

Chronic pain and the opiate epidemic

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Learning Objectives

After attending this presentation, learners will be able to:

- Describe the history of the current epidemic of opioid use in the United States
- Discuss the difference between acute and chronic pain
- Describe steps that can be taken to help patients get off opiates

The biggest problem we face in treatment of pain

- Opiate pain medicines relieve acute pain
- Opiate pain medicines cause tolerance (loss of effectiveness over time) so the dose must be continually increased to maintain the effect
- Opiate pain medications are not very effective for chronic pain
- Chronic opiates can increase pain (opiate mediated hyperalgesia)

“Tylox, Percocet, Vicodan, Oxycontin, and them patches, I tried ‘em all and ain’t none of them done nothing for my pain.

Which one you gonna give me?”

What are the goals of treatment?

- Function
 - Quality of life
 - Longevity
-
- Comfort

The Newest Opiate Epidemic

- From 2000 to 2014 nearly half a million people died from drug overdoses.
- 78 Americans die every day from an opioid overdose.
- Overdoses from prescription opioid pain relievers are a driving factor in the 15-year increase in opioid overdose deaths.
- Since 1999, the amount of prescription opioids sold in the U.S. nearly quadrupled
- Deaths from prescription opioids—drugs like oxycodone, hydrocodone, and methadone—have also quadrupled since 1999

In 2010 the US consumed

- 99% of the world's hydrocodone
- 80 percent of the world's oxycodone
- 65 percent of the world's hydromorphone

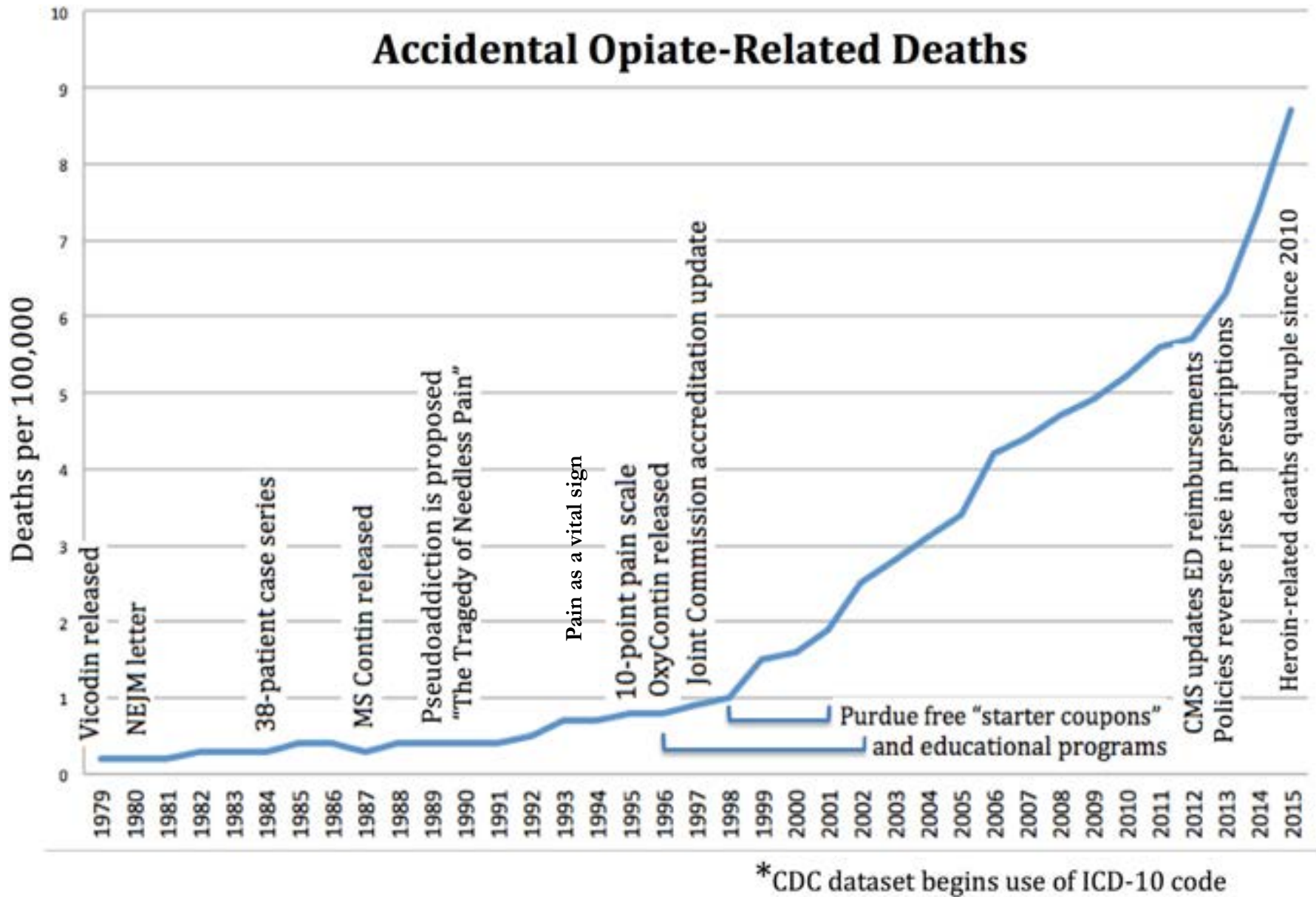


Fig. 1. Accidental opiate-related deaths from 1979 to 2015. Deaths per 100,000, with significant contributing factors annotated.

Cutting back on opiate prescriptions CDC website



2012 Action:

New York required prescribers to check the state's prescription drug monitoring program before prescribing painkillers.

2013 Result:

Saw a **75% drop in patients** who were seeing **multiple prescribers** to obtain the same drugs, which would put them at higher risk of overdose.



2010 Action:

Florida regulated pain clinics and stopped health care providers from dispensing prescription painkillers from their offices.

2012 Result:

Saw more than **50% decrease in overdose deaths** from oxycodone.



2012 Action:

Tennessee required prescribers to check the state's prescription drug monitoring program before prescribing painkillers.

2013 Result:

Saw a **36% drop in patients** who were seeing **multiple prescribers** to obtain the same drugs, which would put them at higher risk of overdose.

2014-2015 Death increases

2014-15

New York 20.4 % increase
(CDC)

2014-15

Florida 22.7 % increase
(CDC)

