A Call To Action:

Opioid & Mental Health Crises

Dr. John Rosa

- Owner of a 16 clinic Integrative Medicine Practice Group
- National Lecturer on the Opioid and Mental Health Crises
- State and National Consultant to Opioid Task Forces
- Opioid/Mental Health Crises - White House Surrogate
- Author
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ADDICTION

A manifestation of any behavior that a person finds temporary pleasure or relief in and therefore craves but suffers negative consequences in the long term and cant give up the behavior.

*** Question is “what happened” or “what is happening” to someone that caused the emotional or physical pain resulting in addictive behavior to ESCAPE it.**

*** Addiction is not a problem it is ones attempt to solve a problem**

ADDICTIONS

-Drugs
-Alcohol
-Sex
-Gambling
-Food
-Shopping
-Exercise
-Video Games
-Sports
-Porn

- Caffeine
- Nicotine
- Tanning
- Plastic Surgery
- Relationships
- Work
- Tattoos
- Technology
- Power
- Self-Harm

WHAT IS THE CRISIS?

500,000 prescriptions

4,000 start non-medical use

600 start heroin use

3,300 ER visits with reactions

2,000 NF overdoses reported

300 die of drug overdose

220 die of opioid overdose

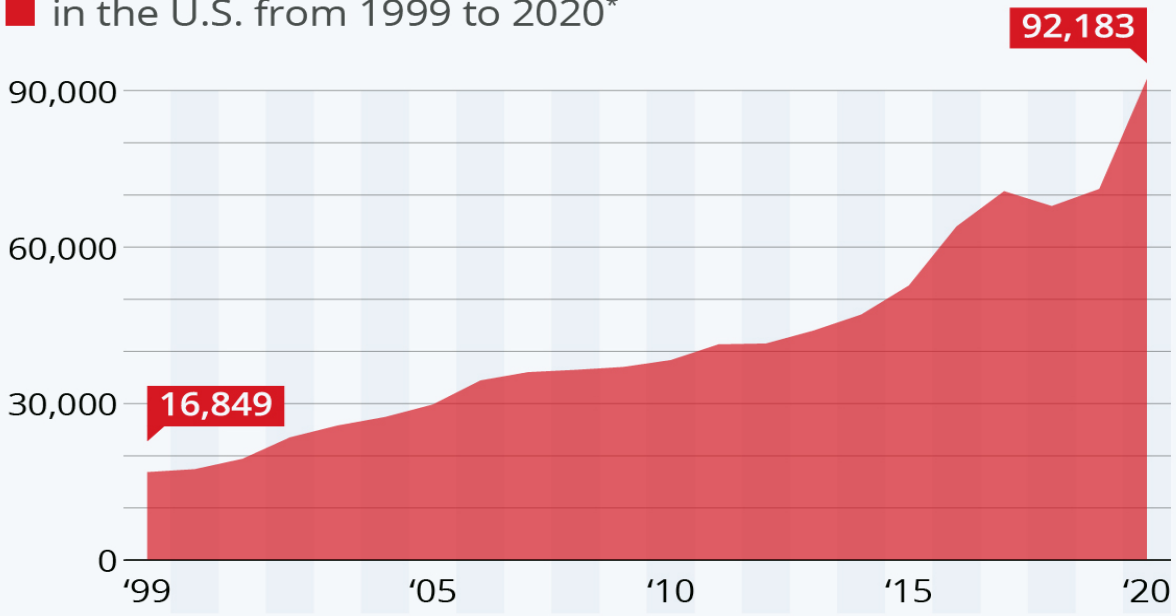
190 deaths related to Fentanyl

90 babies born addicted

***Average Day in the US (2023-24)**

Historic Spike In U.S. Drug Overdose Deaths

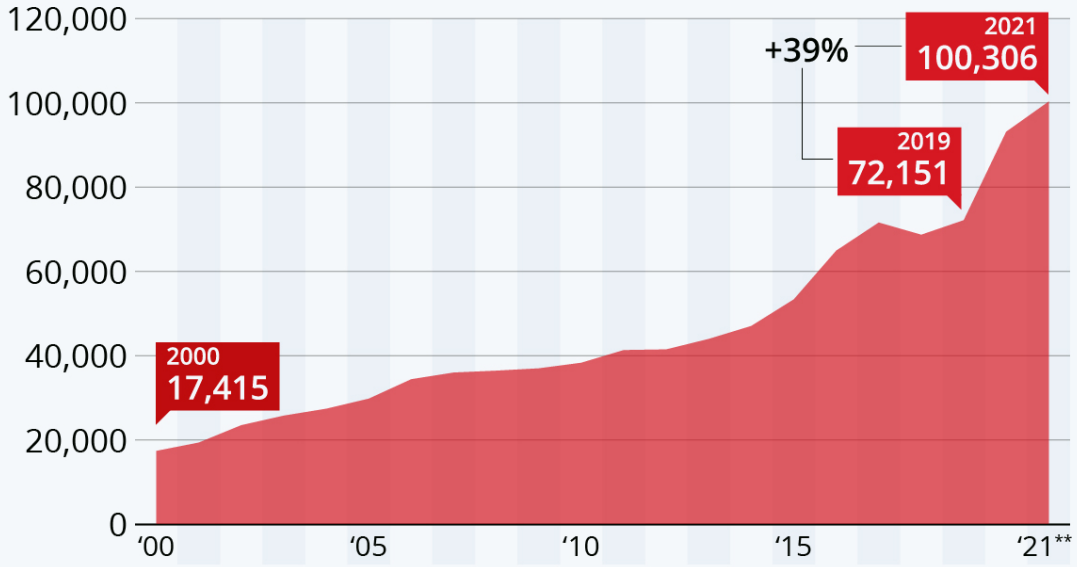
Number of drug overdose deaths in the U.S. from 1999 to 2020*



* Historical data from 1999 to 2019, Provisional figures for 2020
Source: Centers for Disease Control and Prevention

U.S. Drug Overdose Deaths Spike Amid the Pandemic

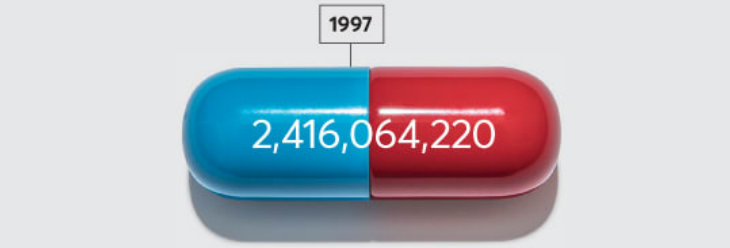
Number of drug overdose deaths in the United States*



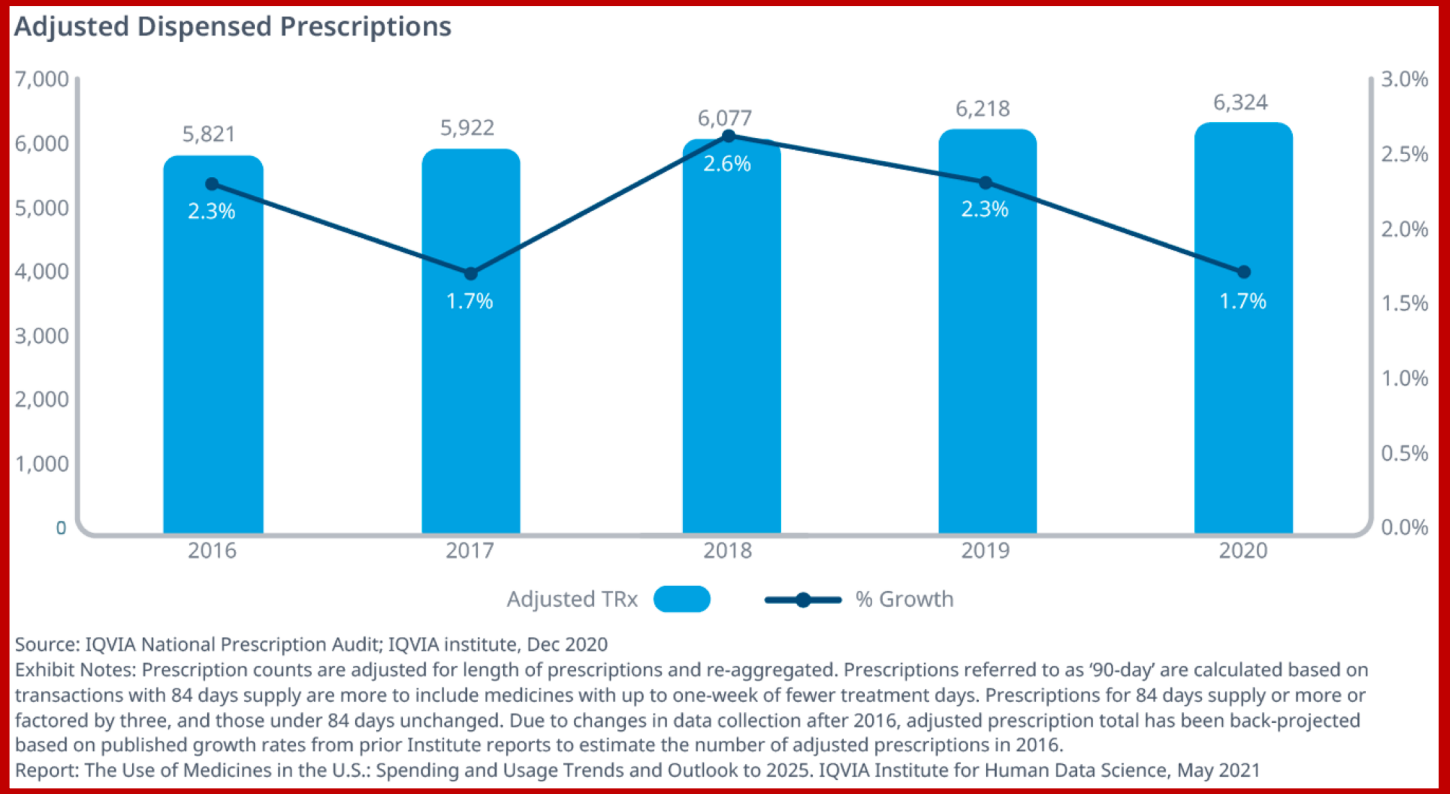
* Estimates for 2020 and 2021 are based on provisional data.
** 2021 estimate refers to 12-month period ending April 2021
Source: Centers for Disease Control and Prevention

Pill Nation: The Rise of Rx Drug Use

The total number of prescriptions filled by all Americans, including adults and children, has increased by 85 percent over two decades, while the total U.S. population has increased by only 21 percent.



Source: Quintiles IMS.



Source: IQVIA National Prescription Audit; IQVIA institute, Dec 2020
Exhibit Notes: Prescription counts are adjusted for length of prescriptions and re-aggregated. Prescriptions referred to as '90-day' are calculated based on transactions with 84 days supply are more to include medicines with up to one-week of fewer treatment days. Prescriptions for 84 days supply or more or factored by three, and those under 84 days unchanged. Due to changes in data collection after 2016, adjusted prescription total has been back-projected based on published growth rates from prior Institute reports to estimate the number of adjusted prescriptions in 2016.
Report: The Use of Medicines in the U.S.: Spending and Usage Trends and Outlook to 2025. IQVIA Institute for Human Data Science, May 2021

2021: 6.47 Billion 2022: 6.60 2023: 6.75

20 PER PERSON
IN THE U.S

CDC STUDY ON DEPENDENCY
(INITIAL USE)

OPIOID PRESCRIPTION

1 DAY

- **6%** risk of use at one year later
- **2.9%** risk of use at three years later

12+ DAYS

24% were still using a year later: 12 days

35% at 21 days

30 DAYS

43% were still using a year later

THE BREAKDOWN OF REALITY

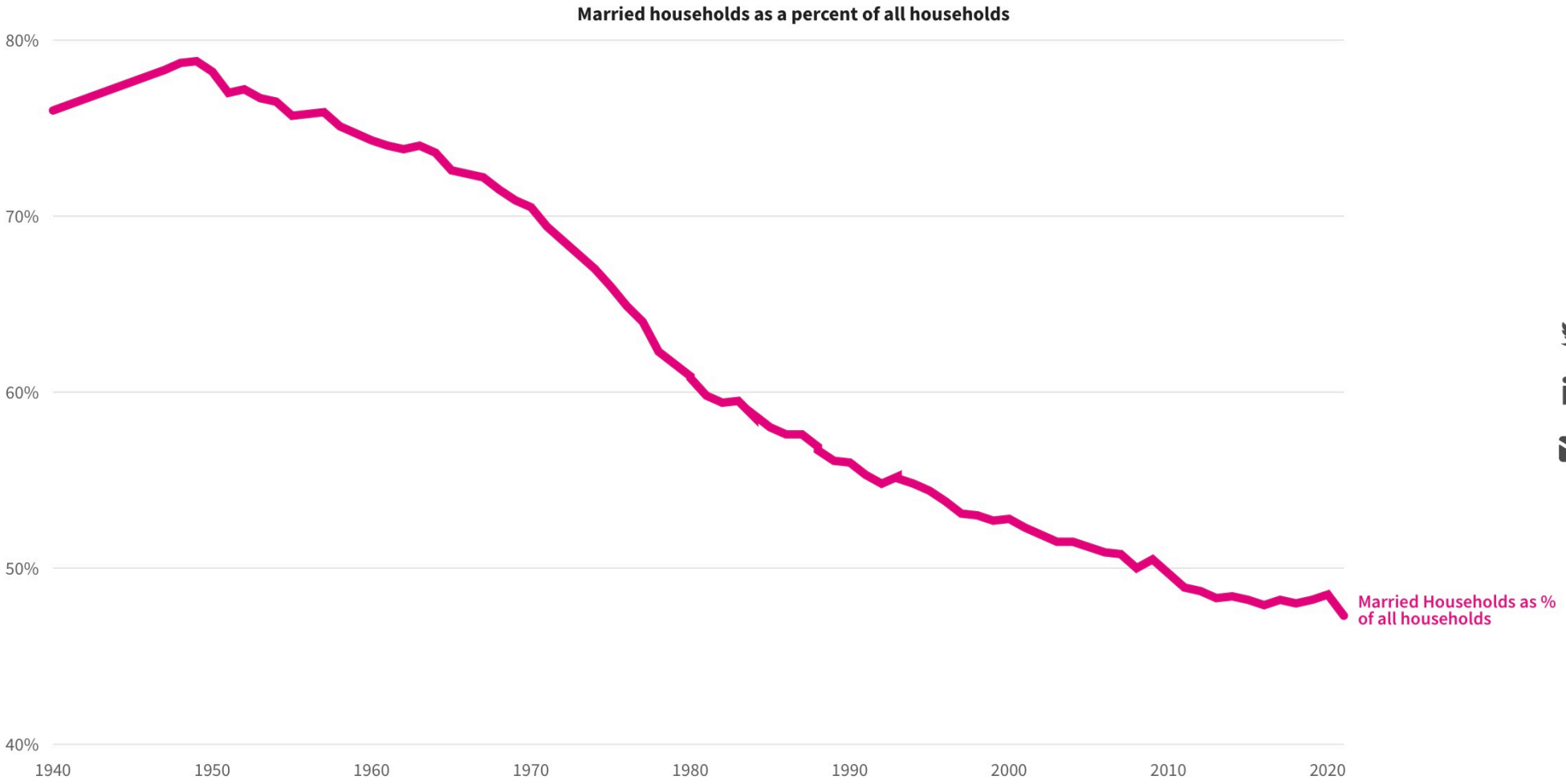
- 100% of addicted have associated MH issues
- Epigenetics – WW1/WW2 – Rat study on shock and smell
- ACEs - AAEs
- 24 hour news cycle (TV – Digital – Social Media)
  - Elections – Strife – Mask – Vaccine
  - Gulf Coast – West Cost – Global Warming
  - School Shootings – War – Next Virus
  - Natural Disasters – Financial Instability - UFOs
- Social Media (influencer driven realities)
- Cyber Bullying
- Social Isolation - COVID & Post COVID

THE BREAKDOWN OF FAMILY, FAITH & COMMUNITY

- The Great Depression - WWII
- Baby Boomers - Generation X – Millennials – Gen Z
- Family Size – College – Careers
- Faith Based Organizations Attendance Plummets
- False sense of community
- Lack of Societal Trust
- Friends & Family separation on political divide
- Shrinking Tribes
- Rat Park

What is the state of marriage in America?

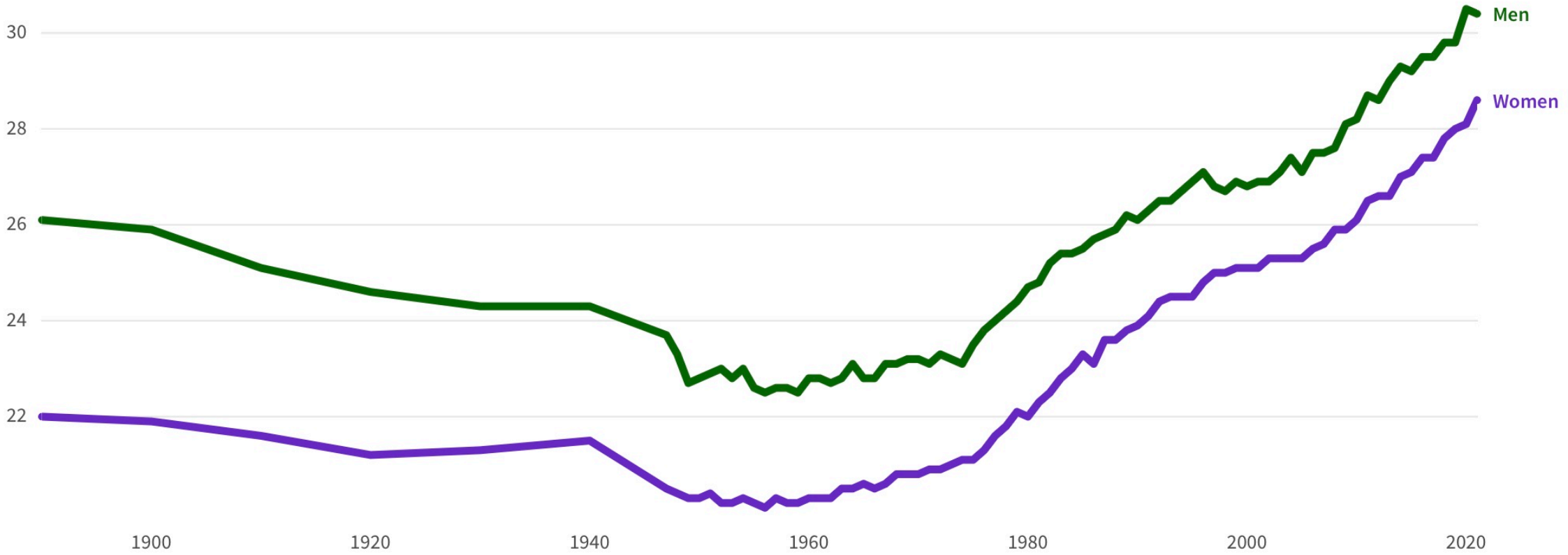
In 1949, 78.8% of all households contained married couples. In 2021, 72 years later, 47.3% of households had married couples.



