Pain Management in the Age of the Opioid Crisis: Alternatives to Opioids

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THE QUEEN'S MEDICAL CENTER

Objectives

1. Describe national and local trends in opioid-related deaths
2. Discuss approaches to improve opioid safety
3. Review current best practices for management of acute and chronic pain

Disclosure Statement

1. I have no relationship with any industry or person(s) that could be construed as a conflict of interest presenting this material.
2. Off-label and treatments still in early stages of development will be discussed and identified as such.

Outline

- Definitions and background
- The scope of the problem
- What have we learned?
- What should we be doing?

Definitions

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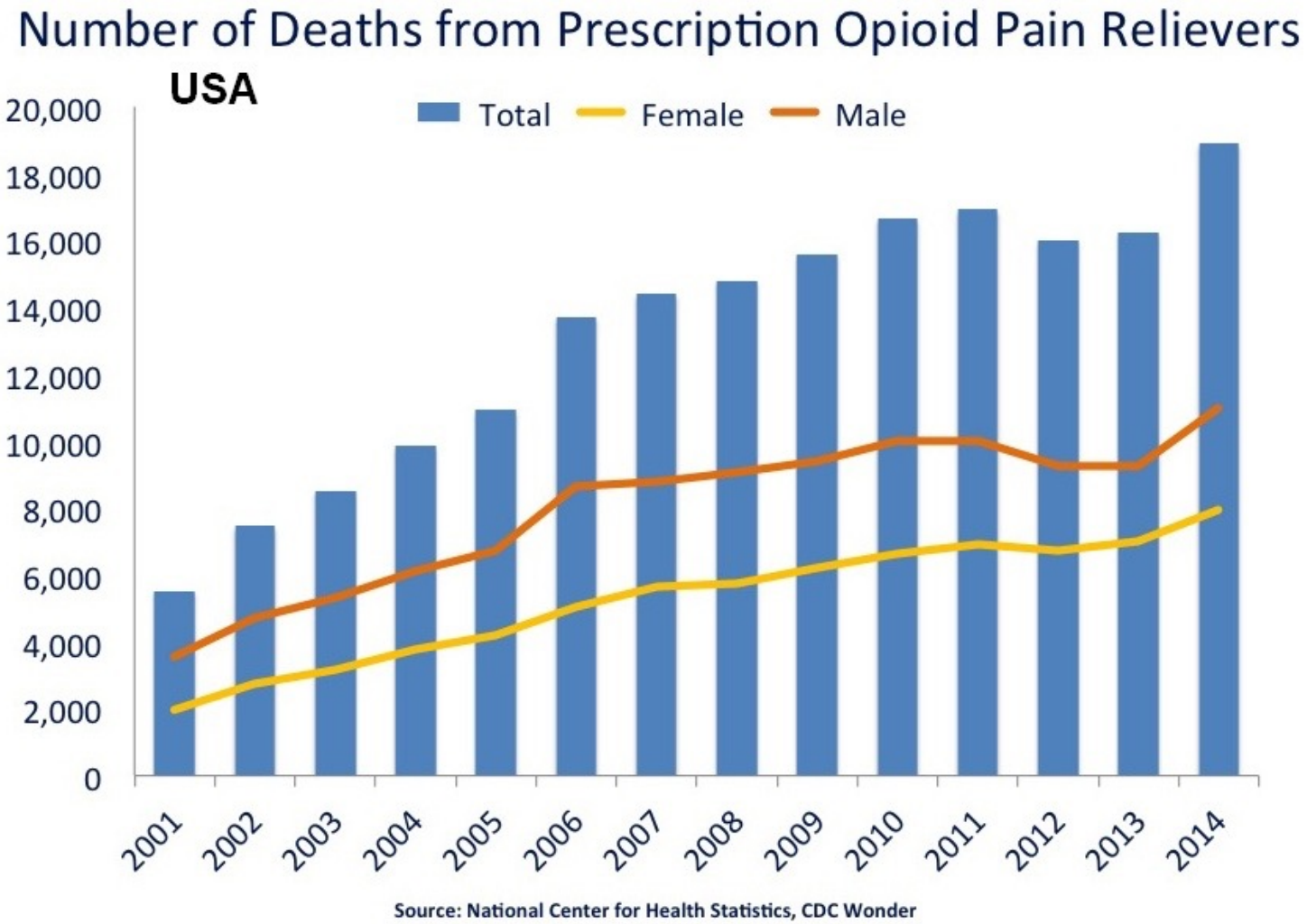
Background: Opioid Pain Medications

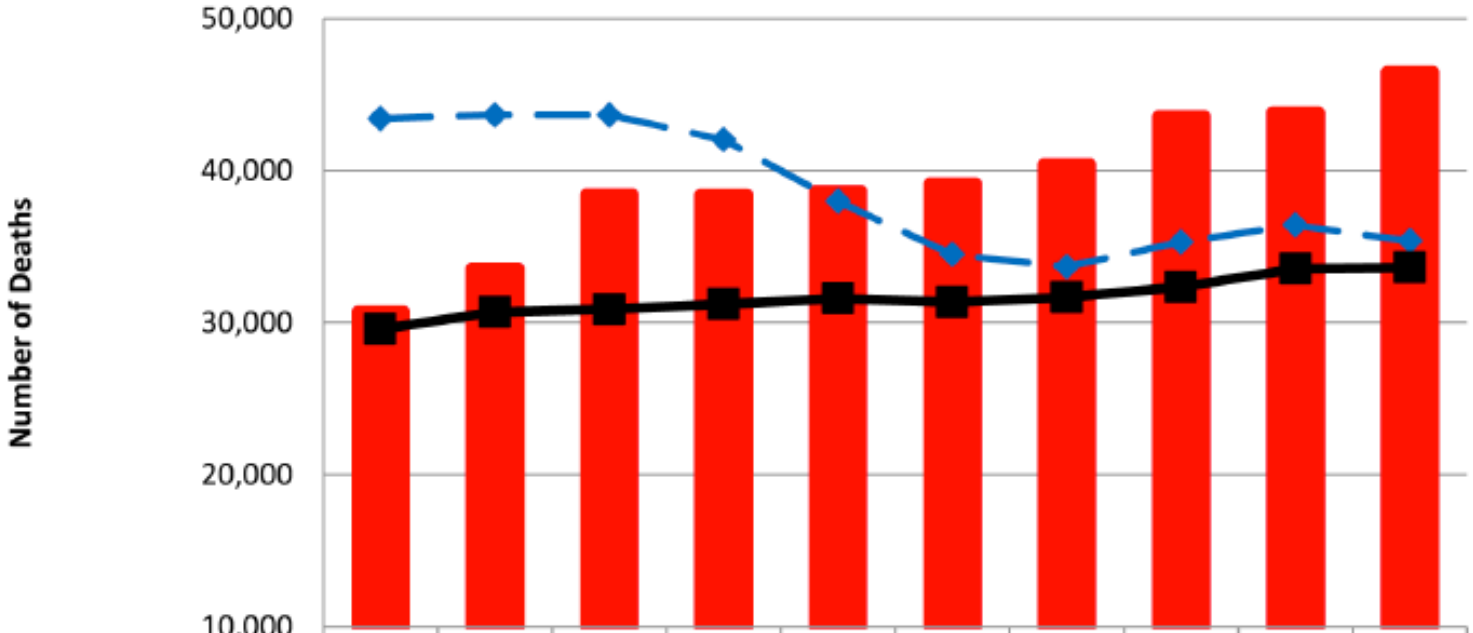
- Historically reserved for acute and cancer pain
- Multiple potential adverse effects include
  - Addiction
  - Life-threatening respiratory depression
  - Pro-algesia (i.e. may worsen pain)
- Recent increase in use for chronic, non-cancer, pain
- Concurrent increase in drug overdoses
- CDC declares an “opioid overdose epidemic”

