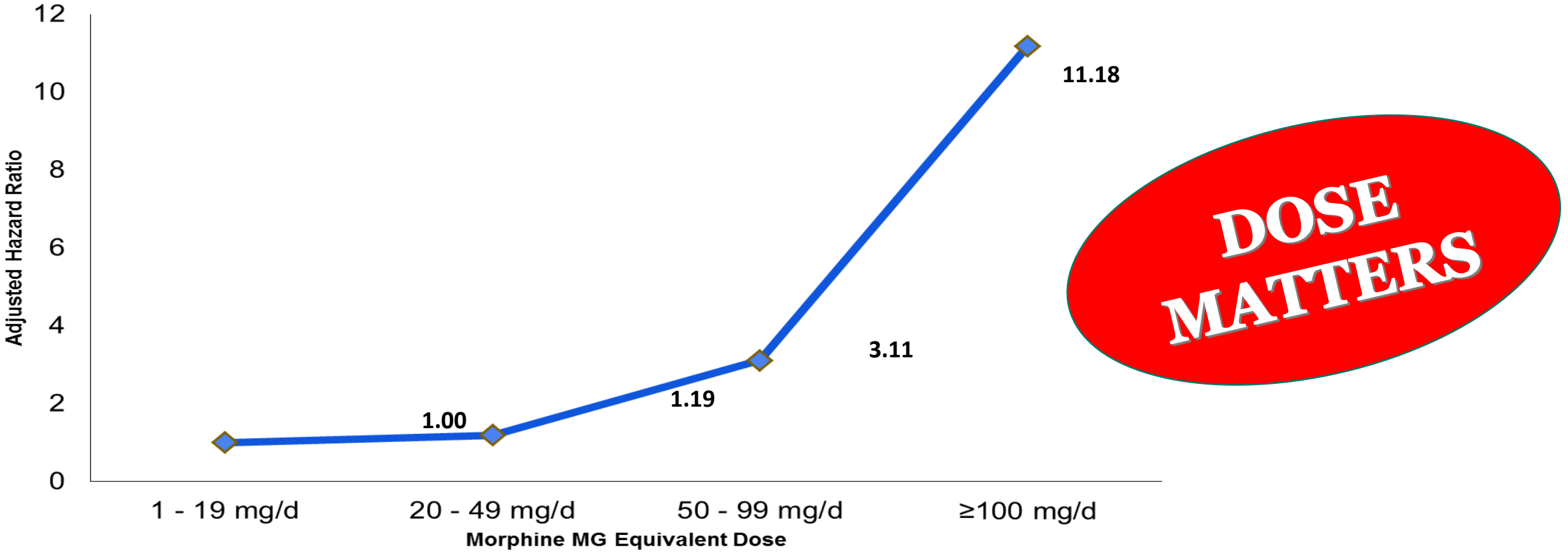
FIGURE 2. One- and 3-year probabilities of continued opioid use, by duration of first episode in days (base case)



Duration is expressed in terms of days (1-40) with increments of 1 day. Discontinuation is defined as 180 opioid-free days and allowable gap to assess continuous opioid use in first episode was 30 days.

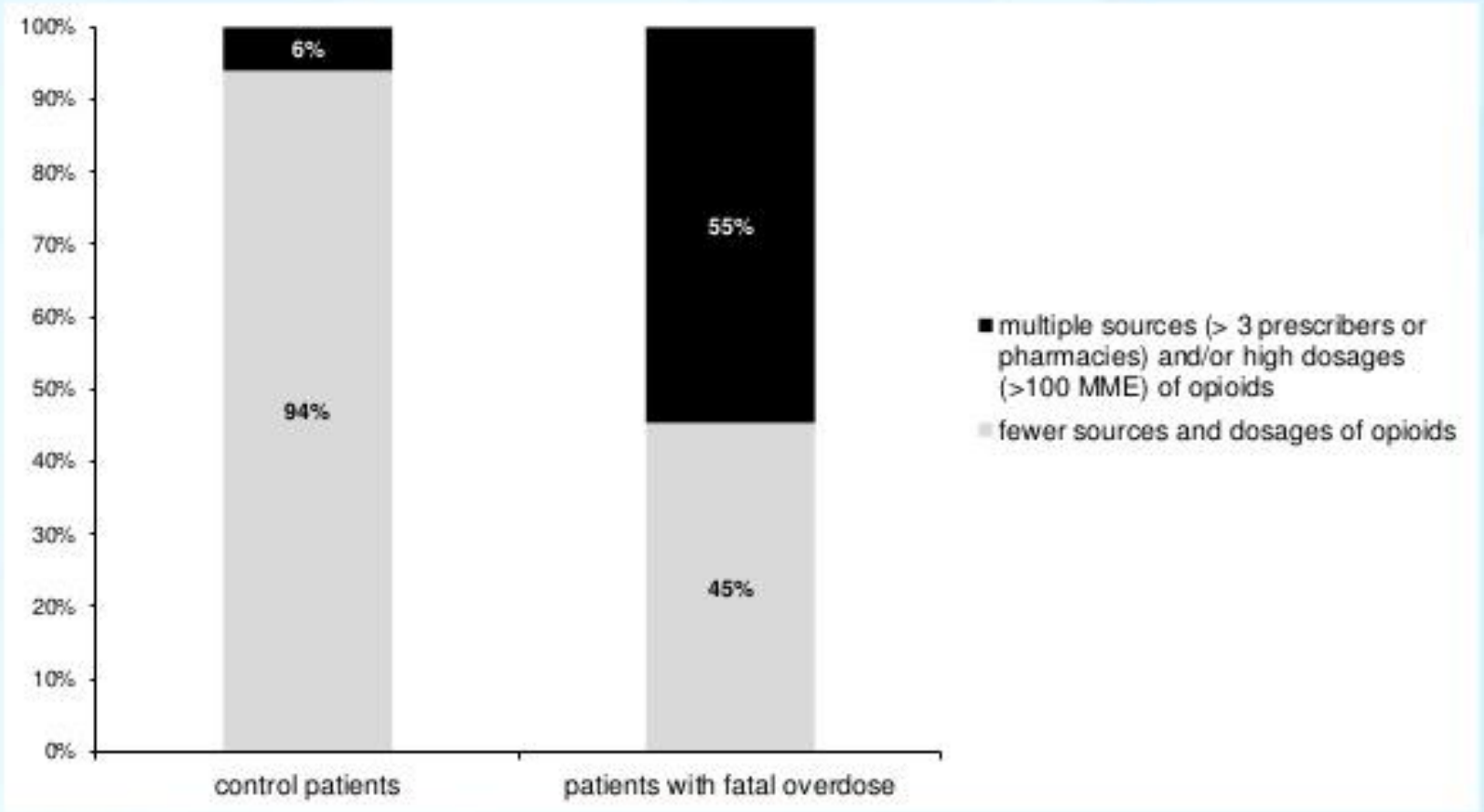
Shah A, Hayes CJ, Martin BC. Characteristics of Initial Prescription Episodes and Likelihood of Long-Term Opioid Use — United States, 2006–2015. MMWR Morb Mortal Wkly Rep 2017;66(10):xx

High Opioid Dose and Overdose Risk



Dunn et al. Opioid prescriptions for chronic pain and overdose. *Ann Int Med* 2010;152:85-92

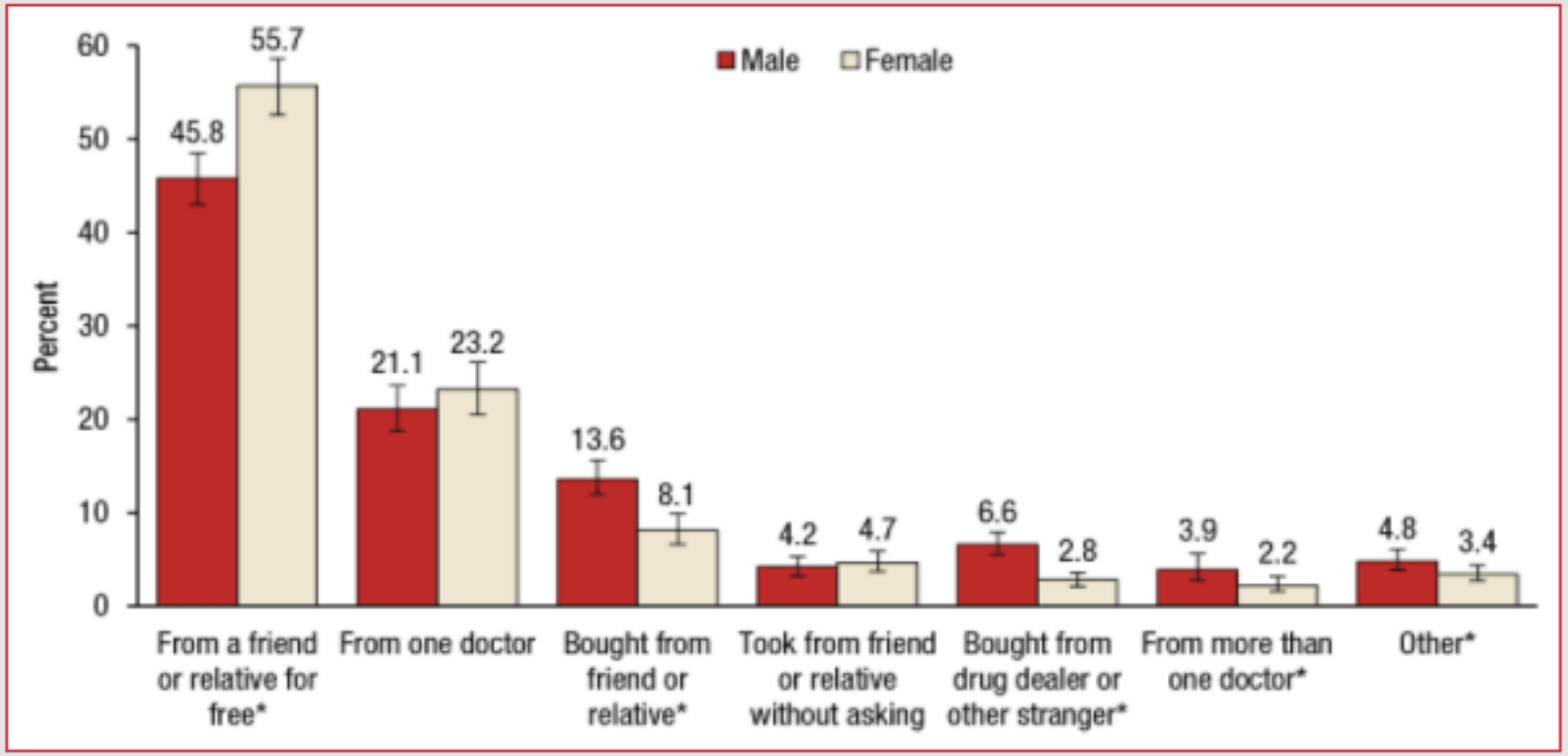
Majority of opioid overdose deaths associated with multiple sources and/or high dosages



Baumblatt JAG et al. High Risk Use by Patients Prescribed Opioids for Pain and its Role in Overdose Deaths. *JAMA Intern Med* 2014; 174: 796-801.

