Pain Update: Consideration for Opioid Prescribing in Acute, Transitional and Chronic Pain

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Overview

- Intro/background
- Applying guidelines and managing pain in different scenarios:
  - Acute pain
  - Transitions of care
  - Chronic pain

Pain

- An estimated 80 million adults receive medicine for acute pain in the U.S. each year, which is defined as pain lasting up to three months with 40million of those prescribe an opioid
- 24% of US population had chronic pain in 2023, with 22% of patients consuming an opioid within 3 months

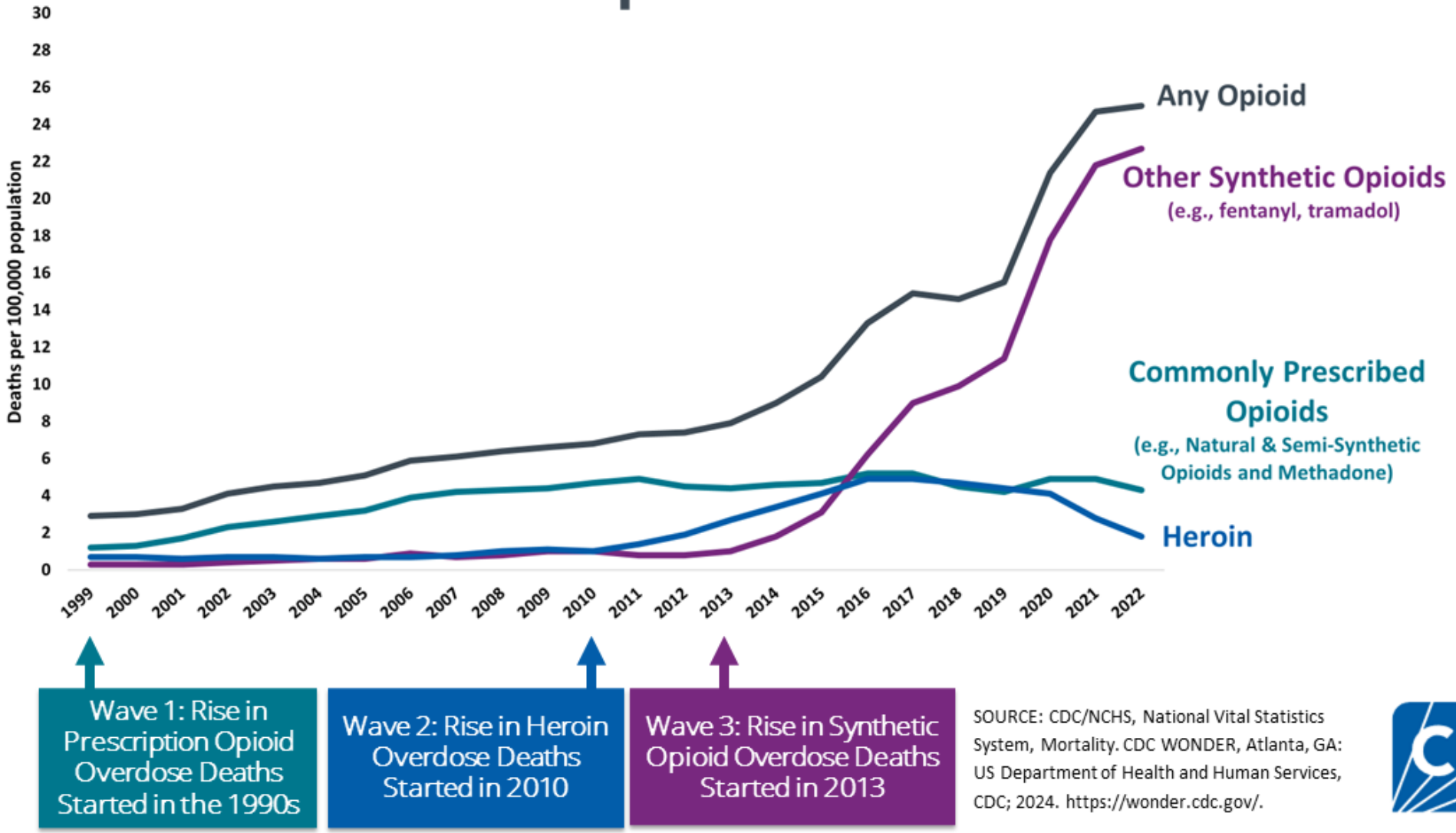
https://www.vrtx.com/stories/state-pain-america/
https://www.cdc.gov/nchs/data/nhsr/nhsr162-508.pdf
https://www.cdc.gov/nchs/products/databriefs/db518.htm
https://www.cdc.gov/mmwr/volumes/71/rr/rr7103a1.htm

Pain and Recent History of Opioid Use

- Opioid prescribing dramatically increased 1999–2010
  - paralleled by an approximately fourfold increase in overdose deaths involving prescription opioids
  - opioids increasingly were prescribed at higher dosages and for longer durations during this time
- Limited evidence of long-term effectiveness of opioids for chronic pain, coupled with risks to patients and to persons using prescription opioids that were not prescribed to them, underscored the importance of reducing inappropriate opioid prescribing while advancing

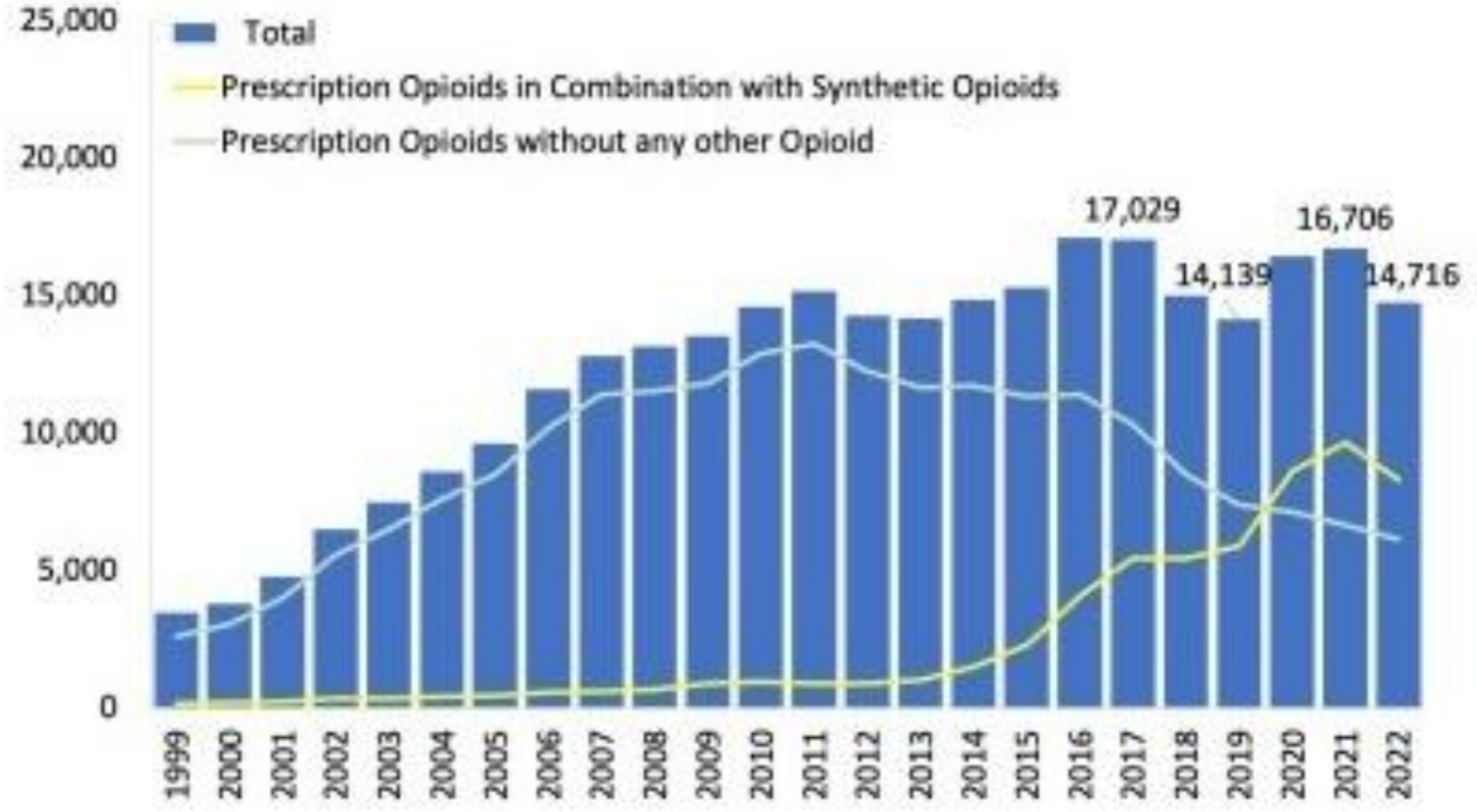
https://www.vrtx.com/stories/state-pain-america/
https://www.cdc.gov/nchs/data/nhsr/nhsr162-508.pdf
https://www.cdc.gov/nchs/products/databriefs/db518.htm
https://www.cdc.gov/mmwr/volumes/71/rr/rr7103a1.htm

Three Waves of Opioid Overdose Deaths



SOURCE: CDC/NCHS, National Vital Statistics System, Mortality. CDC WONDER, Atlanta, GA: US Department of Health and Human Services, CDC; 2024. https://wonder.cdc.gov/.

US Overdose Deaths Involving Prescription Opioids, 1999-2022



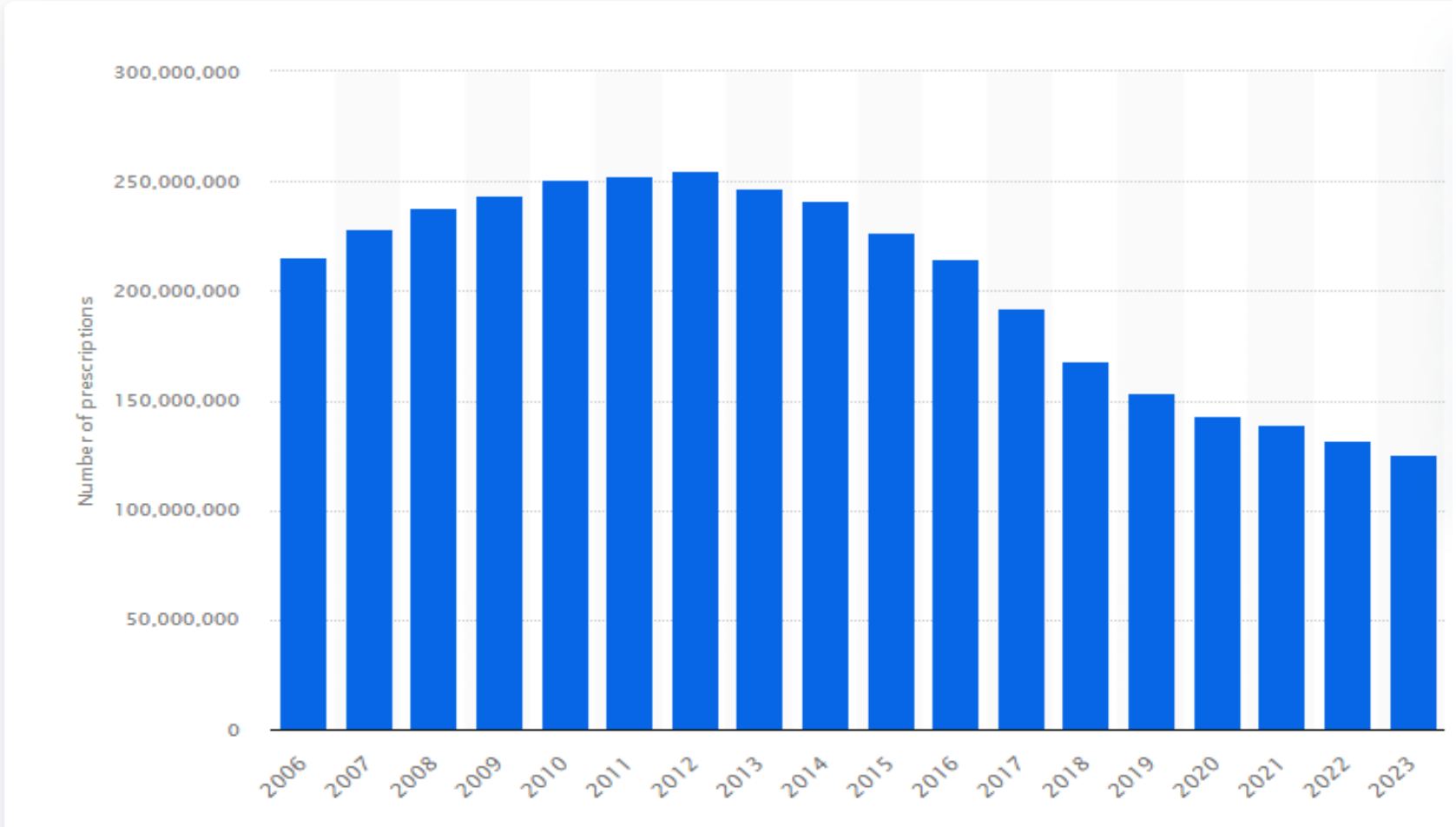
*Among deaths with drug overdose as the underlying cause, the prescription opioid subcategory was determined by the following ICD-10 multiple cause-of-death codes: natural and semi-synthetic opioids (T40.2) or methadone (T40.3). Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2022 on CDC WONDER Online Database, released 4/2024.