Record number of overdose deaths in 2014



Overdose deaths exceed those from MVA and firerarms

(U) Chart 1. Number of Drug Induced Deaths Compared to the Number of Motor Vehicle and Firearm Deaths, 2004 - 2013



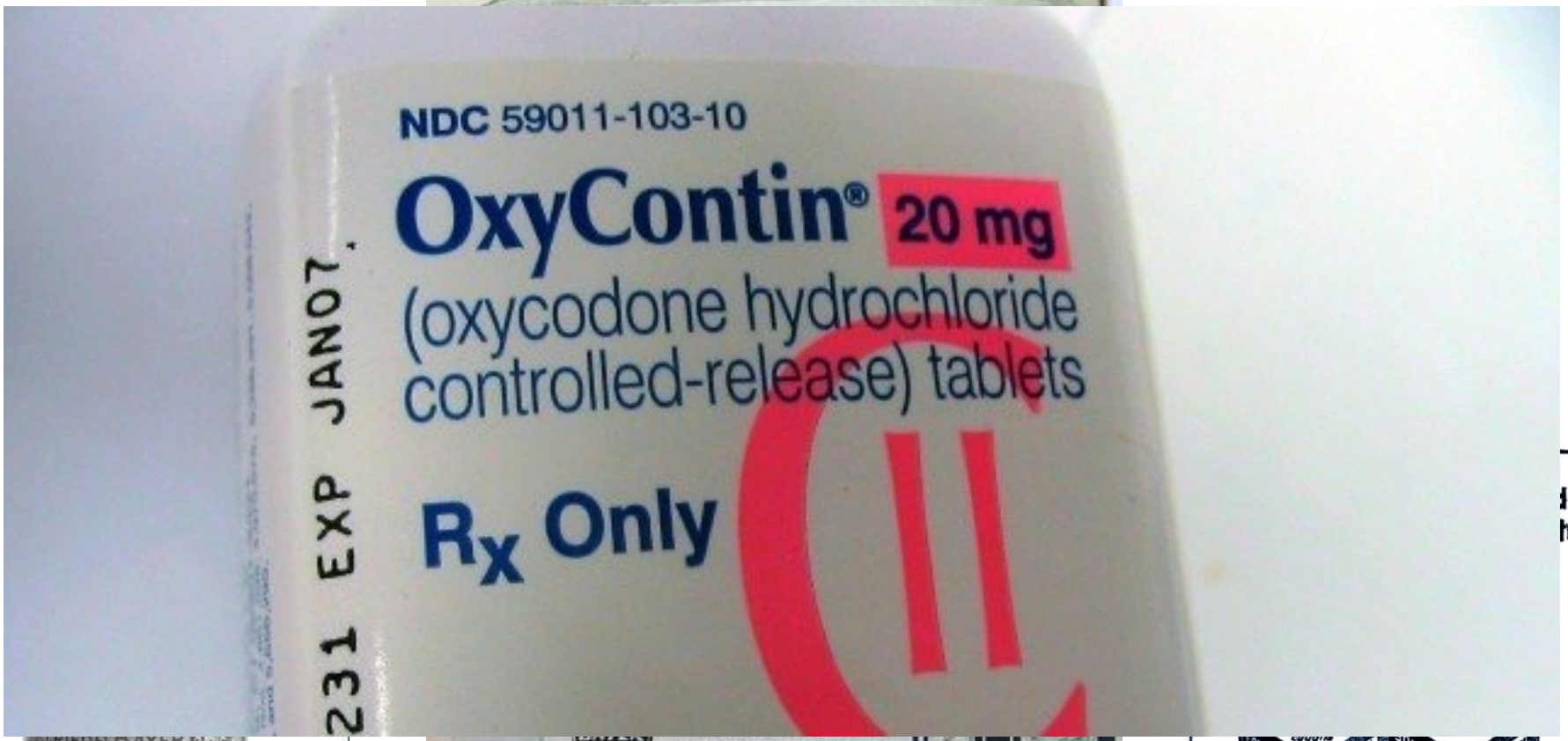
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Drug-Induced	30,711	33,541	38,396	38,371	38,649	39,147	40,393	43,544	43,819	46,471
Motor Vehicle	43,432	43,667	43,664	42,031	37,985	34,485	33,687	35,303	36,415	35,369
Firearms	29,569	30,694	30,896	31,224	31,593	31,347	31,672	32,351	33,563	33,636