Non-Medical Use of Prescription Opioids

Figure 2. Source of prescription pain relievers for the most recent nonmedical use among past year users aged 12 or older, by gender: annual averages, 2013 and 2014



Lipari, R.N. and Hughes, A. *How people obtain the prescription pain relievers they misuse.* The CBHSQ Report: January 12, 2017. Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Rockville, MD

Effect of Opioid vs Nonopioid Medications on Pain-Related Function in Patients With Chronic Back Pain or Hip or Knee Osteoarthritis Pain - The SPACE Trial

PRAGMATIC, 12-MONTH, RANDOMIZED TRIAL WITH MASKED OUTCOME ASSESSMENT

chronic back pain, hip or knee osteoarthritis pain that occured ~daily for > 6 months

Opioid Group N = 119

Step 1: morphine IR, hydrocodone/acetaminophen, oxycodone IR.
Step 2: morphine sustained-action, oxycodone SA.
Step 3: transdermal fentanyl.

max dosage up to 100 morphine-equivalent mg



Non-Opioid Group N = 119

Step 1: acetaminophen, NSAIDs.
Step 2: nortriptyline, amitriptyline, gabapentin and topical analgesics: capsaicin, lidocaine.
Step 3: pregabalin, duloxetine and tramadol



PAIN RELATED FUNCTION AT 12 MONTHS

BPI Interference Scale (1-10), 10 = worse

3.4 | 3.3

Difference: 0.1 (−0.5 to 0.7), p = 0.58

PAIN INTENSITY

BPI Severity Scale (1-10), 10 = worse

4 | 3.5

Difference: 0.5 (0.0 to 1.0), p = 0.03

MEDICATION RELATED ADVERSE EFFECT OVER 12 MONTHS

Medication related symptom checklist (1-19), 19 = worse

1.8 | 0.9

Difference: 0.9 (0.3 to 1.5), p = 0.03

JAMA. 2018;319(9):872-882.

Krebs et al. | visualmed.org

Most Opioids Prescribed for Outpatient General Surgery Procedures Go Unused



Hill et al. *Ann Surg*. Sept 2016.

ANNALS OF SURGERY
A Monthly Review of Surgical Science Since 1885

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Surgery; A Gateway to Opioid Use

- Claims data 2013-2014, 13 elective surgeries
- Adults 18-64, continuous private prescription & medical insurance
- No opioid scripts 12 months prior to surgery
- N=**36,177**
- Minor Surgery (80%)- Varicose Vein, Laparoscopic Cholecystectomy, Laparoscopic appendectomy, hemorrhoidectomy, thyroidectomy, transurethral prostate surgery, parathyroidectomy carpal tunnel
- Major Surgery (20%)- ventral hernia, colectomy, reflux surgery, bariatric surgery, hysterectomy
- Primary Outcome- New persistent opioid use 90d post-op

5.9% Minor Surgery

6.5% Major Surgery

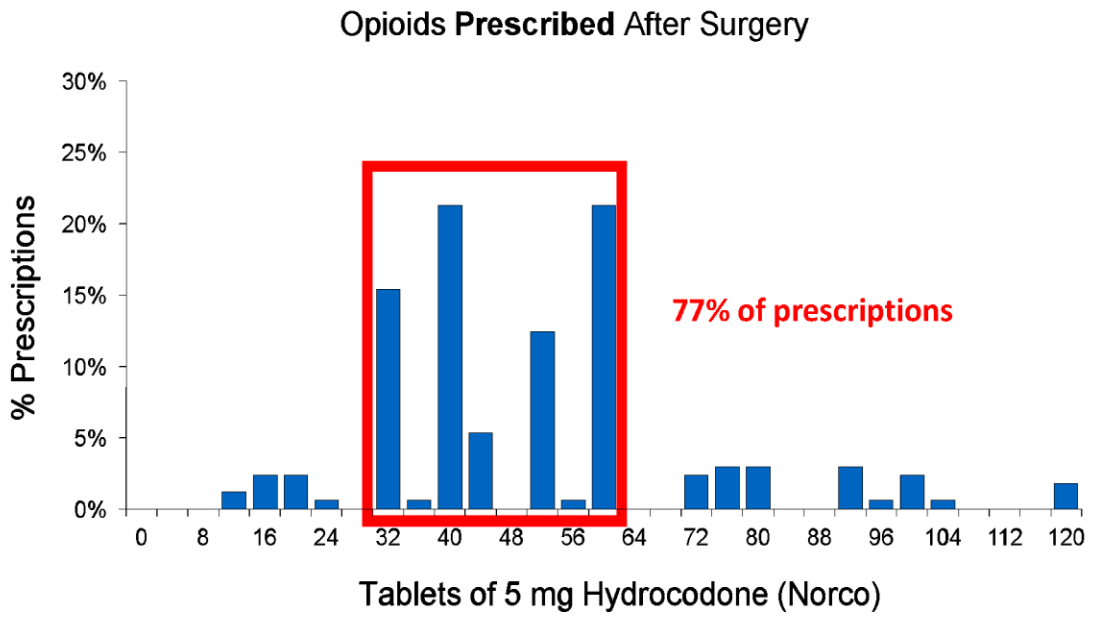
Brummett CM, Waljee JF, Goesling J, Moser S, Lin P, Englesbe MJ, et al. (2017). New Persistent Opioid Use After Minor and Major Surgical Procedures in US Adults. JAMA Surgery, 152, e170504. doi:10.1001/jamasurg.2017.0504

Surgery; A Gateway to Opioid Use

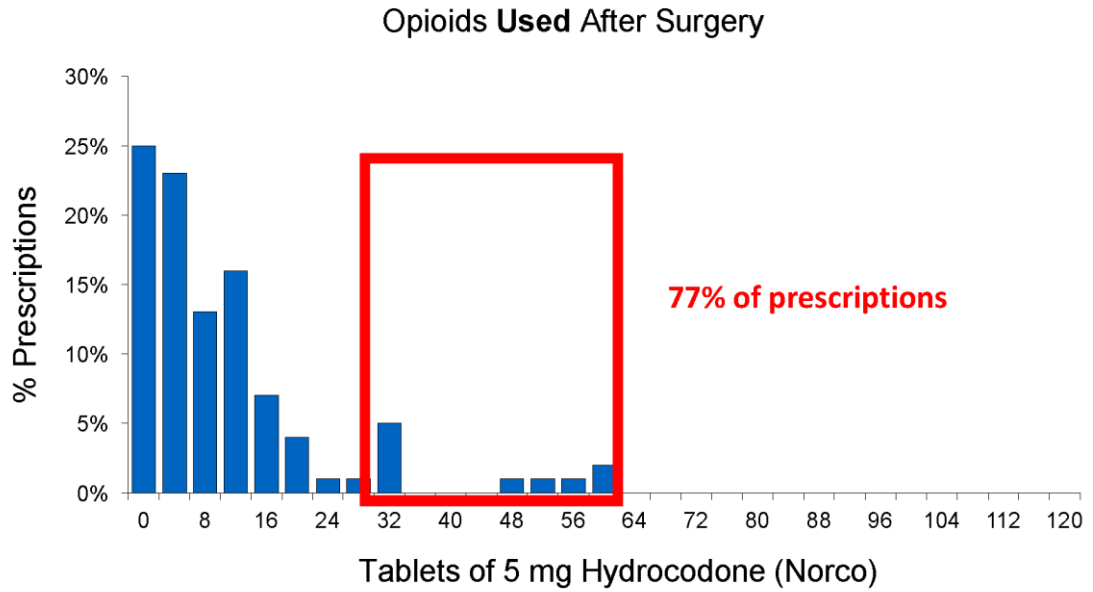
- Risk Factors for New Persistent Opioid use
- Not dependent on severity of surgery
- Tobacco Use
- Alcohol Use Disorder
- Substance Use Disorder
- Anxiety/Depression
- Pre-Operative Pain- Back, neck, arthritis, central pain disorder

Brummett CM, Waljee JF, Goesling J, Moser S, Lin P, Englesbe MJ, et al. (2017). New Persistent Opioid Use After Minor and Major Surgical Procedures in US Adults. JAMA Surgery, 152, e170504. doi:10.1001/jamasurg.2017.0504

Lap Choly; Opioid Prescribed vs Opioid Used



Howard, R, Waljee JF, Lee JS, Brummett CM, Englesbe MJ. 2017. *Reduction in Opioid Prescribing Through Implementation of Evidence-Based Prescribing Guidelines.* JAMA Surgery, In Press.



Howard, R, Waljee JF, Lee JS, Brummett CM, Englesbe MJ. 2017. *Reduction in Opioid Prescribing Through Implementation of Evidence-Based Prescribing Guidelines.* JAMA Surgery, In Press.