Guidelines for Pain Management and Opioid Prescribing

- CDC published guidelines in 2016, then updated in 2022
- New guidelines may take years for implementation
- Many states adopted regulations to implement the 2016 guidelines
  - Significant reduction in opioid prescribing
  - Lawsuits with pharmacies chains, wholesalers, and pharmaceutical companies
  - Primary care practices choosing to not prescribe opioids
  - Patients abruptly discontinued opioids or undertreated pain
  - Concern regarding pain management

Beauchemin M, Cohn E, Shelton RC. Implementation of Clinical Practice Guidelines in the Health Care Setting: A Concept Analysis. ANS Adv Nurs Sci. 2019 Oct/Dec;42(4):307-324. doi: 10.1097/ANS.0000000000000263. PMID: 30839334; PMCID: PMC6717691.
Westfall JM, Mold J, Fagnan L. Practice-based research--"Blue Highways" on the NIH roadmap. Jama. 2007;297(4):403–406.
Balas EA, Boren SA. Managing Clinical Knowledge for Health Care Improvement. Yearb Med Inform. 2000(1):65–70.
Rubin R. It Takes an Average of 17 Years for Evidence to Change Practice—the Burgeoning Field of Implementation Science Seeks to Speed Things Up. *JAMA.* 2023;329(16):1333–1336. doi:10.1001/jama.2023.4387
https://www.cnn.com/2023/03/17/health/opioid-chronic-pain-cdc-guidelines-khn-partner

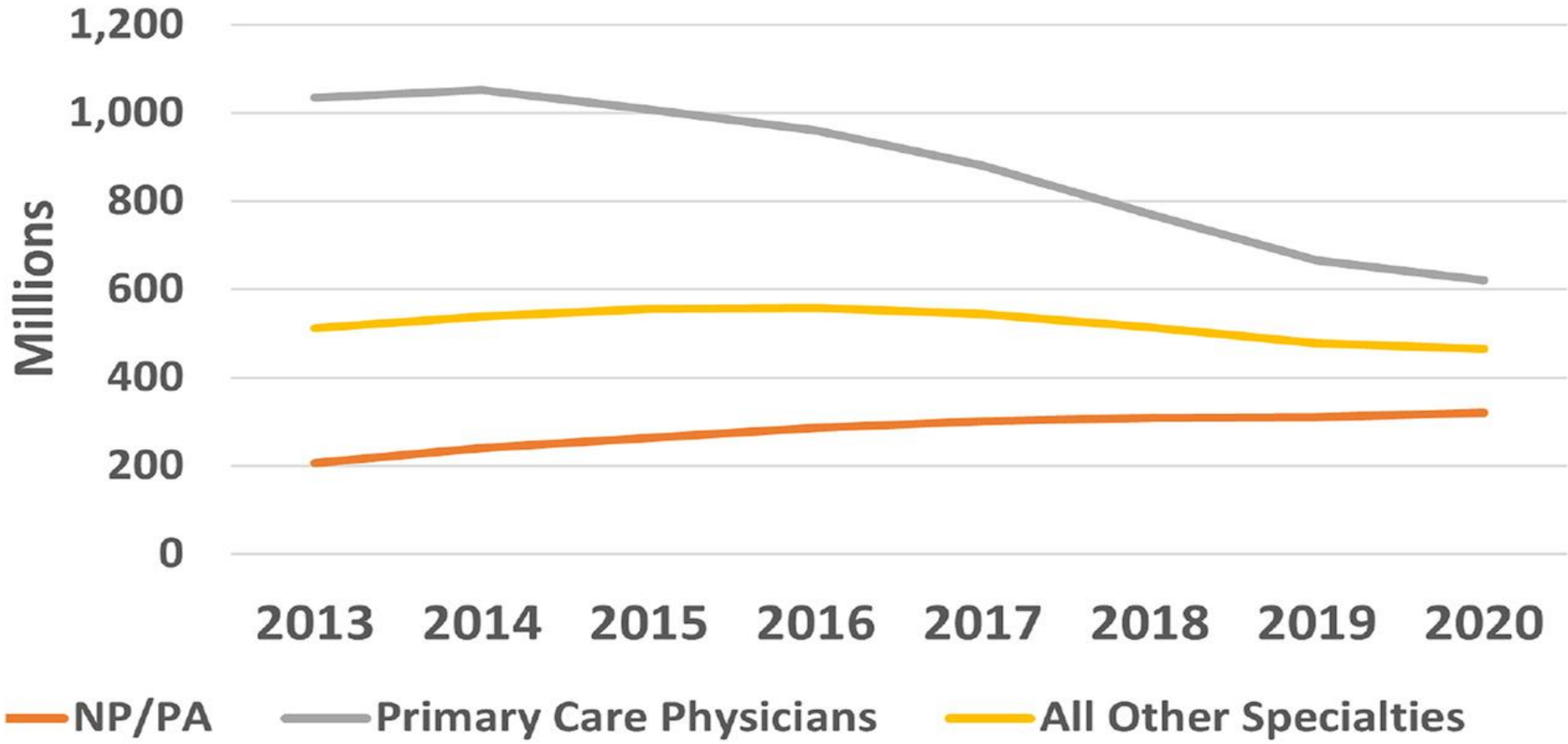
Number of annual opioid prescriptions in the U.S. from 2006 to 2023



In 2012, there were over 255 million prescriptions filled for opioids among patients in the United States. By the year 2023, this number had dropped to around 125 million prescriptions. In response to the ongoing opioid epidemic, prescriptions of opioids have decreased recently. This statistic depicts the annual number of opioid prescriptions in the U.S. from 2006 to 2023.

https://www.statista.com/statistics/753149/total-number-of-opioid-rx-prescriptions-in-us/

Opioid Prescribing Has Significantly Decreased in Primary Care



Total number of days of prescribed opioids supplied by provider type.

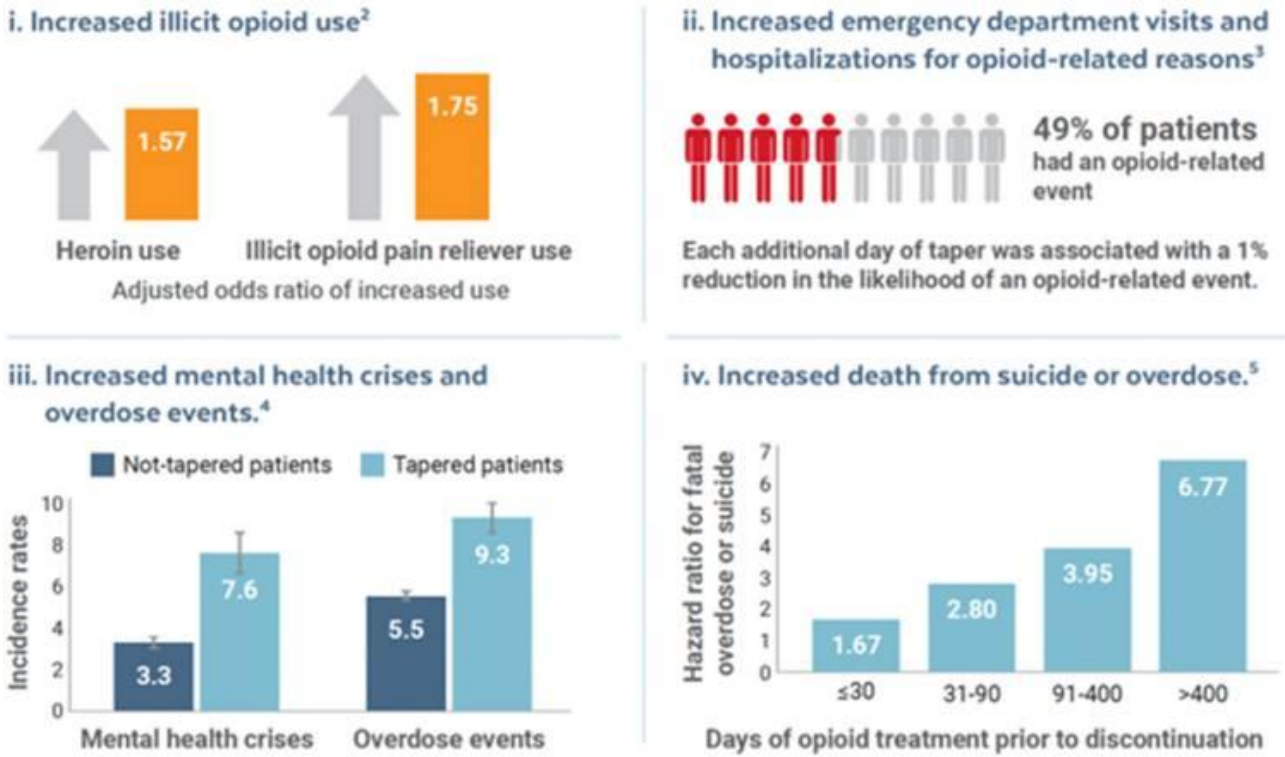
Source: Centers for Medicaid and Medicare Public Use File, 2013–2020.