Source: Centers for Disease Control and Prevention

The Drug Overdose Epidemic

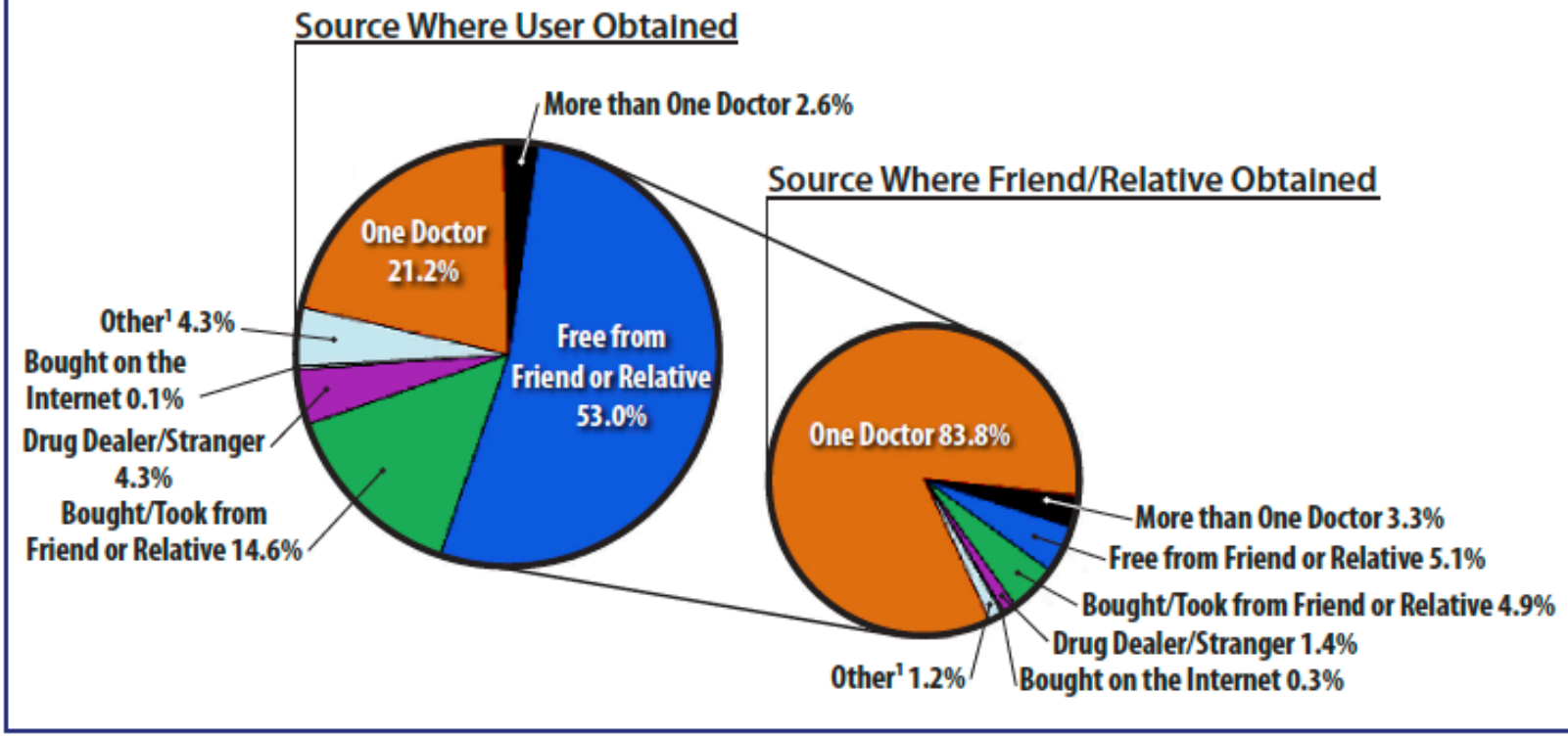
- 1999-2014: Opioid prescriptions quadruple
- 1999-2014: Opioid overdose deaths quadruple
- By 2014 American Society of Addiction Medicine estimates:
  - Nearly 2 million Americans abuse or are dependent on prescription opioids
  - Over 28,000 Americans die from opioid overdose annually (>60% from prescription opioids)

How Did We Get Here?



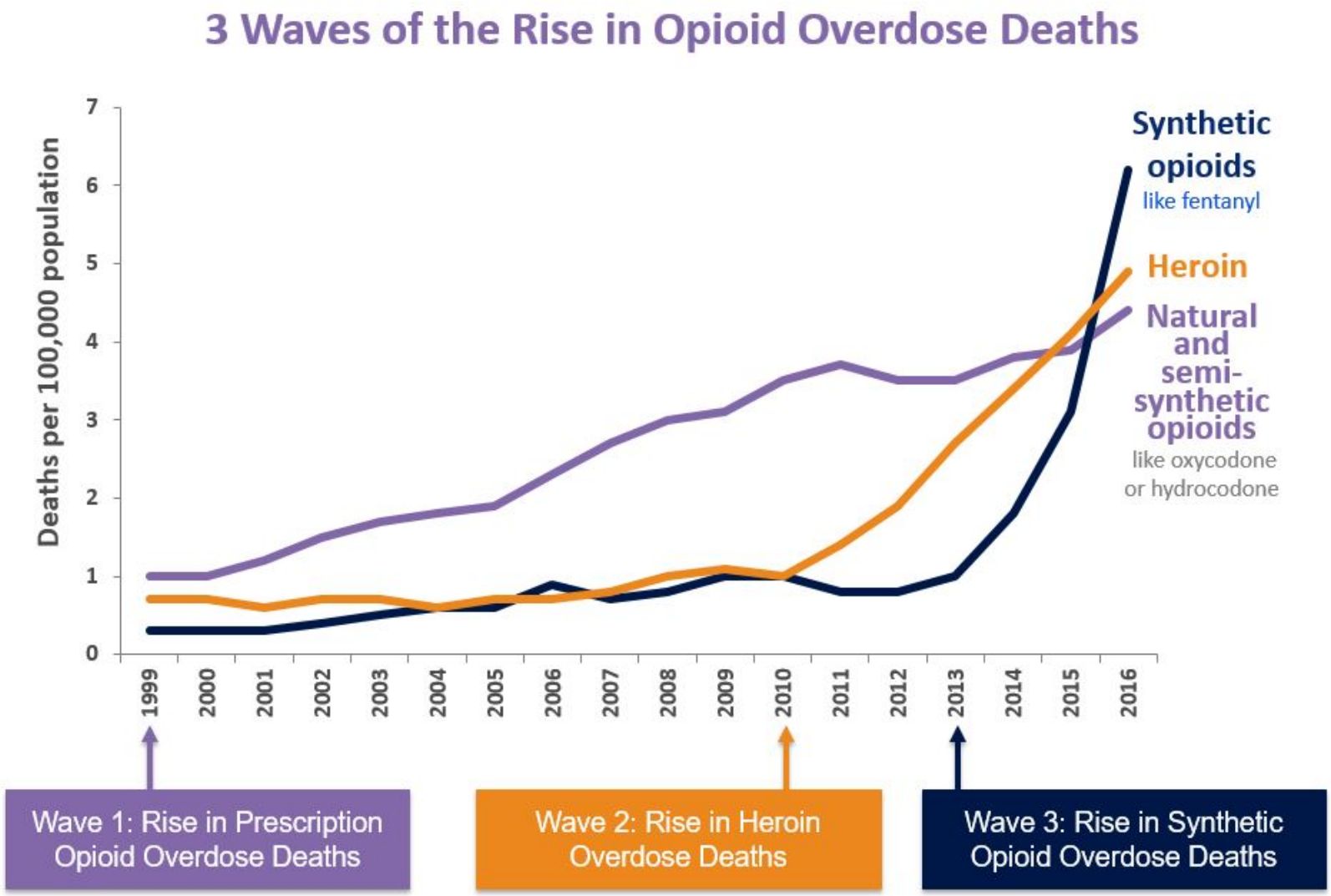
What Have We Learned?

(U) Chart 6. Source Where Pain Relievers Were Obtained for Most Recent Nonmedical Use among Past Year Users Aged 12 or Older: 2012 - 2013