Howard R, Waljee J, Brummett C, Englesbe M, Lee J. Reduction in Opioid Prescribing Through Evidence-Based Prescribing Guidelines. *JAMA Surg.* Published online December 06, 2017. doi:10.1001/jamasurg.2017.4436

Reduction in Opioids through Evidence Based Guidelines

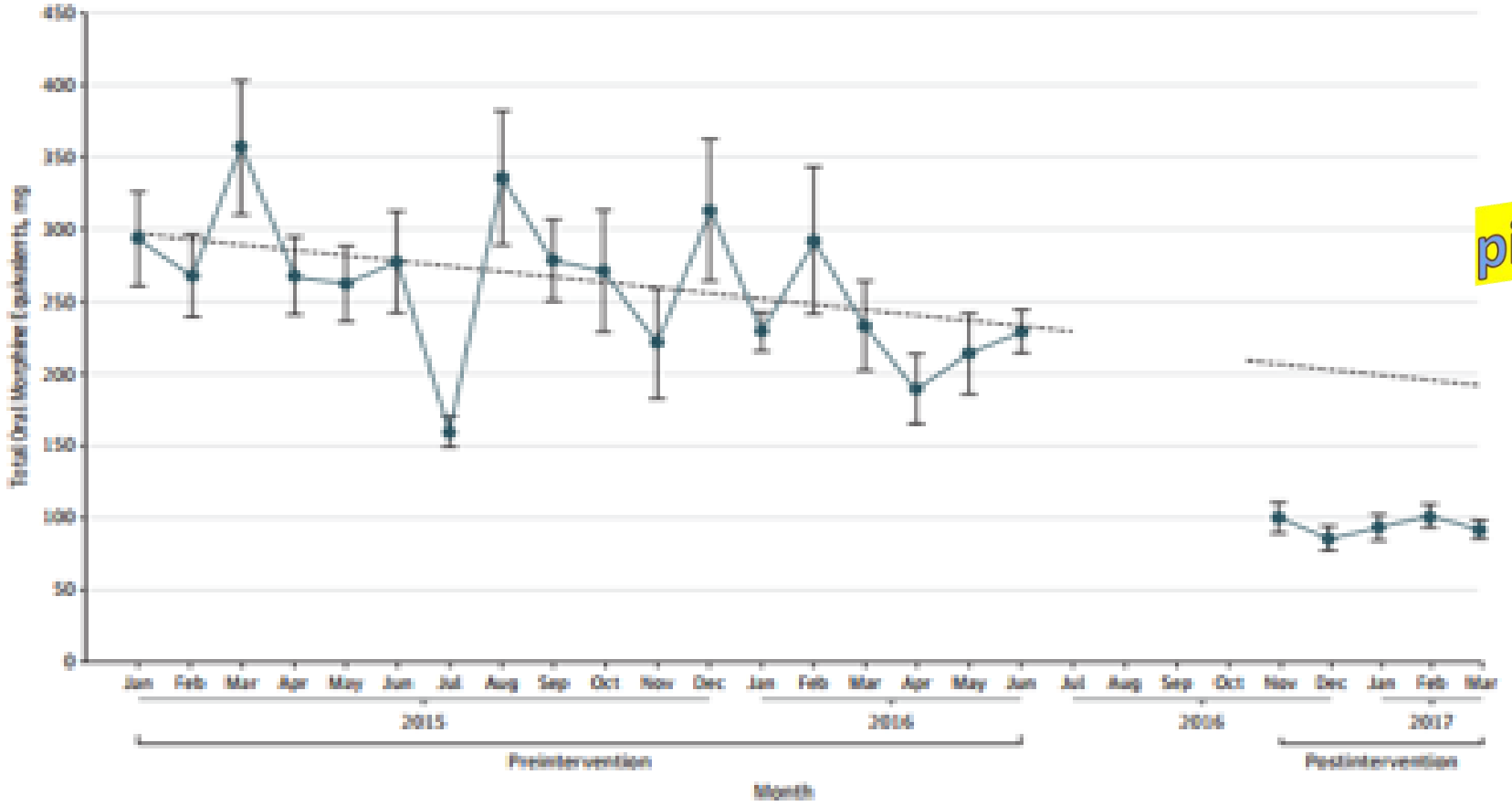
Laparoscopic cholecystectomy

	Pre- Intervention (N=170)		Post-Intervention (N=200)
Refill requested	4.1%	→	2.5%
Mean Opioid given	**50** hydrocodone	→	**15** hydrocodone
Mean Opioid used	**6** hydrocodone	→	**4** hydrocodone
Median Pain Score	**5**	→	**5**

Howard R, Waljee J, Brummett C, Englesbe M, Lee J. Reduction in Opioid Prescribing Through Evidence-Based Prescribing Guidelines. *JAMA Surg.* Published online December 06, 2017. doi:10.1001/jamasurg.2017.4436

Reduction in Opioid Prescribing - Evidence Based Guidelines

Figure. Reduction in Postoperative Opioid Prescribing After Implementation of Prescribing Guidelines.



1 surgery
1 institution
7,000 less
pills prescribed

Howard R, Waljee J, Brummett C, Englesbe M, Lee J. Reduction in Opioid Prescribing Through Evidence-Based Prescribing Guidelines. *JAMA Surg.* Published online December 06, 2017. doi:10.1001/jamasurg.2017.4436

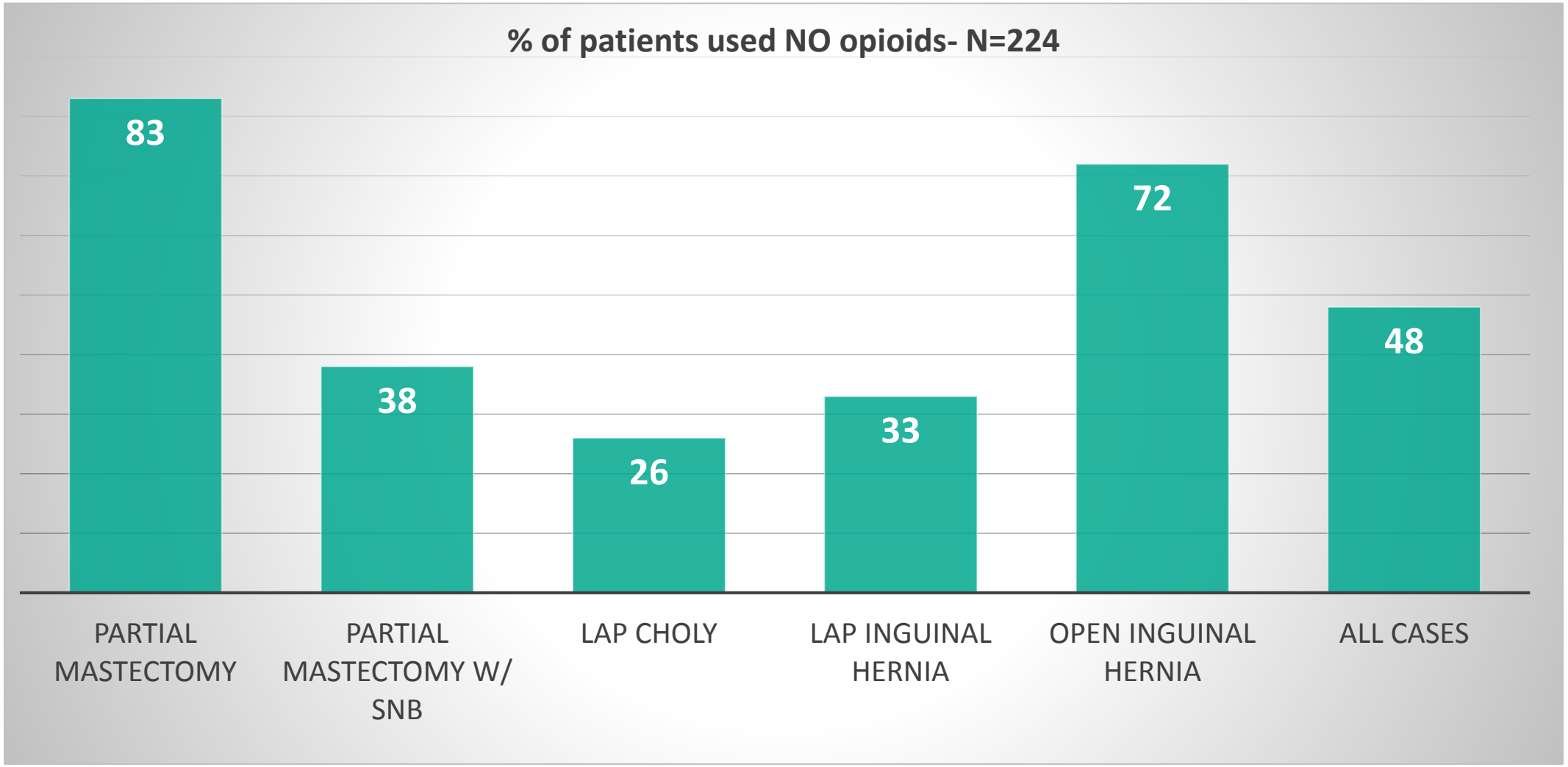
Peri-Operative Opioid Recommendations – 3/2018

Procedure	Hydrocodone (Norco) 5 mg tablets Codeine (Tylenol #3) 30 mg tablets Tramadol 50 mg tablets	Oxycodone 5 mg tablets Hydromorphone (Dilaudid) 2 mg tablets
Laparoscopic Cholecystectomy	15	10
Laparoscopic Appendectomy	15	10
Inguinal/Femoral Hernia Repair (open/laparoscopic)	15	10
Open Incisional Hernia Repair	30	20
Laparoscopic Colectomy	30	20
Open Colectomy	30	20
Ileostomy/Colostomy Creation, Re-siting, or Closure	40	25
Open Small Bowel Resection or Enterolysis	30	20
Thyroidectomy	10	5
Hysterectomy		
Vaginal	20	10
Laparoscopic & Robotic	25	15
Abdominal	35	25
Breast Biopsy or Lumpectomy Alone	10	5
Lumpectomy + Sentinel Lymph Node Biopsy	15	10
Sentinel Lymph Node Biopsy Alone	15	10
Simple Mastectomy ± Sentinel Lymph Node Biopsy	30	20
Modified Radical Mastectomy or Axillary Lymph Node Dissection	45	30
Wide Local Excision ± Sentinel Lymph Node Biopsy	30	20