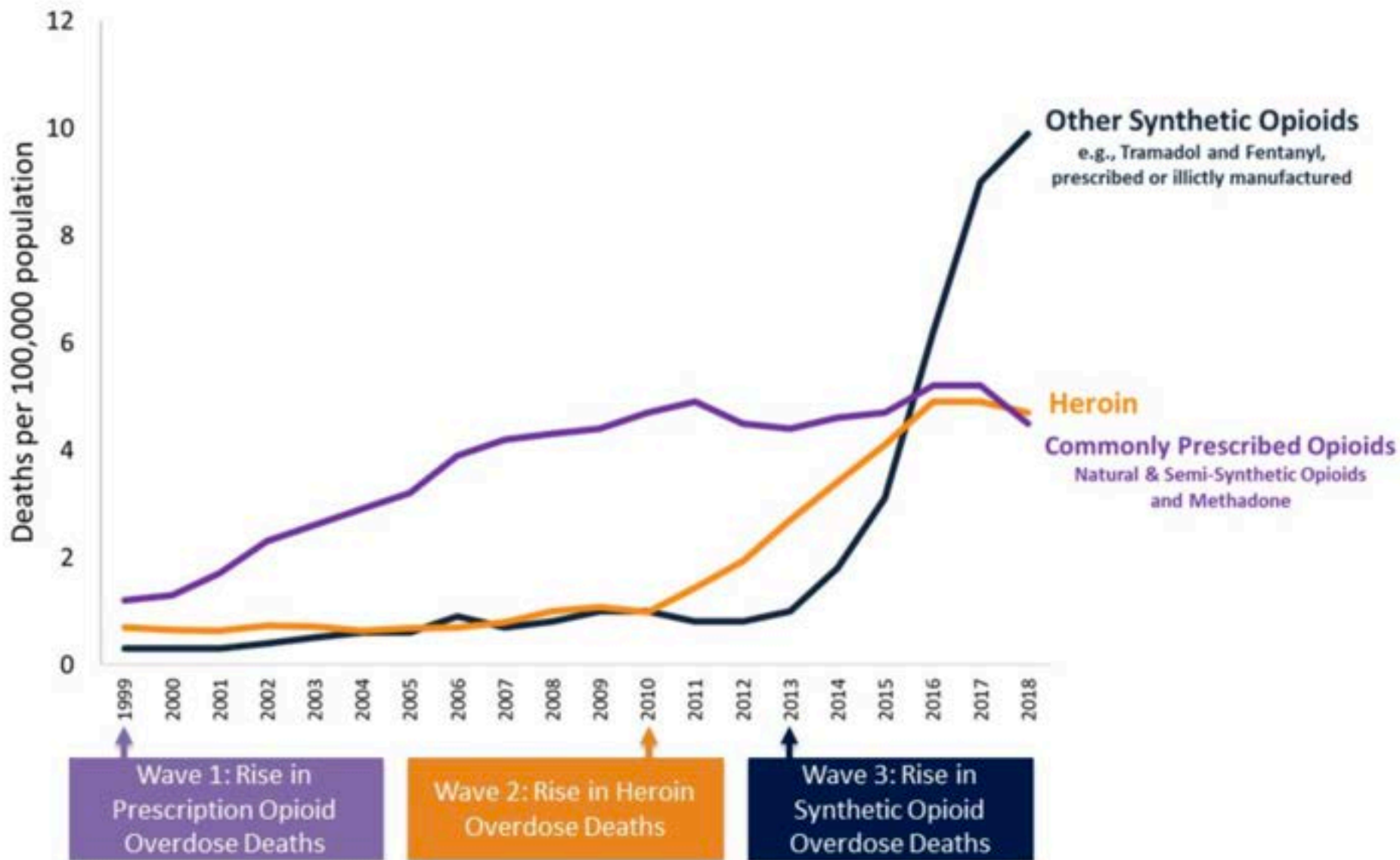
2014-15

Tennessee 13.8 % increase
(CDC)

<https://www.cdc.gov/drugoverdose/policy/successes.html>

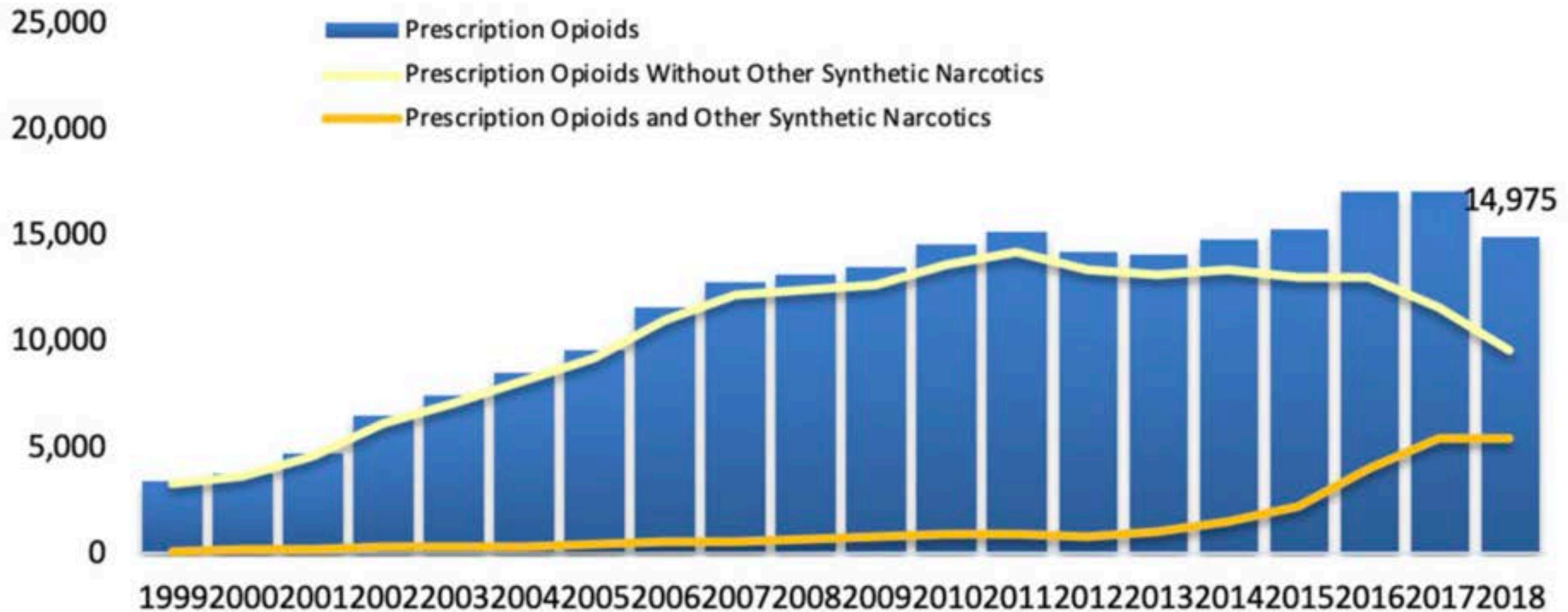
<https://www.cdc.gov/drugoverdose/data/statedeaths.html>

3 Waves of the Rise in Opioid Overdose Deaths

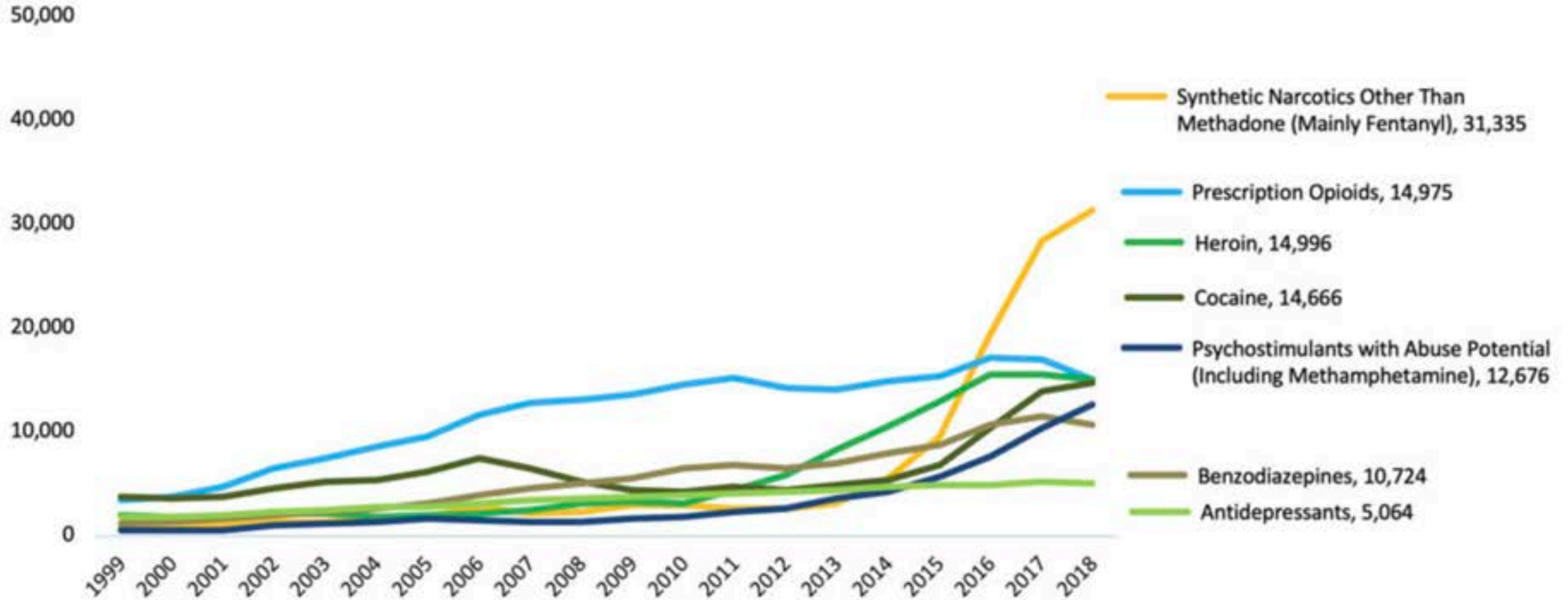


SOURCE: National Vital Statistics System Mortality File.