Sources: **US Census Bureau.** *see more*

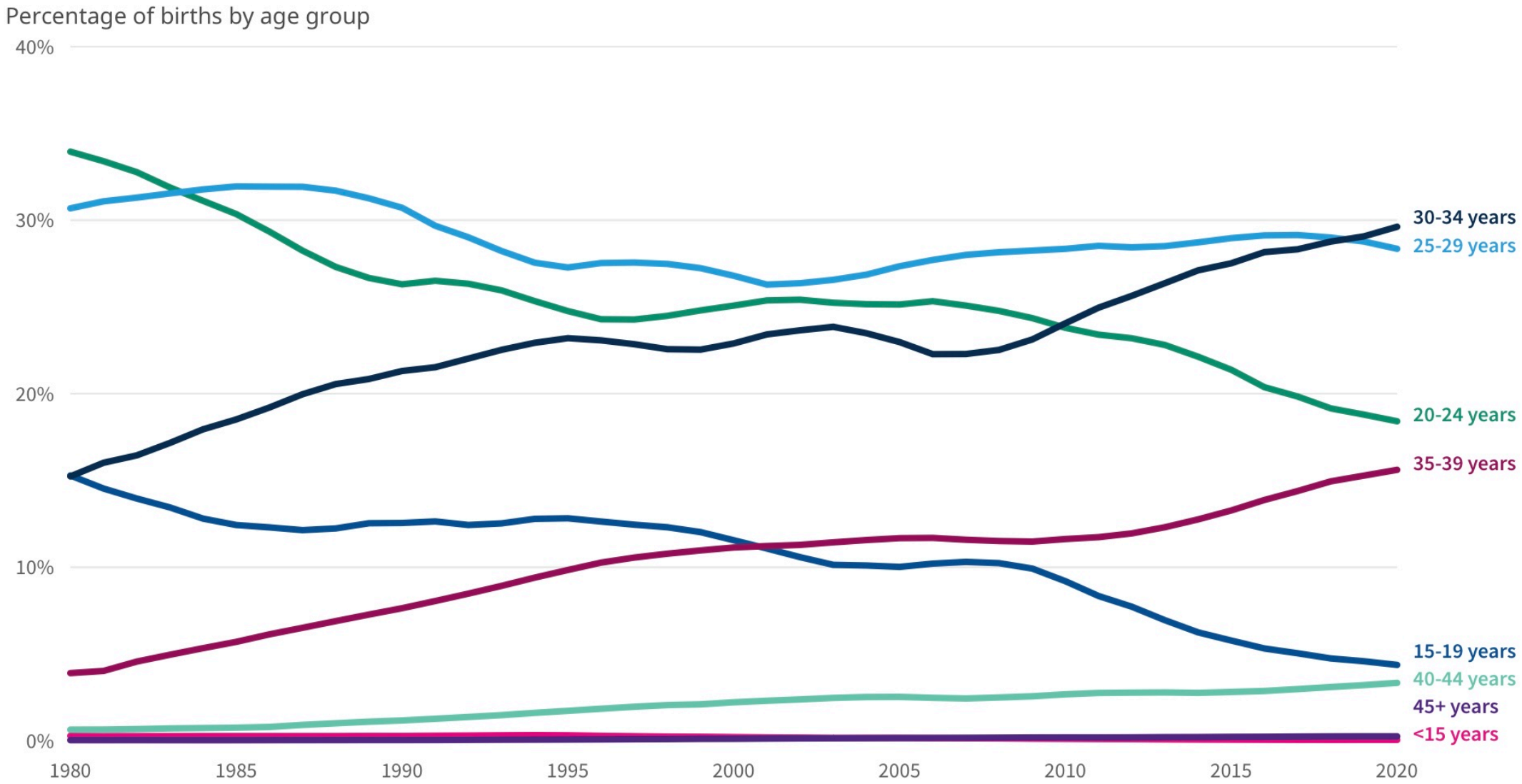
Americans are getting married later than ever.

Median age of first marriage



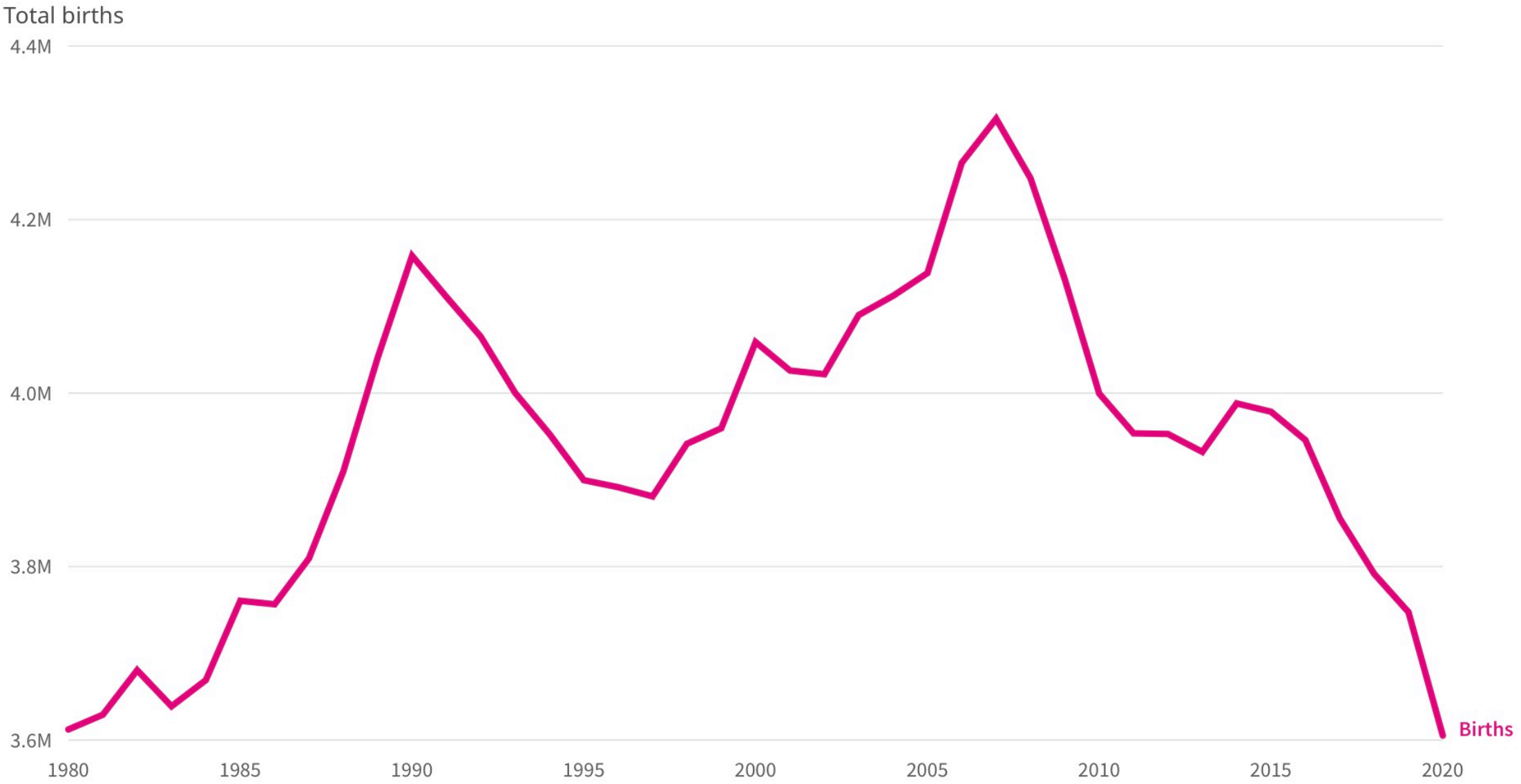
Source: Census Bureau.

The share of births increased for women older than 35 years and decreased for women younger than 30 years in the last five years.



Sources: **Centers for Disease Control and Prevention.** *see more*

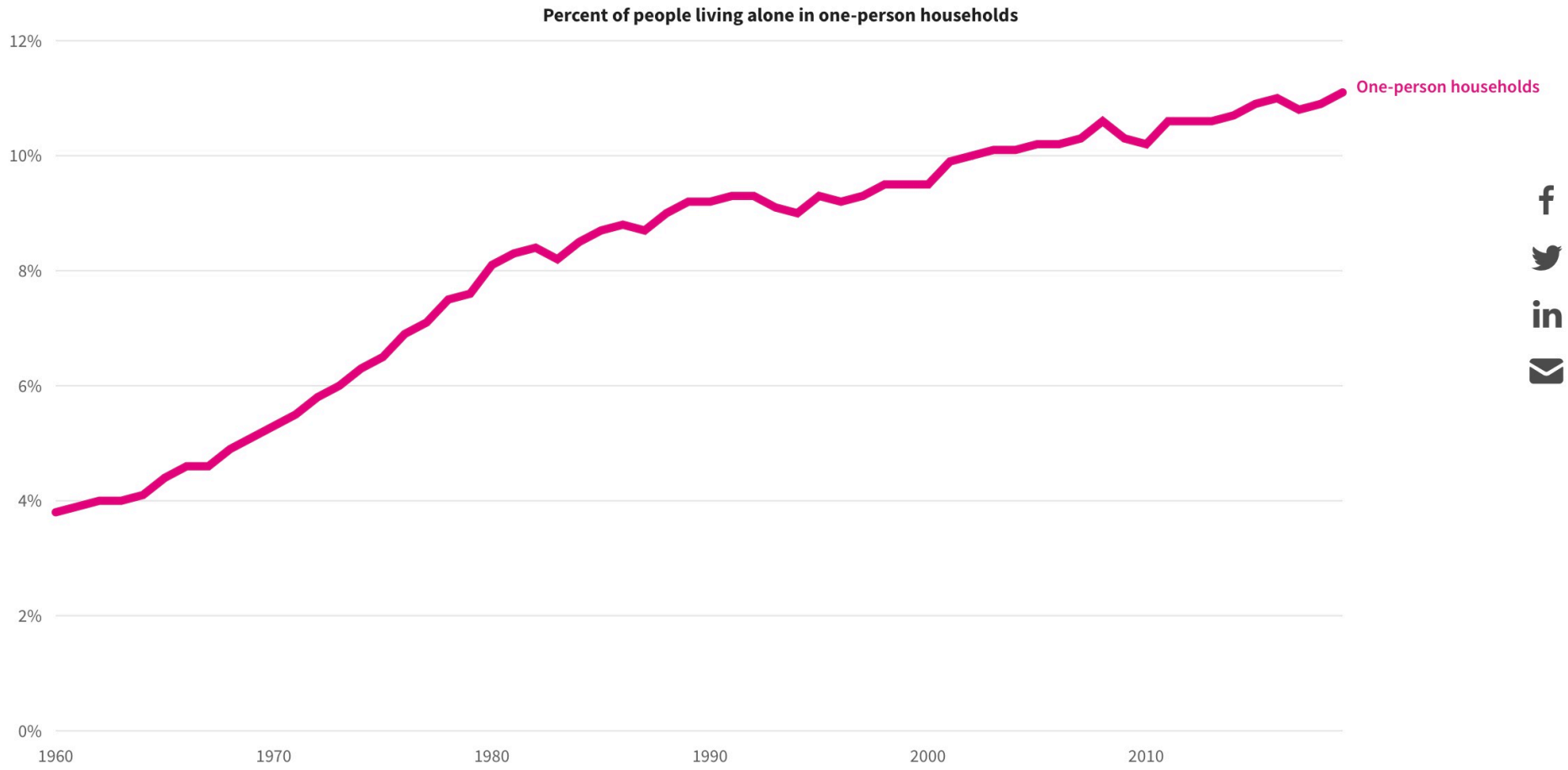
Births in 2020 were the lowest in four decades.



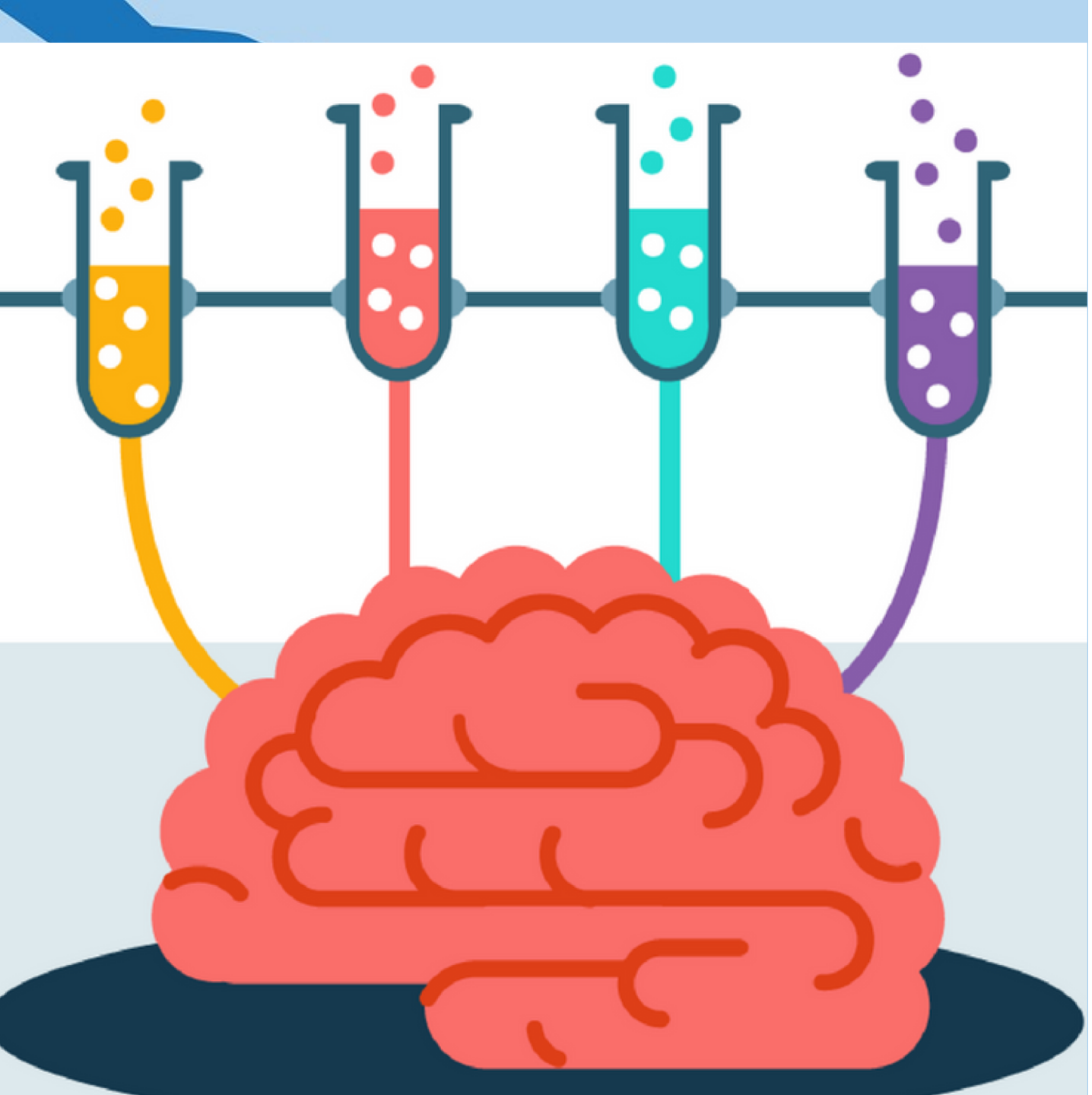
Sources: **Centers for Disease Control and Prevention.** *see more*

How many people are living alone?

Single-person households increased more than fivefold since 1960, from 7 million to 37 million. The population who lived with at least one other person hasn't even doubled during that period. Single-person households were 3.8% of all households in 1960. As of 2021, they were 11.1%.



Sources: **US Census Bureau.** *see more*



"FEEL GOOD" CHEMICALS VS CORTISOL

- **D** opamine
- **O** xytocin
- **S** erotonin
- **E** ndorphins
- Epinephrine, Norepinephrine, Cortisol
- Sickness vs Euphoria

SUGAR-OILS-PROCESSD FOODS

THE SOCIETAL FORK IN THE ROAD

- Obesity
- Pain
- Anxiety
- Depression
- Vulnerable for higher dosing
- 500,000 years
- INFLAMATION
- COVID-19

THE ORIGINS OF OUR EPIDEMIC

- 1980s Cicely Saunders hospice care
- 1986 Russel Portenoy 38 person study
- Aggressively treat pain
- Fraudulent information about how addictive opioid products are
- Aggressive media advertising (7B)
- Aggressive doctor advertising (25k/30B)
- Government and Corporate corruption

CORPORATE CORRUPTION

- The FDA approved OxyContin in 1995
- No clinical studies on addiction or abuse
- Dr. Curtis Wright, the FDA examiner who approved the drug-package insert for OxyContin, announced that the drug was safer than rival painkillers
- Wright left the agency shortly afterward and went to work at Purdue
- Sackler family buys generic opioid manufacturer after Perdue risk
- Sackler family now owns a patent for buprenorphine

AMBUSHED BY A SYSTEM MEANT TO PROTECT US

2007

Rannazzisi & Barber hit Cardinal Health hard

2011

Barber joins a law firm helping pharma

56 lawyers from DEA & DOJ 2000-2017 with half hired during bill run up **2011-2016**

2013

Lawyers for DEA "beyond a reasonable doubt" from "a preponderance of evidence" (Barber prints)

2014

Mass exodus of DEA and DOJ

Marino pushes bills to strip DEA of power

Pharma related companies give $106M.

2016

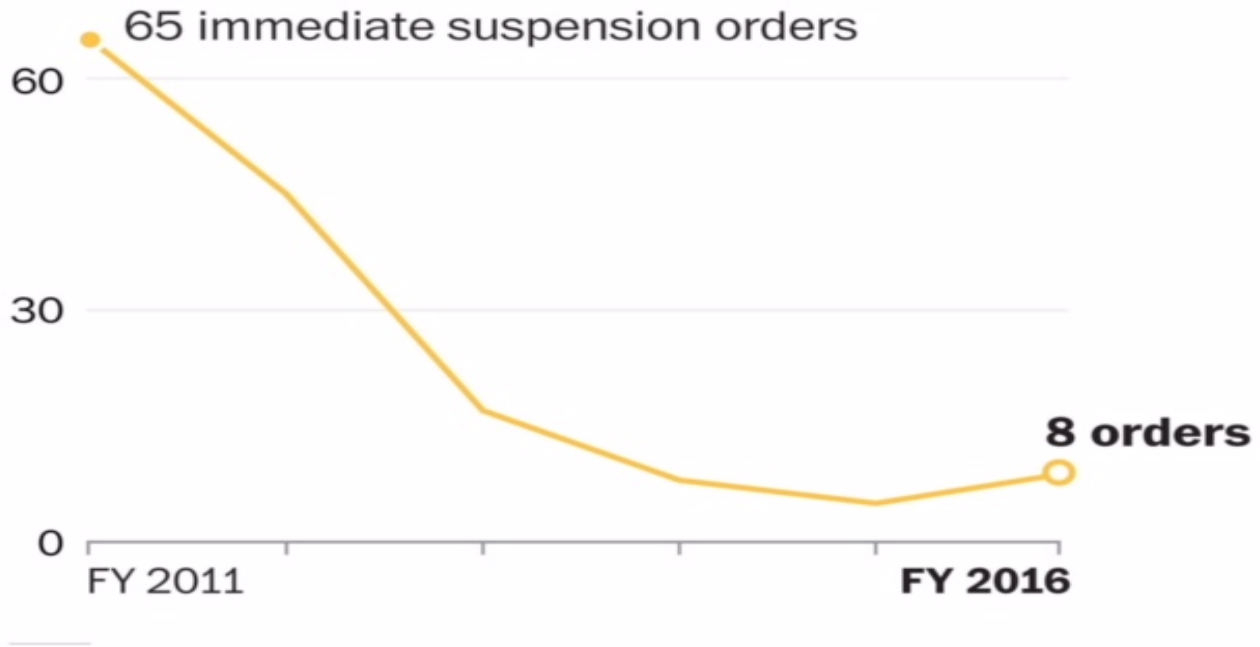
With unanimous approval in congress and no opposition from DEA or DOJ Obama signed the bill