OPEN
Opioid Prescribing Engagement Network
engaging patients, educating providers, protecting communities

https://opioidprescribing.info/

Some post-op patients used NO opioids



Ascension

An Educational Intervention Decreases Opioid Prescribing After General Surgical Operations.
Hill, Maureen; Stucke, Ryland; McMahon, Michelle; Beeman, Julia; Barth, Richard
Annals of Surgery. 267(3):468-472, March 2018.
DOI: 10.1097/SLA.0000000000002198

Single Dose Oral Analgesics for Acute Post-Operative Pain Cochrane System Review 2015

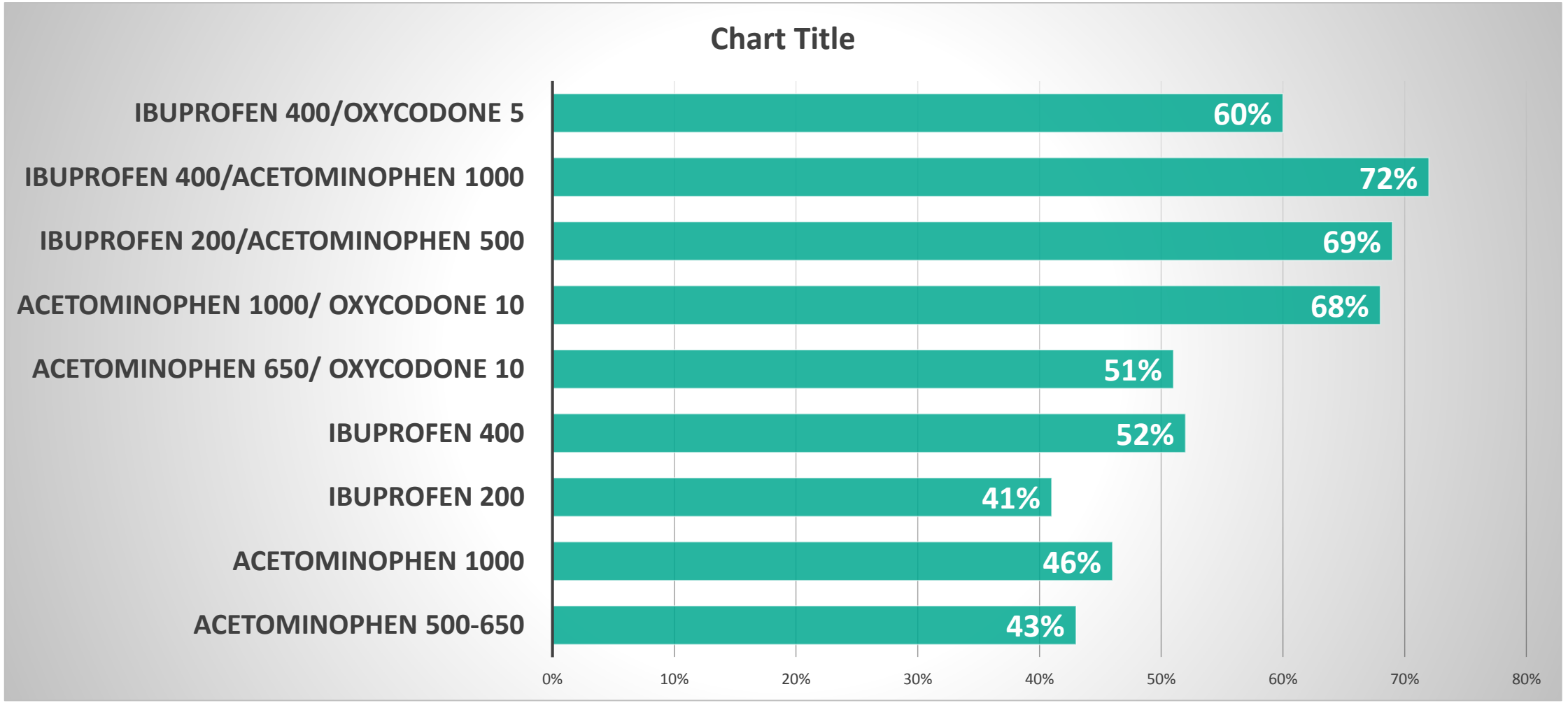
- >50,000 patients, 450 clinical studies
- Randomized, double blind trials
- Percent patients 50% pain relief
- Range of results; 30%-70% people achieved 50% relief

  (extraordinary variability in pain experience)
- Range of relief; 2-20h
- Placebo Effect = 5-20%



Moore RA, Derry S, Aldington D, Wiffen PJ. Single dose oral analgesics for acute postoperative pain in adults - an overview of Cochrane reviews. *Cochrane Database Syst Rev.* 2015(9):CD008659

Single Dose Oral Analgesics for Acute Post-Operative Pain
Percent of patients 50% pain relief



OXYCODONE 5 = PLACEBO

Moore RA, Derry S, Aldington D, Wiffen PJ. Single dose oral analgesics for acute postoperative pain in adults - an overview of Cochrane reviews. *Cochrane Database Syst Rev.* 2015(9):CD008659

NSAIDS vs. Opioid - Renal Colic
A 2004 Cochran review concluded…

NSAID & Opioids have = effectiveness

but opioids have more side-effects





Holdgate, A., & Pollock, T. (2004). Nonsteroidal anti-inflammatory drugs (NSAIDs) versus opioids for acute renal colic. *Cochrane Database Syst Rev*(1), CD004137. doi:10.1002/14651858.CD004137.pub2

Indiana Opioid Laws

- 2014 – Chronic Opioid Prescribing Law
- 2017 – 7 Day Prescribing Law
- 2018 – CME requirement
- 2018 – INSPECT requirement

2014 Indiana Chronic Opioid Law

AMG guidelines are for all patients taking opioids > 6weeks

Any patient ….

- Taking >**60** opioid pills /month >3mo
- Taking an opioid >**15 MME** for >3mo
- Using a transdermal opioid patch >3mo
- Taking tramadol (if greater than 600mg/day) for >3mo
- Taking any dose of an Extended release med not in abuse deterrent form for which one exists
- Exemptions - Terminal condition, palliative care, Hospice, NH

2014 Indiana Chronic Opioid Law
Perform your own evaluation

- Perform appropriately focused history & physical
- Use objective pain assessment tool
- Order appropriate tests
- Obtain & review records of past care
- Utilize non-opioid options

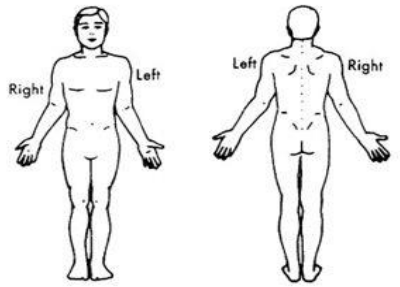
FORM 3.2 **Brief Pain Inventory**

Date____/____/____ Time:_____

Name: _____ _____ _____
Last First Middle Initial

1) Throughout our lives, most of us have had pain from time to time (such as minor headaches, sprains, and toothaches). Have you had pain other than these everyday kinds of pain today?
1. Yes 2. No

2) On the diagram shade in the areas where you feel pain. Put an X on the area that hurts the most.



3) Please rate your pain by circling the one number that best describes your pain at its **worst** in the past 24 hours.

0 1 2 3 4 5 6 7 8 9 10
No pain — pain as bad as you can imagine

4) Please rate your pain by circling the one number that best describes your pain at its **least** in the past 24 hours.

0 1 2 3 4 5 6 7 8 9 10
No pain — pain as bad as you can imagine

5) Please rate your pain by circling the one number that best describes your pain on the **average**

0 1 2 3 4 5 6 7 8 9 10
No pain — pain as bad as you can imagine

6) Please rate your pain by circling the one number that tells how much pain you have **right now**.

0 1 2 3 4 5 6 7 8 9 10
No pain — pain as bad as you can imagine

7) What treatments or medications are you receiving for your pain?

_____

_____

8) In the Past 24 hours, how much **relief** have pain treatments or medications provided? Please circle the one percentage that most shows how much releif you have received

0% 10 20 30 40 50 60 70 80 90 100%
No relief — Complete relief

9) Circle the one number that describes how, during the past 24 hours, pain has **interfered** with your:
A. General activity

0 1 2 3 4 5 6 7 8 9 10
Does not interfere — Completely interferes

B. Mood

0 1 2 3 4 5 6 7 8 9 10
Does not interfere — Completely interferes

C. Walking ability

0 1 2 3 4 5 6 7 8 9 10
Does not interfere — Completely interferes

D. Normal work (includes both work outside the home and housework

0 1 2 3 4 5 6 7 8 9 10
Does not interfere — Completely interferes

E. Relations with other people

0 1 2 3 4 5 6 7 8 9 10
Does not interfere — Completely interferes

F. Sleep

0 1 2 3 4 5 6 7 8 9 10
Does not interfere — Completely interferes

G. Enjoyment of life

0 1 2 3 4 5 6 7 8 9 10
Does not interfere — Completely interferes

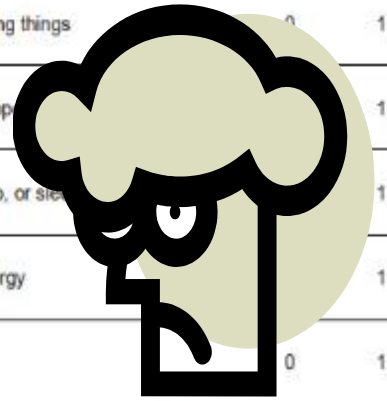
Medscape Source: Pain Manag Nurs © 2008 W.B. Saunders

2014 Indiana Chronic Opioid Law
Mental Health Risk Stratification

- Mental & Physical health are inextricably linked
- Treatment of underlying mental health issues will often improve response to pain treatment
- PHQ-2,PHQ-9, GAD-7 can be useful, quick, validated tools

PATIENT HEALTH QUESTIONNAIRE-9 (PHQ-9)

Over the last 2 weeks, how often have you been bothered by any of the following problems? *(Use "✔" to indicate your answer)*	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hop	0	1	2	3
3. Trouble falling or staying asleep, or sle	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3



2014 Indiana Chronic Opioid Law
Risk Stratification for Substance Misuse



- Patients with h/o substance use disorder increased risk of harm from opioids
- Ask patients about past or current substance use/abuse (alcohol, prescription medications, illicit drugs or tobacco/e-nicotine) prior to initiating opioids
- Validated tools….
  ORT, Dire, COMM, SOAPP-R, DAST

2014 Indiana Chronic Opioid Law
Risk Stratification



- UDM has evolved to become a **standard of care** when prescribing opioids
- Detect illicit substances
- Monitor adherence to prescribed meds
- Interpretation is critical
- "At any time the physician determines that it is medically necessary, whether at the outset of an opioid treatment or anytime thereafter, a physician prescribing opioids for a patient shall perform or order a drug monitoring test, which must include a confirmatory test."