Am Fam Physician. 2024;110(6):572-573

"Cookbook medicine": Exploring the impact of opioid prescribing limits legislation on clinical practice and patient experience

- Practitioners report defensive medicine
- Undertreatment of pain, especially acute pain
- Patients viewed as drug-seeking when questioning opioid prescribing decisions
- Overuse of the medical system to achieve pain relief

Risks Conferred by Tapering or Discontinuing Long-Term Opioid Therapy



N Engl J Med. 2022 Feb 12;386(7):611–613. doi: 10.1056/NEJMp2115244
SSM-Qualitative Res in Health 2023; https://doi.org/10.1016/j.ssmqr.2023.100273
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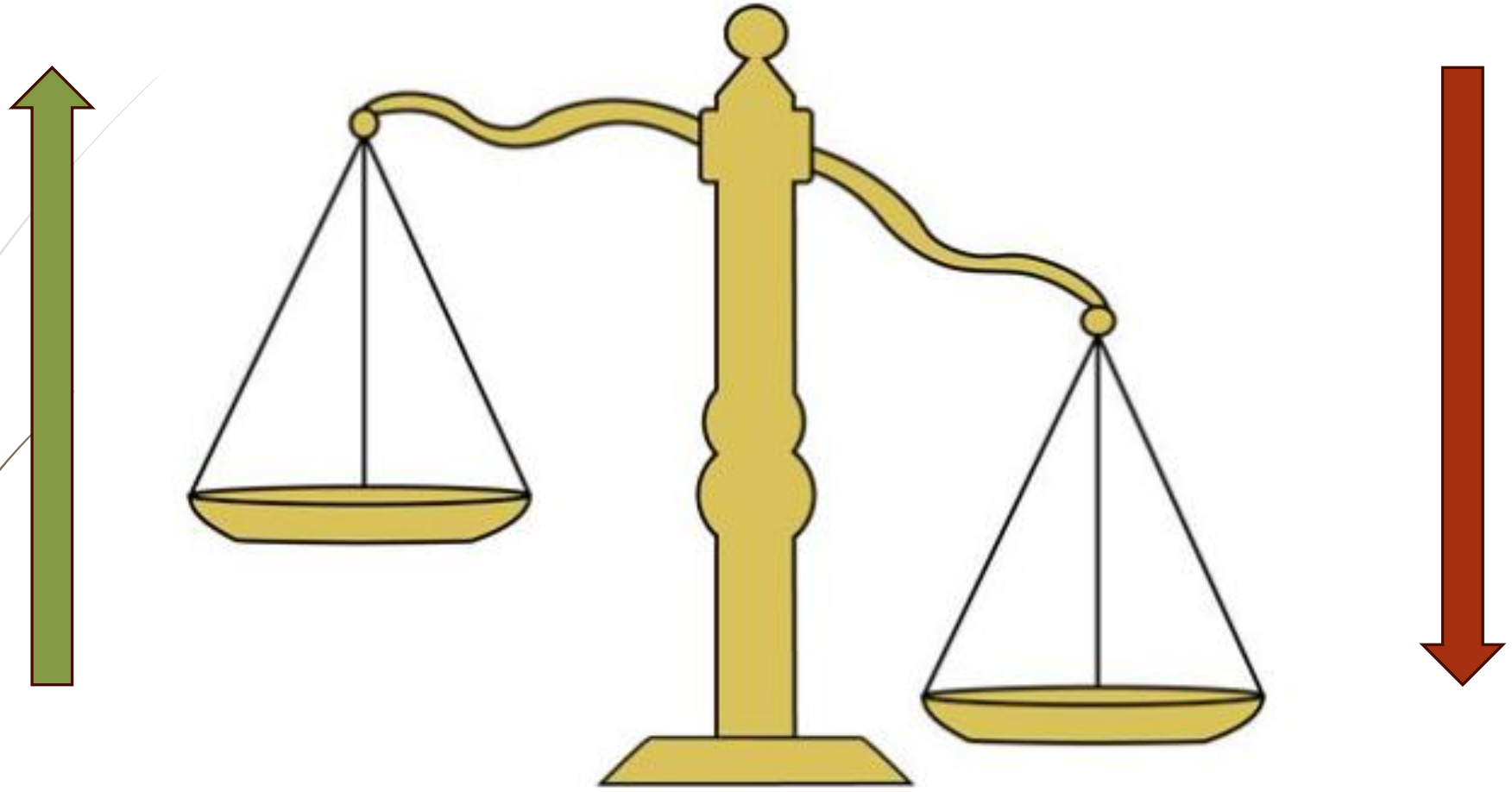
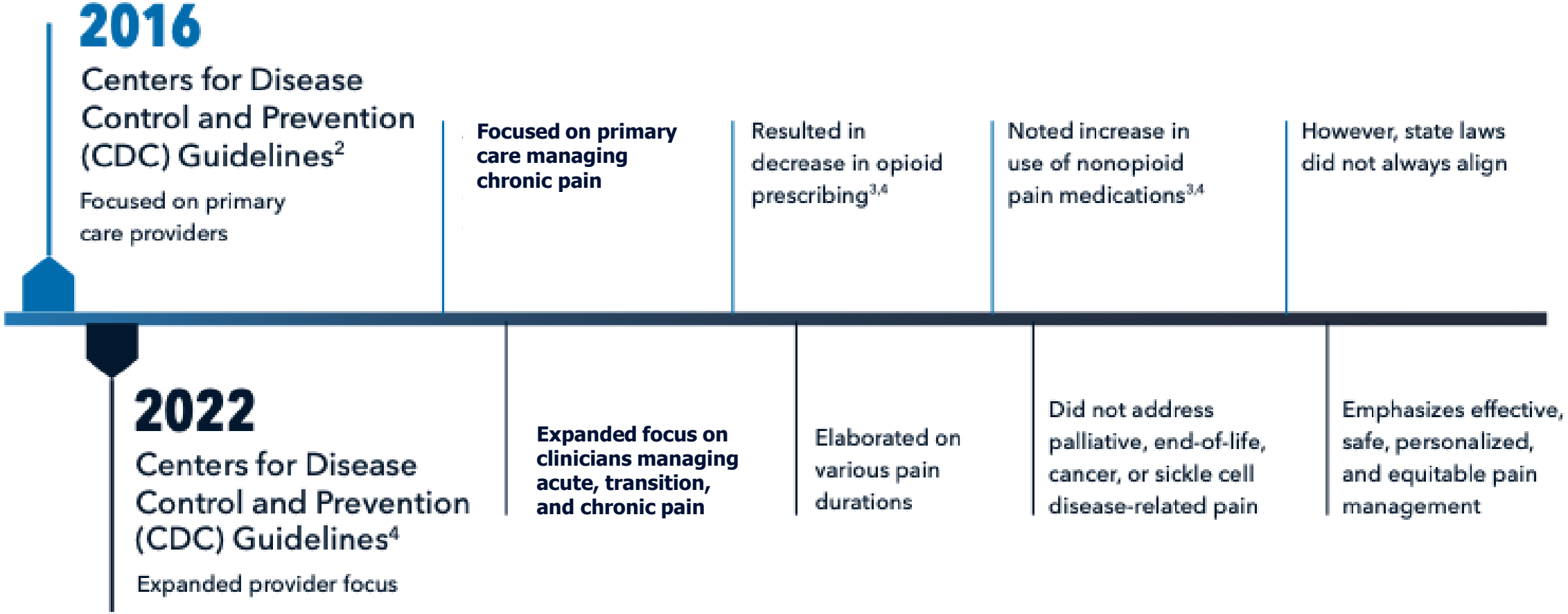
Optimize Pain Management



Minimize Risks with Opioids

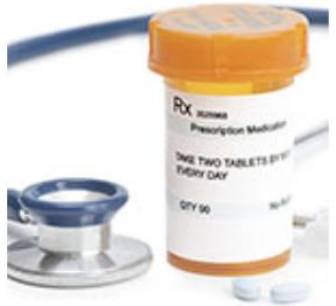
Evolving Guidance on Opioid Prescribing



The 2022 Opioid Prescribing Guideline contains 12 evidence-based recommendations grouped into the following four areas:

Determining Whether or Not to Initiate Opioids for Pain

- Recommendations 1, 2

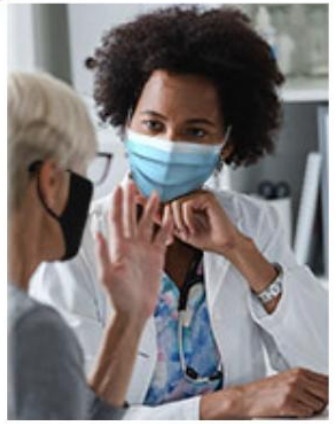


Selecting Opioids and Determining Opioid Dosages

- Recommendations 3, 4, 5

Deciding Duration of Initial Opioid Prescription and Conducting Follow-Up

- Recommendations 6, 7



Assessing Risk and Addressing Potential Harms of Opioid Use

- Recommendations 8, 9, 10, 11, 12

The 2022 Opioid Prescribing Guideline Recommendations

Area of Consideration / Recommendations	
Determining Whether or Not to Initiate Opioids for Pain	
1	Nonopioid therapies are at least as effective as opioids for many acute pain types. Opioids should be considered only if expected benefits for pain and function are anticipated to outweigh risks.
2	Nonopioid therapies are preferred for subacute and chronic pain. Before starting opioid therapy, clinicians should discuss with patients the known risks and realistic benefits of opioid therapy.
Selecting Opioids and Determining Opioid Dosages	
3	When opioids are started, clinicians should prescribe immediate-release opioids instead of extended-release/long-acting opioids.
4	If opioids are used, clinicians should prescribe the lowest effective dosage.
5	For patients already receiving opioid therapy, clinicians should carefully weigh benefits and risks and exercise care when changing opioid dosage. If benefits outweigh risks of continued opioid therapy, clinicians should work closely with patients to optimize nonopioid therapies while continuing opioid therapy. If benefits do not outweigh risks of continued opioid therapy, optimize other therapy and taper opioid appropriately.

The 2022 Opioid Prescribing Guideline Recommendations

Area of Consideration / Recommendations	
Deciding Duration of Initial Opioid Prescription and Conducting Follow-Up	
6	When opioids are needed for acute pain, clinicians should prescribe no greater quantity than needed for the expected duration of pain severe enough to require opioids
7	Clinicians should evaluate benefits and risks with patients within 1–4 weeks of starting opioid therapy for subacute or chronic pain or of dosage escalation. Clinicians should regularly reevaluate benefits and risks of continued opioid therapy with patients
Assessing Risk and Addressing Potential Harms of Opioid Use	
8	Before starting and periodically during continuation of opioid therapy, clinicians should evaluate risk for opioid-related harms and discuss risk with patients. Clinicians should work with patients to incorporate into the management plan strategies to mitigate risk, including offering naloxone
9	When prescribing opioids for subacute or chronic pain, clinicians should review the patient's history of controlled substance prescriptions using state prescription drug monitoring program (PDMP) data to determine whether the patient is receiving opioid dosages or combinations that put the patient at high risk for overdose.
10	When prescribing opioids for subacute or chronic pain, clinicians should consider the benefits and risks of toxicology testing to assess for prescribed medications as well as other prescribed and nonprescribed controlled substances.
11	Clinicians should use particular caution when prescribing opioid pain medication and benzodiazepines concurrently and consider whether benefits outweigh risks of concurrent prescribing of opioids and other central nervous system depressants.
12	Clinicians should offer or arrange treatment with evidence-based medications to treat patients with opioid use disorder.

Case Scenario – Acute and Transitional Pain

Case Scenario: Acute Postoperative Pain – Total Shoulder Replacement

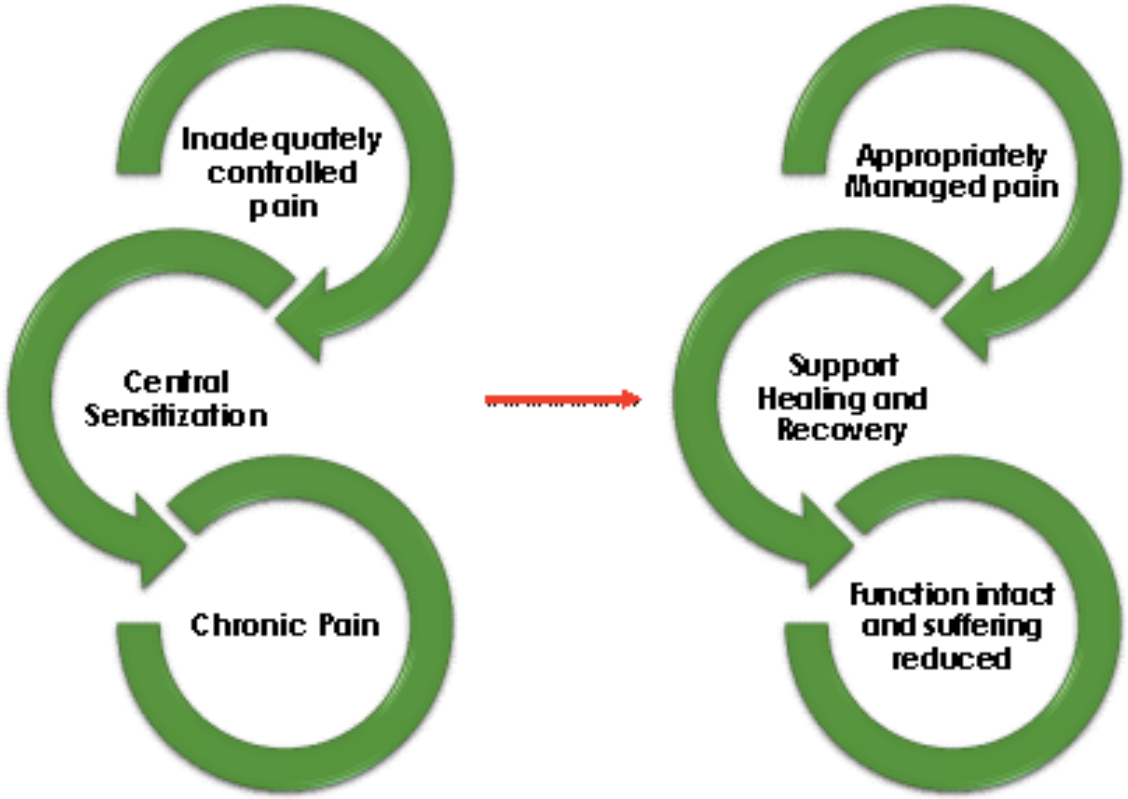
Patient Profile

- **Name**: AL
- **Age**: 67
- **Procedure**: Right total shoulder arthroplasty
- **PMH**: Hypertension, hyperlipidemia, mild renal impairment (eGFR: 55), no history of substance use disorder
- **Medications**: Lisinopril 10 mg daily, Atorvastatin 20 mg daily, ibuprofen and acetaminophen prn, opioid naive