National Drug Overdose Deaths Involving Prescription Opioids, Number Among All Ages, 1999-2018



National Drug Overdose Deaths Involving Select Prescription and Illicit Drugs



12 Month-ending Provisional Number of Drug Overdose Deaths

Based on data available for analysis on: **1/3/2021**

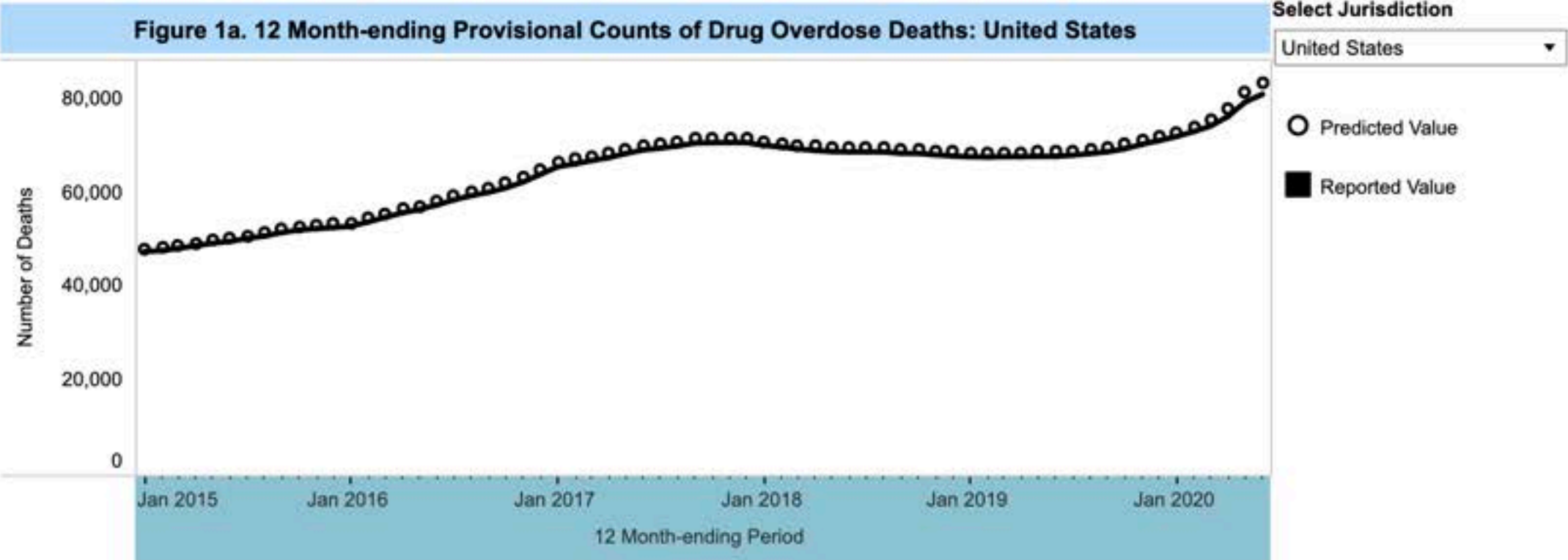
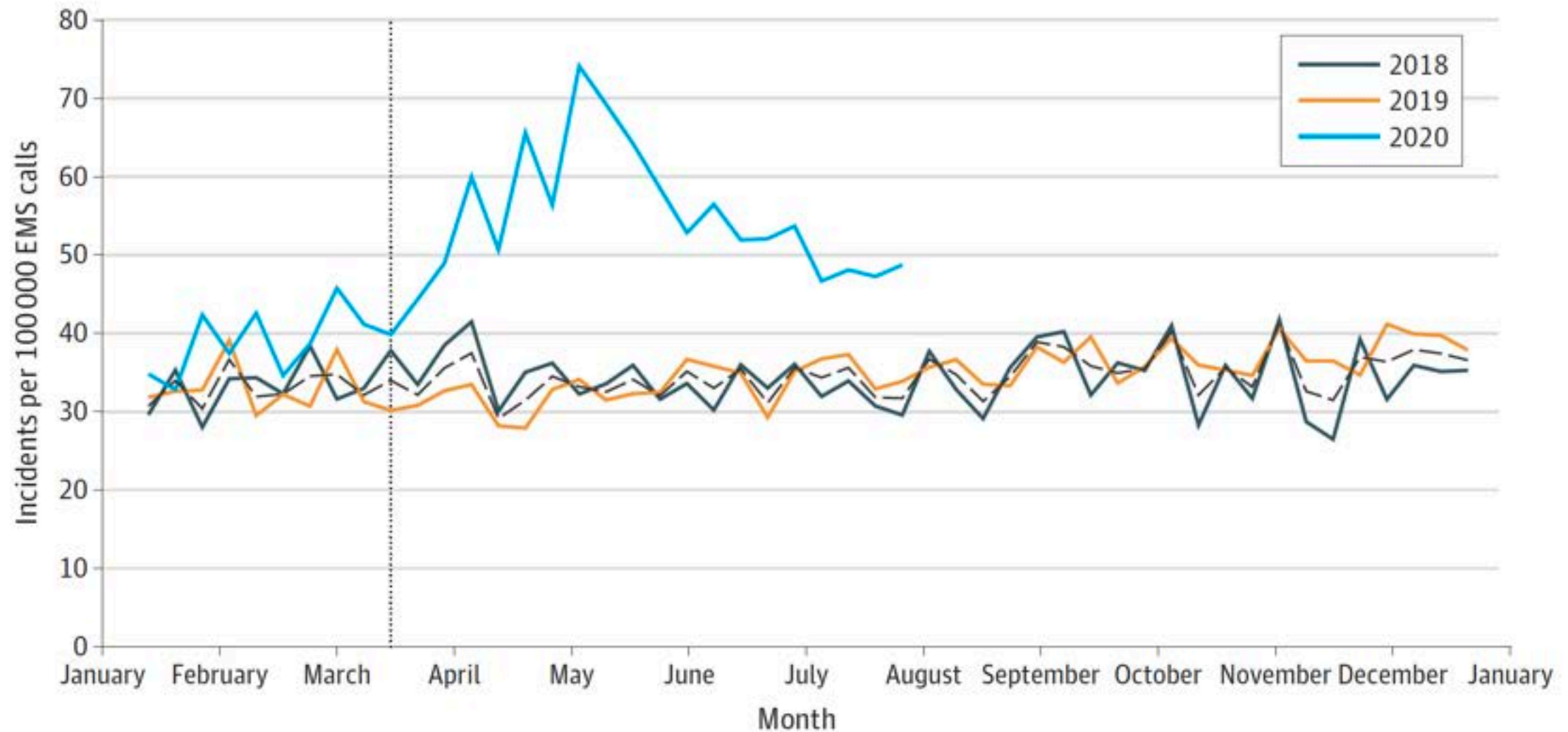


Figure. Changes in Emergency Medical Services (EMS)-Observed Overdose Incidents, Cardiac Arrests, and Mobility During the US Coronavirus Disease 2019 (COVID-19) Epidemic

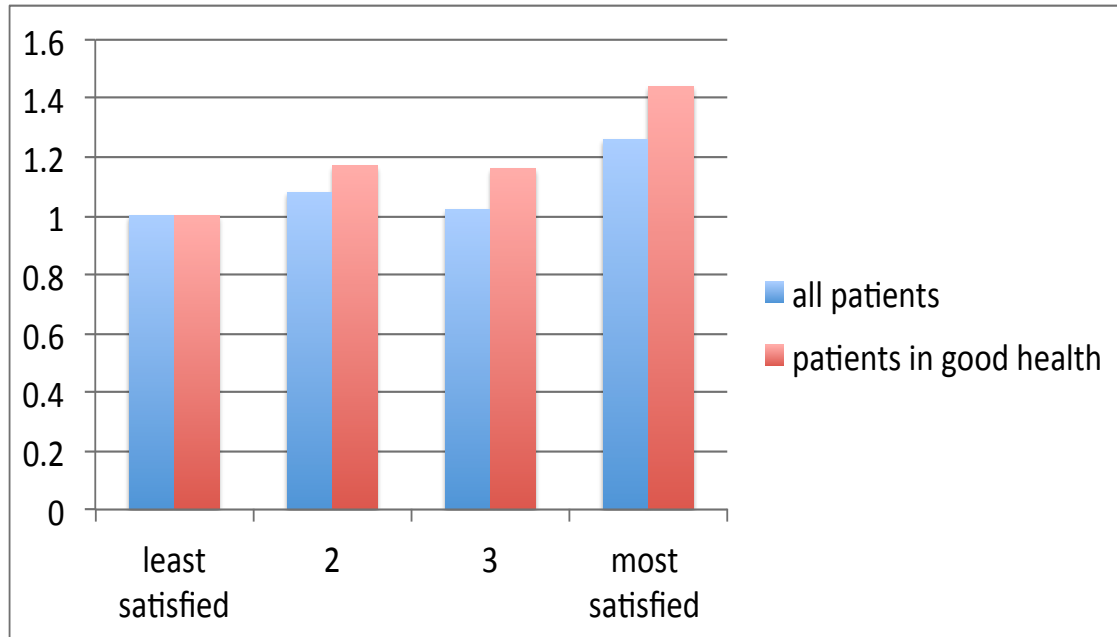
A Overdose-related cardiac arrests



2012

Increased patient satisfaction correlates with increased mortality

Medicare To Begin Basing Hospital Payments On Patient-Satisfaction Scores



CMS says more than 3,000 hospitals will be affected. Under the proposal, patient scores would determine 30 percent of the bonuses, while clinical measures for basic quality care would set the rest. Hospitals argue the scores should have less weight, but nevertheless are trying to figure out how to improve their rankings

Doctors are Pressured to Prescribe

- 71% to avoid administrative and regulatory criticism
- 57% to avoid negative impact on Joint Commission surveys
- 46% to avoid decreased patient satisfaction scores and decreased reimbursement
- 40 % either they or one of their colleagues have been formally disciplined for failure to acquiesce to a patient's request for an opioid prescription

THE WALL STREET JOURNAL.