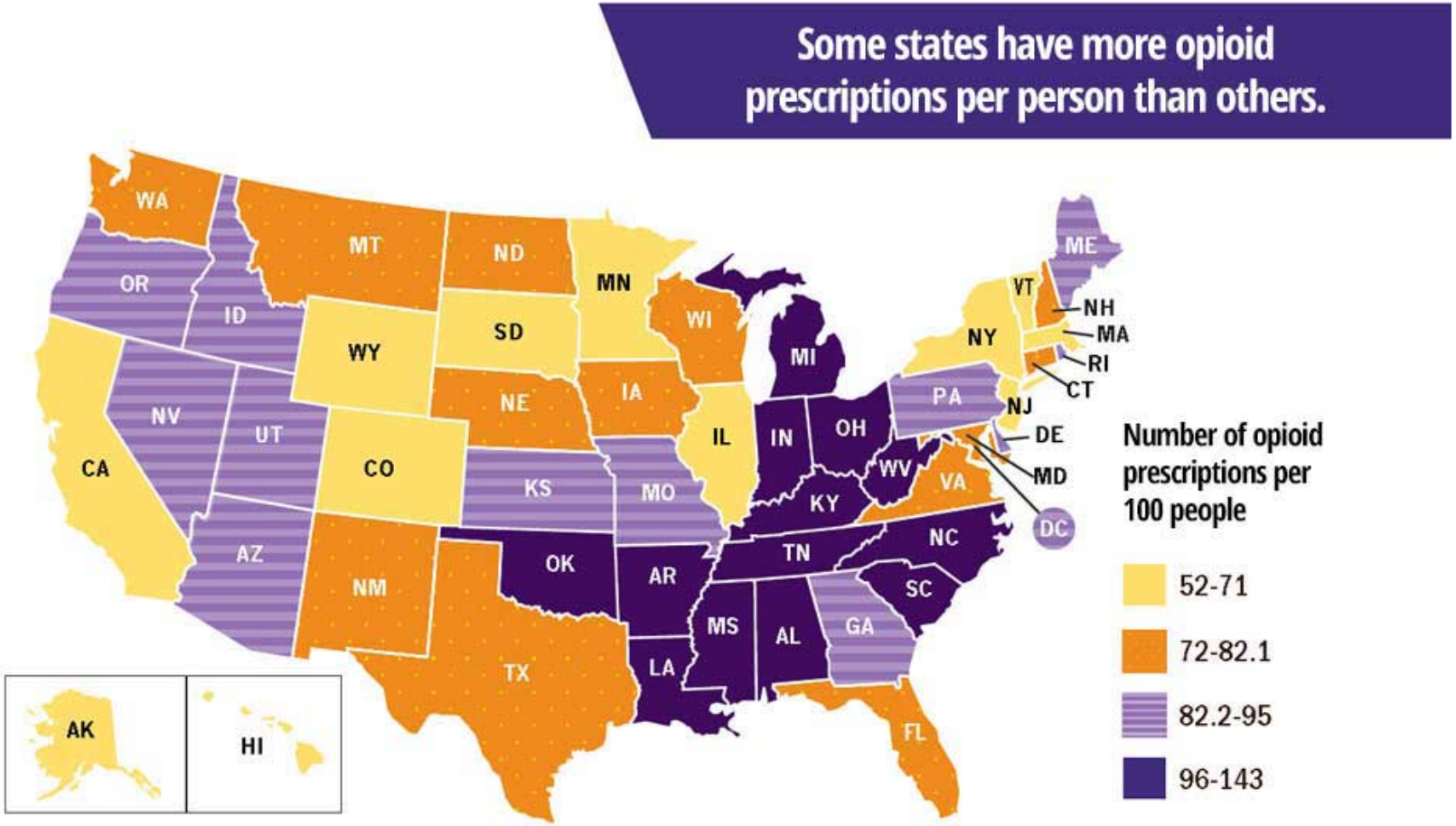
Source: NSDUH

An evolving epidemic



SOURCE: National Vital Statistics System Mortality File.