2017

Including 2 Deputy Attorney Generals

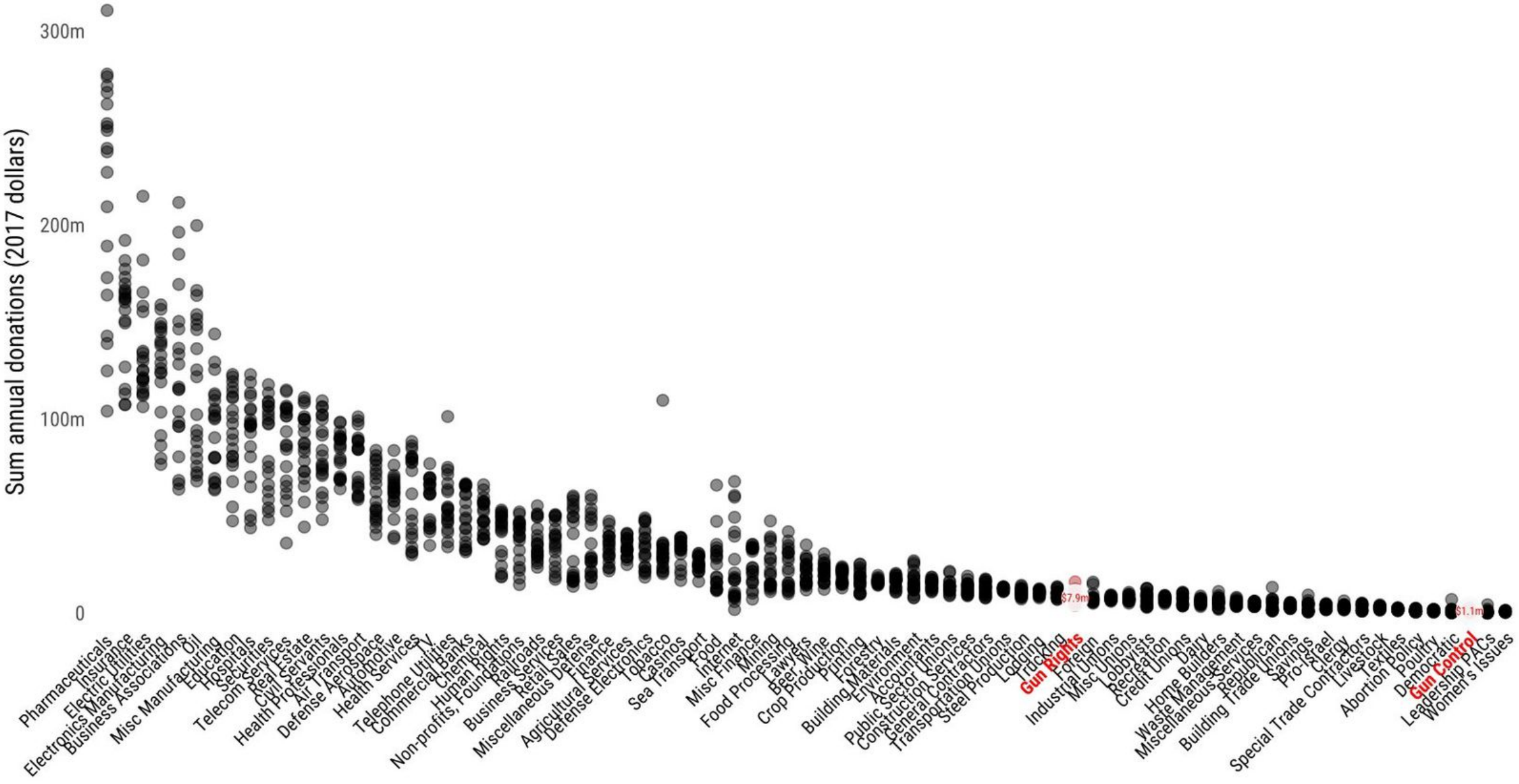
DECLINING SUSPENSION ORDERS

The number of **immediate suspension orders** against doctors, pharmacies and drug companies has plummeted since fiscal 2011.



Source: Drug Enforcement Administration

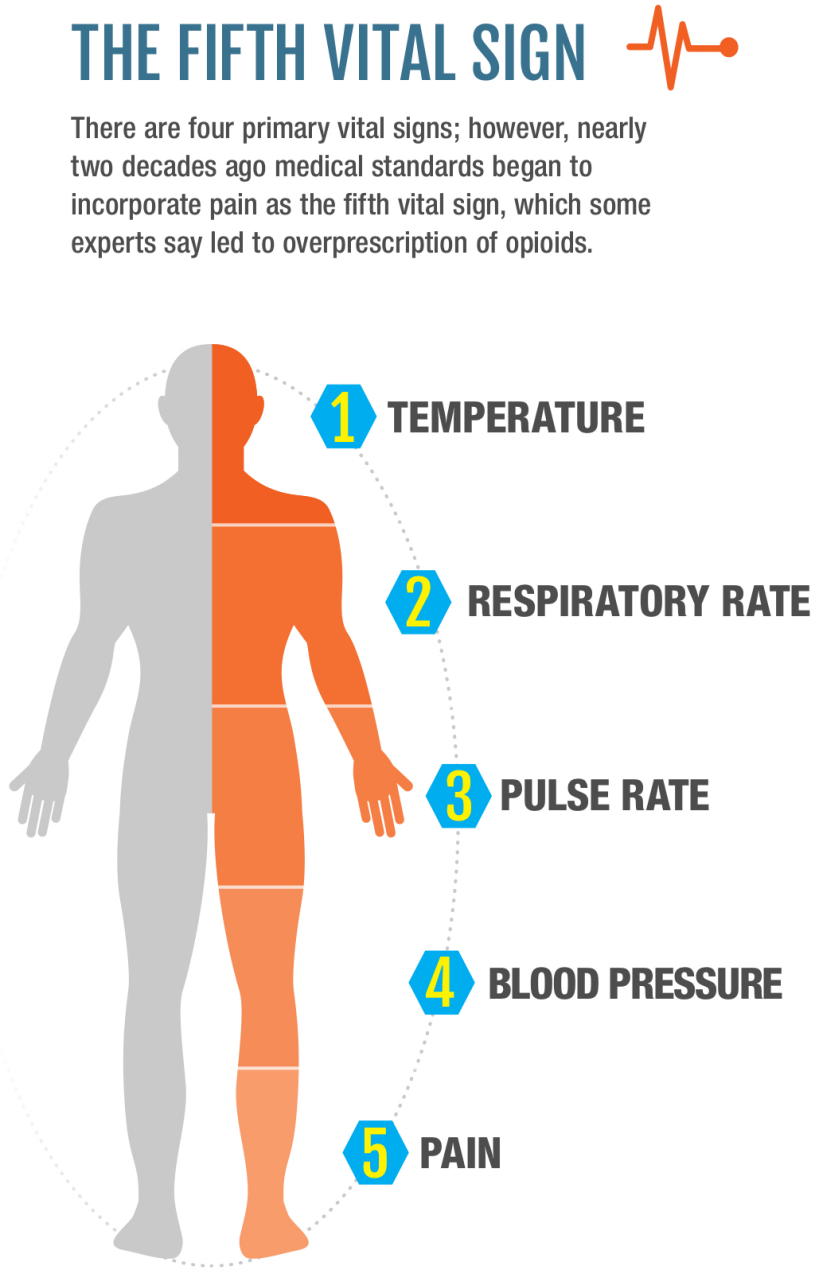
Annual federal political donations by donor industry: 1998-2017



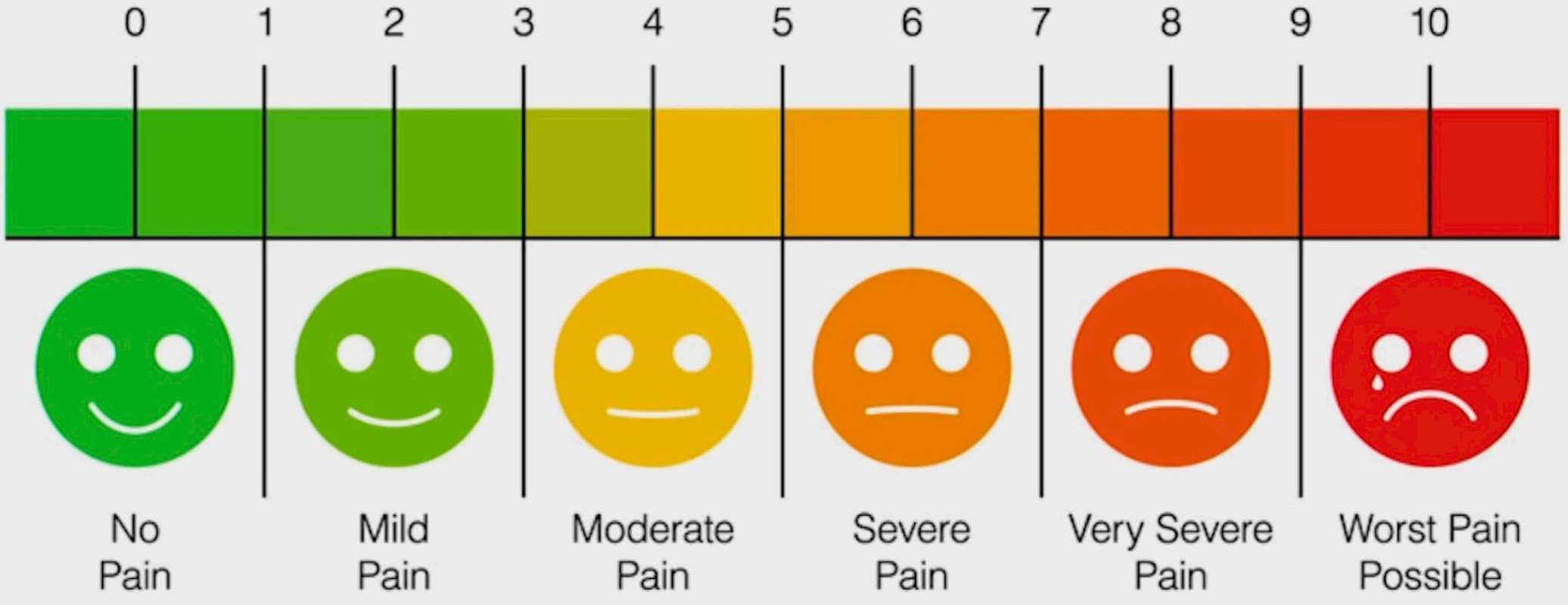
Source: opensecrets.org

WHAT WENT WRONG?

- Pain became “The 5th Vital Sign”
- November 1998 VA sends memo
- The government gave bonus payments to hospitals
- Minimal to no referral to evidence based treatment
- Massive influx of pharma $ to advertise direct to consumer (US only country to allow this)
- Recreational use with no stigma
- Diversion (people, dealers, doctors, distributors)



PAIN SCALE

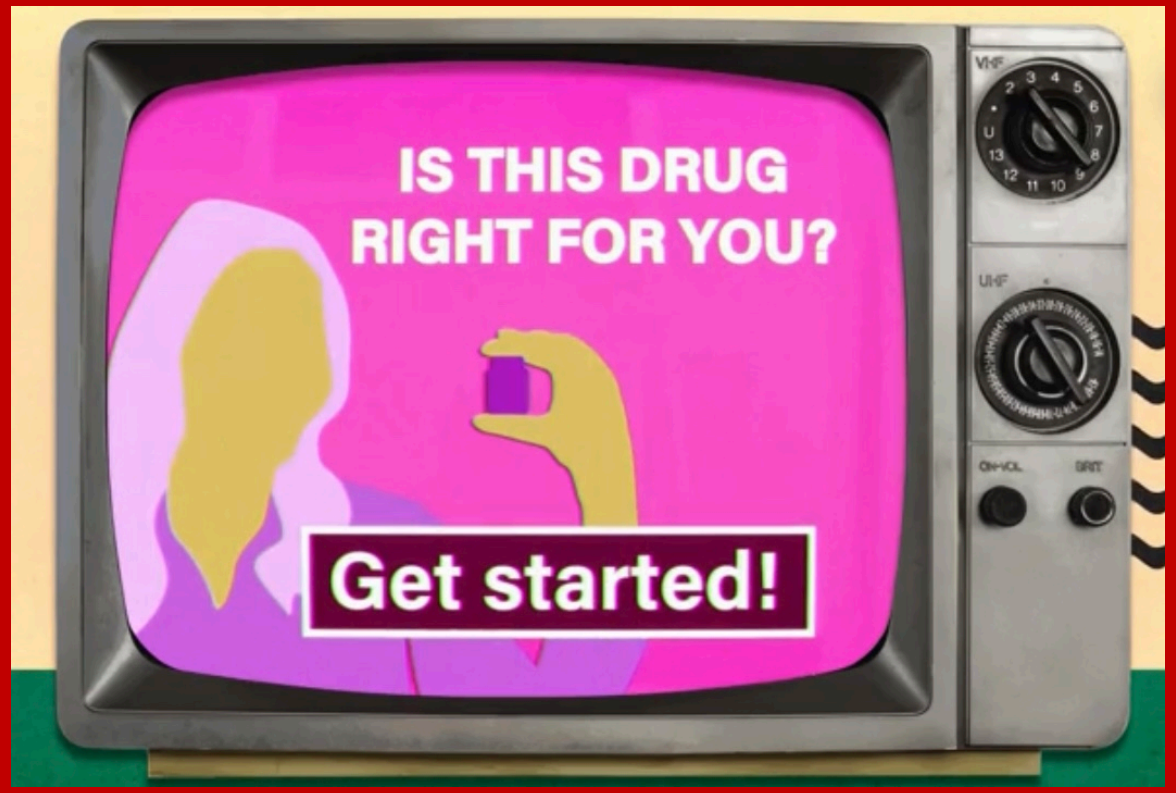

0
1
2
3
4
5
6
7
8
9
10
No Pain
Mild Pain
Moderate Pain
Severe Pain
Very Severe Pain
Worst Pain Possible

Drug Industry Ads In Telemedicine Virtual Waiting Rooms Raise Concerns

By Cara Smith / April 14, 2022 at 12:20 PM

Tweet Share

With increased usage of telemedicine due to the COVID-19 pandemic, pharmaceutical companies are using virtual waiting rooms to play videos advertising drugs and medical technologies to patients before they see their doctors. FDA tells *Inside TeleHealth* it has such videos on its radar though it hasn't taken any enforcement actions, and health care experts say they are worried about how the ads influence patients' conversations with their practitioners and FDA's inability to monitor that due to privacy. For example,...

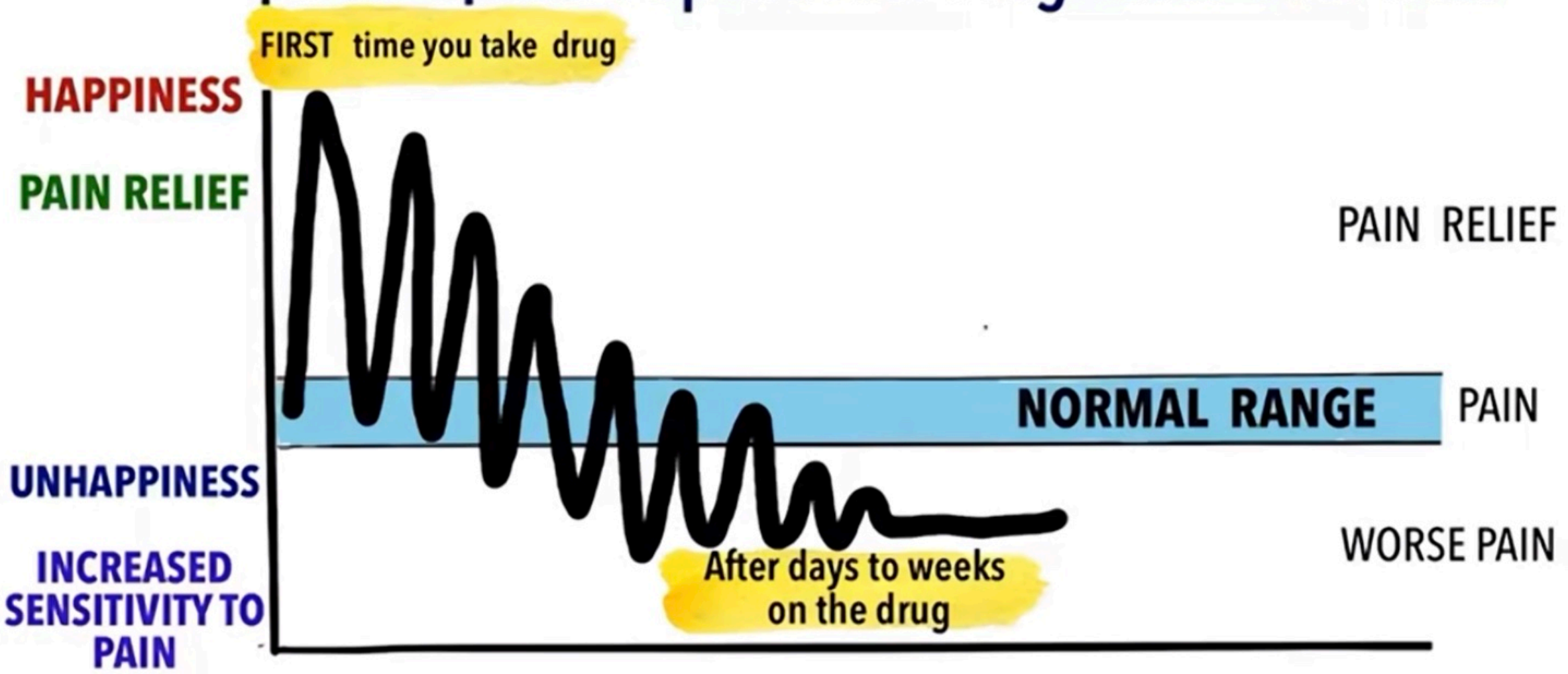


A familiar refrain echoes through drug ads in the United States. It's heard at the end of TV spots and plastered across magazine pages: Ask your doctor if this drug is right for you. But as medicine moves increasingly online, direct-to-consumer advertising is adopting a more assertive catchphrase: Talk to a doctor *now*.

Dozens of drug sites now have built-in buttons to "talk to a doctor now" about everything from novel migraine medications to a treatment for sickle cell disease. "You deserve to feel better," reads one appeal about irritable bowel syndrome. Sponsored by AbbVie and Ironwood Pharmaceuticals, the manufacturers of IBS-C drug Linzess, the site invokes users to click to speak with a doctor in minutes, leading them to a third-party telehealth platform to "see if Linzess is right for you."

For pharma companies, online prescribing has now become a powerful tool to drive sales, sending hundreds of thousands of patients to the clinic at the moment they're most primed to ask for a specific prescription. The company that runs the Linzess platform, Populus Media, says that across its telehealth prescribing programs, more than 90% of eligible patients who finish intake forms get a script for the drug they clicked on.