A Pain-Drug Champion Has Second Thoughts



More than 16,000 people die from opioid overdoses every year. Now, Dr. Russell Portenoy, who campaigned for wider prescription of pain medications like Vicodin, Oxycontin and Percocet, is having second thoughts. WSJ's Thomas Catan reports.

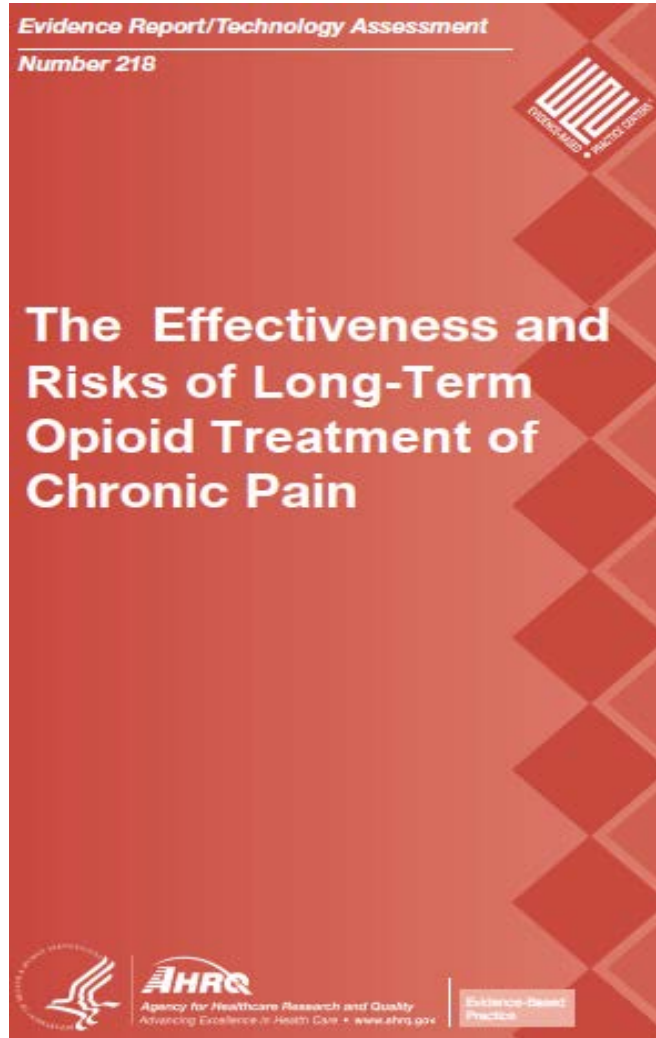
By **THOMAS CATAN** and **EVAN PEREZ**

Updated Dec. 17, 2012 11:36 a.m. ET

Portenoy says he did it

- “ ‘I gave innumerable lectures in the late 1980s and ‘90s about addiction that weren’t true’ ”
- He argued that opioids are a ‘gift from nature’ that were being forsaken because of ‘opiophobia’
- "It had all the makings of a religious movement at the time."
- Dr. Portenoy disclosed relationships with Endo, Abbott, Cephalon, Purdue, Johnson and Johnson

Where Are We Today With Evidence for Chronic Opioid Treatment?



- Of the 4,209 citations identified only 39 studies could be included:
- 0 RCTs comparing long term opioids to placebo
- Observational studies: Many patients find opiates ineffective and have many side effects
- Increased risk of abuse, overuse, fractures, MI, and the effect is dose dependent
- The strength of evidence for chronic opiates was rated no higher than low

*September 2014

Opioids vs. Non-opioid Pharmacological Therapy

SPACE RCT of stepped therapy starting with opioid therapy vs. initial non-opioid therapy for chronic LBP and OA pain

- One year VA trial in primary care, n=240
- Open-label for patients and clinicians, assessment masked
- All patients received individualized medication management using collaborative telecare pain management model
- Average opioid dose 26 vs. 1 mg MED/day
- At 12 mos, no difference in function, pain slightly worse in opioid group
- Opioids associated with more adverse symptoms; no deaths or OUD

Pain

- Pain is made up of 2 parts:
 - A sensory experience associated with particular types of stimulation
 - An emotional response of distress and anxiety related to the sensory information

Pain can be chronic or acute

- Acute pain is the result of stimulation of sensory receptors for injury or trauma
 - Can include chronic conditions such as burns, cancer, infection, auto-immune tissue damage
- Chronic pain which is the result of an adaptation of the nervous system
 - Pain which continues when the original injury that provoked the initial pain has resolved.

Acute pain

- Tissue damage

- Burns
- Cancer
- Trauma
- Visceral stretch
- Ischemia
- Inflammation

- Nerve activation

- Toxins
- Trauma
- Ischemia

Treatment of acute pain

- Opiate analgesics
- Blocks
- Anti-inflammatories
 - Steroids
 - Non-steroidal anti-inflammatories
 - Immunomodulators
- Dissociative anesthetics
- Non-opiate analgesics

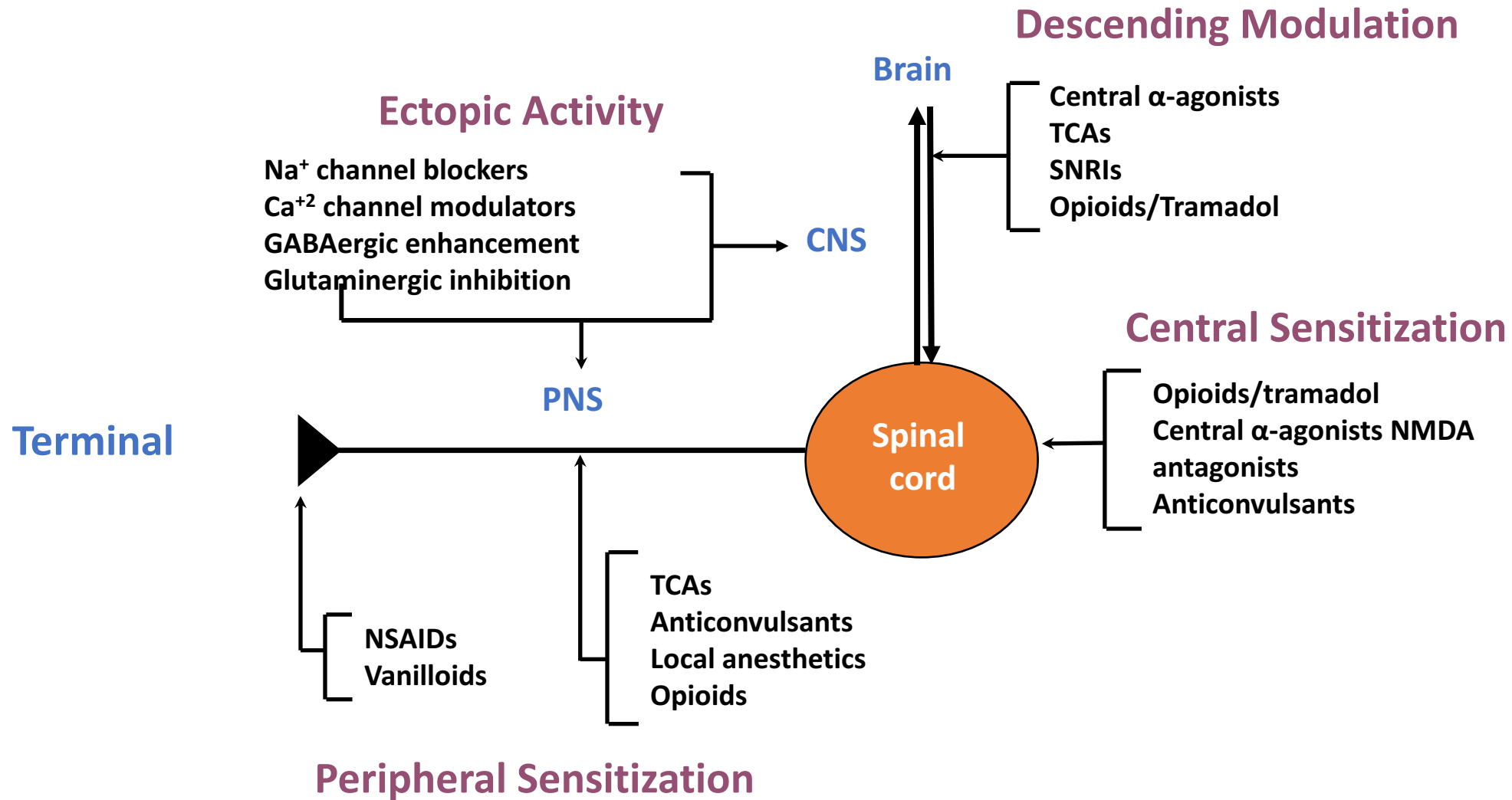
Categorization of Chronic pain

- Peripheral nerve dysfunction
 - peripheral sensitization
 - deafferentation
- Sympathetic dysregulation-
 - sympathetically maintained pain
- Central sensitization
 - sympathetic activation
 - cortical pain
 - Thalamic pain
- Conditioned pain
- Somatization