Postoperative Day 1

➨ AL rates his pain as **5/10** on the numeric pain scale localized to the surgical site. He is alert, oriented, and hemodynamically stable. No signs of infection or bleeding are noted. He will be discharged later today. Physical therapy is scheduled to begin in a few days.

Importance of Management of acute postoperative pain



What is our goal?

1. Patient Comfort
2. Promotion of Healing/Recovery
3. Prevention of Chronic Pain & functional impairment

How do we achieve this?

Incidence of Chronic Post-Surgical Pain (CPSP)

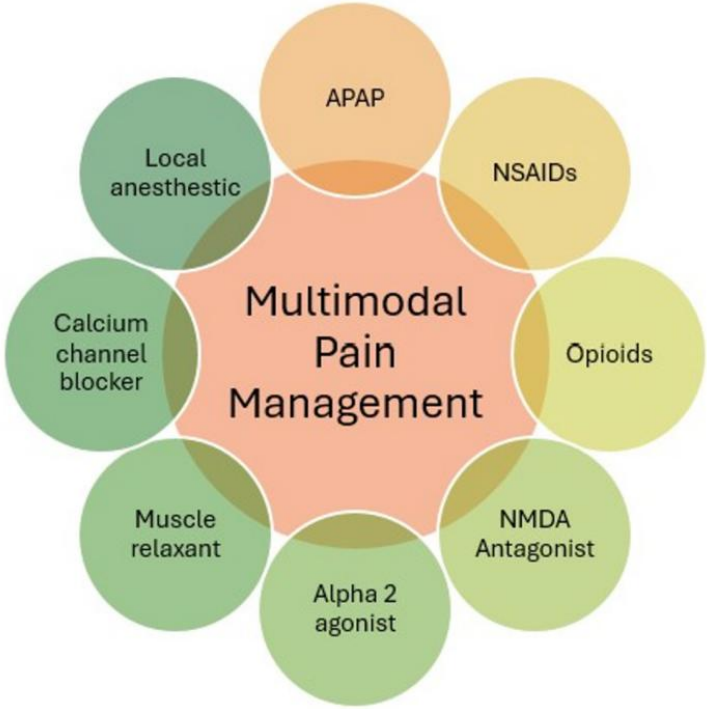
Type of surgery	Incidence of all CPSP (%)
Abdominal surgery (bowel and colorectal)	17–21
Amputation	30–85
Caesarean section	6–55
Cholecystectomy	3–56
Craniotomy	7–65
Dental surgery	5–13
Hip arthroplasty	7–23
Inguinal herniotomy	5–63
Knee arthroplasty	13–44
Mastectomy	11–57
Shoulder Replacement	18-25
Sternotomy	7–50
Thoracotomy	5–71
Vasectomy	0–37

Severe pain during the first postoperative week increased the risk of persistent pain.

Acta Orthop. 2015 Feb;86(1):71-7. doi: 10.3109/17453674.2014.987065.
BJA Educ. 2022 May;22(5):190-196. doi: 10.1016/j.bjae.2021.11.008.
Seminars in Arthroplasty: JSES, Volume 31, Issue 1, 23 - 29

Case Scenario: Acute Postoperative Pain – Total Shoulder Replacement

- Pre-emptive analgesia: acetaminophen, gabapentin, celecoxib
- Post-operative
  - Acetaminophen (scheduled)
  - NSAIDs (with caution due to renal function)
  - Regional anesthesia/nerve block if not already used
  - Nonpharmacologic measures (ice, immobilization, relaxation)
  - *Future ?? - Journavx (suzetrigine)*
    - *selective inhibitor of $Na_v1.8$-dependent pain-signaling pathways in the peripheral nervous system ??*



CDC 2022 Guideline:
Nonopioid therapies are preferred for subacute and chronic pain

Clin Orthop Relat Res. 2021 Aug 1;479(8):1740-1751
https://www.iasp-pain.org/resources/fact-sheets/prevention-of-

Case Scenario: Acute Postoperative Pain – Total Shoulder Replacement

2. Is opioid therapy appropriate in this scenario?

CDC 2022 Guideline: Opioids should be reserved for situations where benefits outweigh risks and other treatments have been insufficient..

Case Scenario: Acute Postoperative Pain – Total Shoulder Replacement

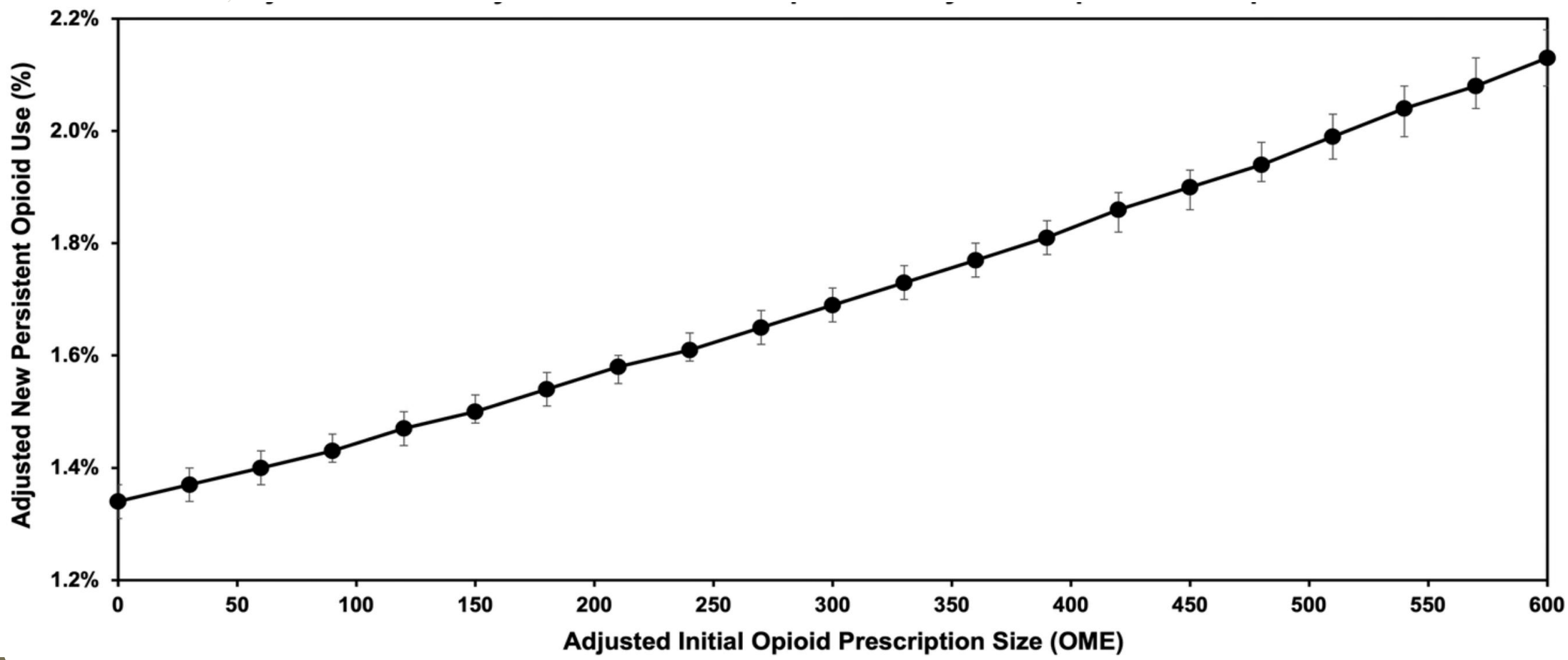
- AL's discharge meds are Oxycontin® 15mg every 12 hours (#12) with oxycodone 5mg every 6 hours for breakthrough (#50), ibuprofen 600mg (#50) alternating with acetaminophen 1000 mg every 4 hours (#50)

- What are your thoughts regarding the number of each dispensed?

CDC 2022 Guideline:

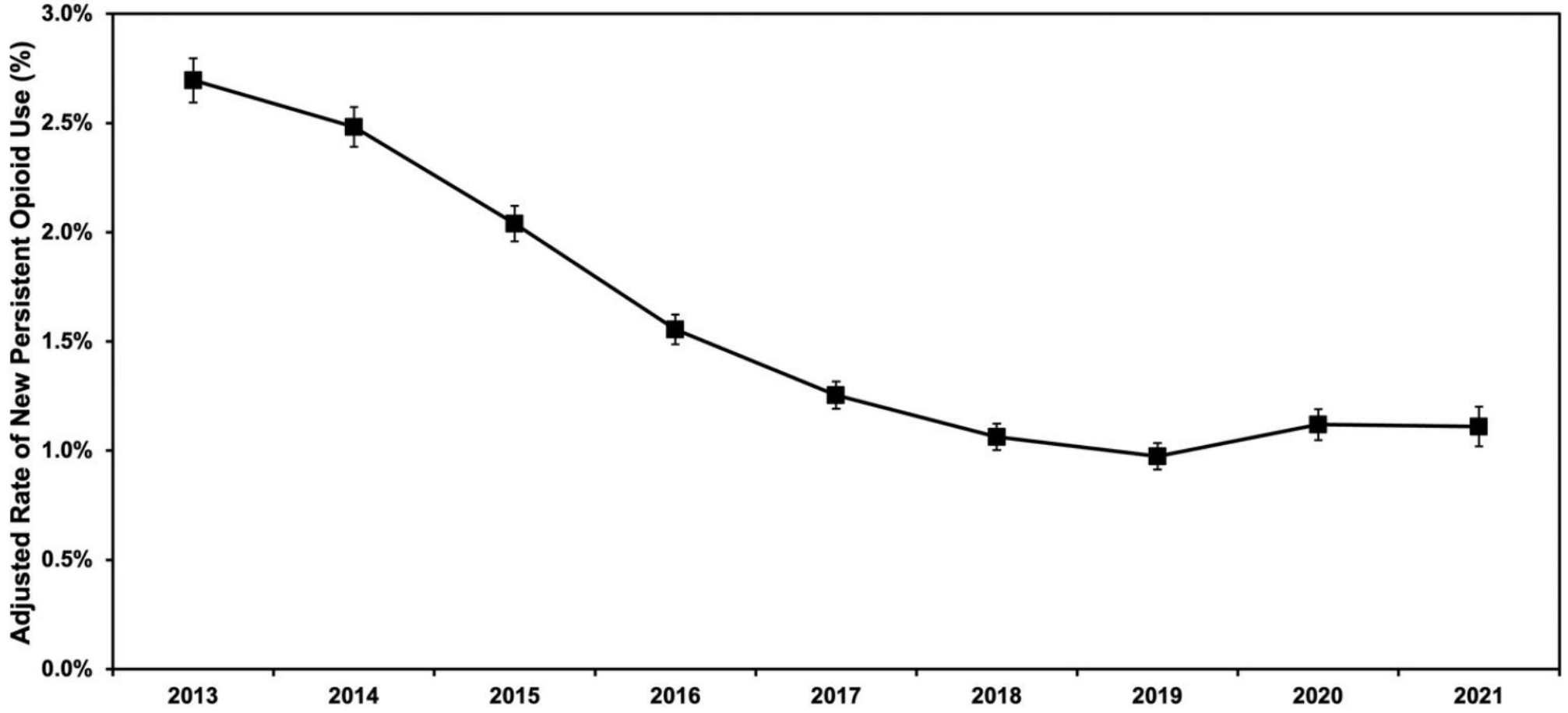
- *Opioids should be reserved for situations where benefits outweigh risks and other treatments have been insufficient. Opioids for acute pain should be prescribed at the lowest effective dose for no longer than the expected duration of pain.*
- *Dispense a 3-day or less opioid prescription is often sufficient for acute pain. Use the minimum effective dose and avoid escalating unless benefits clearly outweigh risks. Avoid ER/LA opioids in acute pain.*

Adjusted Probability of New Persistent Opioid Use by Initial Prescription Size



Annals of Surgery281(3):347-352, March 2025.