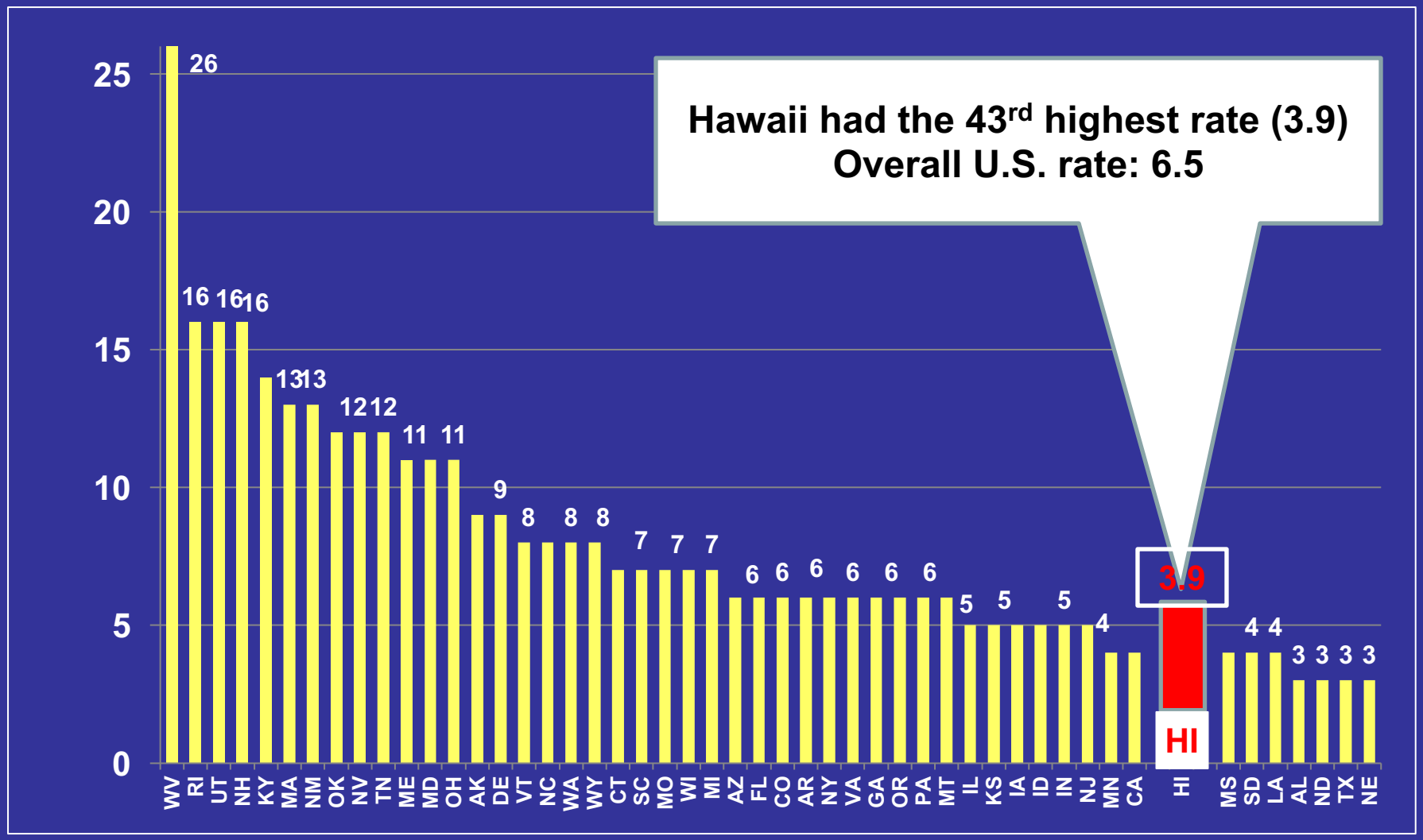
The situation in Hawaii



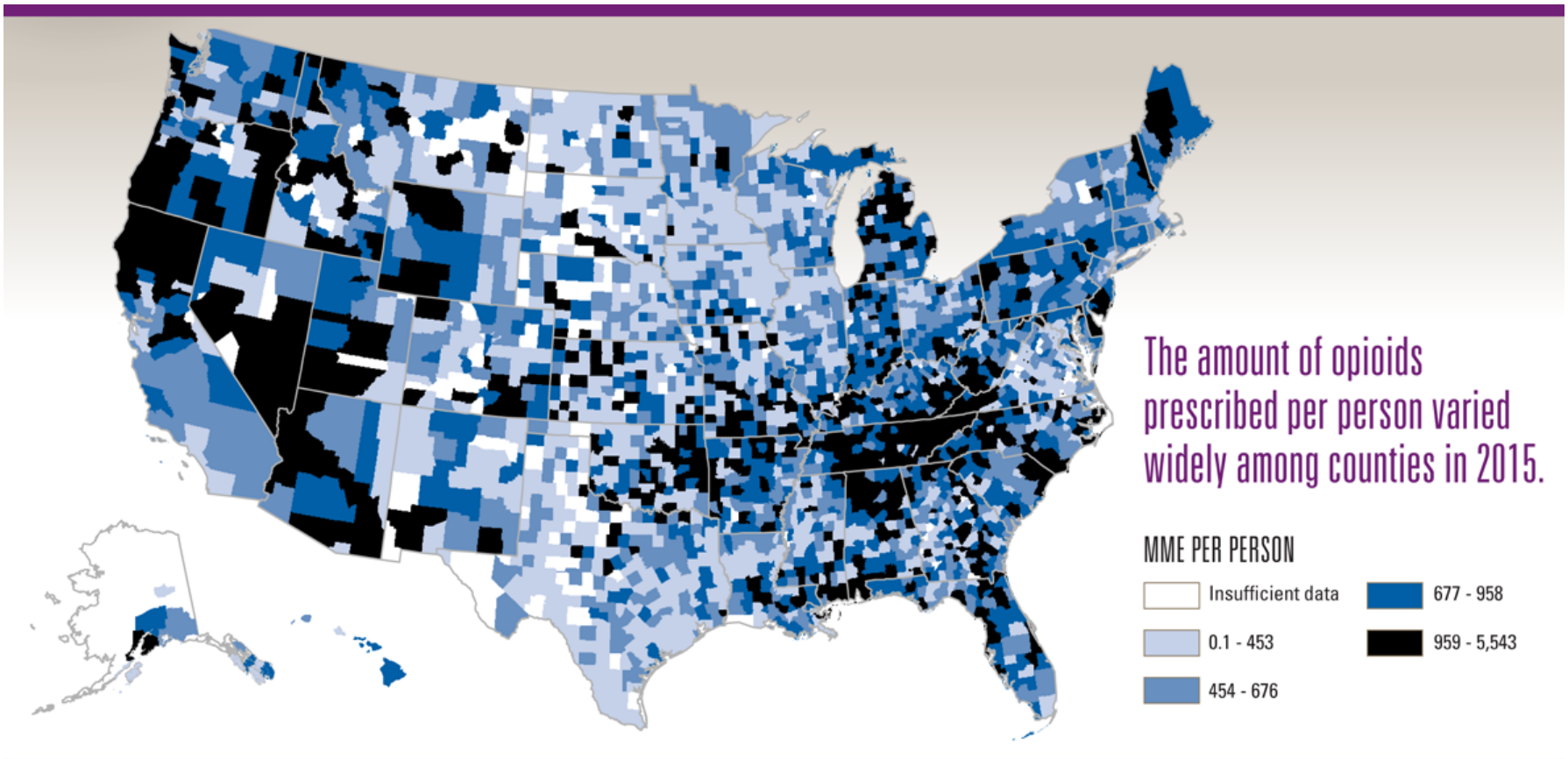
SOURCE: IMS, National Prescription Audit (NPA™), 2012.

Adjusted pharmaceutical/synthetic* opioid poisoning fatality rates, by state, 2012-2015

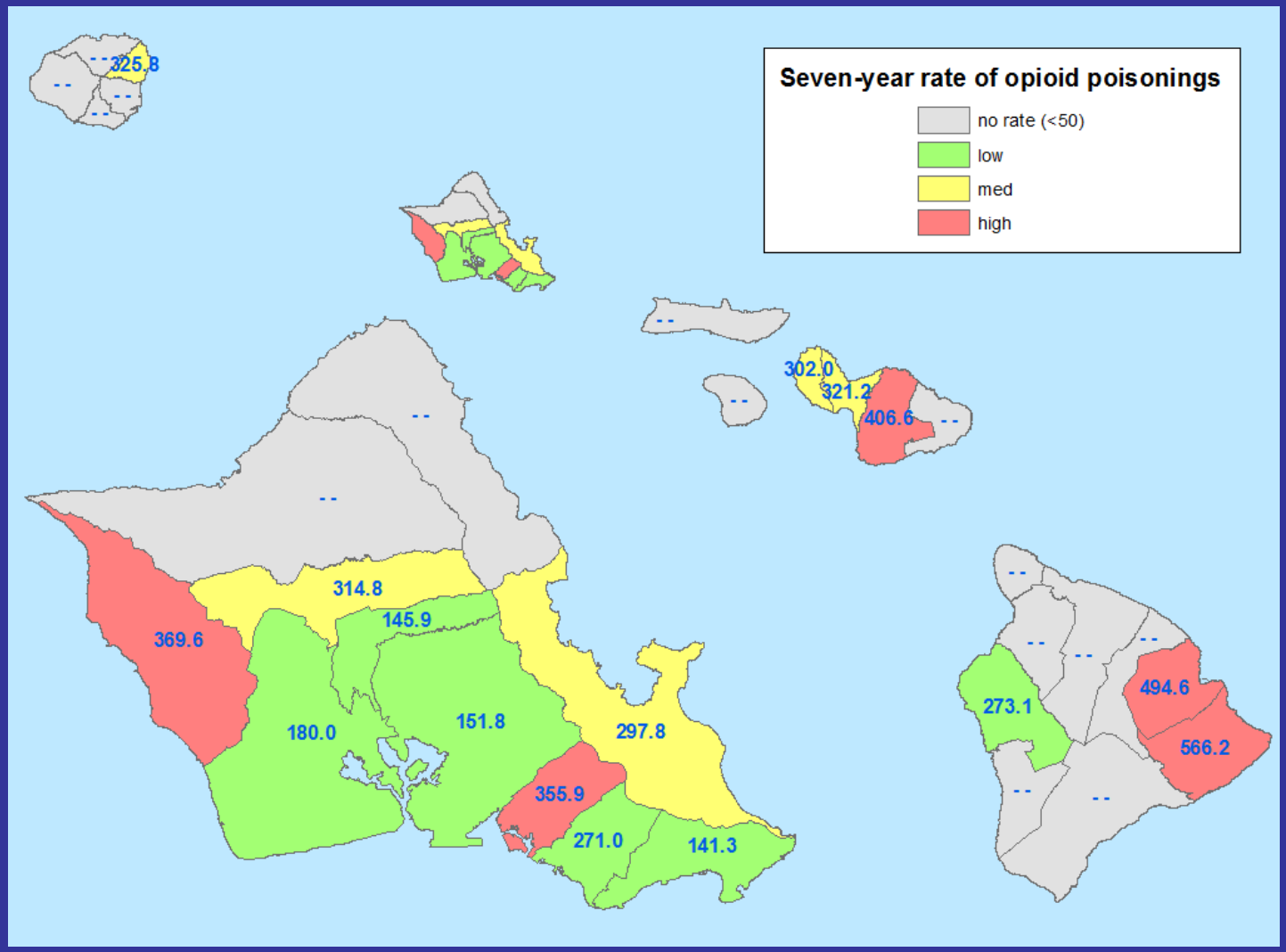
(Excludes poisonings due to heroin and opium, includes methadone.)