Pain amplification

- Blockade of pain sensation (opiates)
- Increased sympathetic activity
- Immune activation
- Interference with pain “gating mechanisms”
- Conditioning-learned pain
- Major depression

Chronic pain mechanisms



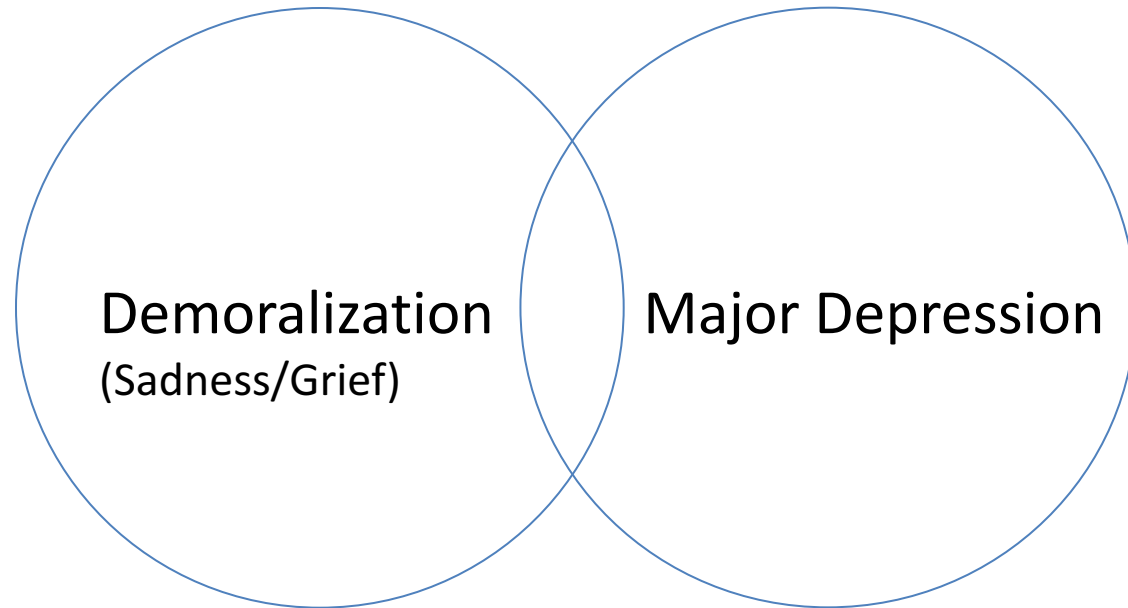
Issues that complicate pain treatment

- Combined acute and chronic pain
- Fatigue with pain management methods
- Immune activation and pain amplification
- Psychiatric comorbidities
 - Depression
 - Demoralization
 - Temperament and personality
 - Behavioral conditioning
 - Poor coping skills

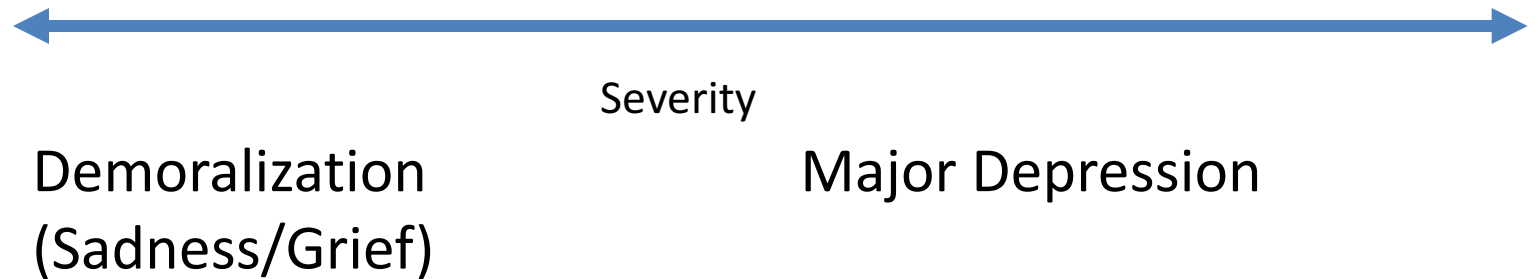
Demoralization and Depression

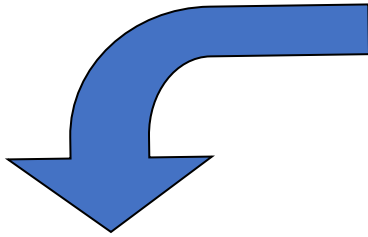
Two ways to think about depression

Categorical



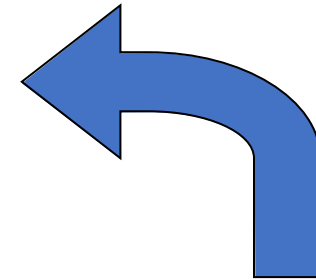
Dimensional



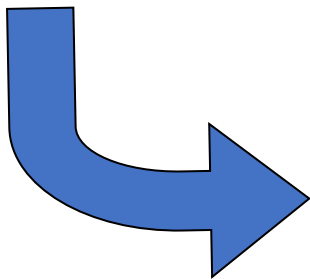


Depression

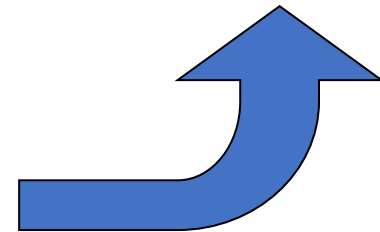
Dementia
Delirium
Demoralization
Inactivity
Physical Deconditioning
Social Isolation
Loss of Function
Toxicity
Inflammation