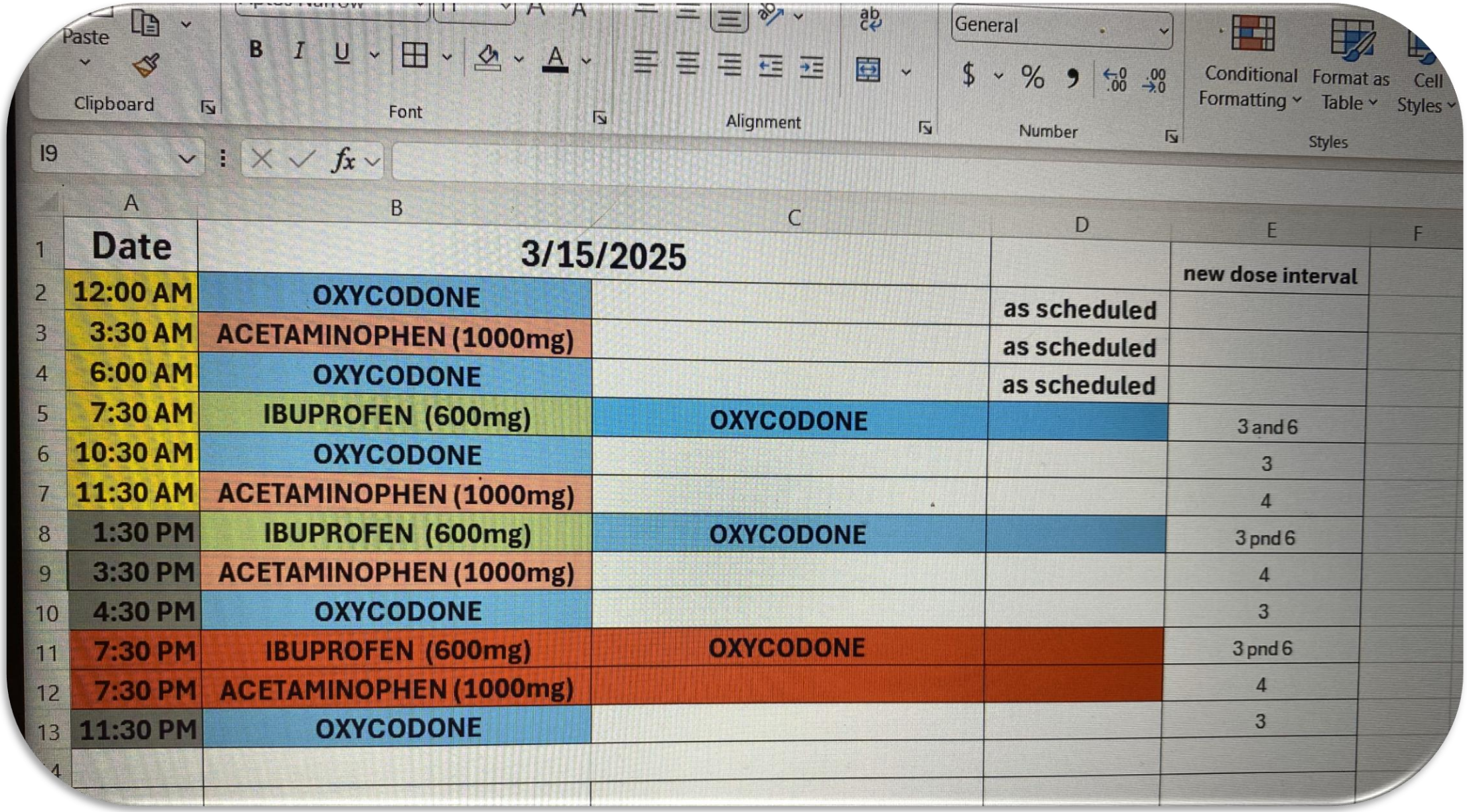
Trends in rates of new persistent opioid use after surgery, 2013–2021



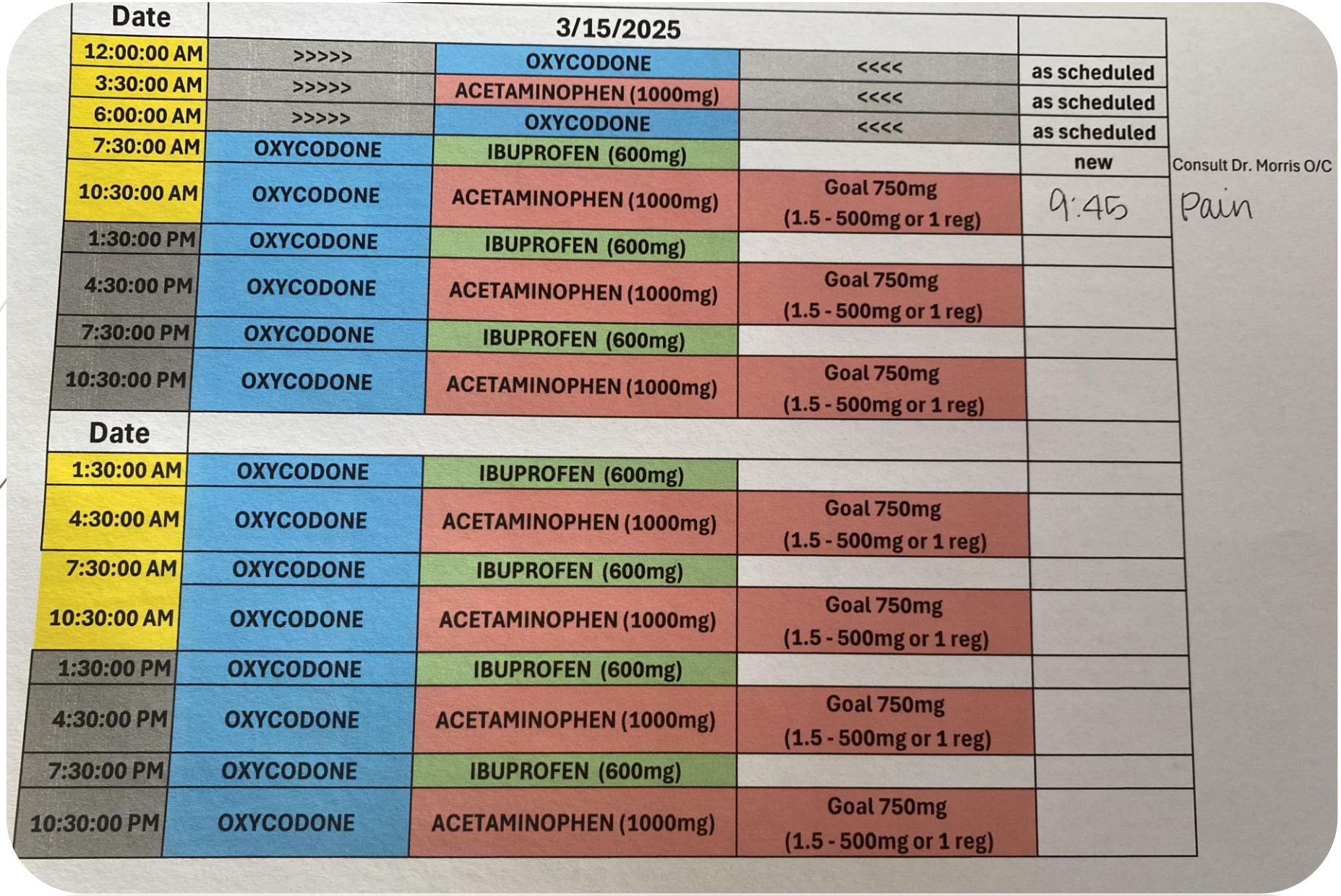
Annals of Surgery281(3):347-352, March 2025.

Case 1 - AL transitioning to home

- AL's discharge meds were revised:
  - oxycodone 5mg every 6 hours prn pain #30
  - ibuprofen 600mg alternating with acetaminophen 1000 mg every 4 hours.
- What schedule would you recommend him taking the analgesics prescribed?



	A	B	C	D	E	F
1	Date	3/15/2025			new dose interval	
2	12:00 AM	OXYCODONE		as scheduled		
3	3:30 AM	ACETAMINOPHEN (1000mg)		as scheduled		
4	6:00 AM	OXYCODONE		as scheduled		
5	7:30 AM	IBUPROFEN (600mg)	OXYCODONE		3 and 6	
6	10:30 AM	OXYCODONE			3	
7	11:30 AM	ACETAMINOPHEN (1000mg)			4	
8	1:30 PM	IBUPROFEN (600mg)	OXYCODONE		3 pnd 6	
9	3:30 PM	ACETAMINOPHEN (1000mg)			4	
10	4:30 PM	OXYCODONE			3	
11	7:30 PM	IBUPROFEN (600mg)	OXYCODONE		3 pnd 6	
12	7:30 PM	ACETAMINOPHEN (1000mg)			4	
13	11:30 PM	OXYCODONE			3	