Slide courtesy of: Dan Galanis, Ph.D.
Epidemiologist, EMS & Injury Prevention System Branch
Hawaii Department of Health


The amount of opioids prescribed per person varied widely among counties in 2015.
MME PER PERSON
Insufficient data
0.1 - 453
454 - 676
677 - 958
959 - 5,543

Seven-year rates (/100,000) of fatal and nonfatal opioid poisonings, by district of residence (ages ≥20y), 2010-2016



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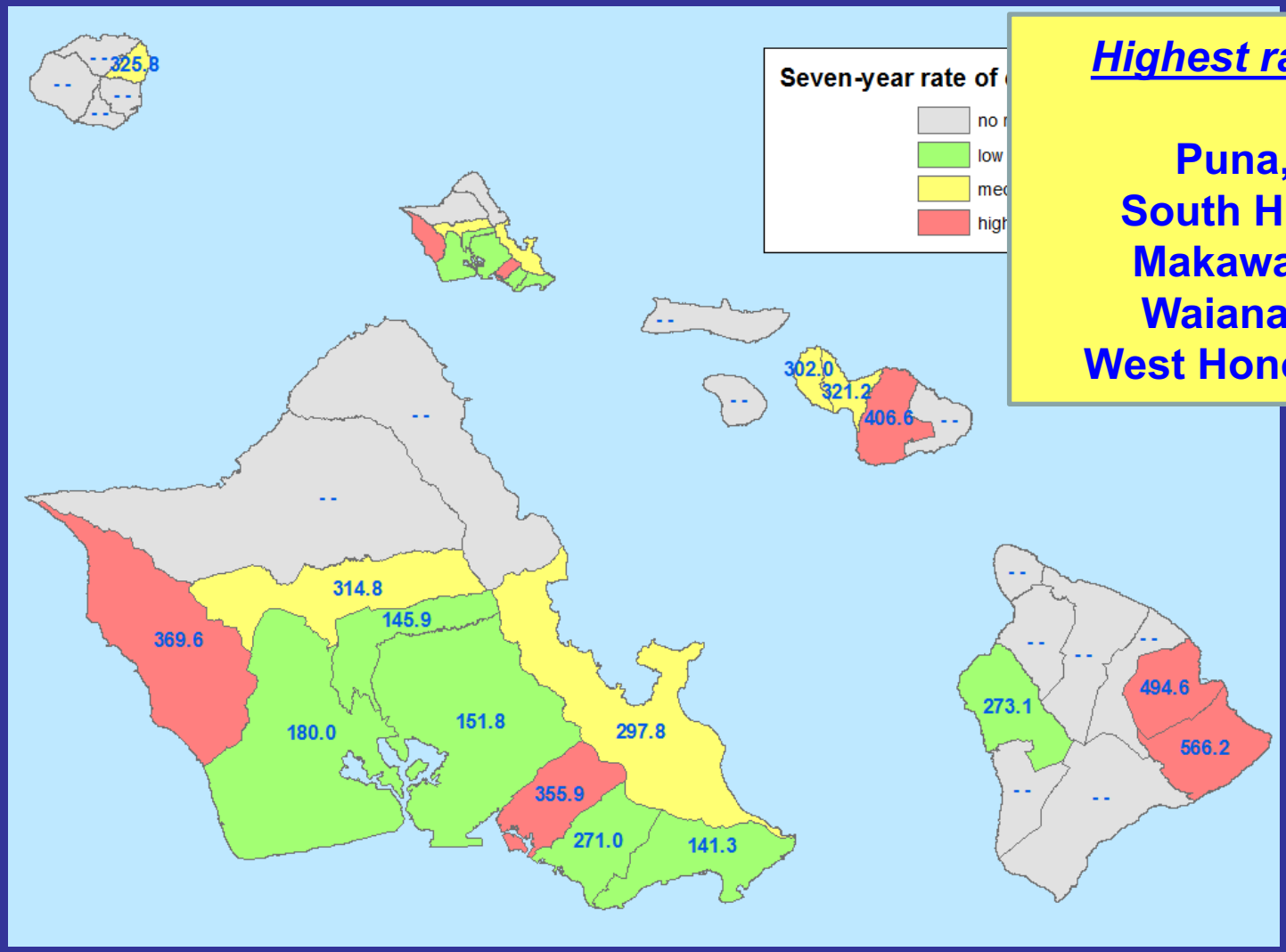

***Highest rates*:**

Puna,
South Hilo,
Makawao,
Waianae,
West Honolulu

Slide courtesy of: Dan Galanis, Ph.D.
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Leading mechanisms of fatal injuries among Hawaii residents, by 5-year periods, 1997-2016

	1997-2001	2002-2006	2007-2011	2012-2016
1	motor vehicle (628)	motor vehicle (703)	DRUG POISONING (774)	DRUG POISONING (782)
2	suffocation (407)	DRUG POISONING (536)	falls (630)	falls (773)
3	falls (391)	falls (525)	motor vehicle (578)	suffocation (570)
4	DRUG POISONING (378)	suffocation (453)	suffocation (557)	motor vehicle (565)
5	firearm (233)	drowning (178)	firearm (205)	firearm (235)
6	drowning (175)	firearm (173)	drowning (202)	drowning (194)
7	cut/pierce (62)	poisoning (46)	poisoning (72)	cut/pierce (66)
8	poisoning (44)	cut/pierce (39)	cut/pierce (61)	poisoning (47)
9	fires and burns (38)	fires and burns (29)	other transport (29)	other transport (37)
10	other transport (27)	other transport (16)	fires and burns (24)	fires and burns (29)

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CDC guidelines

PRESCRIBING OPIOIDS FOR CHRONIC PAIN

ADAPTED FROM CDC GUIDELINE

Opioids can provide short-term benefits for moderate to severe pain. Scientific evidence is lacking for the benefits to treat chronic pain.

IN GENERAL, DO NOT PRESCRIBE OPIOIDS AS THE FIRST-LINE TREATMENT FOR CHRONIC PAIN (for adults 18+ with chronic pain > 3 months excluding active cancer, palliative, or end-of-life care).

www.cdc.gov/drugoverdose/prescribing/guideline.html

Checklist for prescribing opioids for chronic pain

For primary care providers treating adults (18+) with chronic pain ≥3 months, excluding cancer, palliative, and end-of-life care

CHECKLIST

When CONSIDERING long-term opioid therapy

- ☐ Set realistic goals for pain and function based on diagnosis (eg, walk around the block).
- ☐ Check that non-opioid therapies tried and optimized.
- ☐ Discuss benefits and risks (eg, addiction, overdose) with patient.
- ☐ Evaluate risk of harm or misuse.
  - Discuss risk factors with patient.
  - Check prescription drug monitoring program (PDMP) data.
  - Check urine drug screen.
- ☐ Set criteria for stopping or continuing opioids.
- ☐ Assess baseline pain and function (eg, PEG scale).
- ☐ Schedule initial reassessment within 1–4 weeks.
- ☐ Prescribe short-acting opioids using lowest dosage on product labeling; match duration to scheduled reassessment.