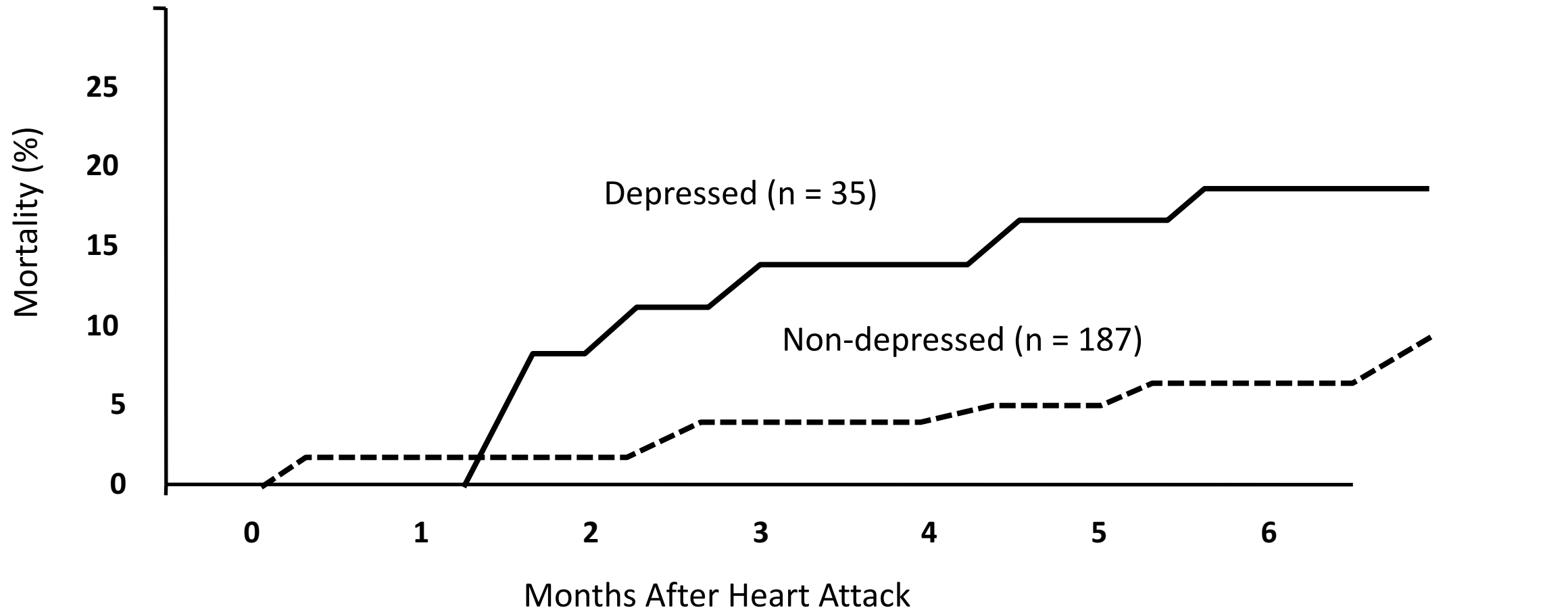
Physical Illness



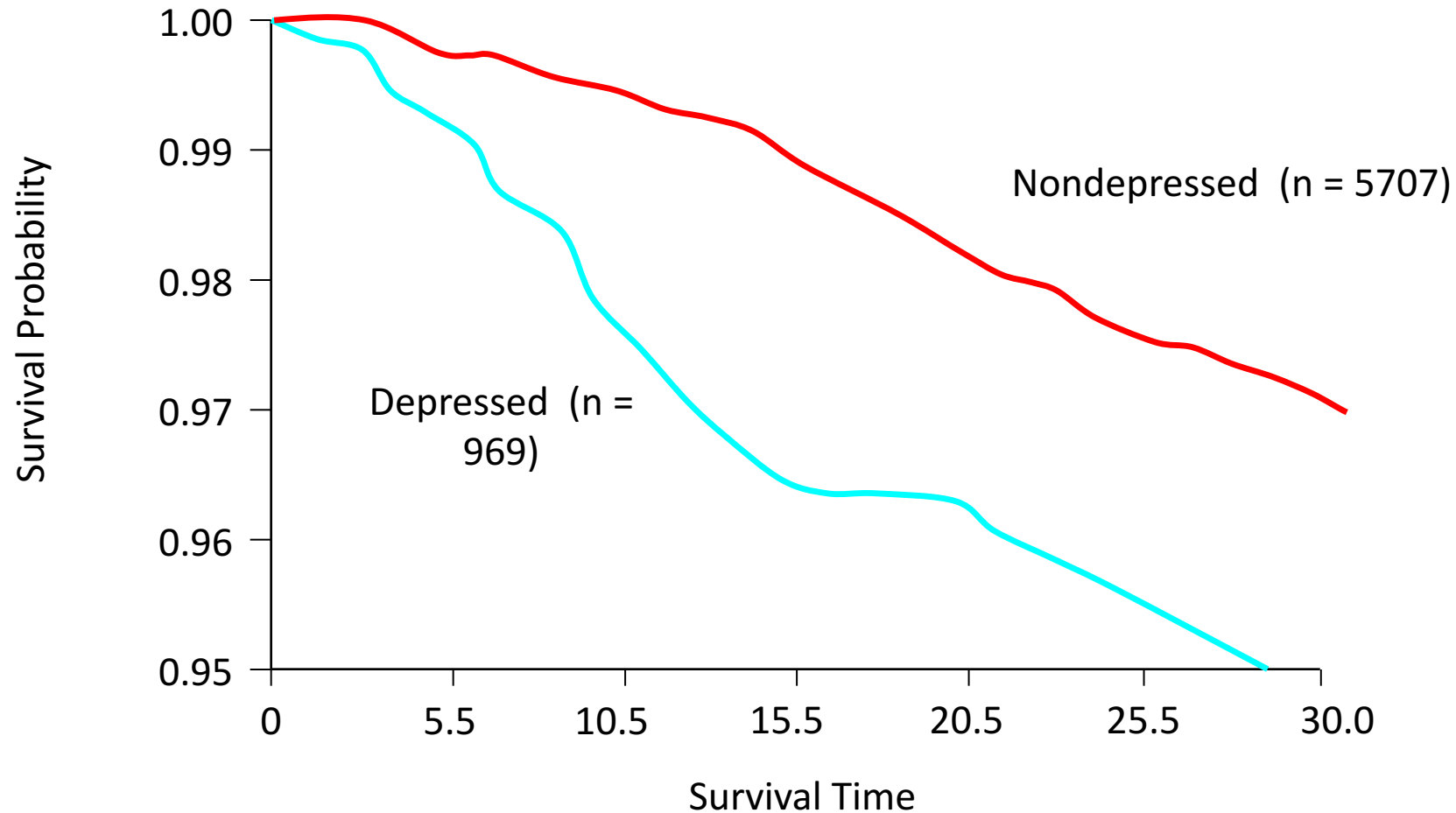
Hopelessness
Inactivity
Physical Deconditioning
Social Isolation
Loss of Function
Poor Compliance
Impulsivity
Toxicity
Inflammation



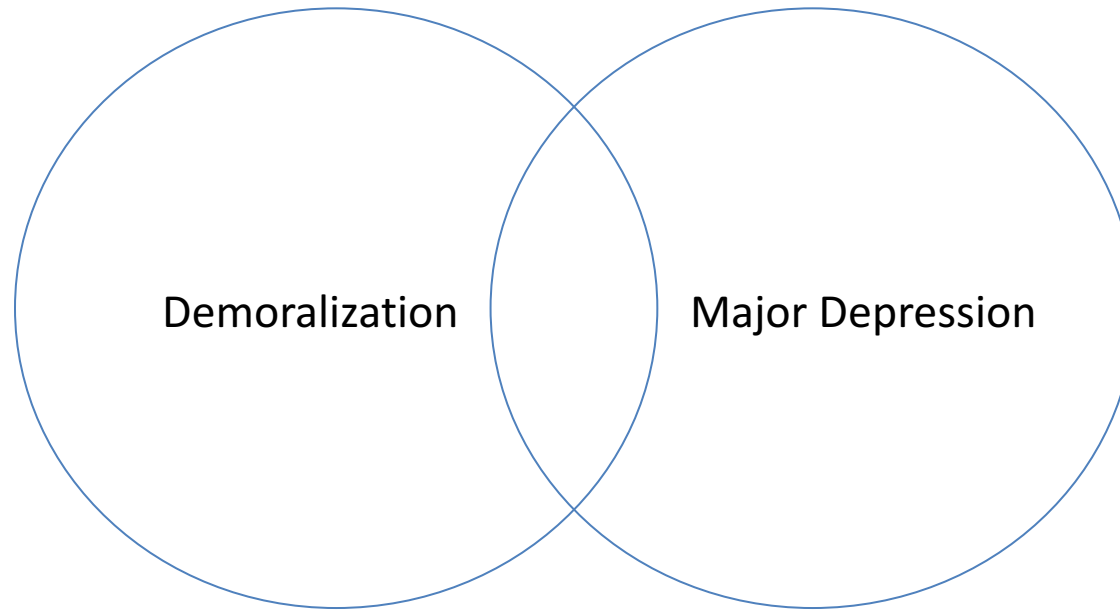
Cumulative Mortality for Patients With and Without Depression After Heart Attack



Depressive Symptoms and Increased Risk of Stroke Mortality Over a 29-year Period



Two Kinds of Depression



Distractible from loss

(Maintains rewards from activity)

Initial insomnia

No family history

Unique episode

Stable life course

Responsive to positive events

Anhedonia

(Pervasive loss of rewards from activity)

AM insomnia

Family history

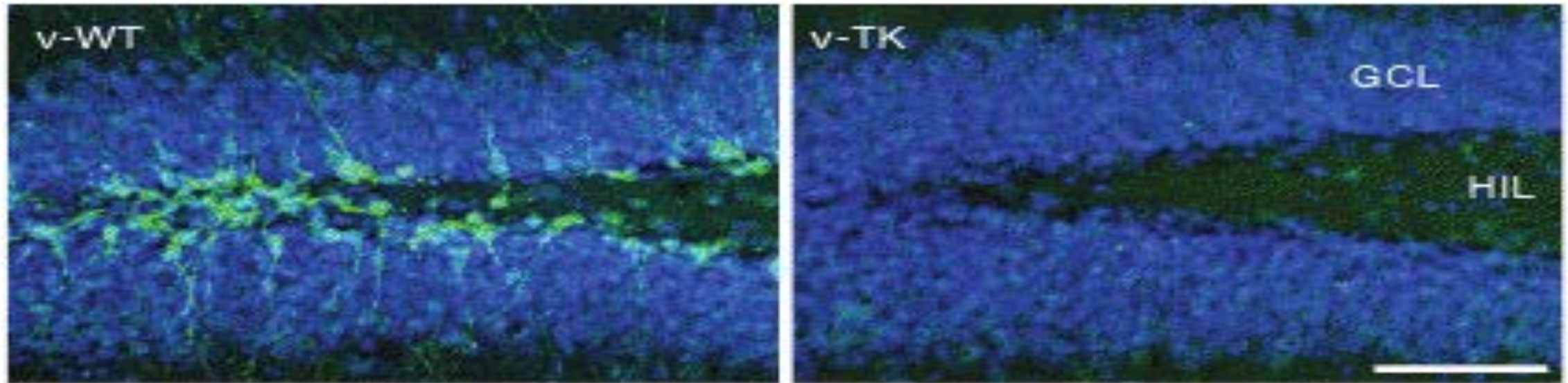
Similar episodes

Disrupted life course

Unresponsive to positive events

“I’m not depressed. If I am depressed, it is because people keep telling me I am depressed. There is nothing more depressing than being told you are depressed.”