Date	3/15/2025			
12:00:00 AM	>>>>>	OXYCODONE	<<<<	as scheduled
3:30:00 AM	>>>>>	ACETAMINOPHEN (1000mg)	<<<<	as scheduled
6:00:00 AM	>>>>>	OXYCODONE	<<<<	as scheduled
7:30:00 AM	OXYCODONE	IBUPROFEN (600mg)		new
10:30:00 AM	OXYCODONE	ACETAMINOPHEN (1000mg)	Goal 750mg (1.5 - 500mg or 1 reg)	9:45
1:30:00 PM	OXYCODONE	IBUPROFEN (600mg)		
4:30:00 PM	OXYCODONE	ACETAMINOPHEN (1000mg)	Goal 750mg (1.5 - 500mg or 1 reg)	
7:30:00 PM	OXYCODONE	IBUPROFEN (600mg)		
10:30:00 PM	OXYCODONE	ACETAMINOPHEN (1000mg)	Goal 750mg (1.5 - 500mg or 1 reg)	
Date				
1:30:00 AM	OXYCODONE	IBUPROFEN (600mg)		
4:30:00 AM	OXYCODONE	ACETAMINOPHEN (1000mg)	Goal 750mg (1.5 - 500mg or 1 reg)	
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10:30:00 AM	OXYCODONE	ACETAMINOPHEN (1000mg)	Goal 750mg (1.5 - 500mg or 1 reg)	
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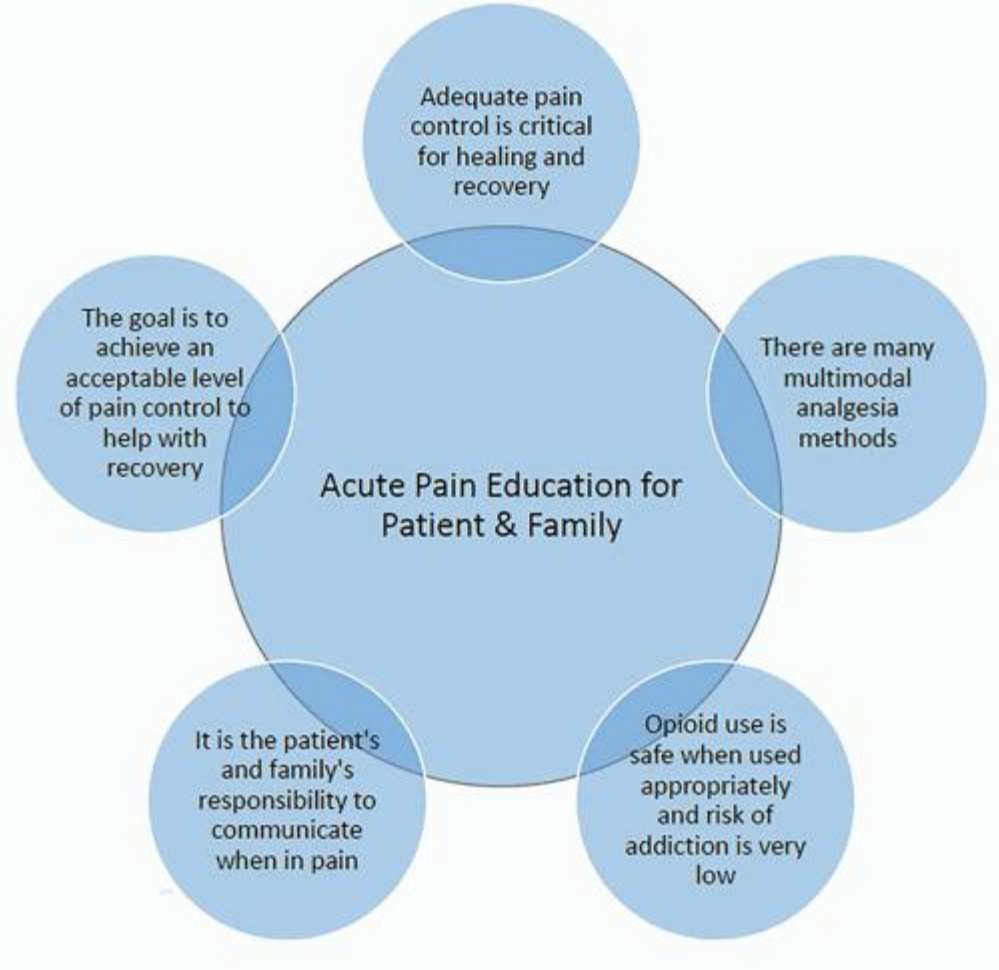
4:30:00 PM	OXYCODONE	ACETAMINOPHEN (1000mg)	Goal 750mg (1.5 - 500mg or 1 reg)	
7:30:00 PM	OXYCODONE	IBUPROFEN (600mg)		
10:30:00 PM	OXYCODONE	ACETAMINOPHEN (1000mg)	Goal 750mg (1.5 - 500mg or 1 reg)	

Consult Dr. Morris O/C

Pain

Patient and Family Education Improves Pain Control



↓ Pre-operative education regarding pain management decreases postoperative opioid consumption, patient fear and pain

↑ Education for transition improves pain management

↑ Education and specific instructions increases patient satisfaction

https://aneskey.com/the-role-of-patient-and-family-education/
Eur J Cardiovascular Med 2024:14(6);489-93 DOI : 10.5083/ejcm
https://www.uspharmacist.com/article/transitions-of-care-strategies-for-hospitalized-patients-with-pain-1
Can J Pain. 2023 Nov 28;7(2):2266751. doi: 10.1080/24740527.2023.2266751
J PeriAnesthesia Nursing Oct 2024, https://www.sciencedirect.com/science/article/pii/S1089947224003848

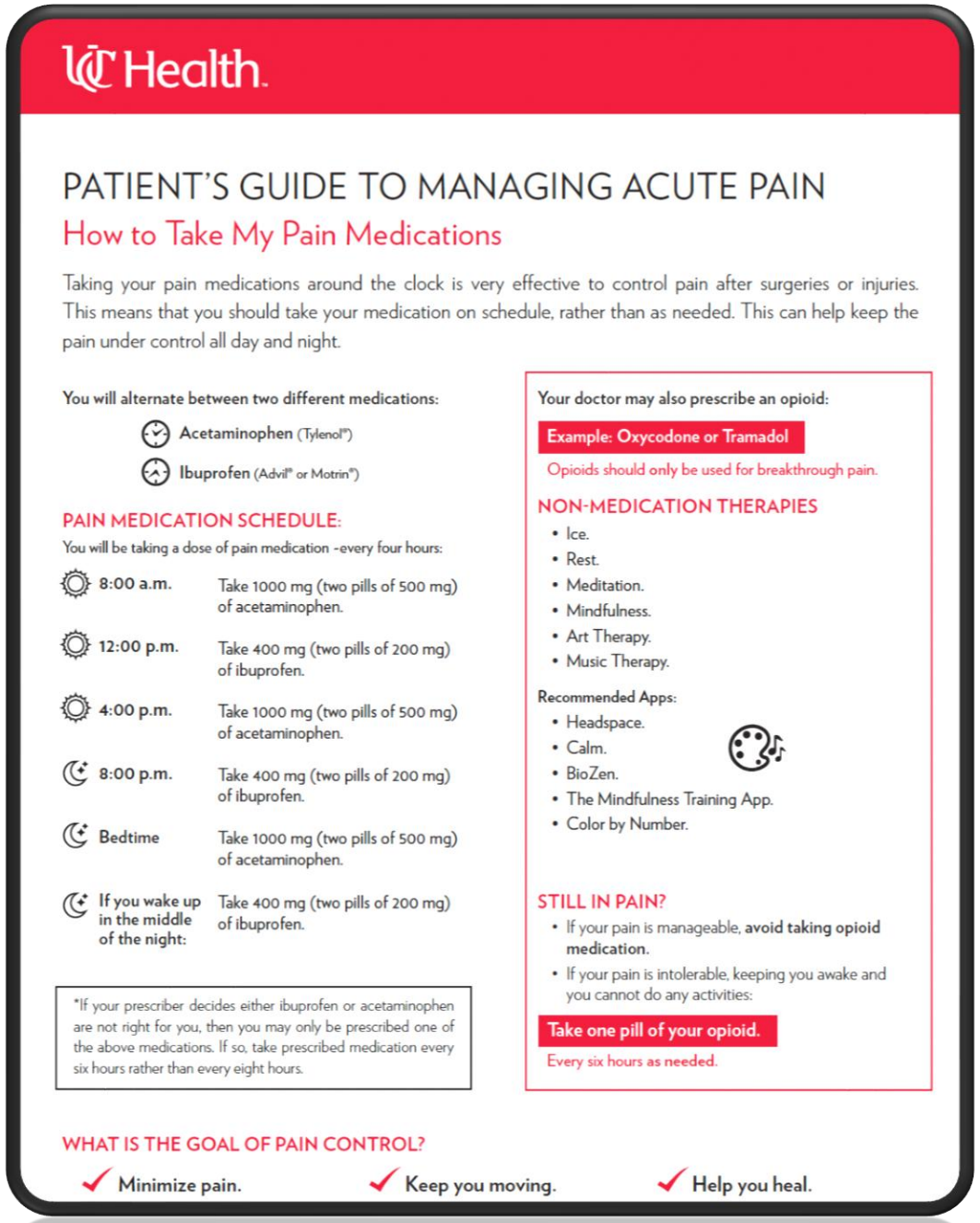
Select Gaps Identified in Pain Management Post Surgery

Education
Patient education on self-management of pain medications
Setting patient expectation on postoperative pain
Negative perception of pain medication by patients and providers
Communication amongst providers and patients
Provider knowledge on pain management and cultural competence
Provision of continuity of care
Multidisciplinary patient follow-up after hospital discharge
Communication and care coordination amongst healthcare providers
Clear division of responsibility of care with regards to postoperative pain management
Resources to facilitate access to effective specialized pain services
Equity in access to quality and efficient healthcare
Standardized practice protocols
Individualized pain management
Accurate patient stratification of the degree and trajectory of postsurgical pain
Pain management strategies and education tailored to patient and surgical risks of postsurgical pain
Individualized discharge planning and education

British Journal of Anaesthesia, Volume 131, Issue 5, 925 - 936

Example Patient Guide

- Specific recommendations on scheduling multiple medications and non-pharmacologic therapies
- Guidance on a schedule of opioid use – whether scheduled for the first 2 days or just as needed
- Improved knowledge by patient/caregiver improves pain control



UC Health

PATIENT'S GUIDE TO MANAGING ACUTE PAIN

How to Take My Pain Medications

Taking your pain medications around the clock is very effective to control pain after surgeries or injuries. This means that you should take your medication on schedule, rather than as needed. This can help keep the pain under control all day and night.

You will alternate between two different medications:

- Acetaminophen (Tylenol®)
- Ibuprofen (Advil® or Motrin®)

PAIN MEDICATION SCHEDULE:

You will be taking a dose of pain medication -every four hours:

8:00 a.m.	Take 1000 mg (two pills of 500 mg) of acetaminophen.
12:00 p.m.	Take 400 mg (two pills of 200 mg) of ibuprofen.
4:00 p.m.	Take 1000 mg (two pills of 500 mg) of acetaminophen.
8:00 p.m.	Take 400 mg (two pills of 200 mg) of ibuprofen.
Bedtime	Take 1000 mg (two pills of 500 mg) of acetaminophen.
If you wake up in the middle of the night:	Take 400 mg (two pills of 200 mg) of ibuprofen.

*If your prescriber decides either ibuprofen or acetaminophen are not right for you, then you may only be prescribed one of the above medications. If so, take prescribed medication every six hours rather than every eight hours.

Your doctor may also prescribe an opioid:

Example: Oxycodone or Tramadol

Opioids should only be used for breakthrough pain.

NON-MEDICATION THERAPIES

- Ice.
- Rest.
- Meditation.
- Mindfulness.
- Art Therapy.
- Music Therapy.

Recommended Apps:

- Headspace.
- Calm.
- BioZen.
- The Mindfulness Training App.
- Color by Number.

STILL IN PAIN?

- If your pain is manageable, **avoid taking opioid medication.**
- If your pain is intolerable, keeping you awake and you cannot do any activities:

Take one pill of your opioid.

Every six hours as needed.

WHAT IS THE GOAL OF PAIN CONTROL?

✓ Minimize pain. ✓ Keep you moving. ✓ Help you heal.

Case 1 - AL follow-up monitoring

- Approximately 15 hours after the surgery, AL's pain escalates significantly. What questions do you have for assessment at this point

- Can AL's oxycodone be safely increased?

Case 1 - AL discontinuing opioids

AL had complications with his shoulder and stayed on oxycodone, at least 3 doses per day, for 1 month.

- **Would AL need to be weaned to avoid withdrawal?**

UC Health

PATIENT'S GUIDE TO MANAGING ACUTE PAIN

How to Stop Taking My Pain Medications

We recommend you take your scheduled pain medications for at least three days and up to one week after your procedure. After one week, you should be able to transition to taking your pain medications only as needed.

HOW TO TAKE PAIN MEDICATION AS NEEDED:

Take 1000 mg (two pills of 500 mg) of acetaminophen every eight hours **as needed.**

You can switch back and forth between each medication every four hours as needed.

Take 400 mg (two pills of 200 mg) of ibuprofen every eight hours **as needed.**

WHAT ARE THE SIDE EFFECTS & RISKS OF OPIOID USE?