How Opioid Dependence Progresses Over Time

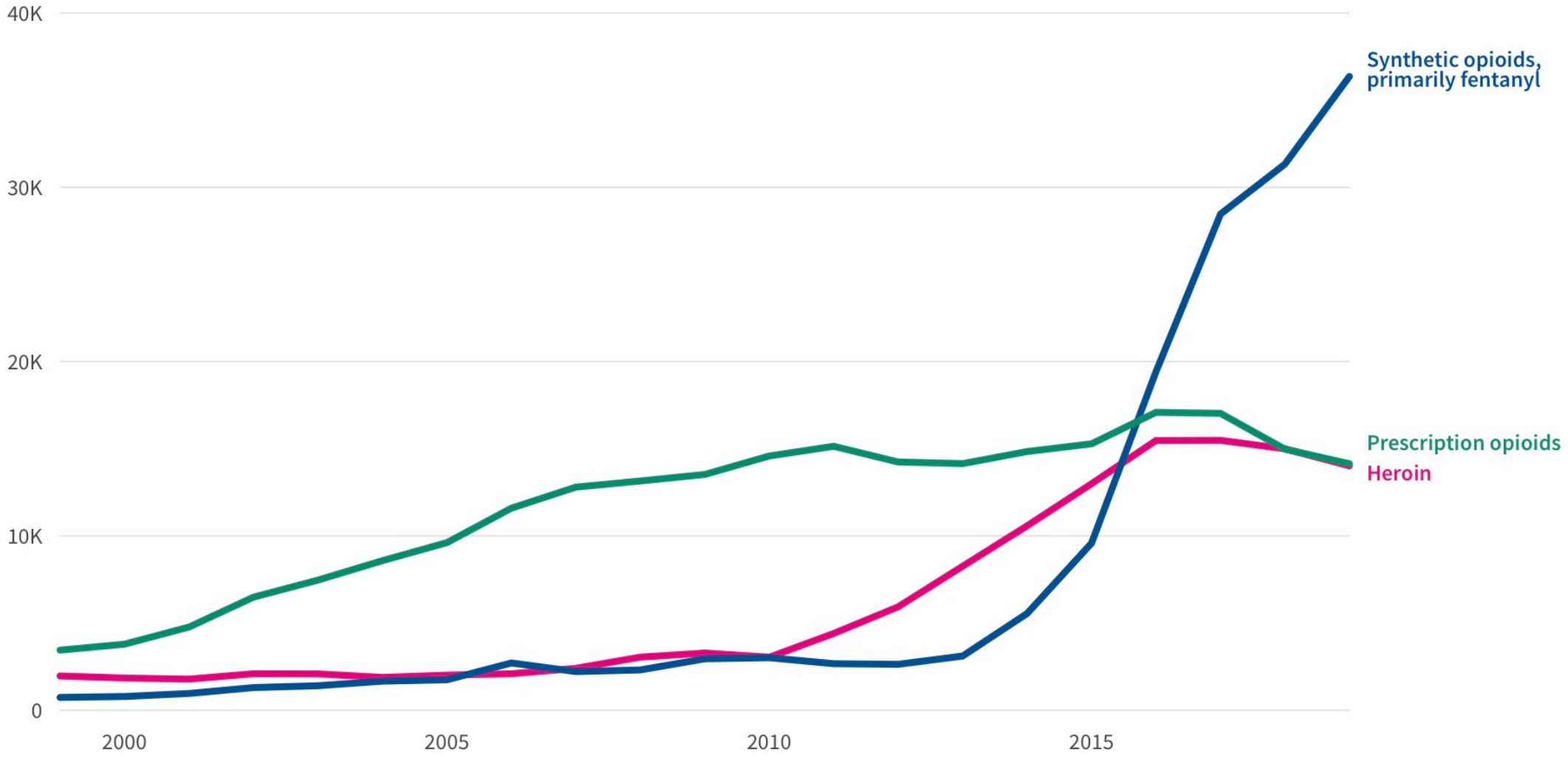


Adapted from Ballantyne, J. 2017

PATH TO HEROIN

- Opioids are prescribed at an annual rate that could give every American a 30-day supply
- Tolerance >>>>>>>>>>>>
- Dosage increases
- Lawsuits and threats of them
- Awareness, 5-7 day limit, PDMPs, CMS fraud reduction
- Handcuffs off law enforcement
- Cut off
- Supply and demand $$$
- Balloon Effect

Opioid-related overdose deaths by substance



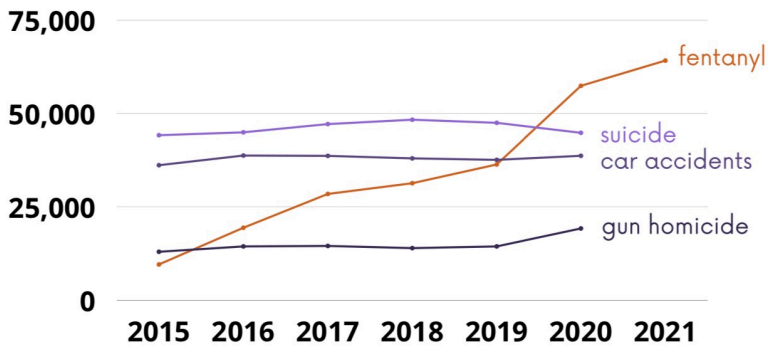
Fentanyl is tied to

64%

of drug "overdoses."

Fentanyl is laced into cocaine, heroin, ecstasy, xanax, oxycontin & marijuana sold on the streets

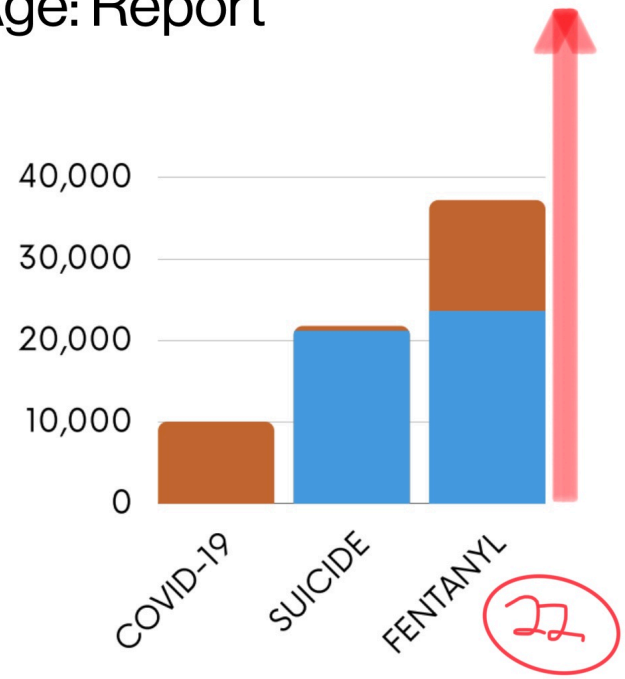
A Comparison of Fentanyl Fatalities in the U.S



This chart illustrates the overall change in the leading causes of death by year.

Fentanyl By Age: Report

1. *FENTANYL POISONING*
2. SUICIDE
3. COVID-19
4. CAR ACCIDENTS



Leading Causes of Death: Americans Aged 18 to 45

Blue: deaths in 2019
Orange: deaths in 2020

CBP, Border Patrol Fentanyl Seizures Up at the Southwest Border

West Virginia AG: Agents distracted by a huge increase in illegal migration can't stop it all from entering

By Andrew R. Arthur on September 15, 2021

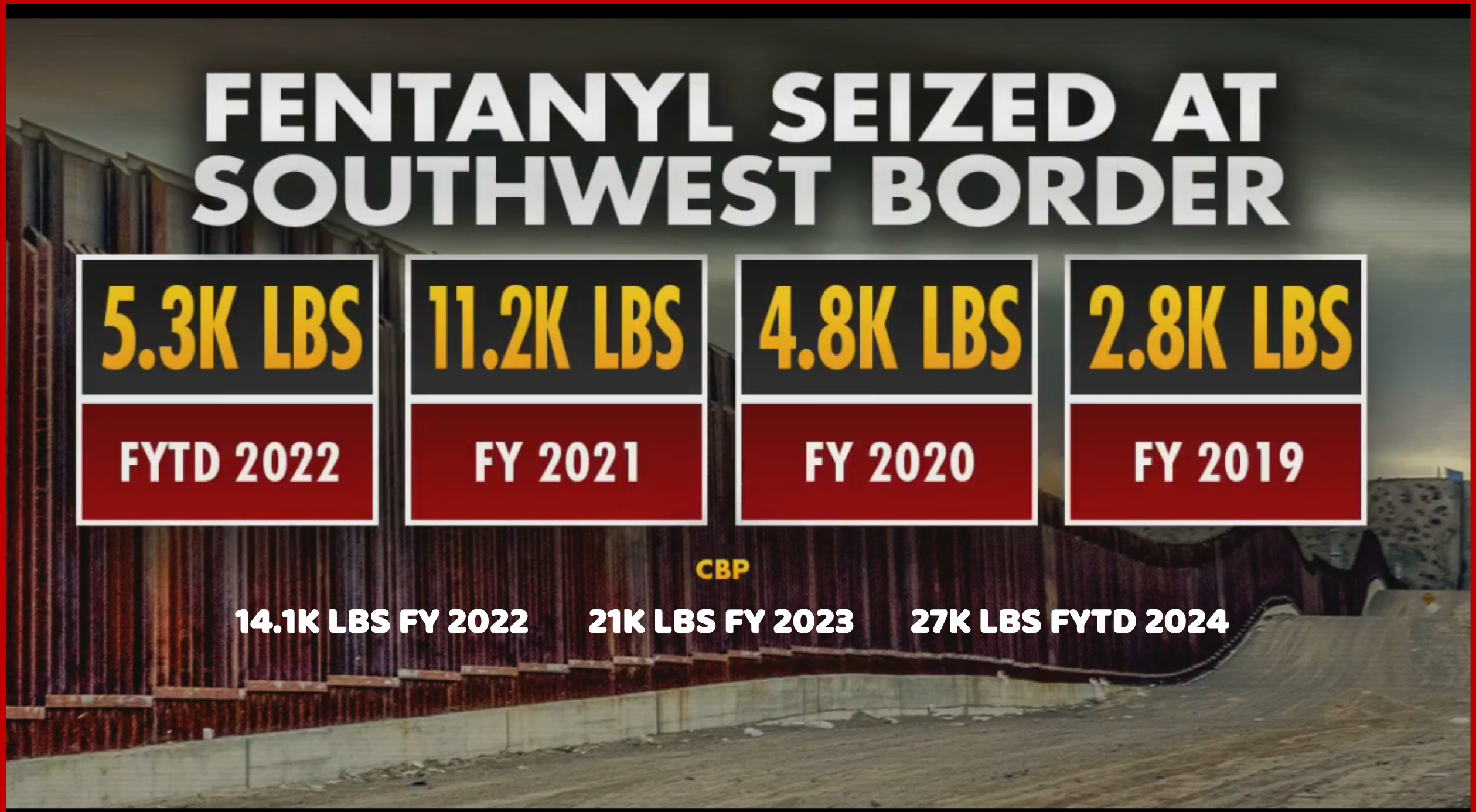
A review of CBP's enforcement statistics reveals two things that are particularly interesting: First, CBP's seizures of the lethal drug fentanyl are up this fiscal year. Second, most Border Patrol seizures of the narcotic are occurring at the Southwest border, and more of the stuff is being apprehended in wide-open areas near the border than at interior checkpoints. Due to the president's immigration policies, however, the border is still open for cartels to push death, as a recent lawsuit explains.

This year, CBP has seized a total of 9,337 pounds of fentanyl. Given the fact that two milligrams of fentanyl can be a deadly dose, that is enough to kill two billion-plus people — more than one-third of the world's population.

Further, through the first 10 months of FY 2021, CBP's fentanyl seizures are already 94 percent higher than they were in all of FY 2020 (4,791 pounds), and 233 percent higher than in all of FY 2019 (2,804 pounds).

Most of those drugs were seized at the ports of entry, but that should not be confused with the fact that most of the fentanyl is entering the United States come through those ports. Seizures are "known knowns" — they can be measured. Drugs that are not seized are incalculable, the ultimate "unknown unknown".

There are reasons to believe that there is a significant increase in the amount of fentanyl entering the United States undetected between the ports.


FENTANYL SEIZED AT SOUTHWEST BORDER
5.3K LBS
FYTD 2022
11.2K LBS
FY 2021
4.8K LBS
FY 2020
2.8K LBS
FY 2019
CBP
14.1K LBS FY 2022
21K LBS FY 2023
27K LBS FYTD 2024

AWARENESS

- **Public** – Educate about dangers
- **Doctors** - Teach about alternatives
- **Legislators** - proper allocation of $
- **Loved ones of the Addicted** - support
- **Addicted** – options without stigma

ACP Journals

Annals of Internal Medicine®

Clinical Guidelines 4 April 2017

Noninvasive Treatments for Acute, Subacute, and Chronic Low Back Pain: A Clinical Practice Guideline From the American College of Physicians

FREE

Amir Qaseem, MD, PhD, MHA,
Timothy J. Wilt, MD, MPH,Robert M. McLean, MD,
Mary Ann Forciea, MD,

Author, Article and Disclosure Information

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)

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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)

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Clinical Guidelines | 18 Aug 2020

Nonpharmacologic and Pharmacologic Management of Acute Pain From Non–Low Back, Musculoskeletal Injuries in Adults: A Clinical Guideline From the American College of Physicians and American Academy of Family Physicians

FREE

Amir Qaseem, MD, PhD, MHA,Robert M. McLean, MD, David O'Gurek, MD,Pelin Batur, MD,Kenneth Lin, MD, Devan L. Kansagara, MD, MCR,

Author, Article and Disclosure Information

Recommendation 1:

ACP and AAFP recommend that clinicians treat patients with acute pain from non–low back, musculoskeletal injuries with topical nonsteroidal anti-inflammatory drugs (NSAIDs) with or without menthol gel as first-line therapy to reduce or relieve symptoms, including pain; improve physical function; and improve the patient's treatment satisfaction (Grade: strong recommendation; moderate-certainty evidence).

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Clinical Guidelines | 18 Aug 2020

Nonpharmacologic and Pharmacologic Management of Acute Pain From Non–Low Back, Musculoskeletal Injuries in Adults: A Clinical Guideline From the American College of Physicians and American Academy of Family Physicians

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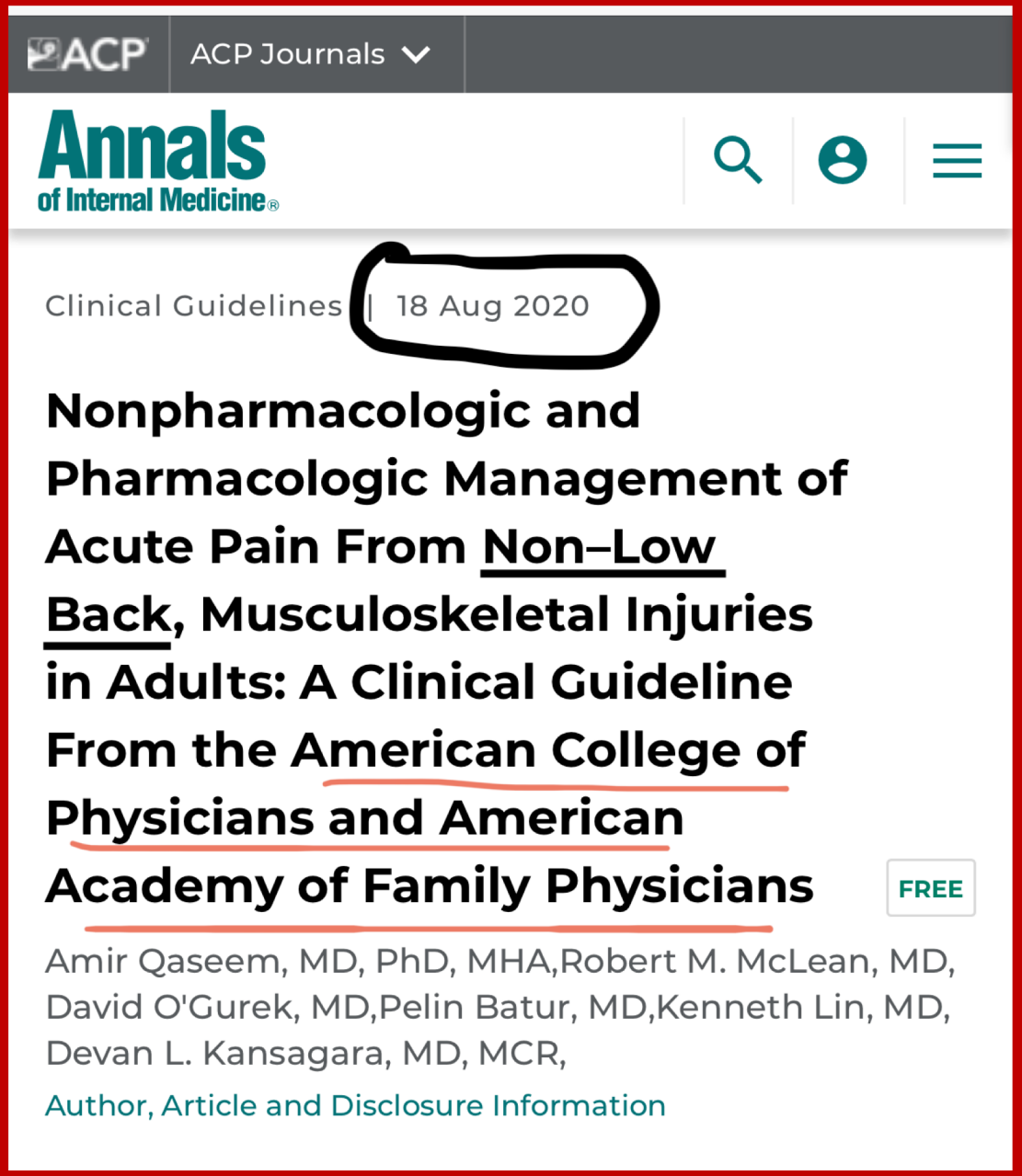
Author, Article and Disclosure Information

Recommendation 2b:

ACP and AAFP suggest that clinicians treat patients with acute pain from non–low back, musculoskeletal injuries with specific acupressure to reduce pain and improve physical function, or with transcutaneous electrical nerve stimulation to reduce pain (Grade: conditional recommendation; low-certainty evidence).



R^3 Report | Requirement, Rationale, Reference

A complimentary publication of The Joint Commission Issue 11, August 29, 2017

Published for Joint Commission-accredited organizations and interested health care professionals, *R^3 Report* provides the rationale and references that The Joint Commission employs in the development of new requirements. While the standards manuals also may provide a rationale, *R^3 Report* goes into more depth, providing a rationale statement for each element of performance (EP). The references provide the evidence that supports the requirement. *R^3 Report* may be reproduced if credited to The Joint Commission. Sign up for email delivery.

Pain assessment and management standards for hospitals

Effective Jan. 1, 2018, new and revised pain assessment and management standards will be applicable to all Joint Commission-accredited hospitals. These standards — in the Leadership (LD); Medical Staff (MS); Provision of Care, Treatment, and Services (PC); and Performance Improvement (PI) chapters of the hospital accreditation manual — are designed to improve the quality and safety of care provided by Joint Commission-accredited hospitals. The new and revised standards accomplish this by requiring hospitals to:

Reference*	• Kaplan HC, et al. The Model for Understanding Success in Quality (MUSIQ): Building a Theory of Context in Healthcare Quality Improvement. *BMJ Quality & Safety,* 2012;21(1):13-20. • Quality Improvement. U.S. Department of Health and Human Services Health Resources and Services Administration. April 2011. • Chassin MR and Loeb JM. High-Reliability Health Care: Getting There from Here. *The Milbank Quarterly,* 2013;91(3):459-90
Requirement	EP 2: The hospital provides nonpharmacologic pain treatment modalities.
Rationale	While evidence for some nonpharmacologic modalities is mixed and/or limited, they may serve as a complementary approach for pain management and potentially reduce the need for opioid medications in some circumstances. The hospital should promote nonpharmacologic modalities by ensuring that patient preferences are discussed and, at a minimum, providing some nonpharmacologic treatment options relevant to their patient population. When a patient's preference for a safe nonpharmacologic therapy cannot be provided, hospitals should educate the patient on where the treatment may be accessed post-discharge. Nonpharmacologic strategies include, but are not limited to: physical modalities (for example, acupuncture therapy, chiropractic therapy, osteopathic manipulative treatment, massage therapy, and physical therapy), relaxation therapy, and cognitive behavioral therapy.

BMJ Open

Observational retrospective study of the association of initial healthcare provider for new-onset low back pain with early and long-term opioid use

Lewis E Kazis,[1] Omid Ameli,[1,2] James Rothendler,[1] Brigid Garrity,[1] Howard Cabral,[3] Christine McDonough,[4] Kathleen Carey,[1] Michael Stein,[1] Darshak Sanghavi,[2] David Elton,[5] Julie Fritz,[6] Robert Saper[7]

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► Prepublication history and additional material for this paper are available online. To view these files, please visit the journal online (http://dx.doi.org/10.1136bmjopen-2018-028633).

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Revised 24 August 2019
Accepted 02 September 2019

For numbered affiliations see end of article.

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Dr Lewis E Kazis; lek@bu.edu

ABSTRACT

Objective This study examined the association of initial provider treatment with early and long-term opioid use in a national sample of patients with new-onset low back pain (LBP).

Design A retrospective cohort study of patients with new-onset LBP from 2008 to 2013.

Setting The study evaluated outpatient and inpatient claims from patient visits, pharmacy claims and inpatient and outpatient procedures with initial providers seen for new-onset LBP.