2014 Indiana Chronic Opioid Law
Risk Stratification

- Review state PDMP before initiating opioid therapy.
- Determine whether patient receiving opioid dosages or dangerous combinations that put hi[illegible] risk for overdose
- Check ini[illegible]y

Overridden by SEA 221

INSPECT
Indiana Board of Pharmacy Prescription Monitoring Program
www.inspect.IN.gov

2014 Indiana Chronic Opioid Law
Review & Sign a Treatment Agreement

- Goals of treatment
- Consent drug monitoring / random pill counts
- Prescribing policies, prohibition of sharing medications &requirement to take meds as prescribed
- Information on pain meds prescribed by other physicians / alcohol use
- Reasons that opioid therapy may be changed or discontinued
- Counsel women of child-bearing age about the potential for fetal opioid dependence & neonatal abstinence syndrome (NAS).

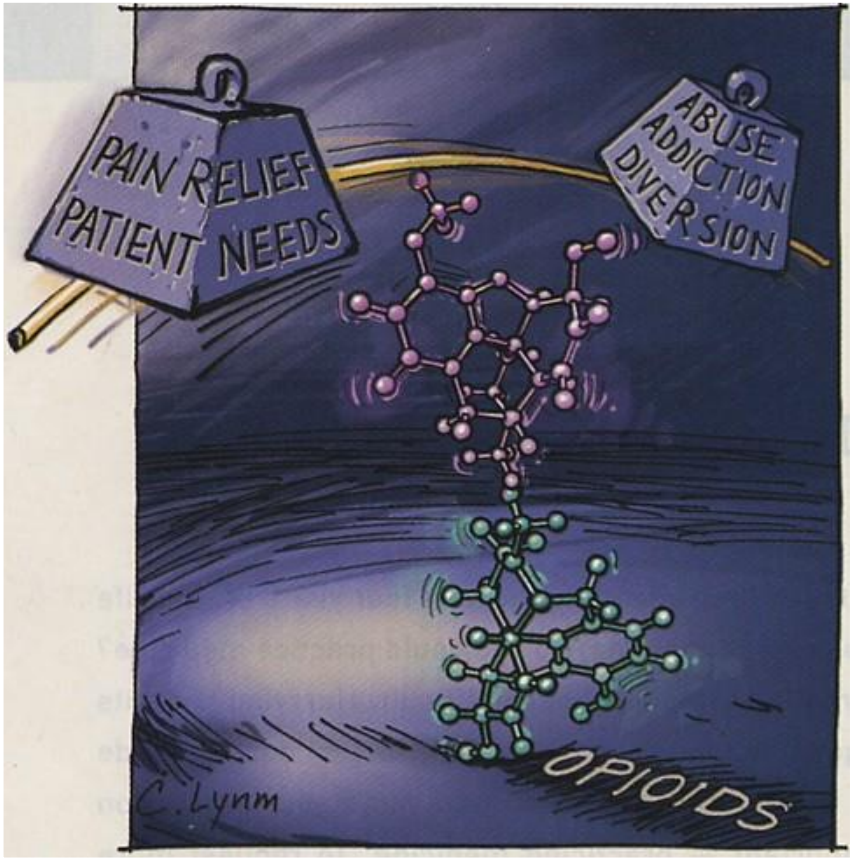




2014 Indiana Chronic Opioid Law- Periodic Scheduled Visits

- Evaluate patient progress
- Set Function Goals

  (pain score of 0 not realistic)
- Monitor compliance /set expectations
- Q 4mo, if stable (minimum)
- Q 2mo, if changing meds
- Face to Face if >60 MED, risks



Affect • Activities of Daily Living • Analgesia

Adverse effects • Aberrant

2017 – 7d Opioid Prescribing Limit

- Physician issuing initial opioid prescription for a patient may not prescribe more than a 7-day supply
  - Note: Limit applies to that physician's first opioid prescription to that patient
  - No specific exception for practitioners in the same practice
- For patients < 18yo, all opioid Rx limited to 7-day supply
- Exceptions to 7-Day Limit
  - Cancer
  - MAT for a substance-abuse disorder
  - Palliative Care
  - Professional Judgment (Must document in the MR that a non-opiate not appropriate and physician is using his or her professional judgment to prescribe for longer than the 7-day limit)
- Allows Indiana pharmacies to partially fill a prescription

2018 Indiana 2h Opioid CME requirement

Senate Bill 225 (Effective July 1, 2018)

Beginning July 1, 2019 (next physician renewal):

- All practitioners who apply for or renew Indiana Controlled Substances Registration
- Must have completed 2 hours of CME during the previous 2 years
  - CME must address opioid prescribing and opioid abuse
- For physicians CME courses must be approved by the IN Medical Licensing Board or offered by an approved organization

The law sunsets July 1, 2025

2018 Indiana INSPECT requirement

Senate Bill 221 (Effective July 1, 2018)

Requires **checking INSPECT each time before prescribing an opioid or benzodiazepine to any patient** (No specific exceptions for hospice, palliative care, or LTC patients)

Effective date depends on situation:

- Applies **7/1/2018** for practitioners with INSPECT integrated into EMR
- Applies **1/1/2019** for practitioners providing services in
  - The ER; or pain management clinic
- Applies **1/1/2020** to practitioners providing services in a hospital
- Applies **1/1/2021** to all practitioners
- Patients on pain management contract –q 90dPractitioners

Universal Precautions - Be wary of co-morbid risks with opioids

Patient morbidity/mortality risk is more pronounced for patients…

- **Age <25**
- **Benzodiazepine use/abuse**
- **Alcohol use/abuse**
- **Illicit substance use/abuse**
- **Untreated mental health issues**
  (e.g. depression, hx of suicide)
- **Chronic respiratory problems**
  (e.g. Asthma, COPD, OSA, CHF)



Patient Education- Opioid Risks



Short- Term

- Buzz/Euphoria
- Nausea/Vomiting
- Constipation
- Sedation
- Dizziness
- Opioid tolerance/dependence/ addiction
- Respiratory Depression
- Death

Long-Term

- Hyperalgesia
- Mood Disorders
- Immunosuppression
- Amenorrhea/ Galactorrhea
- Androgen deficiency/Decreased libido
- Osteoporosis
- Opioid tolerance/dependence/addiction
- Respiratory Depression
- Death

Safe Storage & Safe Disposal





https://www.fda.gov/Drugs/ResourcesForYou/Consumers/BuyingUsingMedicineSafely/EnsuringSafeUseofMedicine/SafeDisposalofMedicines/ucm186187.htm

Utilize Non-Opioid Medications

MSK/Inflammatory pain

- Acetaminophen
- NSAIDS
- Topical anesthetics (lidocaine)
- Anti-inflammatory cream
- Steroid injections
- Muscle relaxants

Restore Sleep

- Melatonin, TCA's, trazadone

Neuropathic Pain

- TCA's (SOR-A)
- Topical anesthetics
- Neuropathic creams
- SNRI's (SOR-A)
- Anticonvulsants

Visceral pain

- NSAIDS/acetaminophen
- Antispasmodics

Non-Pharmacologic Interventions



- ✓ Tobacco Cessation
- ✓ Interventional pain modalities
- ✓ Optimize sleep
- ✓ Good nutrition (influences weight/inflammation/mood)
- ✓ Exercise, stretching, yoga
- ✓ Ice/Heat
- ✓ Counseling (CBT)
- ✓ PT/TENS therapy/hypnosis
- ✓ Manipulation/OT
- ✓ Massage/acupuncture
- ✓ Self-care- mattress, shoes

Opioid Weaning

Slow Wean

Reasons: Lack of benefit, opioid-induced hyperalgesia, excessive dose

10% every 3 - 4w, once 20% of original dose reached consider 5% every 3 - 4 weeks

Moderate Wean

Reasons: Violation of contract, non-compliance, workplace hazard

10% every 1 - 2 w, once 20% of original dose reached consider 5% every 1 - 2w

Rapid Wean

Reasons: Medication diversion, prescription forgery, threats, SI/HI

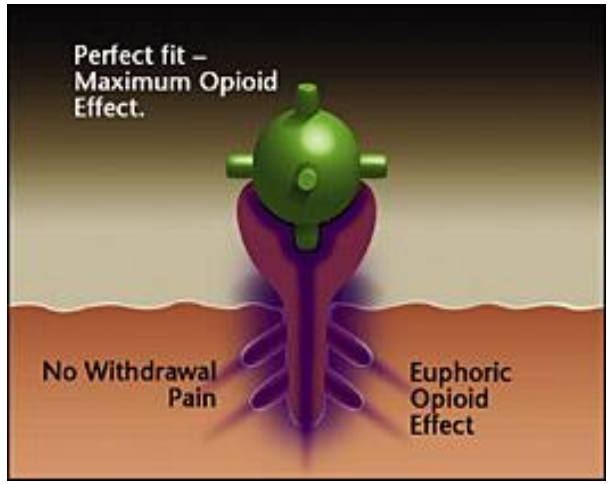
20-25% every 3 to 7 d, no further prescriptions

Opioid Use Disorder (DSM-5)

A problematic pattern of opioid use leading to clinically significant impairment or distress