If RENEWING without patient visit

- ☐ Check that return visit is scheduled ≤3 months from last visit.

When REASSESSING at return visit

Continue opioids only after confirming clinically meaningful improvements in pain and function without significant risks or harm.

- ☐ Assess pain and function (eg, PEG); compare results to baseline.
- ☐ Evaluate risk of harm or misuse:
  - Observe patient for signs of over-sedation or overdose risk.
    - If yes: Taper dose.
  - Check PDMP.
  - Check for opioid use disorder if indicated (eg, difficulty controlling use).
    - If yes: Refer for treatment.
- ☐ Check that non-opioid therapies optimized.
- ☐ Determine whether to continue, adjust, taper, or stop opioids.
- ☐ Calculate opioid dosage morphine milligram equivalent (MME).
  - If ≥50 MME/day total (≥50 mg hydrocodone; ≥33 mg oxycodone), increase frequency of follow-up; consider offering naloxone.
  - Avoid ≥90 MME/day total (≥90 mg hydrocodone; ≥60 mg oxycodone), or carefully justify; consider specialist referral.
- ☐ Schedule reassessment at regular intervals (≤3 months).

REFERENCE

EVIDENCE ABOUT OPIOID THERAPY

- *Benefits of long-term opioid therapy for chronic pain not well supported by evidence.*
- *Short-term benefits small to moderate for pain; inconsistent for function.*
- *Insufficient evidence for long-term benefits in low back pain, headache, and fibromyalgia.*

NON-OPIOID THERAPIES

Use alone or combined with opioids, as indicated:

- Non-opioid medications (eg, NSAIDs, TCAs, SNRIs, anti-convulsants).
- Physical treatments (eg, exercise therapy, weight loss).
- Behavioral treatment (eg, CBT).
- Procedures (eg, intra-articular corticosteroids).

EVALUATING RISK OF HARM OR MISUSE

Known risk factors include:

- Illegal drug use; prescription drug use for nonmedical reasons.
- History of substance use disorder or overdose.
- Mental health conditions (eg, depression, anxiety).
- Sleep-disordered breathing.
- Concurrent benzodiazepine use.

Urine drug testing: Check to confirm presence of prescribed substances and for undisclosed prescription drug or illicit substance use.

Prescription drug monitoring program (PDMP): Check for opioids or benzodiazepines from other sources.

ASSESSING PAIN & FUNCTION USING PEG SCALE

PEG score = average 3 individual question scores (30% improvement from baseline is clinically meaningful)

Q1: *What number from 0–10 best describes your **pain** in the past week?*
0="no pain", 10="worst you can imagine"

Q2: *What number from 0–10 describes how, during the past week, pain has interfered with your **enjoyment of life**?*
0="not at all", 10="complete interference"

Q3: *What number from 0–10 describes how, during the past week, pain has interfered with your **general activity**?*
0="not at all", 10="complete interference"

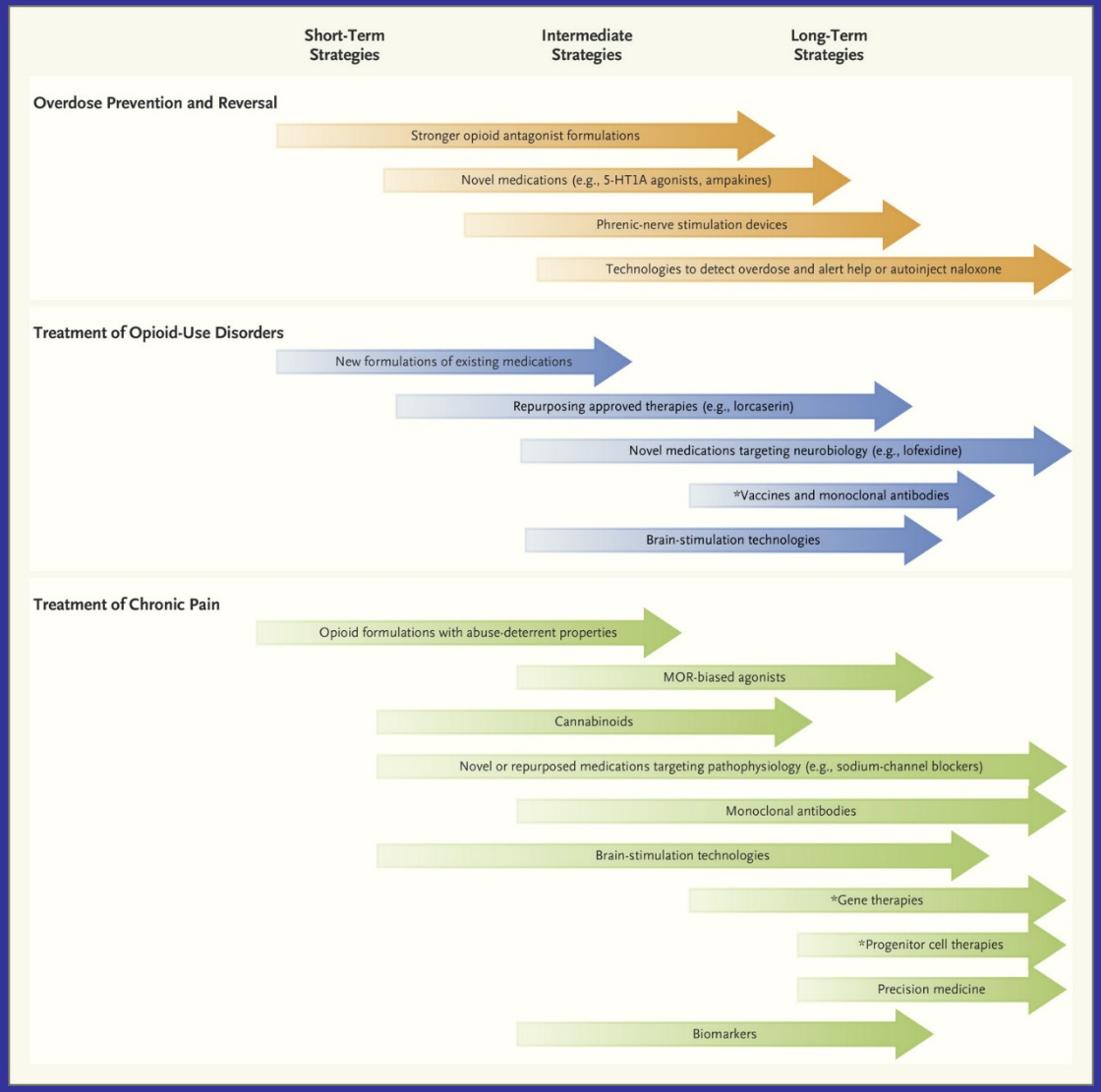
https://www.cdc.gov/drugoverdose/pdf/PDO_Checklist-a.pdf

Science to the Rescue?