Short-Term Side Effects:

- Nausea (very common) or vomiting.
- Constipation.
- Itching.
- Headache.
- Dizziness – do not drive or operate machinery.
- Drowsiness.

Tip! Take a laxative/stool softener at least once or twice a day when taking opioids.

Serious Risks:

- Misuse, abuse and addiction – risk increases the longer you take them.
- Overdose – taking too much of your opioid.
- Death – results from respiratory depression (slowed breathing) from opioid overdose.

HOW TO STOP TAKING MY OPIOID:

If you took opioids for less than two weeks, you should be able to stop taking your opioids without feeling withdrawal.

If you required around-the-clock opioids for two weeks or more:

HOW TO TAPER OFF OPIOIDS:

- Maintain the same interval (ex. every six hours) between doses and cut down the dose by about 10-20% every three to four days until down to one tablet every six hours.
- Then, every three to four days eliminate one tablet a day and extend the interval between doses to every eight hours, then every 12 hours, then once a day.
- The last dose that should be eliminated is the nighttime dose.
- Continue taking your non-opioid medications while tapering off your opioids.

EXAMPLE OF A TAPERING REGIMEN:

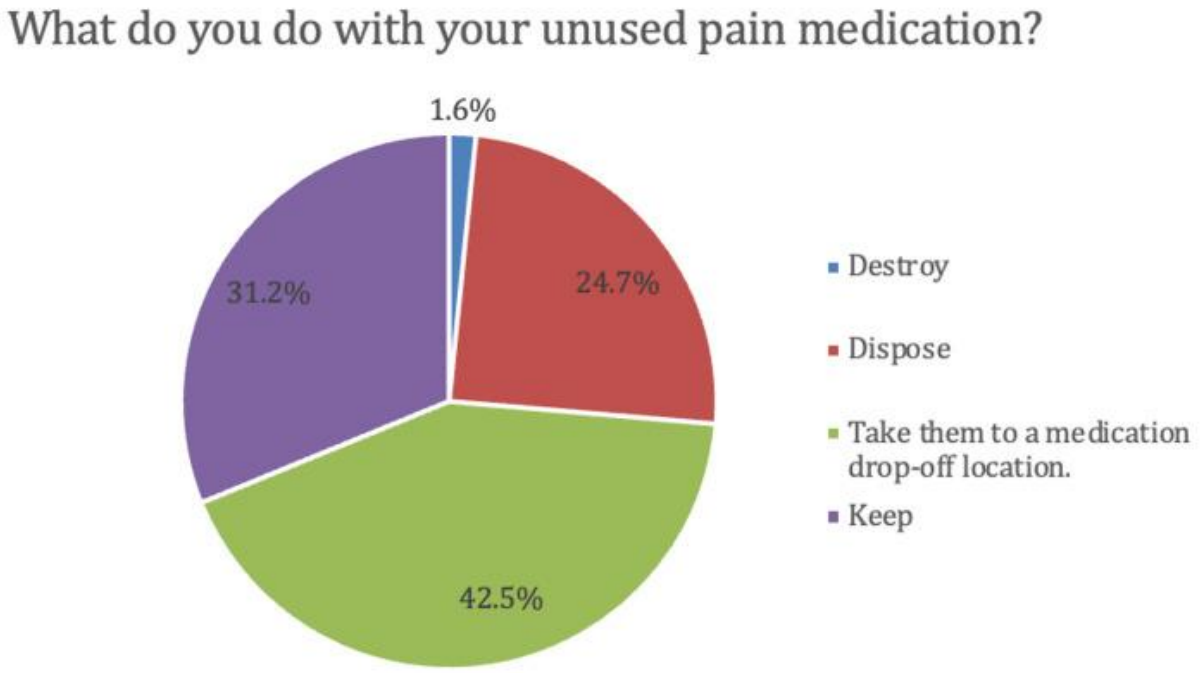
- Day 1: 2, 2, 2, 2
- Day 4: 2, 1, 2, 2
- Day 7: 2, 1, 1, 2
- Day 10: 1, 1, 1, 2
- Day 14: 1, 1, 1, 1
- Day 18: 1, 1, 1
- Day 21: 1, 1
- Day 24: 1 at bedtime
- DISCONTINUE

Case 1 - AL – opioid disposal?

Once AL has been weaned, he still had 25 tablets left. What should he do with them?

- Flush if on the FDA flush list
- Mix with an unpalatable substance (like dirt, used coffee grounds or cat litter), then place in sealed plastic bag and throw in household trash
- Take to pharmacy that accepts opioids for disposal
- All of the above

Barriers and Facilitators to Opioid Disposal



Themes regarding patient disposing of opioids:

- awareness, engagement, and education;
- low perceived risk associated with non-disposal
- deciding to keep left-over opioids for future use
- converting decisions into action

Cureus 2022 Aug 17;14(8):e28111; doi: 10.7759/cureus.28111.
Health Educ Behav 2023 Apr;50(2):281-289. doi: 10.1177/10901981211057540

Opioid Disposal

Providing instructions facilitates opioid disposal

Disposal Systems

UC Health.

PATIENT'S GUIDE TO MANAGING ACUTE PAIN

Patient Education

PROPER STORAGE OF OPIOIDS

Opioid medications should be stored out of reach of children and in a safe place, preferably locked, to prevent other family members and visitors from having access to these medications.

If opioids are intentionally or unintentionally shared with others for whom they are not prescribed, they may experience overdose at the same or at a lower dosage than what is prescribed for you.

PROPER DISPOSAL OF OPIOIDS

Step 1: Determine if you have a drug take back option readily available.

Use Google Maps to search "drug drop off near me" or "medication disposal" to find locations near you. These locations are also searchable on the DEA website under their collection site locator. You can also go to your local fire department, police department or pharmacy to see if they have drug take back services available. You can visit http://www.ohiorxdisposal.com/ to find a location who provides drug-disposal bags or to request one to be mailed to your house.

Step 2: If no drug disposal option is available to you, determine if you can flush your opioid medication by checking the FDA flush list.

FDA FLUSH LIST:

Active Ingredient	Brand Names
Buprenorphine	Belbuca, Bunavail, Butrans, Suboxone, Subutex, Zubsolv
Fentanyl	Abstral, Actiq, Duragesic, Fentora, Onsolis
Hydrocodone	Hysingla, Norco, Lortab, Vicodin, Vicoprofen, Zohydro
Hydromorphone	Dilaudid, Exalgo
Methadone	Dolophine, Methadose
Morphine	Arymo, Embeda, Kadian, Morphabond, MS Contin, Avinza
Oxycodone	OxyContin, Percocet, Roxicet, Roxicodone, Roxybond, Xtampza
Oxymorphone	Opana
Tapentadol	Nucynta

If medicine is not on the FDA flush list, you can mix your medicines (do not crush) with an unpalatable substance (like dirt, used coffee grounds or cat litter) and place mixture in a sealed plastic bag and throw away in household trash.

Always remove all personal information from the prescription label of your empty bottle to make it unreadable prior to disposing of it in the trash.

U.S. Food & Drug Administration: Disposal of Unused Medicine: What You Should Know. 2019.
American Medical Association: Promote Safe Storage and Disposal of Opioids and All Medications. 2017.

Opioids in Chronic Pain

Efficacy of Opioids

Long-term benefit: Evidence is limited. A 2018 systematic review found **no high-quality evidence** supporting long-term opioid therapy improving pain or function compared to non-opioid therapies.

Krebs et al. (2018) – The SPACE trial, a randomized controlled trial, showed that non-opioid treatments were as effective or superior to opioids for improving function in chronic back, hip, and knee pain.

Krebs EE, et al. *JAMA*. 2018;319(9):872–882.

Chou R, et al. *Intern Med*. 2015;162(4):276–286.

Potential Harms of Chronic Opioids

Harms of Long-term Opioid Use

- Tolerance, physical dependence, and opioid use disorder (OUD)
- Increased risk of overdose, especially at higher doses
- Adverse effects: constipation, sedation, endocrine dysfunction, fractures
  - Decreased testosterone levels
  - Increased risk of bone fractures
- Cognitive Disorders
- Long-term opioid use often results in **opioid-induced hyperalgesia** (increased sensitivity to pain), further complicating chronic pain management.

CDC Clinical Practice Guideline for Prescribing Opioids for Pain — United States, 2022.
Vowles KE, et al. (2015). *Pain*, 156(4):569–576.
American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*.
Bohnert ASB, et al. (2011). *JAMA*, 305(13):1315–1321.

Affect of Opioid Dose Escalation in Chronic Non-Cancer Pain

SPACE Trial (Krebs et al., 2018):

- Compared opioids (avg. ~60 MME/day) vs non-opioids for chronic back/knee/hip pain over 12 months.
- No significant difference in pain-related function.
- Pain intensity was slightly lower in the non-opioid group at 12 months.

Chou et al., 2015 – AHRQ Systematic Review:

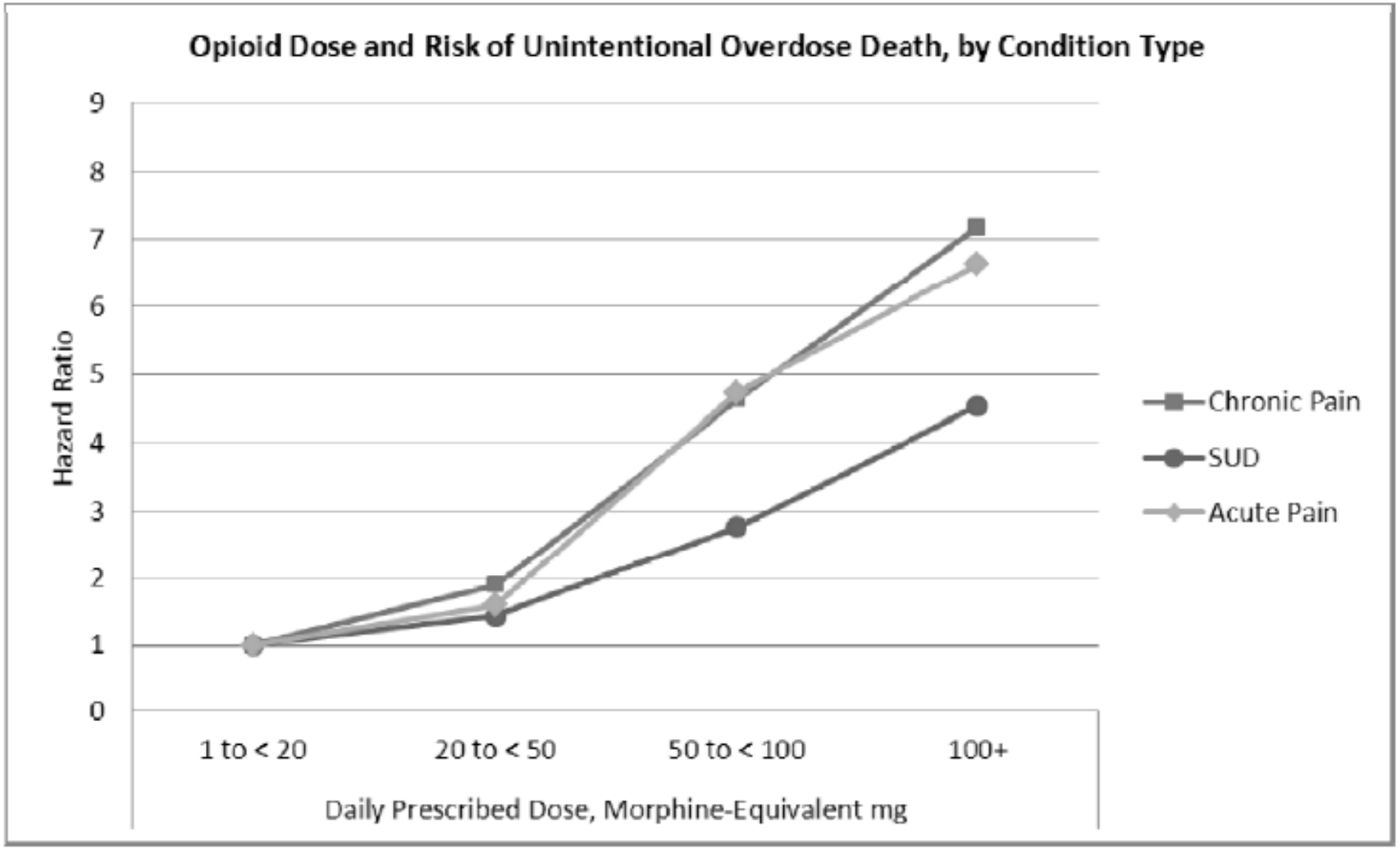
- No clear evidence that higher opioid doses improve pain or function long-term.
- Higher doses are associated with **higher risk** of overdose and dependence.