Decreased neurogenesis in stressed rats that act depressed

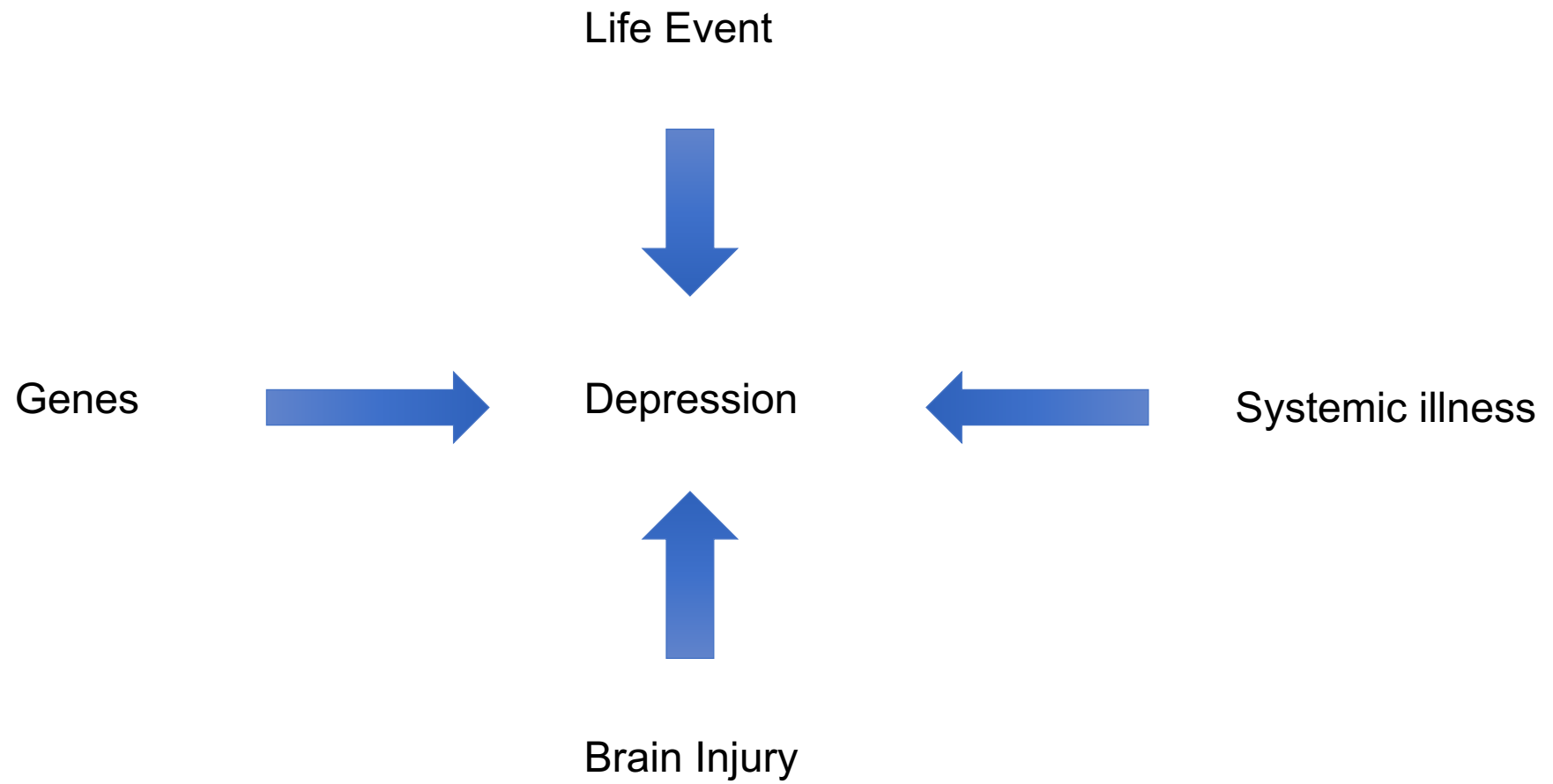


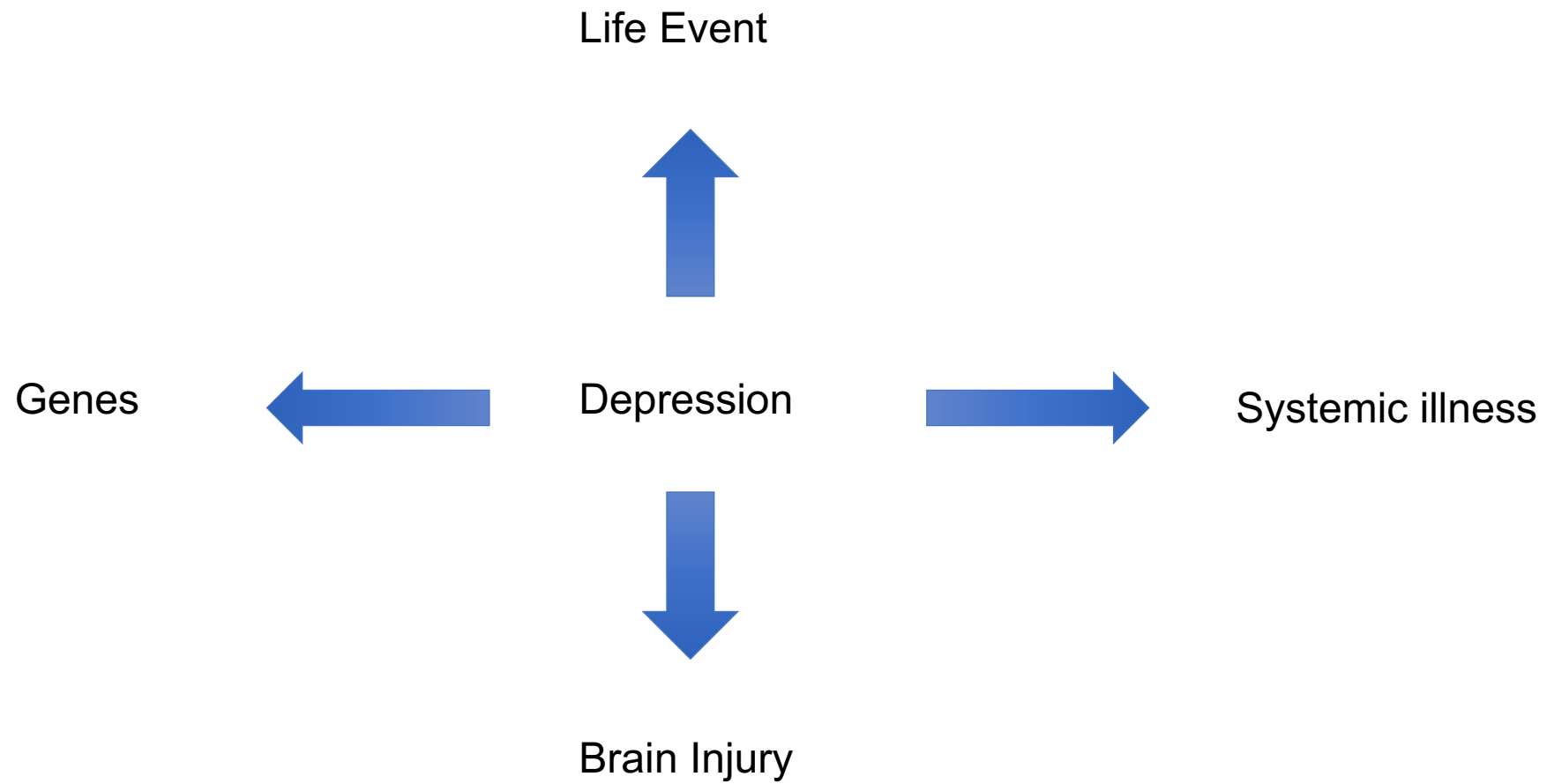
Hippocampus

Snyder et al. "Adult hippocampal neurogenesis buffers stress responses and depressive behavior" Nature, 2011

Factors associated with depression

- CNS inflammation
- Auto-immune disease
- Substance Abuse
- Genetic vulnerability
- Subcortical damage
- Chronic illness
- Stress