- Overdose prevention and reversal strategies
- Treatment of opioid use disorders
- Treatment of chronic pain

Volkow ND, Collins FS. *N Engl J Med* 2017;377:391-394.

Scientific Strategies for Combating the Opioid Epidemic.



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Pain in the Emergency Department

- Pain complaint: Nearly 2/3 of ER patients
- Many can be managed without opioids
- Effective alternatives to opioids include:
  - Heat/cold, NSAIDs (PO, topical, parenteral), NO, nerve blocks, IV lidocaine, trigger point injections, ketamine, triptans
- Opioids still likely needed for some
  - e.g. trauma, advanced cancer, sickle cell

Post-operative Pain

- Opioid use for acute pain can become chronic
- Duration and dose increase risk
- Multimodal analgesia recommended
  - Regional and local anesthesia, gabapentinoids, NSAIDs, acetaminophen
- If opioids prescribed, 3-7 days advised

Chronic Pain Management Principles

- Comprehensive assessment
  - Physical, psychological including coping styles, family dynamics, cultural
- Address concurrent anxiety/mood disorders
  - Potent predictors of disability
- Active treatments superior to passive ones

Non-Pharmacological Alternatives for Chronic Pain

- Physical modalities: Heat, cold, TENS, stretching, therapeutic exercise training program
- Complementary modalities: yoga, tai chi, massage, spinal manipulation, acupuncture
- Psychological modalities: CBT, mindfulness-based stress reduction

Additional Alternatives for Chronic Pain

- Neuropathic pain agents
  - e.g. gabapentinoids, SNRI's, topical lidocaine
- Interventional pain approaches
  - e.g. neurolytic procedures, dorsal column stimulator, intrathecal catheter

ACP 2017 Guidelines for Low Back Pain

Recommendation 1: Given that most patients with acute or subacute low back pain improve over time regardless of treatment, clinicians and patients should select nonpharmacologic treatment with superficial heat (moderate-quality evidence), massage, acupuncture, or spinal manipulation (low-quality evidence). If pharmacologic treatment is desired, clinicians and patients should select nonsteroidal anti-inflammatory drugs or skeletal muscle relaxants (moderate-quality evidence). (Grade: strong recommendation)

ACP 2017 Guidelines for Low Back Pain

Recommendation 2: For patients with chronic low back pain, clinicians and patients should initially select nonpharmacologic treatment with exercise, multidisciplinary rehabilitation, acupuncture, mindfulness-based stress reduction (moderate-quality evidence), tai chi, yoga, motor control exercise, progressive relaxation, electromyography biofeedback, low-level laser therapy, operant therapy, cognitive behavioral therapy, or spinal manipulation (low-quality evidence). (Grade: strong recommendation)

ACP 2017 Guidelines for Low Back Pain

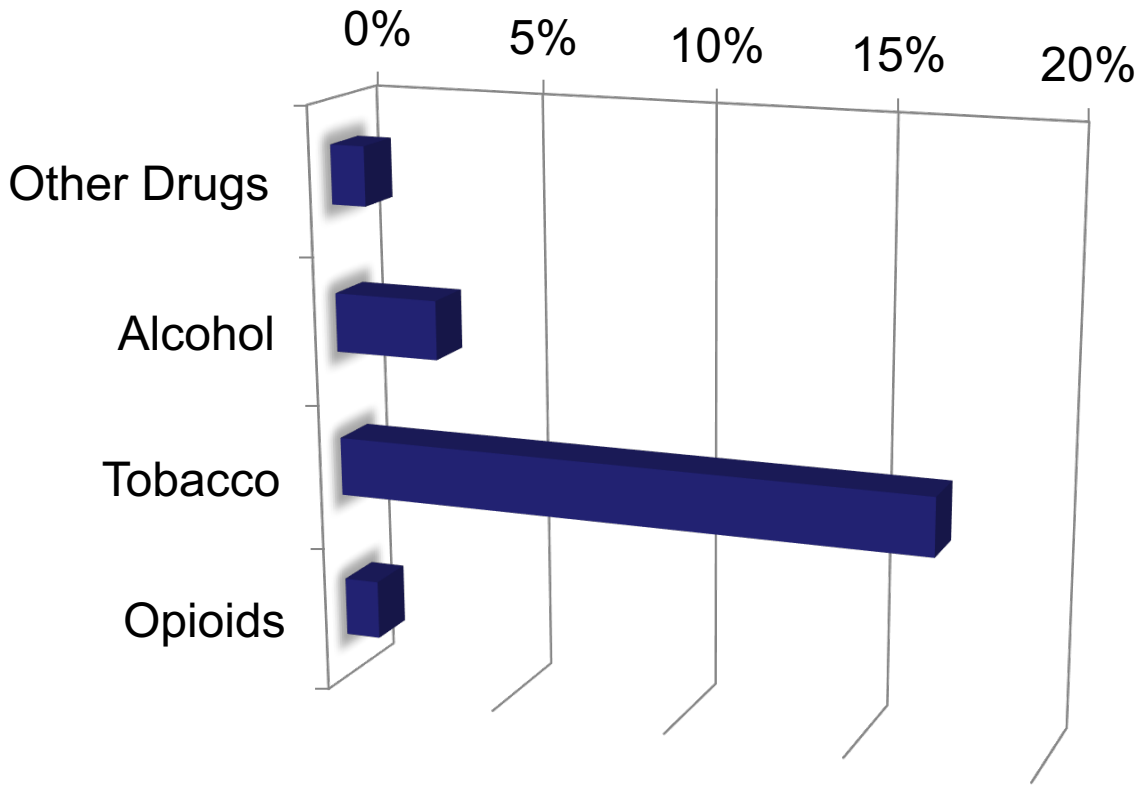
Recommendation 3: In patients with chronic low back pain who have had an inadequate response to non-pharmacologic therapy, clinicians and patients should consider pharmacologic treatment with nonsteroidal anti-inflammatory drugs as first-line therapy, or tramadol or duloxetine as second-line therapy. Clinicians should only consider opioids as an option in patients who have failed the aforementioned treatments and only if the potential benefits outweigh the risks for individual patients and after a discussion of known risks and realistic benefits with patients. (Grade: weak recommendation, moderate-quality evidence)

ACP 2017 Guidelines for Back Pain

- Acute/subacute back pain
  - Reassurance: usually self-limiting
  - Avoid costly or potentially harmful treatments (eg opioids)
  - Steroids not helpful even if radicular pain
- Chronic back pain
  - Avoid costly, ineffective (eg SSRI's) or potentially harmful therapies (eg opioids)

Substance-Related US Deaths Annually

Total=2.6 Million deaths/year



Source: www.cdc.gov

What Should We Be Doing?

- Modify opioid prescribing practices
- Promote non-opioid pain management whenever appropriate
- Educate patients and family members
- Increase availability of naloxone
- Expand access to treatment for all substance use disorders
- Thoughtful legislation
- Ensure appropriate access when indicated

Questions?