Cochrane Review (2010, updated 2022):

- Mean pain relief difference between low and high opioid doses: ~0.5 points on a 0–10 scale.
- Not clinically meaningful in most cases.

Krebs EE, et al JAMA, 319(9), 872–882.
Chou R, et al. *Ann Intern Med*, 162(4):276–286.
Noble M, et al. (2010, updated 2022). Long-term opioid management for chronic non-cancer pain. *Cochrane Database Syst Rev*.

Risk of Opioid Overdose Among VA Patients, Prescribed Opioid Dose



From Bohnert, Valenstein, Bair et al., 2011 *JAMA*

Risk Factors for Developing OUD

Patient History and Demographics	🔹 Clinical and Prescription-Related Factors

• **Personal or family history of substance use disorder (SUD)**
• **Younger age** (particularly under 45 years old)
• **History of mental health disorders**, such as:
  ○ Depression
  ○ Anxiety
  ○ PTSD
  ○ Bipolar disorder
• **History of trauma or adverse childhood experiences (ACEs)**
	• **High opioid dosage** (>50 morphine milligram equivalents [MME]/day, especially >90 MME/day)
	• **Longer duration of opioid therapy**
	• **Concurrent prescriptions for benzodiazepines or other sedatives**
	• **Chronic pain without a clear cause or diagnosis**
	• **Multiple opioid prescribers or pharmacies** (doctor shopping)

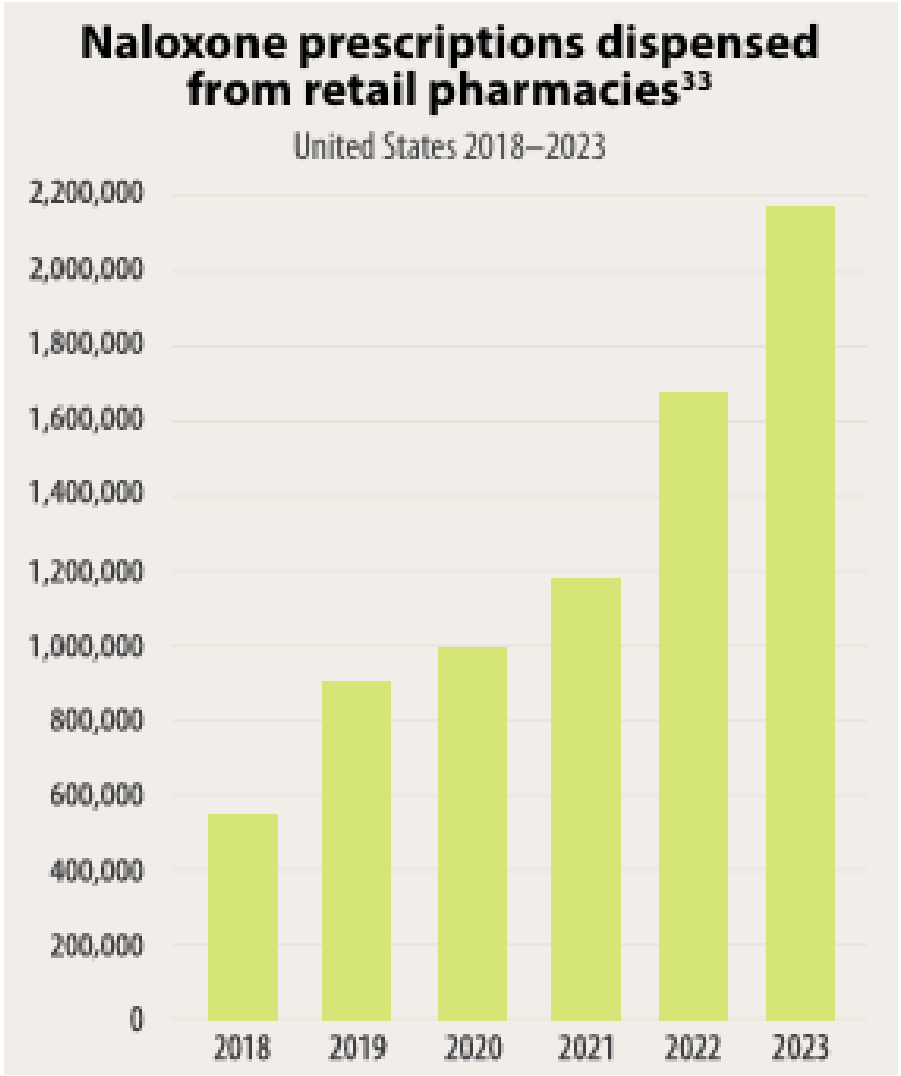
Social and Behavioral Risk Factors	📌 **Special Populations at Higher Risk**
• **Unstable housing or homelessness** • **Unemployment or financial stress** • **History of criminal justice involvement** • **Poor social support or isolation**	• **Patients with previous non-medical use of prescription opioids** • **Patients discharged from detox or incarceration** • **Rural populations** (limited access to behavioral health support) • **Veterans** (due to pain, trauma, and mental health burden)

CDC Clinical Practice Guideline for Prescribing Opioids for Pain — United States, 2022.
Vowles KE, et al. (2015). *Pain*, 156(4):569–576.
American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*.

Naloxone Use: CDC 2022 Guidelines

- **Naloxone should be offered when any of the following apply:**

1. **Patients are prescribed opioids at high risk doses**:
    1. ≥50 morphine milligram equivalents (MME)/day
2. **Patients are concurrently using benzodiazepines** or other CNS depressants
3. **Patients have risk factors for overdose**, such as:
    1. History of **opioid use disorder (OUD)**
    2. History of **substance use disorder**
    3. **Previous overdose**
    4. **Mental health conditions**
    5. **Unstable housing** or recent incarceration
4. **Anyone at risk of witnessing an overdose**, including:
    1. Family members or friends of a person at risk
    2. Individuals in communities with high overdose rates



Case Scenario – Chronic Pain

Chronic Pain Case Scenario: “JR"

Chief Complaint:
“The pain in my lower back is constant and wearing me down. I can’t sleep, and I can’t enjoy life anymore. The acetaminophen isn’t doing enough.”
Name: JR, 58 yo male
Occupation: Former construction worker (retired early)
Social History
History of Alcohol Use Disorder, Remission 12 year

Medical History:
Chronic low back pain for 8 years following a work-related injury
Hypertension (controlled)
Obesity (BMI: 32)
Mild depression (on sertraline)
Anxiety (alprazolam)
Current Medications:
Sertraline 50 mg daily
Lisinopril 10 mg daily
Alprazolam 0.5mg prn anxiety
Current Pain Treatment:
Acetaminophen 650mg 4 times daily
Physical therapy (inconsistent attendance)
Occasional massage therapy

Chronic Pain Case Scenario: “JR"

JR is not getting adequate relief from acetaminophen and is interested a stronger pain medication. According to the guidelines, which of the following would be the most appropriate next step in his treatment?

A. Initiate Oxycontin® 10mg po bid
B. Initiate naproxen 275mg bid
C. Discontinue acetaminophen
D. All of the above are appropriate next steps

Chronic Pain Case Scenario: “JR"

JR really likes the idea of starting an opioid. Which of the following would increase JR’s risk for opioid-related harm? (Select all that apply)

A. History of depression

B. Age over 50

C. Obesity

D. Prior substance use history

Chronic Pain Case Scenario: “JR"

Three months later, JR returns and is still not getting adequate relief with the addition of naproxen and added nonpharmacologic therapies. His physician has decided to trial oxycodone 5mg bid as needed.

- According to the 2022 Opioid Prescribing guidelines, as pharmacist filling his prescription, which of the following would be appropriate.

A) Co-prescribe naloxone due to his history of alcohol use disorder and depression.
B) Recommend a higher dose of oxycodone for more effective pain relief due to his obesity
C) Dispense the opioid without concern since been in remission for 12 years
D) Encourage the patient to take non-opioid and non-pharmacologic therapies and use oxycodone only if necessary.
E) Two of the above

Role of the Pharmacist in Pain Management

Pharmacist Roles in Pain Management

- Medication Management
- Acute pain – analgesic selection and protocol development
- Transitions of care
- Patients with Chronic Pain and Opioid Use Disorder
- Role in Pain Education and Self-Management
- Role as a Member of the Interprofessional Pain Care Team

Hannah C, Carnett K Goldwire M,,Transitions of Care Strategies for Hospitalized Patients With Pain. *US Pharm*. 2025;50(4):35-40.
Murphy L, Ng K, Isaac P, Swidrovich J, Zhang M, Sproule BA. The Role of the Pharmacist in the Care of Patients with Chronic Pain. Integr Pharm Res Pract. 2021 Apr 30;10:33-41. doi: 10.2147/IPRP.S248699. PMID: 33959490; PMCID: PMC8096635.
Shrestha S, Iqbal A, Teoh SL et al, Impact of pharmacist-delivered interventions on pain-related outcomes: An umbrella review of systematic reviews and meta-analyses, Research in Social and Administrative Pharmacy, 20(6),2024: 34-51, https://doi.org/10.1016/j.sapharm.2024.03.005

Knowledge Check: Acute Pain Management

A 42-year-old male presents to the pharmacy after being discharged from the emergency department following a simple rib fracture. He was prescribed hydrocodone/acetaminophen 5/325 mg, 1 tablet every 6 hours as needed for pain, quantity #60.

Question 1:
According to the 2022 CDC guidelines, what concern should the pharmacist address first?
A) The use of acetaminophen in combination products
B) The quantity prescribed relative to expected duration of acute pain
C) The choice of hydrocodone over oxycodone
D) The need for non-pharmacologic treatment like acupuncture

Question 2:
What pharmacist intervention would best align with CDC recommendations?
A) Dispense the full quantity without changes.
B) Contact the prescriber to recommend reducing the quantity and reinforcing non-opioid options.
C) Recommend starting the patient on an extended-release opioid.
D) Recommend doubling the hydrocodone dose for faster pain control.

Knowledge Check: Transition

AL, a 62-year-old male is discharged after a same day shoulder replacement. His discharge opioid is oxycodone 5mg every 6 hours (#10), ibuprofen 600mg alternating with acetaminophen 1000 mg every 4 hours.

What is the MOST guideline-concordant recommendation?

A) Start with non-opioid treatments (e.g., NSAIDs) and use opioids only if needed.
B) Fill the prescription and instruct him to finish all tablets.
C) Switch immediately to an extended-release opioid for convenience.
D) Add a benzodiazepine to the opioid to relax muscles.

Once AL has stopped the oxycodone, he still had 25 tablets left. What should he do with them?

- Flush if on the FDA flush list
- Mix with an unpalatable substance (like dirt, used coffee grounds or cat litter), then place in sealed plastic bag and throw in household trash
- Take to pharmacy that accepts opioids for disposal
- All of the above

Knowledge Check: Chronic Pain

A 58-year-old male veteran with chronic back pain is newly prescribed oxycodone 10 mg every 6 hours as needed, #40. He also uses diazepam for anxiety and has a history of COPD exacerbations.

Which CDC recommendation applies to this patient?

A) Discuss with the patient whether or not he has taken any oxycodone before and how it affected him?

B) Recommend co-prescription of naloxone to reduce overdose risk.

C) Inquire about his use of non-opioid and non-pharmacologic therapies and their benefit

D) All of the above


Questions