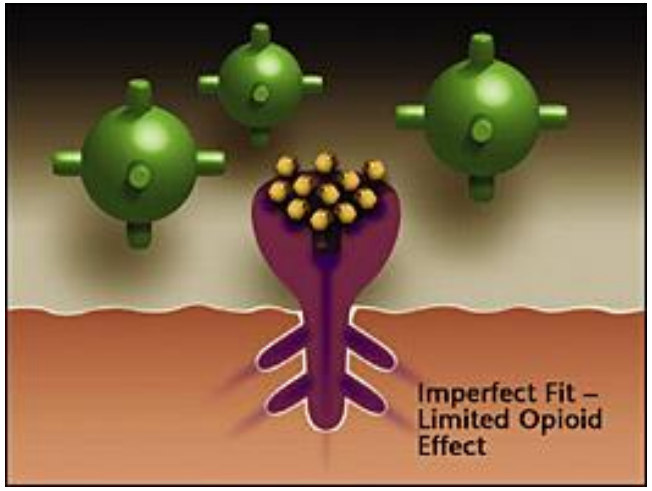
- Opioids are often taken in larger amounts or over a longer period than intended
- Persistent desire or unsuccessful efforts to cut down or control opioid use
- A great deal of time is spent in activities necessary to obtain the opioid, use the opioid, or recover from its effects
- Craving, or a strong desire to use opioids.
- Recurrent opioid use resulting in a failure to fulfill major role obligations at work, school, or home
- Continued opioid use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of opioids
- Important social, occupational, or recreational activities are given up or reduced because of opioid use
- Recurrent opioid use in situations in which it is physically hazardous.
- Continued opioid use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance
- Withdrawal, as manifested by either of the following: a. The characteristic opioid withdrawal syndrome (refer to Criteria A and B of the criteria set for opioid withdrawal). b. Opioids (or a closely related substance) are taken to relieve or avoid withdrawal symptoms
- Tolerance, as defined by either of the following:
  - Need for increased amounts of opioids to achieve intoxication or desired effect.
  - A markedly diminished effect with continued use of the same amount of an opioid. Note: This criterion is not considered to be met for those taking opioids solely under appropriate medical supervision.

Medication Assisted Tx (MAT) - SAVES LIVES



Methadone

- Opioid Agonist
- Licensed Federal Gov't
- Directly Observed Tx
- Patient Barriers
  - Daily transportation
  - $ / Stigma / Drug culture



Buprenorphine

- Partial Opioid Agonist
- Prescribed - w/ DEA X
- DEA Schedule 4 / Retail Rx
- Patient Barriers
  - Few Providers/ $$/Mental Health services



Naltrexone

- Opioid Antagonist
- No abuse potential
- Monthly injection
- $$$$

Medication Assisted Therapy (MAT)



- Decreases Criminality
- Decreases HIV, Hep C
- Decreases OD Death
- Increases retention in therapy
- For every $1 spent on Methadone program – estimated $12 savings (healthcare/criminal justice)

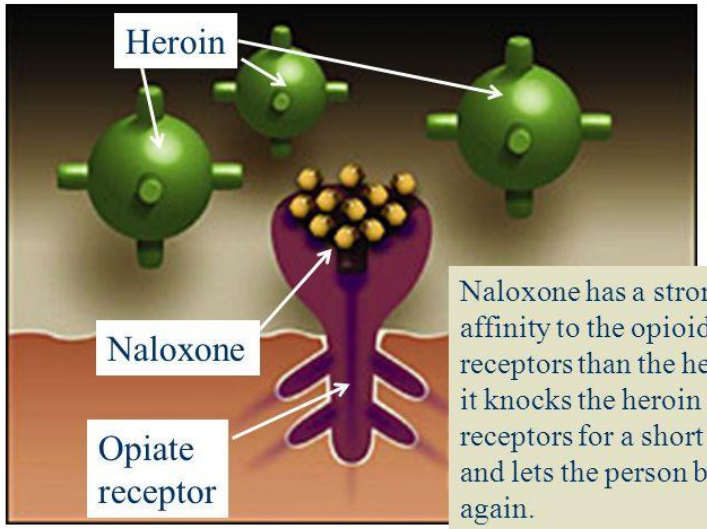
National Institute of Drug Abuse
https://www.drugabuse.gov/publications/principles-drug-addiction-treatment-research-based-guide-third-edition/frequently-asked-questions/drug-addiction-treatment-worth-its-cost

Naloxone - opioid antagonist
OTC Overdose reversal medication



Naloxone – mechanism of action

- Displaces heroin (any opiate) off the receptor



Naloxone has a stronger affinity to the opioid receptors than the heroin, so it knocks the heroin off the receptors for a short time and lets the person breathe again.

Difficult Cases



- Patients often have undertreated or undiagnosed mental illness or substance use disorder
- Multidisciplinary Team (Social worker, psych, pharmacist, physicians)
- ALWAYS refer for Substance Use Eval & Tx if indicated
- Non-judgmental /Empathetic care (our words are incredibly powerful)
  - Pain worsened by decreased control and when not validated
  - “It’s really important to me that we control your pain”
  - “I can see that your miserable and we will do everything we can to safely keep you comfortable”
  - “I can see that you are suffering and I want to help you with your pain, but ethically and legally, this just isn’t something I can safely prescribe for you today.”

Maintain Status Quo

If **1,000,000** joint replacements annually US

Est. **60,000** opioid naïve patients will become persistent opioid users

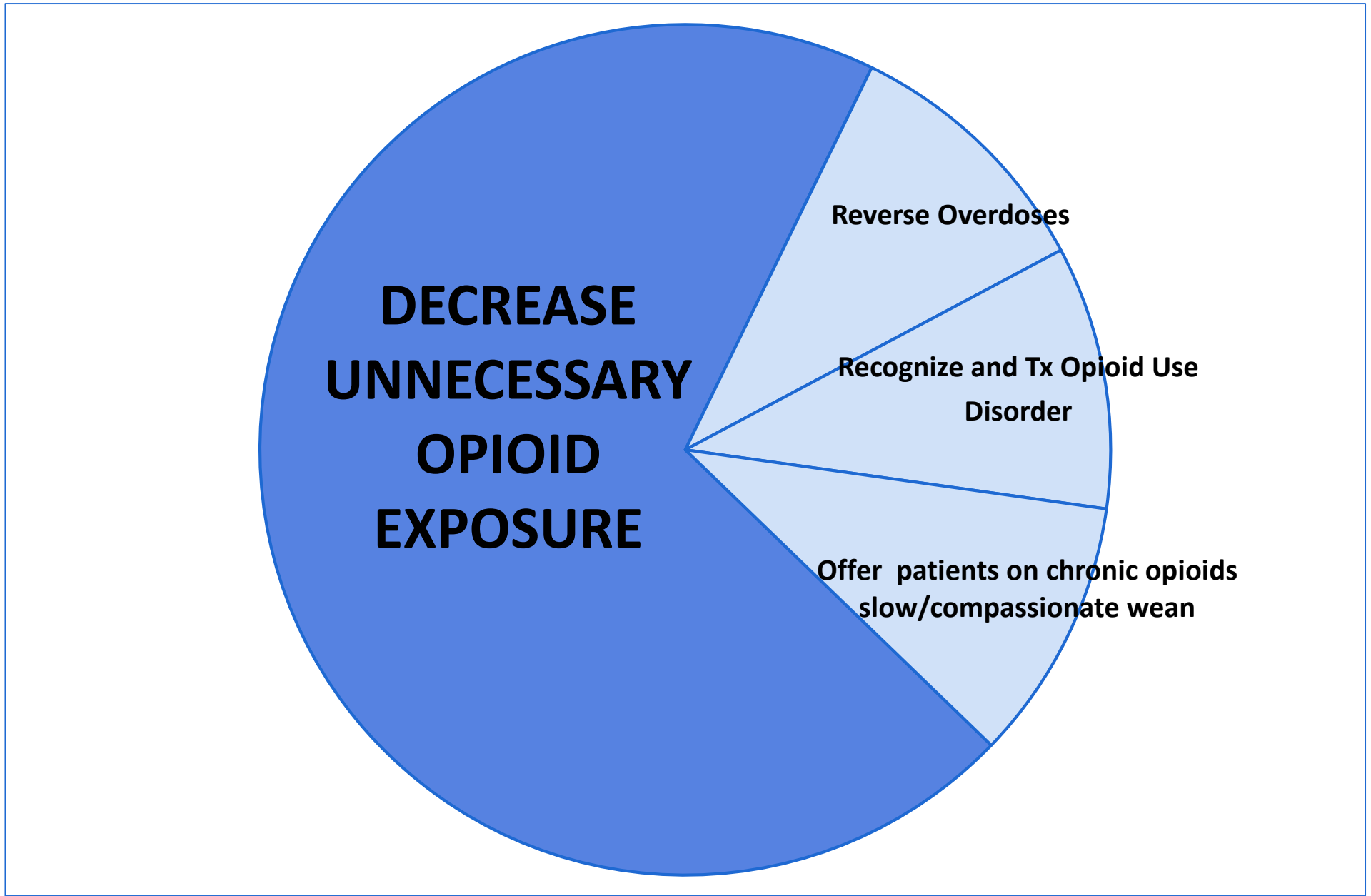
Est. **15,000** new patient misusing opioids

Est. **6,000** new patients w/OUD

600 (10%) get treatment -best possible outcome **300 (50%)** remain drug free at 12mo

5,400 (90%) unable or unwilling to get treatment

How can we help bend the curve on the opioid epidemic?



So, What Can I Do?

Strategies to Minimize Opioids

Ascension

Lindsay Saum, PharmD, BCPS, BCGP
Clinical Pharmacy Specialist- Internal Medicine, St. Vincent
Associate Professor of Pharmacy Practice, Butler University

Questions

1. If I shouldn’t prescribe opioids, what can I use?
2. If I have to use opioids, then what can I do to minimize the risk?
3. What is St. Vincent and Ascension doing to help reduce opioid prescribing?