Participants 216 504 individuals aged 18 years or older across the USA who were diagnosed with new-onset LBP and were opioid-naïve were included. Participants had commercial or Medicare Advantage insurance.

Exposures The primary independent variable is type of initial healthcare provider including physicians and conservative therapists (physical therapists, chiropractors, acupuncturists).

Main outcome measures Short-term opioid use (within 30 days of the index visit) following new LBP visit and long-term opioid use (starting within 60 days of the index date and either 120 or more days' supply of opioids over 12 months, or 90 days or more supply of opioids and 10 or more opioid prescriptions over 12 months).

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Author information

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Abstract

OBJECTIVE: To investigate the current evidence to determine if there is an association between chiropractic use and opioid receipt.

DESIGN: Systematic review and meta-analysis.

METHODS: The protocol for this review was registered on PROSPERO (CRD42018095128). The MEDLINE, PubMed, EMBASE, AMED, CINAHL, and Web of Science databases were searched for relevant articles from database inception through April 18, 2018. Controlled studies, cohort studies, and case-control studies including adults with noncancer pain were eligible for inclusion. Studies reporting opioid receipt for both subjects who used chiropractic care and nonusers were included. Data extraction and risk of bias assessment were completed independently by pairs of reviewers. Meta-analysis was performed and presented as an odds ratio with 95% confidence interval.

RESULTS: In all, 874 articles were identified. After detailed selection, 26 articles were reviewed in full, and six met the inclusion criteria. Five studies focused on back pain and one on neck pain. The prevalence of chiropractic care among patients with spinal pain varied between 11.3% and 51.3%. The proportion of patients receiving an opioid prescription was lower for chiropractic users (range = 12.3-57.6%) than nonusers (range = 31.2-65.9%). In a random-effects analysis, chiropractic users had a 64% lower odds of receiving an opioid prescription than nonusers (odds ratio = 0.36, 95% confidence interval = 0.30-0.43, $P < 0.001$, $I2 = 92.8\%$).

CONCLUSIONS: This review demonstrated an inverse association between chiropractic use and opioid receipt among patients with spinal pain. Further research is warranted to assess this association and the implications it may have for case management strategies to decrease opioid use.

KEYWORDS: Analgesic; Chiropractic; Low Back Pain; Meta-analysis; Neck Pain; Opioid; Systematic Review

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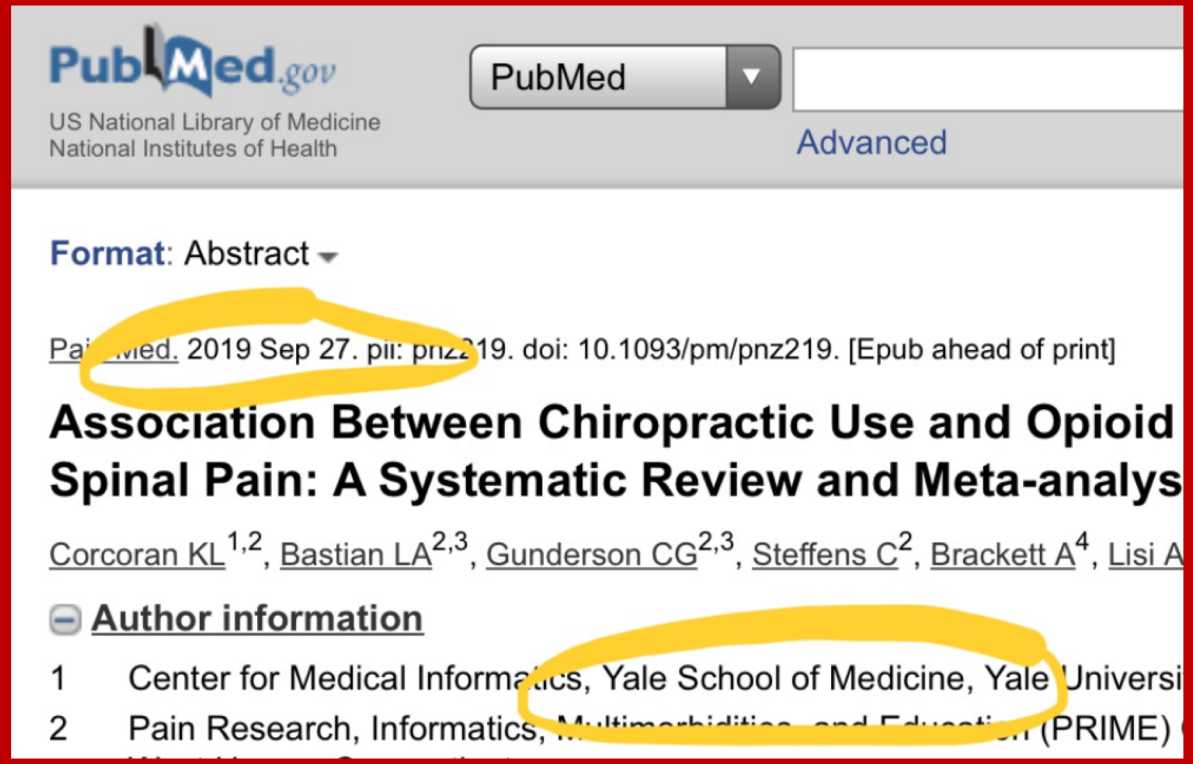

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FULL LENGTH ARTICLE | ARTICLES IN PRESS

Changes in Opioid Therapy Use by an Interprofessional Primary Care Team: A Descriptive Study of Opioid Prescription Data

John Rosa, DC • Jeanmarie R. Burke, PhD

Published: April 17, 2021 •

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Abstract

Objective

The purpose of this study was to describe changes in opioid-therapy prescription rates after a family medicine practice included on-site chiropractic services.

Changes in opioid medication practices by the medical providers included prescribing a schedule III or IV opioid rather than a schedule II opioid ($F_{6,76}=29.81$; $P<.05$) and a 30% decrease in the daily doses of opioid prescriptions (odds ratio, 0.70; 95% confidence interval, 0.50-0.98).

Conclusion

This study demonstrates that there were decreases in opioid-therapy prescribing rates after a family medicine practice included on-site chiropractic services. This suggests that inclusion of chiropractic services may have had a positive effect on prescribing behaviors of medical physicians, as they may have been able to offer their patients additional nonpharmaceutical options for pain management.

Key Indexing Terms

Chiropractic • Family Practice • Analgesics, Opioid •

New UnitedHealthcare Benefit for Low Back Pain Helps Reduce Invasive Procedures and Address the Opioid Epidemic

News Releases | Oct. 29, 2019

By encouraging people with low back pain to access physical therapy or chiropractic care, the benefit design is expected to reduce the number of imaging tests, spinal surgeries and opioid prescriptions

MINNETONKA, Minn. (Oct. 29, 2019) – UnitedHealthcare has introduced a new benefit for people with acute low back pain that makes it more affordable to access physical therapy and chiropractic care, helping to improve health outcomes, reduce costs and avoid often unnecessary invasive treatments and opioid prescriptions.

With this new benefit design, plan participants enrolled in certain employer-sponsored health plans can pay $0 out of pocket (waived deductible or copay) if they select physical therapy or chiropractic care for the treatment of low back pain, helping encourage people to choose these noninvasive options.*

Back Pain Program Infographic

Most Viewed

5 at-home strength exercises to help build muscle as you age

5 stretches to help increase your flexibility

Understanding your blood pressure numbers

The benefit design was informed by a recent study by OptumLabs and the Boston University School of Public Health that showed higher out-of-pocket costs made it less likely for patients with low back pain to choose clinically recommended noninvasive treatments, such as physical therapy and chiropractic care. For example, people with a copay of more than $30 were 29% less likely to see a physical therapist than patients whose copay was $0. There was a similar correlation between deductible and choice of physical therapy to treat low back pain, according to the study in The American Journal of Managed Care.

Nearly 70% of people experience low back pain at least once in their lifetime, and about one-quarter of adults in the United States report experiencing the condition in the past three months.[2] [3] Despite clinical recommendations against it, opioids are prescribed for nearly 9% of new low back pain cases, with this condition ranking as the most common reason for an opioid prescription.[4]

To treat low back pain, the American College of Physicians (ACP) recommends exercise and the use of non-pharmacologic and nonsurgical approaches including physical therapy, chiropractic care, acupuncture and nonsteroidal anti-inflammatory drugs.[5] These noninvasive treatment options help 95% of people with low back pain recover after 12 weeks.[6] Muscle relaxants and imaging, such as an X-ray or MRI, should be secondary options, and spinal surgery should be a last resort. Opioids should be avoided.[5] However, certain "red-flag" symptoms, such as fever or loss of bladder and bowel control, may require immediate testing and intervention.[7]

This new UnitedHealthcare benefit change is available now for some new and renewing employers with fully insured plans and 51 or more employees in Connecticut, Florida, Georgia, New York** and North Carolina. Starting Jan.1, 2020, the benefit will be expanded to new and renewing employers with self-funded plans and organizations with two to 50 employees in the following states: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Virginia. Broader expansion is planned throughout 2020 and 2021.

Chiropractic Care for Workers with Low Back Pain

By Kathryn Mueller, Dongchun Wang, Randall Lea, M.D., Donald R. Murphy

May 17, 2022

"This study will be helpful for policymakers and stakeholders who are interested in re-evaluating the role of chiropractors, especially those who have been adopting evidence-based practices and contributing to cost-effective care," stated WCRI President and Chief Executive Officer John Ruser in a press release.

WCRI researchers examined more than 2 million claims from 28 states with injuries dating from Oct. 1, 2015 through Sept. 30, 2017 to compare costs and claim duration for workers who were treated exclusively by chiropractors to workers who received no chiropractic care and workers who received services from both chiropractors and other types of providers. Claims that involved serious conditions needing immediate care, such as tumors and fractures, were excluded.

The average medical cost per claim for low back pain patients who were treated exclusively by a chiropractor for both physical medicine and evaluation and management was $1,366, 61 percent less than the $3,522 treatment cost for low back pain cases that received no chiropractic treatment.

Indemnity costs were also lower for workers whose low back pain was treated exclusively by a chiropractor: $492 compared to $3,604 for workers who received no chiropractic treatment.

Injured workers treated exclusively by chiropractors also used fewer drugs and diagnostic imaging scans, the report says. Comparing a subset of claims with similar characteristics, the researchers found only 1% of claimants treated by chiropractors were prescribed opioids, compared to 10.3% of claimants who were not treated by chiropractors. In the chiropractic group, 4.3% of claimants received a magnetic-resonance imaging scan, compared to 18.9% for the non-chiropractic claimants.

The report cautions readers that the data provides evidence of an association between chiropractic care and the outcomes that were noted, but not a causal relationship. Researchers cannot fully account for unobserved individual and system characteristics that likely influence the choice of chiropractic care and outcomes, the report says.

The use of chiropractic care varied widely among the states. In Minnesota, 34% of low back pain cases had chiropractic care, 285 in Wisconsin, 25% in California and 20% in New York. On the other end of the spectrum, only 1% of low back claims in South Carolina, Georgia, Arkansas, New Jersey and North Carolina had chiropractic care.

JAMA Netw Open. 2021 Feb 1;4(2):e2037371. doi: 10.1001/jamanetworkopen.2020.37371.

Risk Factors Associated With Transition From Acute to Chronic Low Back Pain in US Patients Seeking Primary Care

Joel M Stevans [1], Anthony Delitto [1], Samannaaz S Khoja [1], Charity G Patterson [1], Clair N Smith [1], Michael J Schneider [1], Janet K Freburger [1], Carol M Greco [2], Jennifer A Freel [3], Gwendolyn A Sowa [4], Ajay D Wasan [5], Gerard P Brennan [6], Stephen J Hunter [6], Kate I Minick [6], Stephen T Wegener [7], Patti L Ephraim [8], Michael Friedman [9], Jason M Beneciuk [10], Steven Z George [11], Robert B Saper [12]

Affiliations + expand

PMID: 33591367 PMCID: PMC7887659 DOI: 10.1001/jamanetworkopen.2020.37371

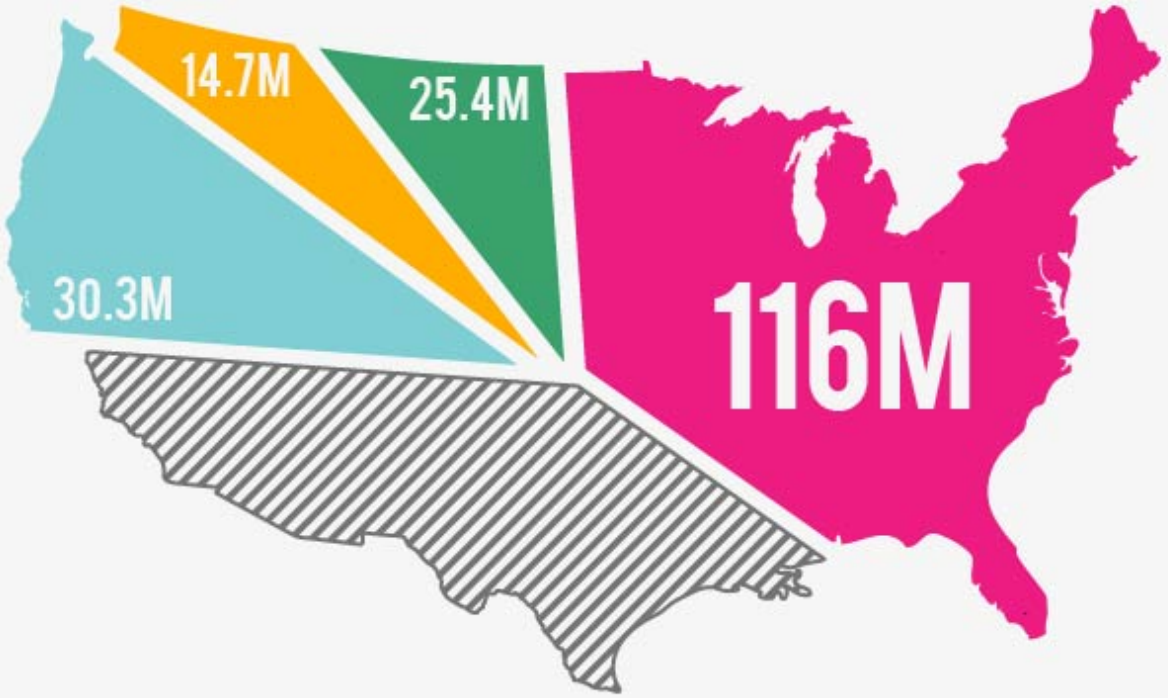
Free PMC article

Abstract

Importance: Acute low back pain (LBP) is highly prevalent, with a presumed favorable prognosis; however, once chronic, LBP becomes a disabling and expensive condition. Acute to chronic LBP transition rates vary widely owing to absence of standardized operational definitions, and it is unknown whether a standardized prognostic tool (ie, Subgroups for Targeted Treatment Back tool [SBT]) can estimate this transition or whether early non-guideline concordant treatment is associated with the transition to chronic LBP.

Objective: To assess the associations between the transition from acute to chronic LBP with SBT risk strata; demographic, clinical, and practice characteristics; and guideline nonconcordant processes of care.

PAIN IN AMERICA



More than 30% of Americans are living with some form of chronic or severe pain.

MORE PEOPLE LIVE WITH CHRONIC PAIN THAN CANCER, HEART DISEASE, AND DIABETES, COMBINED.

- Chronic pain: 116M
- Diabetes: 30.3M
- Heart disease: 25.4M
- Cancer: 14.7M

Sources: National Institutes of Health (NIH), Centers for Disease Control and Prevention (CDC), Institute of Medicine

MAY 5, 2021

CDC Opioid Guidance Has Little Effect in At-Risk Population

Related Articles

New Analysis Finds Antidepressants Largely Ineffective For Back Pain

New Research Highlights Need for Better Educational Materials for Pain Patients

New Opioid Scripts Unchanged Pre-, Post-CDC Guidelines, Study Finds

Among patients at risk for opioid misuse, the odds of receiving a Schedule II opioid for noncancer pain were similar to those not at risk, despite evidence that prescribing rates and doses declined after guidelines were issued by the CDC, according to a new study published in *JAMA Network Open* (2020;3[12]:e2027481).

In 2016, the CDC published its "Guideline for Prescribing Opioids for Chronic Pain" (*JAMA* 2016;315[15]:1624-1645), which dictated recommendations for opioid therapy in primary care patients with noncancer pain. "After reviewing existing studies demonstrating a decline in prescription opioid prescribing rates, declines in dose and co-benzodiazepine medication, it was clear that the CDC guideline resulted in a population-level decrease in exposure to opioid analgesics," said Jeffrey Scherrer, PhD, a professor in family and community medicine at St. Louis University, who led the new study. "However, this literature was based mostly on pharmacy data and was not limited to new opioid prescriptions, which means the results are not necessarily relevant to patients seeking a new opioid prescription."

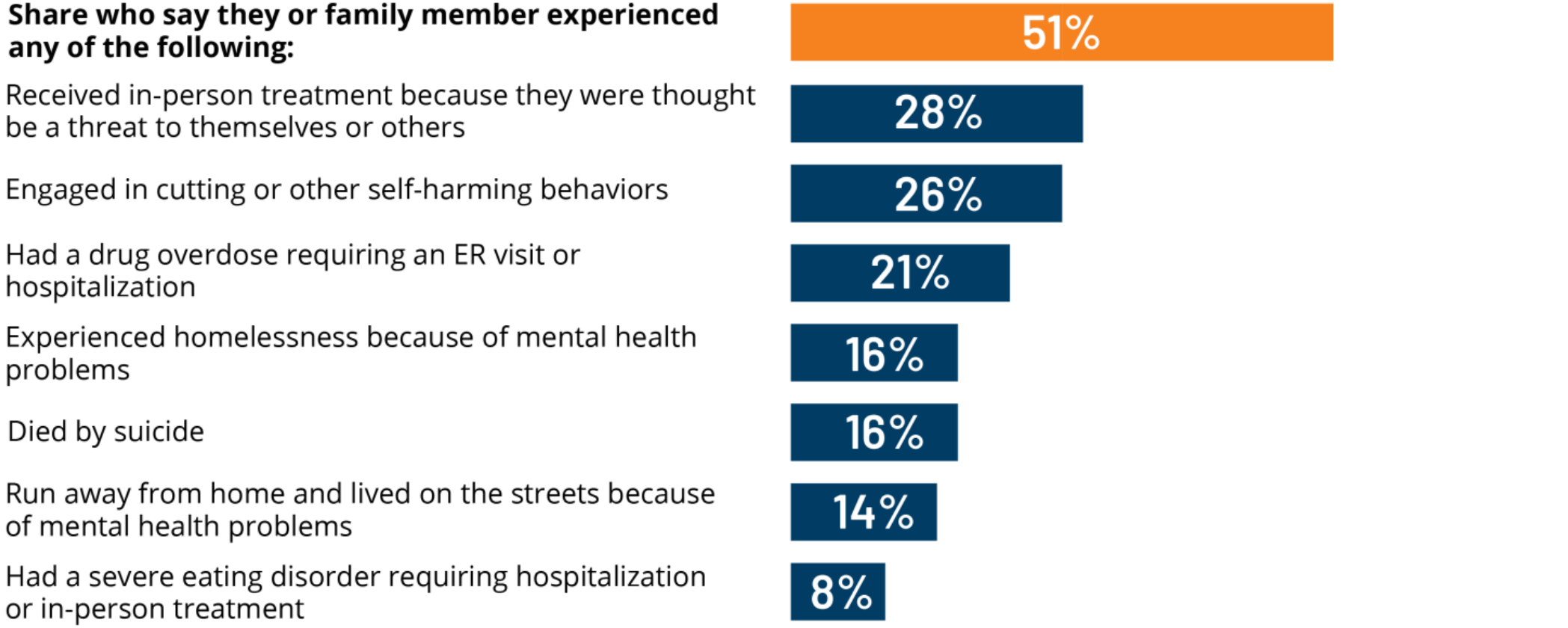
WHAT IS THE CRISIS?