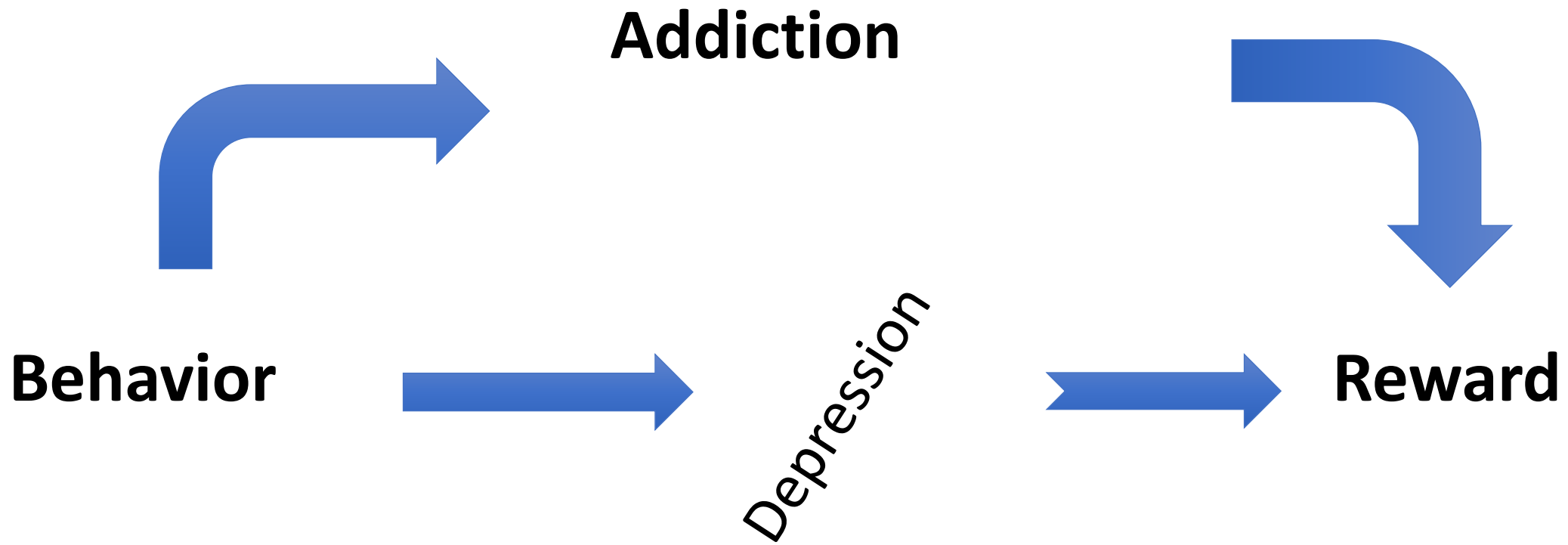


Depression makes opiates less effective

Behavior



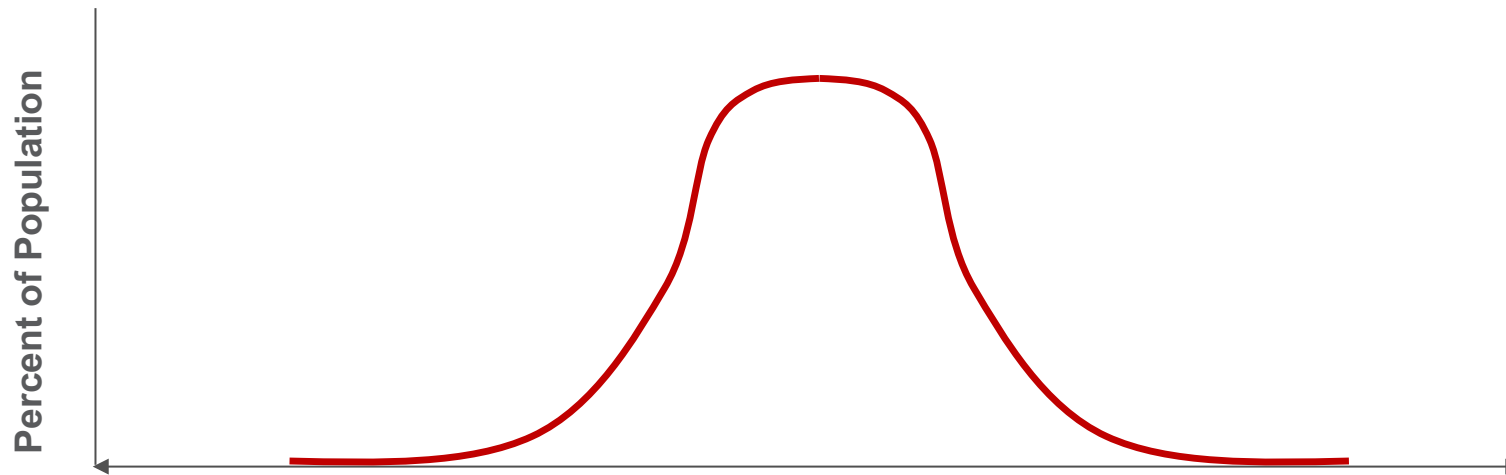
Reward



“It is much more important to know what sort of patient has a disease than what sort of disease a patient has.”

—*William Osler*

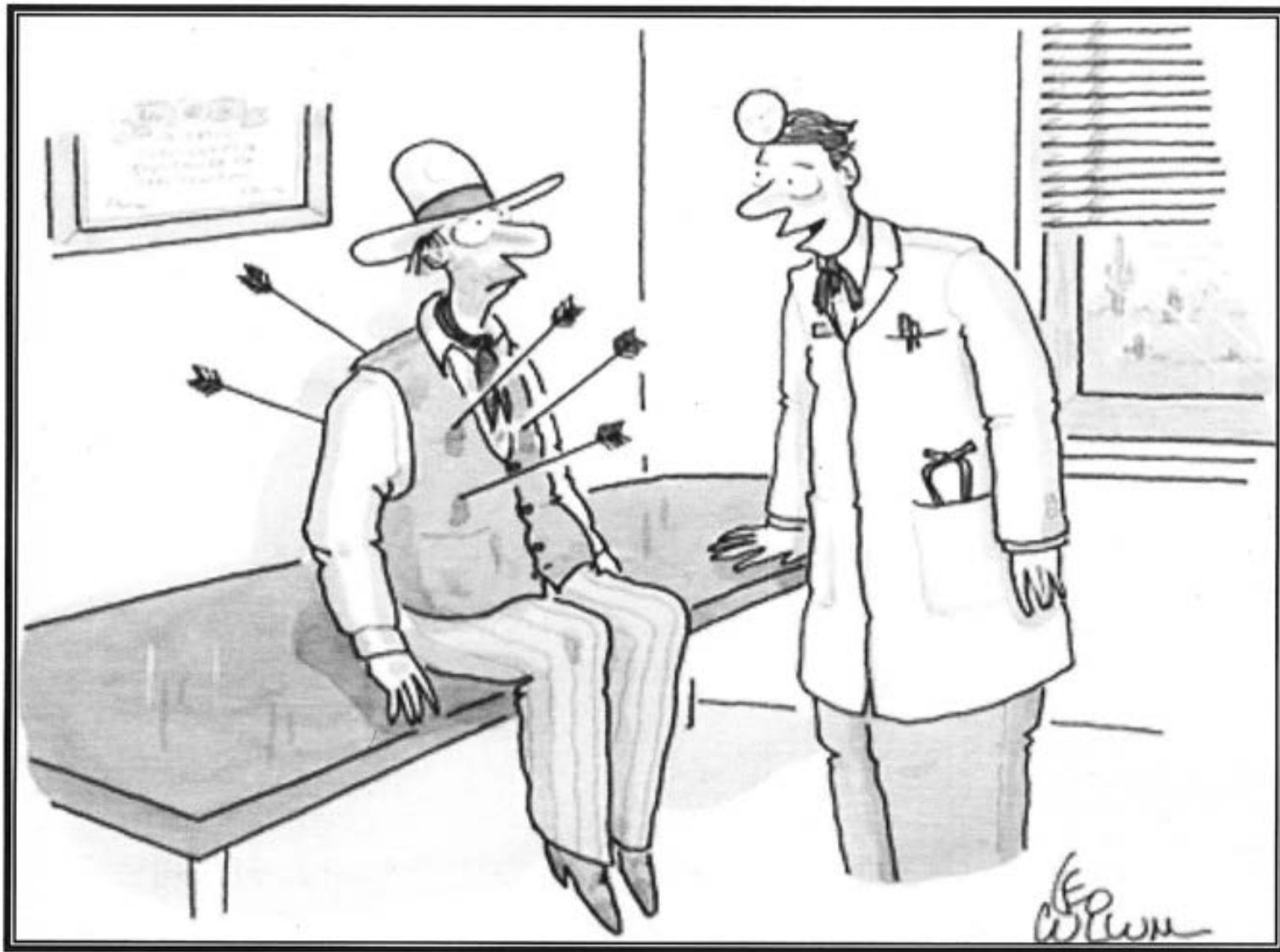
Simplified Model of Disposition



Introversion	Extraversion
Punishment avoidant	Reward directed
Future directed	Present directed
Function directed	Feeling directed

How important are opiates in the genesis of chronic pain disorders?

- Extremely powerful reinforcers
- Positive reinforcement for use, negative reinforcement for disuse
- Set up an unreasonable standard for pain control
- Allows for ongoing injury during peaks of pain relief
- Intoxication allows for psychological comfort with worsening disability
- Iatrogenic addiction is disordering



Your insurance company only authorized me to take out one. You pick.