CDC Guideline for Prescribing Opioids 2016

- Guideline recommendations for primary care clinicians prescribing chronic non-cancer pain

Determining when to initiate or continue opioids for chronic pain

- Opioids are not first line therapy
- Establish goals for pain and function
- Discuss risks and benefits prior to starting

Opioid selection, dosage, duration, follow up and discontinuation

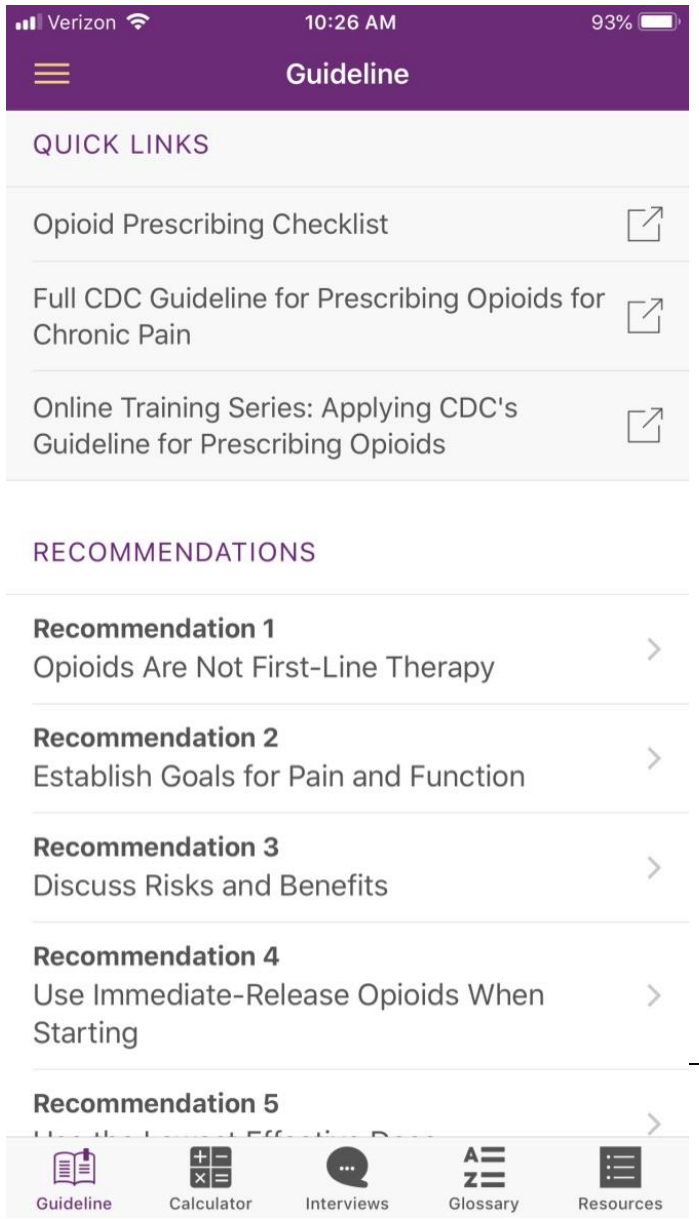
- Use immediate release opioids when starting
- Use the lowest effective dose
- Prescribe short durations for acute pain
- Evaluate benefits and harms frequently

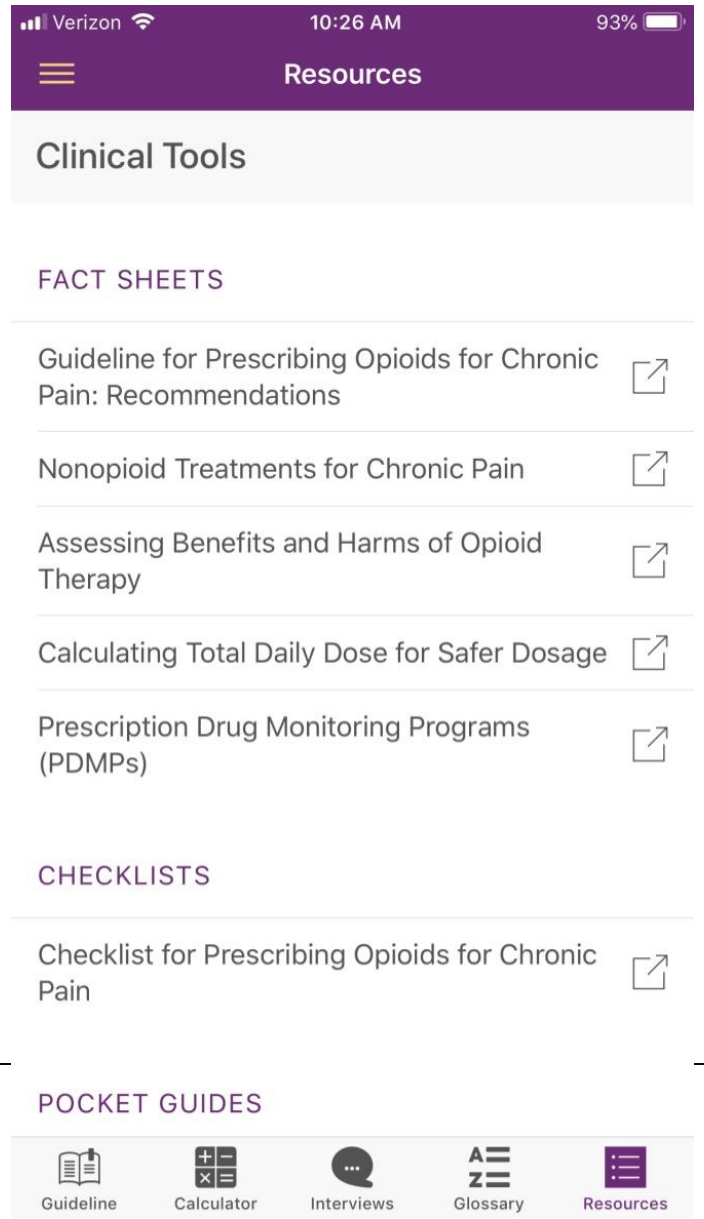
Assessing risk and addressing harms of opioid use

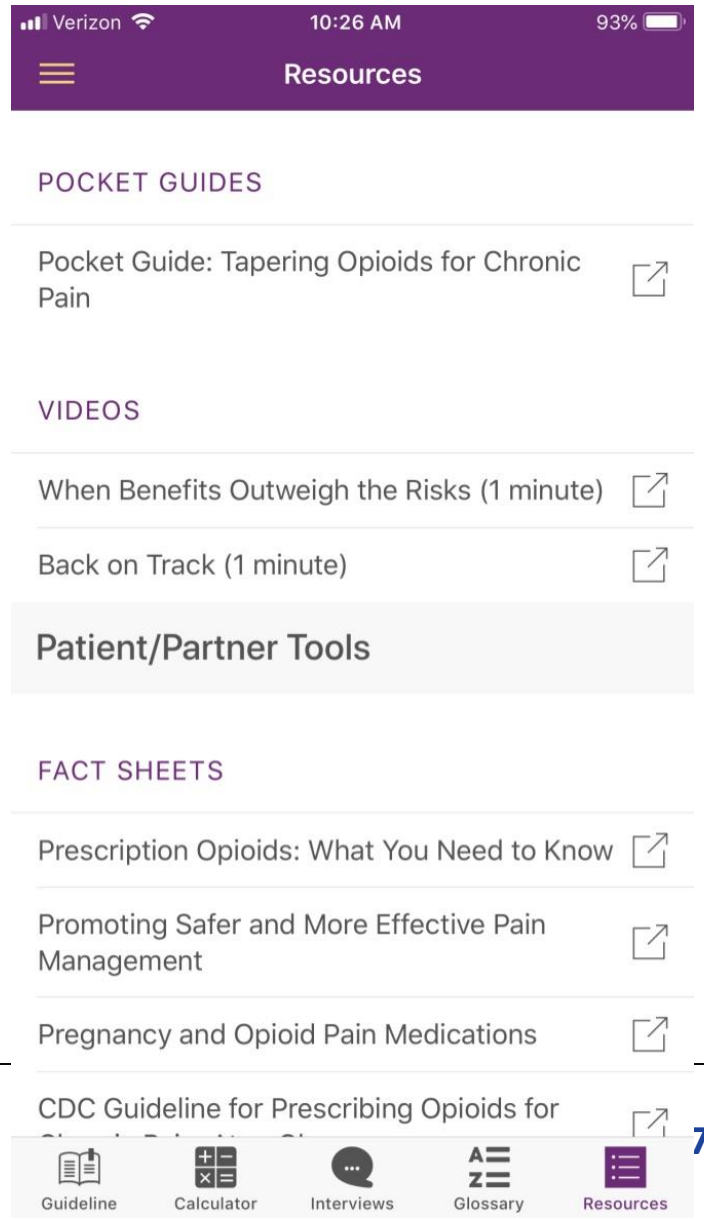
- Use strategies to mitigate risk
- Review Prescription Drug Monitoring Program (INSPECT) data
- Use urine drug testing
- Avoid concurrent opioid and benzodiazepine prescribing
- Offer treatment for opioid use disorders

MMWR Recomm Rep 2016;65(1):1-49.

CDC Opioid Guideline Application







Multimodal Pain Management

Using two or more different methods or medications to manage pain

Co-prescribing of multiple drugs with different pharmacology

Using multiple agents to provide synergistic pain management

Combination of pharmacologic and non-pharmacologic treatments to obtain synergistic effects

Using a variety of combinations with different mechanisms of action

Pharmacy Today. December 2018. Pharmacytoday.org
Curr Pain Headache Rep 2017;21(3):1-10.
JAMA Surgery 2017;152(7):691-97.

Non-opioid Options

Acetaminophen

- Mechanism for analgesia: exact is unknown
  - Activity in postsynaptic endocannabinoid system
  - Inhibitory action at COX
  - Serotonergic effects
- Typical dosing: 500 to 650 mg PO Q6H
- Clinical pearls:

Hepatic Metabolism

Leading cause of drug induced liver failure in US

Max daily dose of 2-4 g

ADRs: GI upset, insomnia, headache

Pharmacy Today. December 2018. Pharmacytoday.org
Curr Pain Headache Rep 2017;21(3):1-10.
JAMA Surgery 2017;152(7):691-97.
Korean J Pain 2018;31(3):155-73.
Anesthesiology Clin 2017;35:e55-71.
Anesth Analg 2017;125(5):1682-1703.