700,000 prescriptions for psychotropic drugs

36,500 seriously think of suicide
10,411 plan an attempt
4,384 attempt it
136 succeed

***Average Day in the US (2023)**

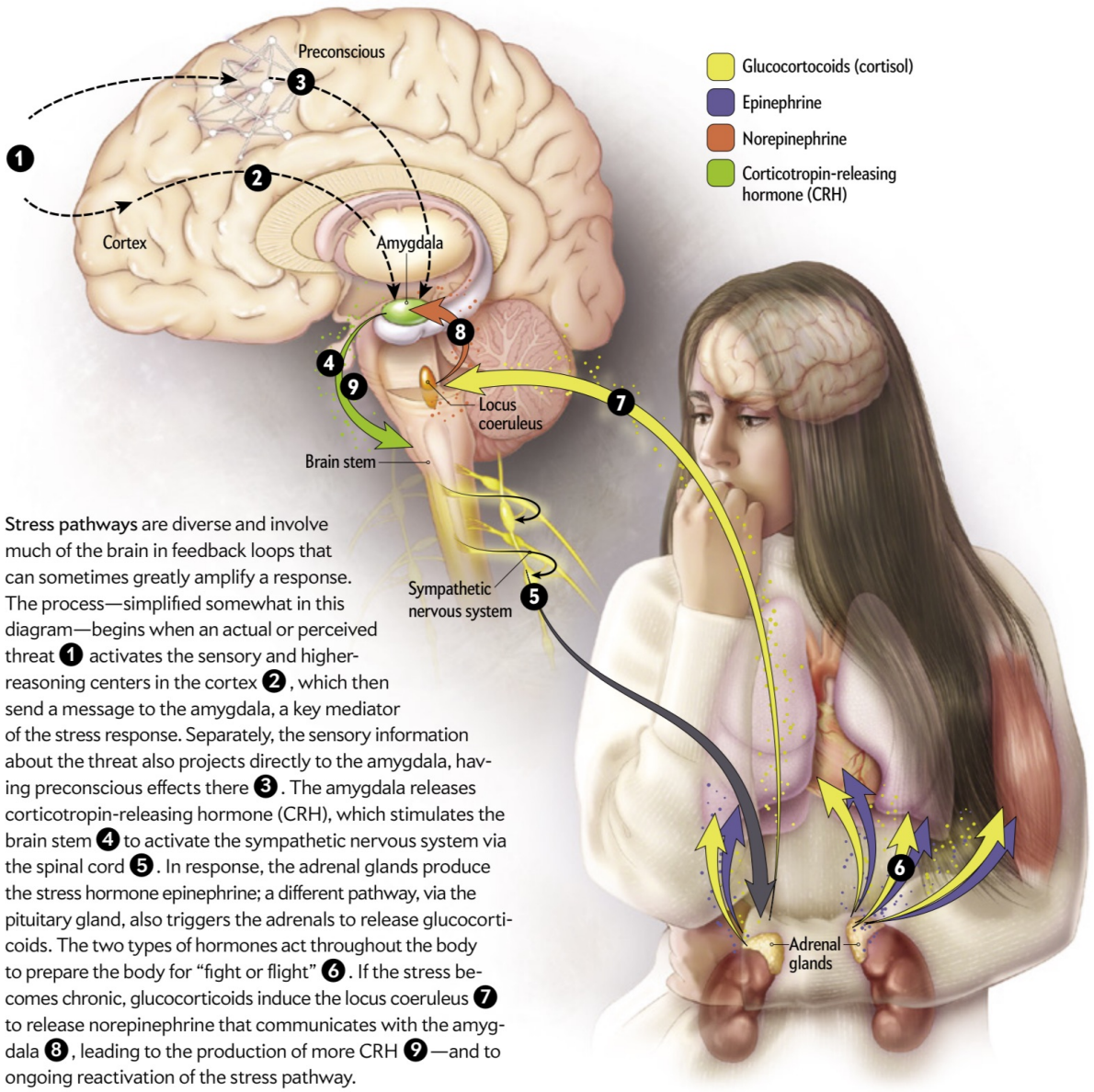
Half of Adults Say They Have Experienced a Severe Mental Health Crisis in Their Family



NOTE: See topline for full question wording.
SOURCE: KFF/CNN Mental Health in America (July 28-August 9, 2022).

KFF

Vicious Cycle of Stress



Stress pathways are diverse and involve much of the brain in feedback loops that can sometimes greatly amplify a response. The process—simplified somewhat in this diagram—begins when an actual or perceived threat ❶ activates the sensory and higher-reasoning centers in the cortex ❷, which then send a message to the amygdala, a key mediator of the stress response. Separately, the sensory information about the threat also projects directly to the amygdala, having preconscious effects there ❸. The amygdala releases corticotropin-releasing hormone (CRH), which stimulates the brain stem ❹ to activate the sympathetic nervous system via the spinal cord ❺. In response, the adrenal glands produce the stress hormone epinephrine; a different pathway, via the pituitary gland, also triggers the adrenals to release glucocorticoids. The two types of hormones act throughout the body to prepare the body for "fight or flight" ❻. If the stress becomes chronic, glucocorticoids induce the locus coeruleus ❼ to release norepinephrine that communicates with the amygdala ❽, leading to the production of more CRH ❾—and to ongoing reactivation of the stress pathway.

Stress pathways are diverse and involve much of the brain in feedback loops that can sometimes greatly amplify a response. The process—simplified somewhat in this diagram—begins when an actual or perceived threat ❶ activates the sensory and higher-reasoning centers in the cortex ❷, which then send a message to the amygdala, a key mediator of the stress response. Separately, the sensory information about the threat also projects directly to the amygdala, having preconscious effects there ❸. The amygdala releases corticotropin-releasing hormone (CRH), which stimulates the brain stem ❹ to activate the sympathetic nervous system via the spinal cord ❺. In response, the adrenal glands produce the stress hormone epinephrine; a different pathway, via the pituitary gland, also triggers the adrenals to release glucocorticoids. The two types of hormones act throughout the body to prepare the body for "fight or flight" ❻. If the stress becomes chronic, glucocorticoids induce the locus coeruleus ❼ to release norepinephrine that communicates with the amygdala ❽, leading to the production of more CRH ❾—and to ongoing reactivation of the stress pathway.

CORTISOL

Function

Regulates metabolism
Regulates blood sugar
Regulates immune sys
Increased energy in stress
Modulates inflammation
Half-life 90 minutes

Long-Term Effects

Weight gain
Insulin resistance
Muscle breakdown
High blood pressure
Risk of cardiovascular disease
Osteoporosis
Suppressed immune function
Reduced fertility in both M&W
Anxiety, Depression, Cognition

PREDNISONE

Function

Potent anti-inflammatory (pain)
Potent immunosuppressant
Treat Autoimmune diseases
Treat allergies
Treat Asthma
Half-life 3-4 hours

Long-Term Effects

Weight gain
Increased appetite
Osteoporosis
Suppressed immune function
High blood pressure
Risk of Cardiovascular disease
Gastric bleeding
Insomnia
Anxiety, Depression, Psychosis

Prefrontal cortex
Essential for good planning and decision-making, this region is impaired by stress hormones.

Hippocampus
Activity here, key to learning and memory, is reduced, and the area shrinks in size.

Amygdala
Fear and anxiety are channeled through this region, and its activity is heightened.

Mesolimbic dopamine system
Neuron signals here are crucial for motivation, but they are disrupted, increasing the risk of depression and addiction.

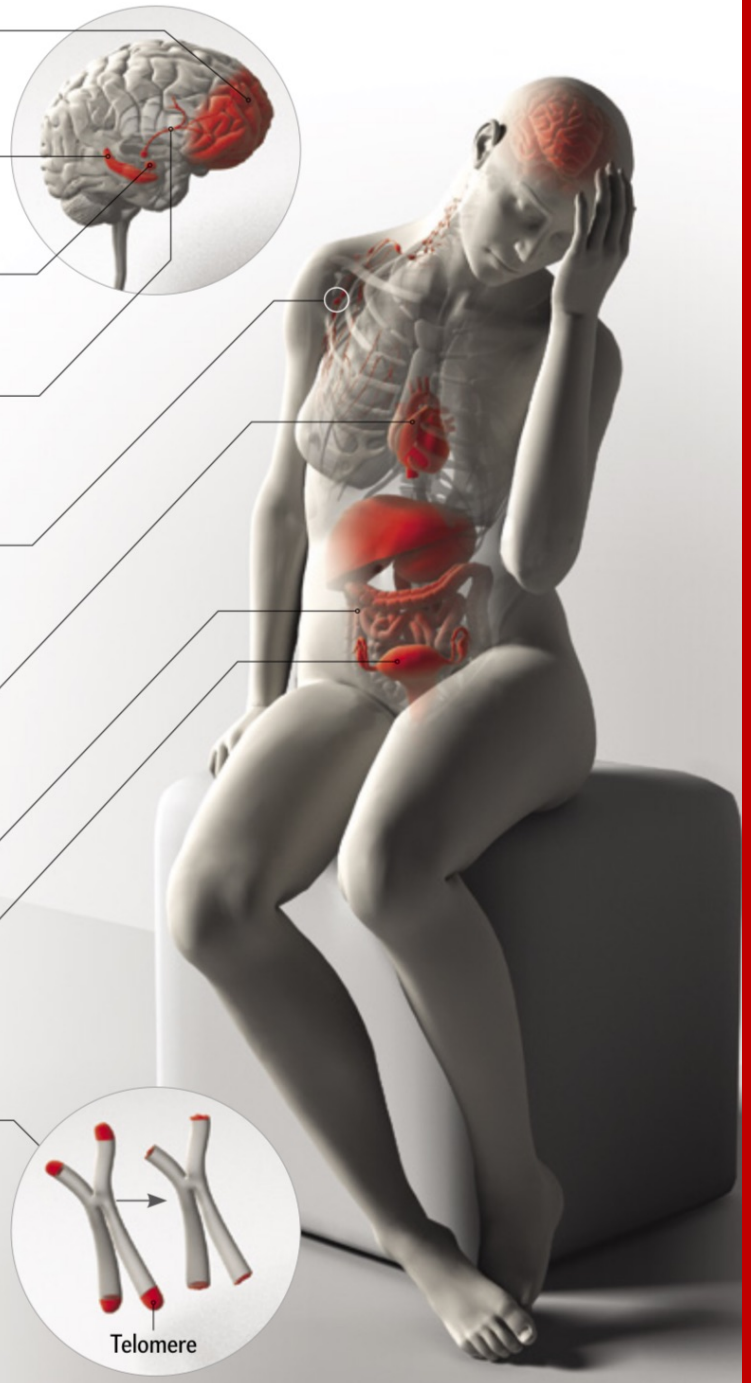
Chronic inflammation
This state, brought about through stress hormones and the immune system, damages molecules throughout the body, increasing the risk of heart disease and Alzheimer's, among many ailments.

Circulatory system
Blood pressure goes up, heightening atherosclerosis and stroke risks.

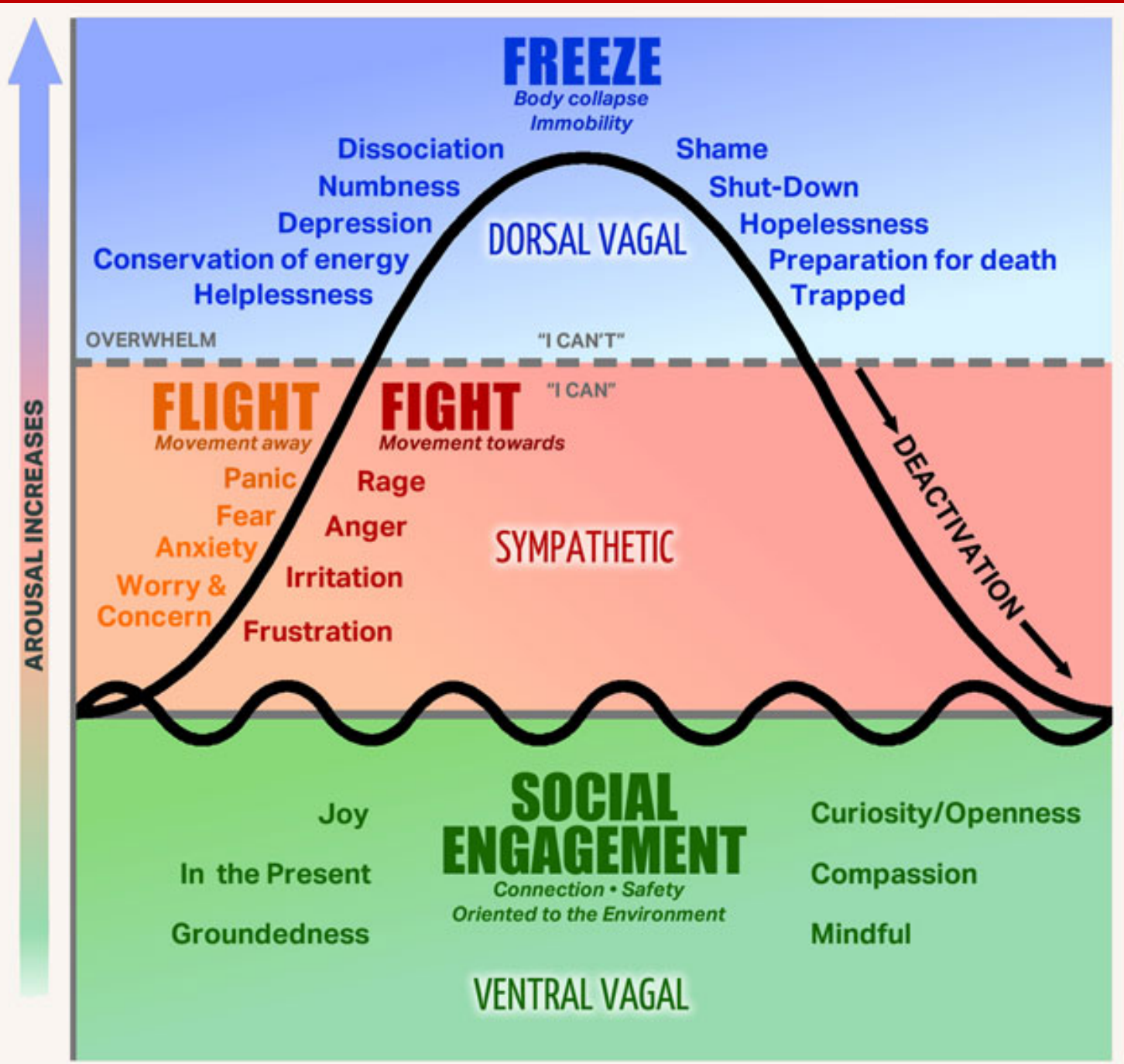
Metabolism
Cells throughout the body have reduced responses to insulin, and abdominal fat increases, leading to diabetes.

Reproductive organs
Abnormalities disrupt fertility and libido.

Chromosomes
DNA in our chromosomes is kept stable by little molecular caps at the ends called telomeres (*red*). When people are stressed by social circumstances, telomeres get shorter, leading to frayed and vulnerable chromosomes—a kind of premature molecular aging.



Polyvagal Science



PARASYMPATHETIC NERVOUS SYSTEM
DORSAL VAGAL - EMERGENCY STATE

Increases
Fuel storage & insulin activity
Endorphins that help numb and raise the pain threshold.

Decreases
Heart Rate • Blood Pressure
Temperature • Muscle Tone
Facial Expressions • Eye Contact
Intonations • Awareness of the Human Voice • Social Behavior • Sexual Responses • Immune Response

SYMPATHETIC NERVOUS SYSTEM

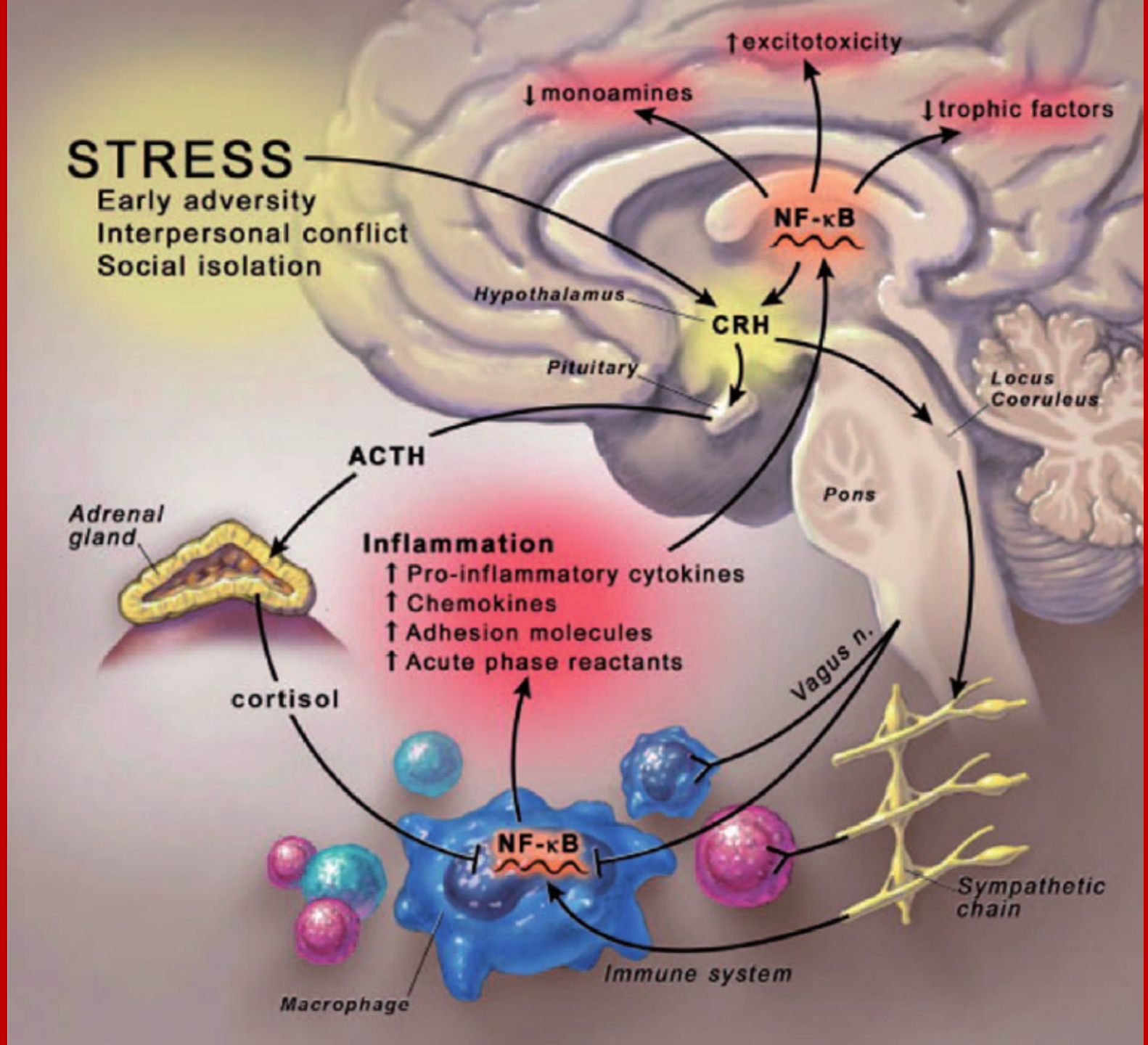
Increases
Blood Pressure • Heart Rate
Fuel Availability • Adrenaline
Oxygen circluation to vital organs
Blood Clotting • Pupil Size

Decreases
Fuel Storage • Insulin Activity
Digestion • Salvation
Relational Ability
Immune Response

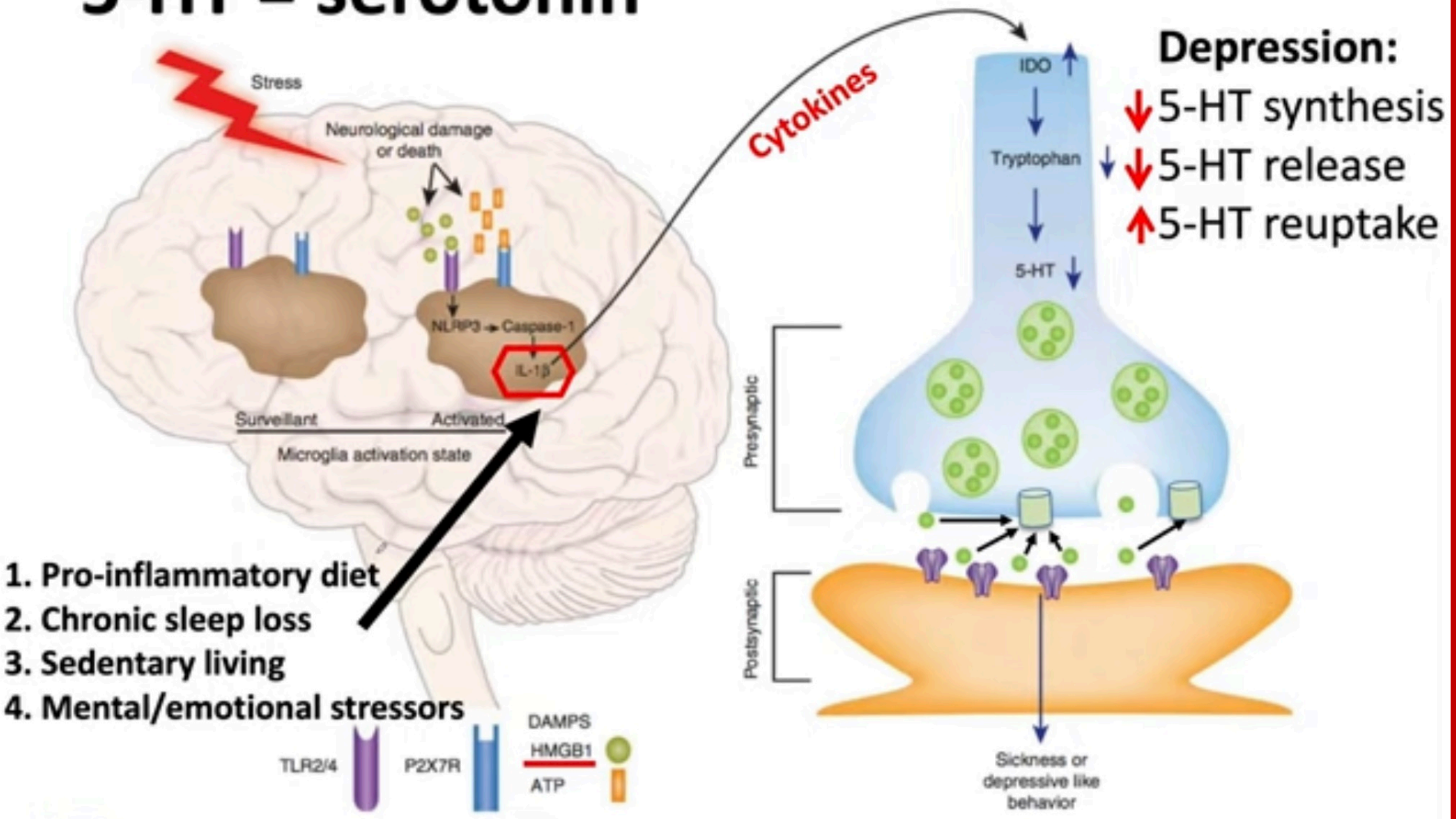
PARASYMPATHETIC NERVOUS SYSTEM
VENTRAL VAGAL

Increases
Digestion • Intestinal Motility
Resistance to Infection
Immune Response
Rest and Recuperation
Circulation to non-vital organs (skin, extremities)
Oxytocin (neuromodulator involved in social bonds that allows immobility without fear)
Ability to Relate and Connect

Decreases
Defensive Responses


↑excitotoxicity
↓monoamines
↓trophic factors
STRESS
Early adversity
Interpersonal conflict
Social isolation
NF-κB
Hypothalamus
CRH
Pituitary
Locus Coeruleus
ACTH
Pons
Adrenal gland
Inflammation
↑ Pro-inflammatory cytokines
↑ Chemokines
↑ Adhesion molecules
↑ Acute phase reactants
Vagus n.
cortisol
NF-κB
Sympathetic chain
Immune system
Macrophage

5-HT = serotonin

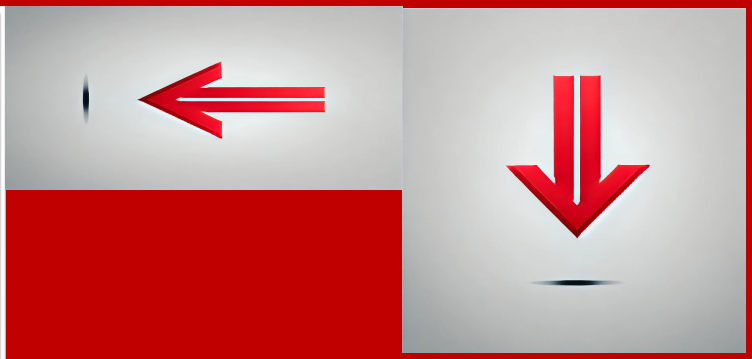


Depression:
- ↓5-HT synthesis
- ↓↓5-HT release
- ↑5-HT reuptake

1. Pro-inflammatory diet
2. Chronic sleep loss
3. Sedentary living
4. Mental/emotional stressors

Figure 4. A model of stress-induced sterile inflammatory processes in the brain and the neural impact of these processes. We propose that exposure to stressors results in the release of danger-associated molecular patterns (DAMPs) within the brain, presumably from damaged or dying neurons. These neuron-derived DAMPs then target their cognate receptors on microglia leading to inflammasome activation and the synthesis and secretion of interleukin-1β (IL-1β). The secreted form of IL-1β may drive the induction of indoleamine 2,3-dioxygenase (IDO), which catabolizes tryptophan into kynurenine and thereby reduces the available pool of tryptophan for serotonin (5-HT) synthesis. Reductions in 5-HT synthesis may then mediate, in part, the effects of stress on sickness behavior.

Flame
Obesity
Free radicals
Prostaglandins
Cytokines
Genetically
Pre-Flamed
Free radicals
Prostaglandins
Cytokines
Flame
Smoking
Flame
Sun avoidance
Free radicals
Prostaglandins
Cytokines
Flame
Sleep loss
Chronic muscle & joint stress and strain *Flame*
Free radicals
Prostaglandins
Cytokines
Flame
Refined sugar, flour, and oils
Flame
Mental/emotional stressors
Free radicals
Prostaglandins
Cytokines
Inflammaging
Flame
Free radicals
Prostaglandins
Cytokines
Flame
Sedentary living, deconditioning
Chronic pain & depression (& all chronic diseases)
© 2019 Dr. David R Seaman



The United States is awash in prescription antidepressants.

Even before the pandemic, which has undoubtedly worsened the country's collective mental health and increased its use of psychiatric drugs, the Centers for Disease Control and Prevention estimated that roughly 1 in 8 Americans ages twelve and older was taking an antidepressant. The use of these drugs has risen more than 400% since the early 1990s, and a quarter of users stay on these medications for 10 years or longer.

Some experts have argued that the early improvements associated with antidepressants can be explained by placebo effects (which can be very powerful).

Irving Kirsch, PhD, is associate director of the Program in Placebo Studies at Harvard Medical School. Kirsch has uncovered unpublished data from drug company clinical trials that show many of these drugs fail to outperform placebos. “I do not know of any identifiable group of patients for whom antidepressants are clearly warranted,” Kirsch told me.

Harvard Health Publishing
HARVARD MEDICAL SCHOOL

Long-lasting healthy changes: Doable and worthwhile

MIND & MOOD

Pain, anxiety, and depression

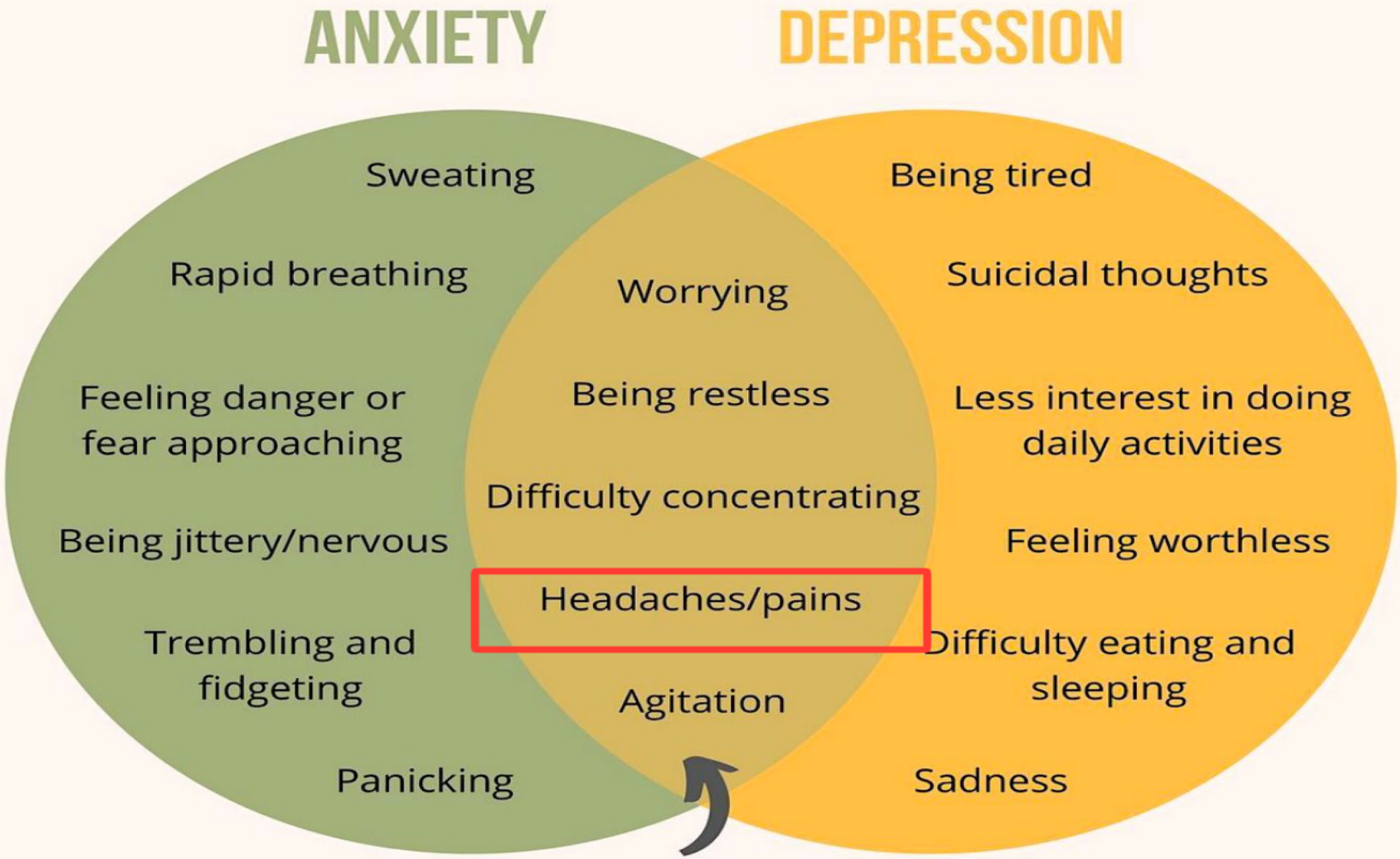
September 16, 2021

Why these conditions often occur together and how to treat them when they do.

Shared anatomy contributes to some of this interplay. The somatosensory cortex (the part of the brain that interprets sensations such as touch) interacts with the amygdala, the hypothalamus, and the anterior cingulate gyrus (areas that regulate emotions and the stress response) to generate the mental and physical experience of pain. These same regions also contribute to anxiety and depression.

SYMPTOMS DEPRESSION & ANXIETY

@THEPRESENTPSYCHOLOGIST



Clinical Trial > J Manipulative Physiol Ther. 1986 Jun;9(2):115-23.

Spinal manipulation and beta-endorphin: a controlled study of the effect of a spinal manipulation on plasma beta-endorphin levels in normal males

H T Vernon, M S Dhami, T P Howley, R Annett

PMID: 2942618

Abstract

The role of spinal manipulation in the relief of pain is becoming clearer and more demonstrable as time passes. One approach to this study is the effect of manipulation on the neurochemical mechanisms of antinociception. Chief among these is beta-endorphin, which has been found to produce a wide range of beneficial effects, especially analgesia. The intent of our study was to demonstrate the effect of spinal manipulation on plasma beta-endorphin levels. Three groups of male subjects were randomly created: the experimental, sham and control groups. All three groups were screened for symptomatology, present use of medications and the present use of innocuous stimulants, such as nicotine and caffeine. A standard protocol involving a 20-min pretest resting period, an intervention and a 40-min test period ensued. The experimental group received a manipulation in the region of the cervical spine; the placebo group received a sham maneuver with no dynamic thrust; the control group received no intervention. Samples were taken by venipuncture at -20, -5, +5, +10 and +30 min. The data were analyzed by repeated measures analysis of variance and by Scheffe's post-hoc multiple comparison tests. Plasma beta-endorphin levels were assessed by radioimmune assay technique (according to the method described by Harber and Sutton in 1984). The results of our study demonstrated a small, but statistically significant, increase in serum beta-endorphin levels in the experimental group at the 5-min postintervention point. The levels in the placebo and control groups demonstrated a steady decrease that was distinct from the response in the experimental group.(ABSTRACT TRUNCATED AT 250 WORDS)

Review > J Complement Integr Med. 2020 Jun 18;18(1):1-7. doi: 10.1515/jcim-2020-0013.

Endocannabinoids release after Osteopathic Manipulative Treatment. A brief review

Andrea Buscemi [1], Simona Martino [1], Santi Scirè Campisi [1], Alessandro Rapisarda [1], Marinella Coco [2]

Affiliations + expand

PMID: 32554836 DOI: 10.1515/jcim-2020-0013

Abstract

Objectives: Since 70's, scientific research has analyzed how many acute and chronic issues can affect body systems. In case of depression, chronic pain and overtraining, centrals and peripherals systems act to manage and maintain body adaptations. The aim of this study is to evaluate if the osteopathic treatment can increase the release of Cannabinoid receptor (CB) and promote the linkage with their receptors.

Content: Documents research is based on PubMed and Google Scholar databases. Keywords used were "osteopathic treatment", "manual therapy", "endocannabinoid", "beta endorphin (BE)", and " CB1" "massage". From 70 articles collected (published in the last 10 years) 52 were excluded as non-relevant to the study aim.

Summary: The Key points have been the similar results found by different authors during different treatment periods and with different doses. From 22 articles examined, 13 have established positive effects on CB increasing post osteopathic treatment, three articles have indicated the most targeted tissues in which the substances are most expressed, two articles indicate how physical activities produce antalgic effects by increasing CB's values.

Outlook: As a result of this review, osteopathic manipulation treatment seems to be a valid and effective instrument for the treatment of a series of pathologies such as chronic low back pain, fibromyalgia, spinal cord lesions, myofascial graft point, migraine, GI tract dysfunctions, and depression.

Randomized Controlled Trial > Spine (Phila Pa 1976). 2019 May 1;44(9):609-614.
doi: 10.1097/BRS.0000000000002908.

Spinal Manipulative Therapy Effects in Autonomic Regulation and Exercise Performance in Recreational Healthy Athletes: A Randomized Controlled Trial

Pedro L Valenzuela [1,2], Sara Pancorbo [3], Alejandro Lucia [4], Francisco Germain [1]

Affiliations + expand

PMID: 30325889 DOI: 10.1097/BRS.0000000000002908

Abstract

Study design: A randomized, double blind, parallel groups, sham-controlled trial.

Objective: The aim of this study was to analyze the acute effects of spinal manipulative therapy (SMT) on performance and autonomic modulation.

Summary of background data: The use of SMT is progressively spreading from the clinical to the sporting context owing to its purported ergogenic effects. However, its effects remain unclear.

Methods: Thirty-seven male recreational athletes (aged 37 ± 9 years) who had never received SMT were assigned to a sham (n = 19) or actual SMT group (n = 18). Study endpoints included autonomic modulation (heart rate variability), handgrip strength, jumping ability, and cycling performance [8-minute time trial (TT)]. Differences in custom effects between interventions were determined using magnitude-based inferences.

Results: A significant and very likely lower value of a marker of sympathetic modulation, the stress score, was observed in response to actual compared with sham SMT [P = 0.007; effect size (ES) = -0.97]. A trend toward a significant and likely lower sympathetic:parasympathetic ratio (P = 0.055; ES = -0.96) and a likely higher natural logarithm of the root-mean-square differences of successive heartbeat intervals [(LnRMSSD), P = 0.12; ES = 0.36] was also found with actual SMT. Moreover, a significantly lower mean power output was observed during the TT with actual compared with sham SMT (P = 0.035; ES = -0.28). Nonsignificant (P > 0.05) and unclear or likely trivial differences (ES < 0.2) were found for the rest of endpoints, including handgrip strength, heart rate during the TT, and jump loss thereafter.

Conclusion: A single pre-exercise SMT session induced an acute shift toward parasympathetic dominance and slightly impaired performance in recreational healthy athletes.

Effect of spinal manipulative treatment on cardiovascular autonomic control in patients with acute low back pain

Mohamed Younes [1 2], Karine Nowakowski [3], Benoit Didier-Laurent [3], Michel Gombert [3], François Cottin [1 2]

Affiliations + expand

PMID: 29214015 PMCID: PMC5713473 DOI: 10.1186/s12998-017-0167-6

Free PMC article

Abstract

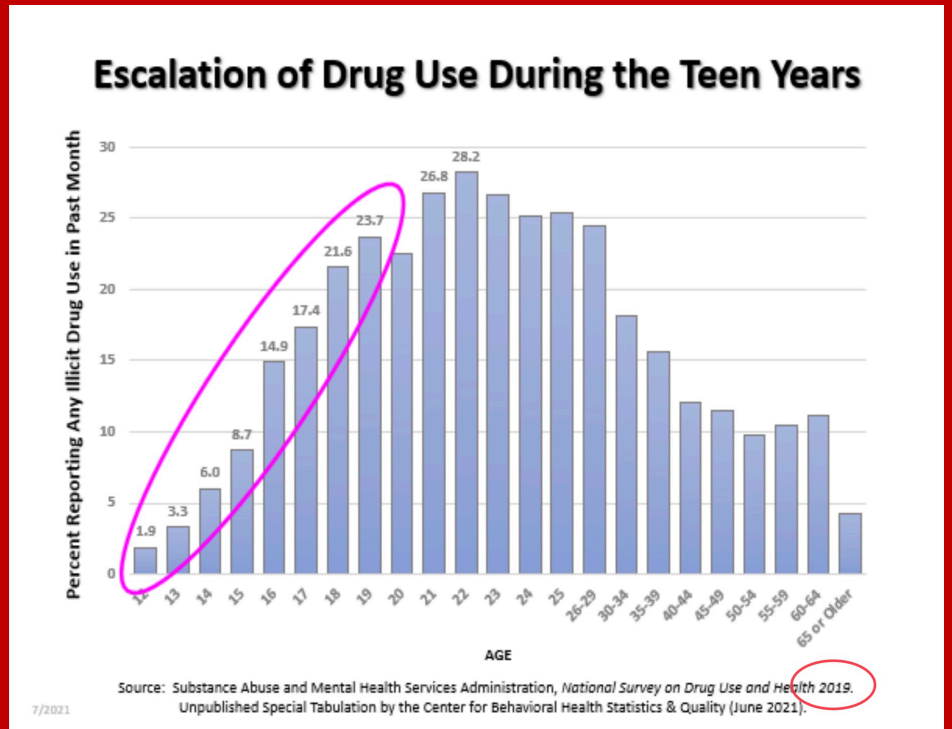
Background: This study aimed to quantify the effect of spinal manipulative treatment (SMT) from an analysis of baroreflex, systolic blood pressure and heart rate variability (HRV) on patients with acute back pain. It was hypothesized that SMT would increase the parasympathetic cardiovascular autonomic control.