Acetaminophen

Benefit	Little or No Benefit
1. Preoperative (one dose): -30% reduction in opioids at 4 hours -Increased satisfaction scores 2. Arthritis	1. Chronic Low Back Pain: no difference compared to NSAIDs 2. Fibromyalgia 3. Post-Herpetic Neuralgia 4. Diabetic Neuropathy

- Most studies with IV acetaminophen, however when compared, no difference in IV and PO
- Should be given on scheduled basis

Pharmacy Today. December 2018. Pharmacytoday.org
Curr Pain Headache Rep 2017;21(3):1-10.
JAMA Surgery 2017;152(7):691-97.
Korean J Pain 2018;31(3):155-73.
Anesthesiology Clin 2017;35:e55-71.
Anesth Analg 2017;125(5):1682-1703.

NSAIDs

- Mechanism for analgesia: inhibition of COX isoenzymes which leads to a decrease in prostaglandin synthesis
  - COX-1 and COX-2: non-selective
  - COX-2: selective
- Clinical Pearls

- Typical dosing:
  - Naproxen 500 mg PO BID
  - Ibuprofen 800 mg PO Q8H
  - Ketorolac 30 mg IV Q6H
  - Celecoxib 200 mg PO BID

Nephrotoxicity

GI Toxicity: ↑Non-selective than selective

Cardiac Toxicity: ↑Selective than non-selective

Pharmacy Today. December 2018. Pharmacytoday.org
Curr Pain Headache Rep 2017;21(3):1-10.
JAMA Surgery 2017;152(7):691-97.
Korean J Pain 2018;31(3):155-73.
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Anesth Analg 2017;125(5):1682-1703.

NSAIDs

Benefit	Little to No Benefit
1. Pre and Post-operative: -Decrease of opioid consumption by 20-35% (non-selective) -NNT to achieve 50% reduction in pain: 1.5 to 4.5 -No difference in bleeding rates (ketorolac vs. opioids alone) unless > 75 years old 2. Chronic Low Back Pain 3. Musculoskeletal Pain 4. Arthritis	1. Fibromyalgia 2. Post-Herpetic Neuralgia 3. Diabetic Neuropathy

Pharmacy Today. December 2018. Pharmacytoday.org
Curr Pain Headache Rep 2017;21(3):1-10.
JAMA Surgery 2017;152(7):691-97.
Korean J Pain 2018;31(3):155-73.
Anesthesiology Clin 2017;35:e55-71.
Anesth Analg 2017;125(5):1682-1703.

Gabapentinoids

- Mechanism for analgesia: inhibition of calcium channels which leads to a decrease neurotransmitter release
  - Glutamate, norepinephrine, serotonin, dopamine and substance P
- Typical dosing:
  - Gabapentin: 900 to 1800 mg total daily dose
  - Pregabalin: 300 mg total daily dose
- Clinical pearls:

ADRs: CNS depression	Adjust for renal dysfunction	Abuse potential: euphoria	Taper when initiating and discontinuing

Pharmacy Today. December 2018. Pharmacytoday.org
Curr Pain Headache Rep 2017;21(3):1-10.
JAMA Surgery 2017;152(7):691-97.
Korean J Pain 2018;31(3):155-73.
Anesthesiology Clin 2017;35:e55-71.
Anesth Analg 2017;125(5):1682-1703.

Gabapentinoids

Benefit	Little to No Benefit
1. Preoperative (one dose): -Decrease pain scores and opioid consumption up to 1 week post-operative -Minimal long term benefit following 1 dose (6 weeks) -Reduced opioid adverse effects (nausea, vomiting, urinary retention) 2. Post-Herpetic Neuralgia 3. Diabetic Neuropathy 4. Fibromyalgia	1. Lower Back Pain (mixed results) 2. Musculoskeletal Pain 3. Arthritis

Pharmacy Today. December 2018. Pharmacytoday.org
Curr Pain Headache Rep 2017;21(3):1-10.
JAMA Surgery 2017;152(7):691-97.
Korean J Pain 2018;31(3):155-73.
Anesthesiology Clin 2017;35:e55-71.
Anesth Analg 2017;125(5):1682-1703.

Antidepressants (TCAs and SNRIs)

- Mechanism for analgesia: inhibition of voltage gated sodium channels
  - Decrease in the release of serotonin and norepinephrine
- Typical dosing:
  - Duloxetine 60 mg PO daily
  - Amitriptyline 50 to 100 mg PO daily
  - Nortriptyline 150 mg total daily dose
- Clinical pearls:

TCA ADRs:	SNRI ADRs:	Must be tapered on and off
Anticholinergic	Hypertension (high dose)	
QTc Prolongation	LFT abnormalities	

Pharmacy Today. December 2018. Pharmacytoday.org
Curr Pain Headache Rep 2017;21(3):1-10.
JAMA Surgery 2017;152(7):691-97.
Korean J Pain 2018;31(3):155-73.
Anesthesiology Clin 2017;35:e55-71.
Anesth Analg 2017;125(5):1682-1703.

Antidepressants

Benefit	Little to No Benefit
1. Preoperative (two doses of Duloxetine): -Reduced pain ratings and opioid consumption -Better patient satisfaction scores -Two small studies 2. Chronic Low Back Pain 3. Fibromyalgia 4. Post-Herpetic Neuralgia 5. Diabetic Neuropathy	1. Musculoskeletal Pain 2. Arthritis

Pharmacy Today. December 2018. Pharmacytoday.org
Curr Pain Headache Rep 2017;21(3):1-10.
JAMA Surgery 2017;152(7):691-97.
Korean J Pain 2018;31(3):155-73.
Anesthesiology Clin 2017;35:e55-71.
Anesth Analg 2017;125(5):1682-1703.

Topical Agents

Lidocaine 4-5% patches

- Clinical pearls:

May be cut

Need 12 hours off each day

4% available OTC

Capsaicin cream

- Clinical Pearl:

Wash hands after administration

Diclofenac gel/patch

- Clinical Pearl:

~6% absorbed: systemic ADRs

Pharmacy Today. December 2018. Pharmacytoday.org
Curr Pain Headache Rep 2017;21(3):1-10.
JAMA Surgery 2017;152(7):691-97.
Korean J Pain 2018;31(3):155-73.
Anesthesiology Clin 2017;35:e55-71.
Anesth Analg 2017;125(5):1682-1703.

Topical Agents

Benefit	Little to No Benefit
Lidocaine: 1. Chronic Lower Back Pain 2. Musculoskeletal Pain 3. Post-Herpetic Neuralgia Capsaicin 1. Chronic Lower Back Pain 2. Diabetic Neuropathy Diclofenac: 1. Musculoskeletal Pain 2. Arthritis	Lidocaine 1. Arthritis Capsaicin: 1. Musculoskeletal Pain Diclofenac: All Three: 1. Fibromyalgia 2. Pre/post-operative pain

Pharmacy Today. December 2018. Pharmacytoday.org
Curr Pain Headache Rep 2017;21(3):1-10.
JAMA Surgery 2017;152(7):691-97.
Korean J Pain 2018;31(3):155-73.
Anesthesiology Clin 2017;35:e55-71.
Anesth Analg 2017;125(5):1682-1703.

NMDA Receptor Antagonists

- Mechanism for analgesia: glutamate at NMDA receptor leads to opioid tolerance, opioid induced hyperalgesia and central sensitization (increased neuropathic pain)
  - Antagonism at this receptor will decrease all of the above to relieve pain
- Typical dosing:

Ketamine	Memantine	Dextromethorphan	Magnesium
Preoperative: 0.2 to 0.4 mg/kg Chronic pain infusion: 10mcg/kg/min	Preoperative: 20-30 mg Chronic pain: 5-10 mg daily	Preoperative: 30-90 mg	Preoperative: 30-50 mg/kg

- Clinical pearls:

Ketamine	Memantine	Dextromethorphan	Magnesium
Emergence reactions (psychiatric)	Hypertension Dizziness	CNS effects Abuse potential	Cannot easily cross BBB

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NMDA Receptor Antagonists

Benefit	Little to No Benefit
1. Chronic, non-neuropathic pain (Ketamine) -Reduction in pain scores -Decreased need for methadone 2. Preoperative (Ketamine) -Decreased post-operative opioid consumption -Reduction of pain scores 3. Phantom Limb Pain (memantine)	1. Musculoskeletal pain 2. Fibromyalgia 3. Post-Herpetic Neuralgia 4. Arthritis Magnesium (minimal studies) Dextromethorphan (minimal studies)

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Curr Pain Headache Rep 2017;21(3):1-10.
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Anesth Analg 2017;125(5):1682-1703.

Others

- Cannabinoids
- Anticonvulsants
- Alpha 2 agonists
- Corticosteroids
- Muscle relaxants

Methods to Make Opioids Safer

Methods to Make Opioids Safer: Agent

Use immediate release formulations when starting

Abuse deterrent formulations do not reduce the risk of dependence

Taper to the lowest effective dose

Choose the least potent agent

MMWR Recomm Rep 2016;65(1):1-49.

Methods to Make Opioids Safer: Prescribing and Monitoring

Less than 3 days for acute pain

Frequent monitoring

Avoid benzodiazepine and opioid co-prescribing

MMWR Recomm Rep 2016;65(1):1-49.

Inpatient St. Vincent and Ascension Initiatives

- Non-pharmacologic interventions
  - Pet Therapy
  - Art Therapy
  - Aromatherapy
  - Physical Therapy
- Opioid orderset
  - Multimodal pain options available
  - Focus on PO pain meds (if appropriate)
  - Future state: primary way to order pain management medications in the hospital

Answers

1. If I shouldn’t prescribe opioids, what can I use?
2. If I have to use opioids, then what can I do to minimize the risk?
3. What is St. Vincent and Ascension doing to help reduce opioid prescribing?

So, What Can I Do?

Strategies to Minimize Opioids

Ascension

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Safe Treatment of Pain - 2019