Methods: Twenty-two patients with acute back pain were randomly divided into two groups: one receiving sham treatment (Sham) and the other receiving SMT. Recordings were completed during the first day and the seventh day, immediately before and after treatment on both days. ECG and systolic blood pressure were continuously recorded to compute cardiovascular variability and baroreflex sensitivity components. The perceived level of pain was measured with the numeric pain scale (NPS) 48 h before, just before and just after each treatment. The NPS ranged from 0 to 100% (peak of pain before treatment). ECG and systolic blood pressure recordings were analyzed in time frequency domain using the Smoothed pseudo Wigner-Ville distribution.

Results: Root mean square of the successive differences, high frequency power of the heart rate variability, and high frequency baroreflex sensitivity differences between post and pre tests were higher in the SMT group than in the Sham group ($p < 0.01$), whereas no differences were observed with the other heart rate variability components. Also, no differences were observed with the systolic blood pressure components. Although the estimated pain scale values decreased over time, no difference was observed between the SMT and Sham groups.

Conclusions: This seems to be the first study to assess the effect of SMT on both heart rate variability and baroreflex sensitivity in patients with acute back pain. SMT can be seen to provoke an increase in parasympathetic control known to relate to a person's healthy state. Thus, cardiovascular variability analysis may be a useful tool for clinicians to quantify and objectify the beneficial effects of spinal manipulation treatment.

Another factor to consider in understanding the origins of substance use among youth is the impact of adverse childhood experiences (ACEs), their connection to SDOH, and equity. ACEs are potentially traumatic events that occur during childhood and adolescence (between the ages of 0-17 years). Large scale population based studies have shown that individuals with more ACEs are likely to have health problems later in life. Types of ACEs include abuse and neglect, experiencing or witnessing violence, experiencing divorce of parents, a family member in jail, parental mental health or SUD, having a family member or caregiver attempt or die by suicide, and chronic poverty.[45,46,47] Recently, researchers have included experiences with racism, bullying, and community violence as traumatic experiences that can impact health and wellbeing.[48] While nearly 61 percent of adults surveyed report they experienced at least one type of ACE, women and most racial minority groups were more likely to have experienced four or more ACEs.



health.[69] There is a strong relationship between ACEs and early initiation of youth substance use.[70] The estimated nonmedical use of prescription drugs increases by 62% for each additional ACE.[71,72]

One Drug Prescription Turns Into Two, and More

Using drugs to cover up the symptoms of mental health conditions in children is a slippery slope that often leads to overprescribing. A study published in the journal Pediatrics in 2020 revealed that not only is the use of ADHD medication increasing but so is psychotherapeutic polypharmacy.[12]

From 2006 to 2015, prescriptions for ADHD medications among patients aged 2 to 24 years increased from 4.8% to 8.4%, while the percentage of those who were prescribed a drug for ADHD as well as at least one other medication rose from 26% to 40.7%.[13]

Most often, stimulants and α-2 agonists were prescribed together to treat ADHD, while the most common psychotropic agents prescribed in addition were selective serotonin reuptake inhibitors (SSRIs) and second-generation antipsychotics (SGAs).

"Surprisingly," the researchers noted, "SGAs were coprescribed with ADHD medications most frequently at visits in the youngest patients (2–5 years of age)" — possibly in an attempt to treat sleep difficulties.[14] They added:[15]

Even among the very youngest children, polypharmacy is a problem. Data released in 2014 from the Citizens Commission on Human Rights[19] showed hundreds of thousands of toddlers were prescribed psychiatric drugs and more than 274,000 children from birth to 1 year old were included in that mix. According to their figures, the numbers of children aged birth to 1 year old on these medications were:[20]

- 249,669 on antianxiety drugs (such as Xanax, Klonopin and Ativan)
- 26,406 on antidepressants (such as Prozac, Zoloft and Paxil)
- 1,422 on ADHD drugs (such as Ritalin, Adderall and Concerta)
- 654 on antipsychotics (such as Risperdal, Seroquel, and Zyprexa)

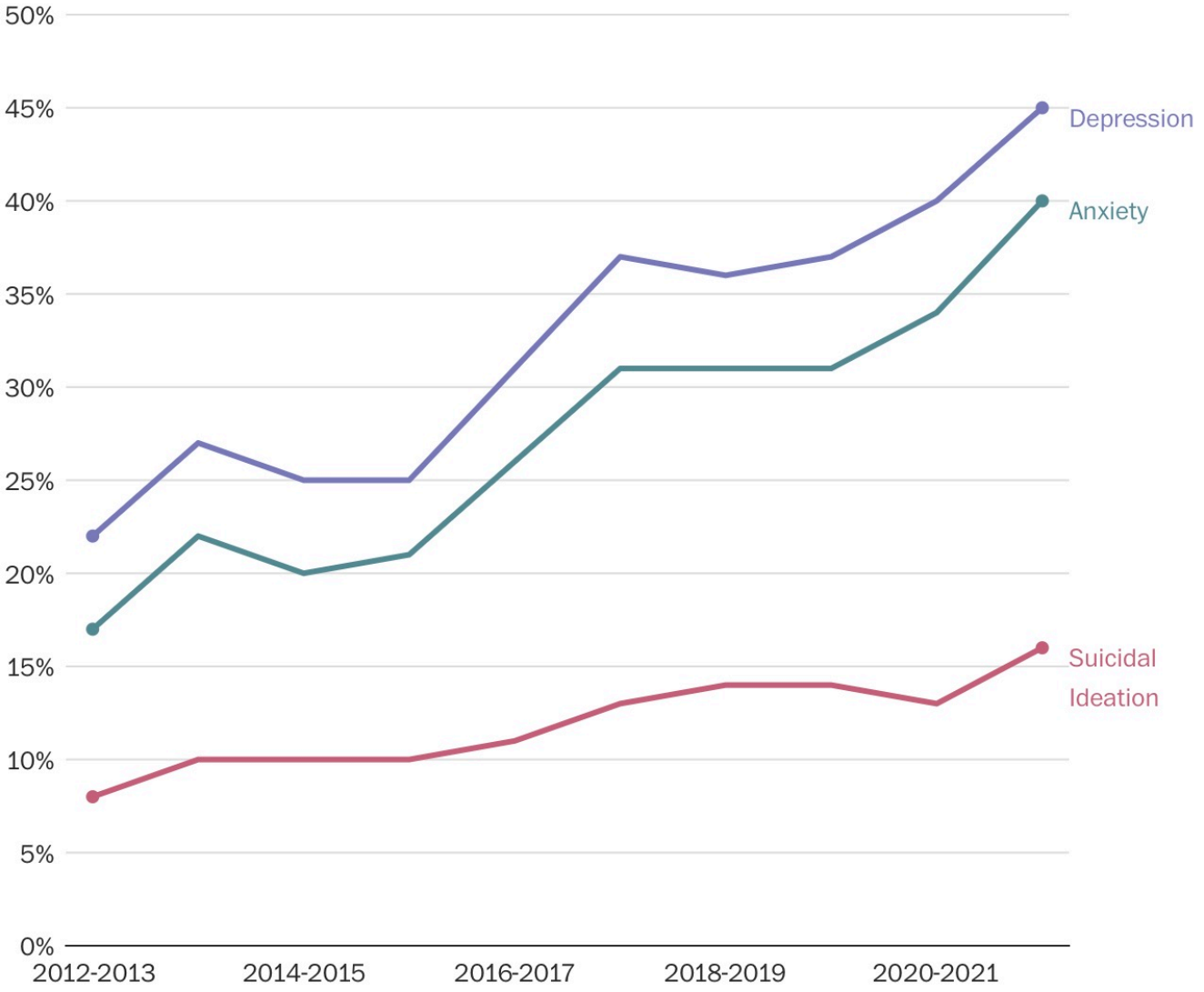
Friday, October 14, 2022

Adverse Childhood Experiences During Pandemic Take Toll on High Schoolers' Mental Health

Nearly 3 out of 4 high school students were affected by at least one adverse childhood experience (ACE) such as sexual violence, physical abuse, emotional abuse, or family financial insecurity during the COVID-19 pandemic, a study in *Morbidity and Mortality Weekly Report* has found. These students were more likely to report poor mental health and suicidal behavior than students without ACEs, prompting researchers to call for greater efforts to prevent childhood harm.

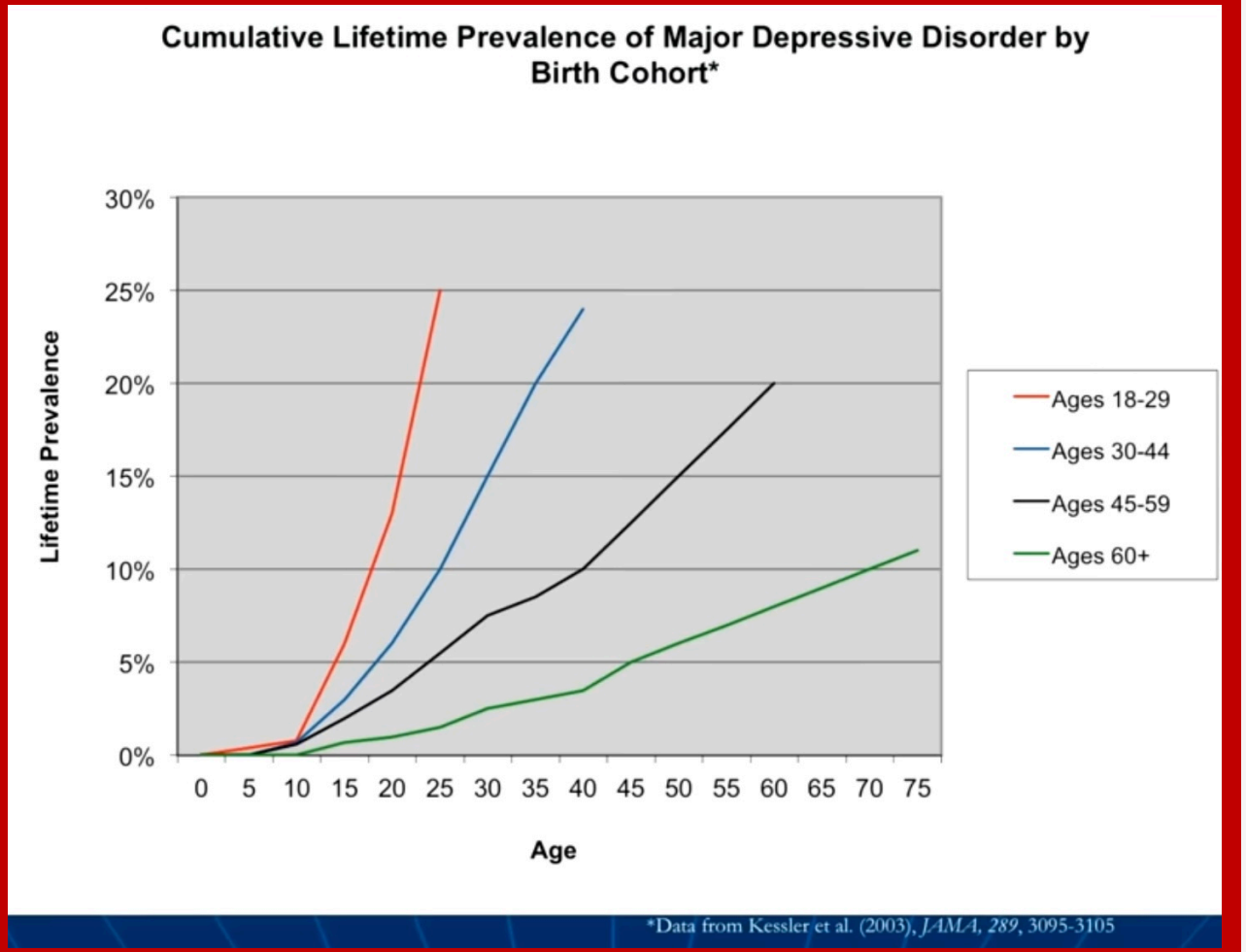
Mental health problems soar at U.S. colleges and universities

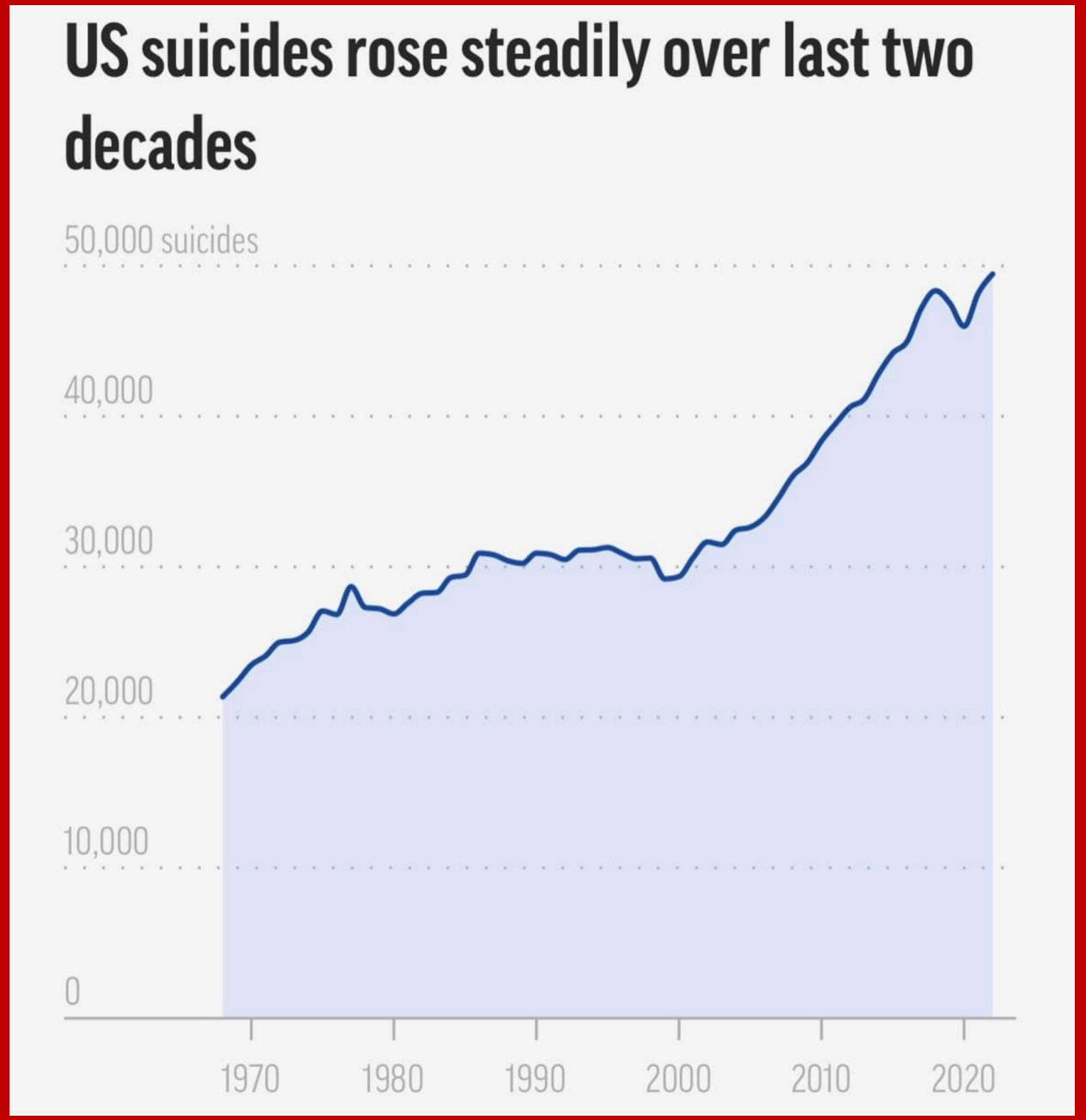
Between 2013 and 2021, student rates of depression, anxiety and suicidal thought more than doubled in America, according to national surveys.

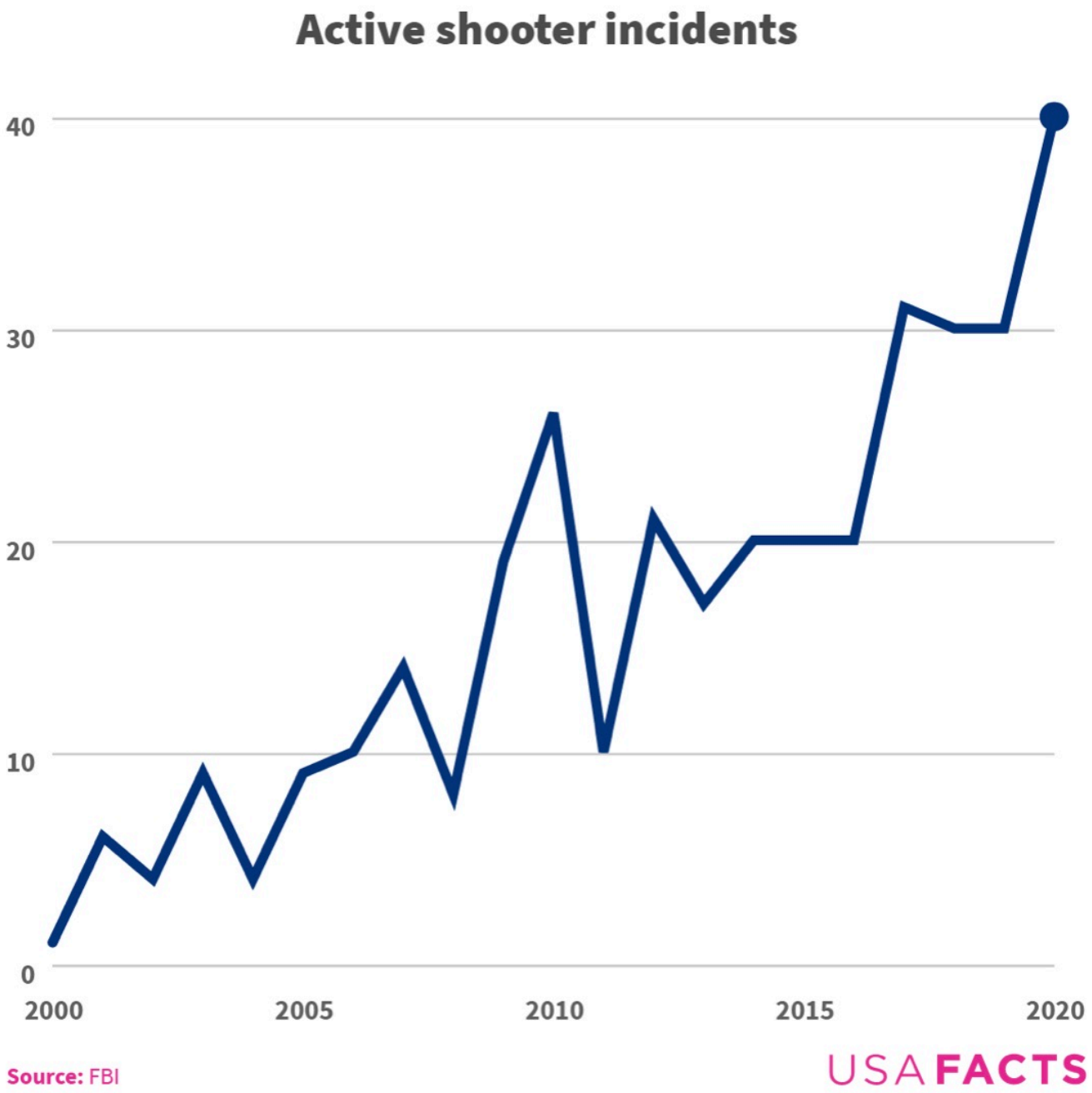


Source: Healthy Minds Network • Get the data

WILLIAM WAN / THE WASHINGTON POST


Cumulative Lifetime Prevalence of Major Depressive Disorder by Birth Cohort*
Lifetime Prevalence
30%
25%
20%
15%
10%
5%
0%
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75
Age
Ages 18-29
Ages 30-44
Ages 45-59
Ages 60+
*Data from Kessler et al. (2003), JAMA, 289, 3095-3105

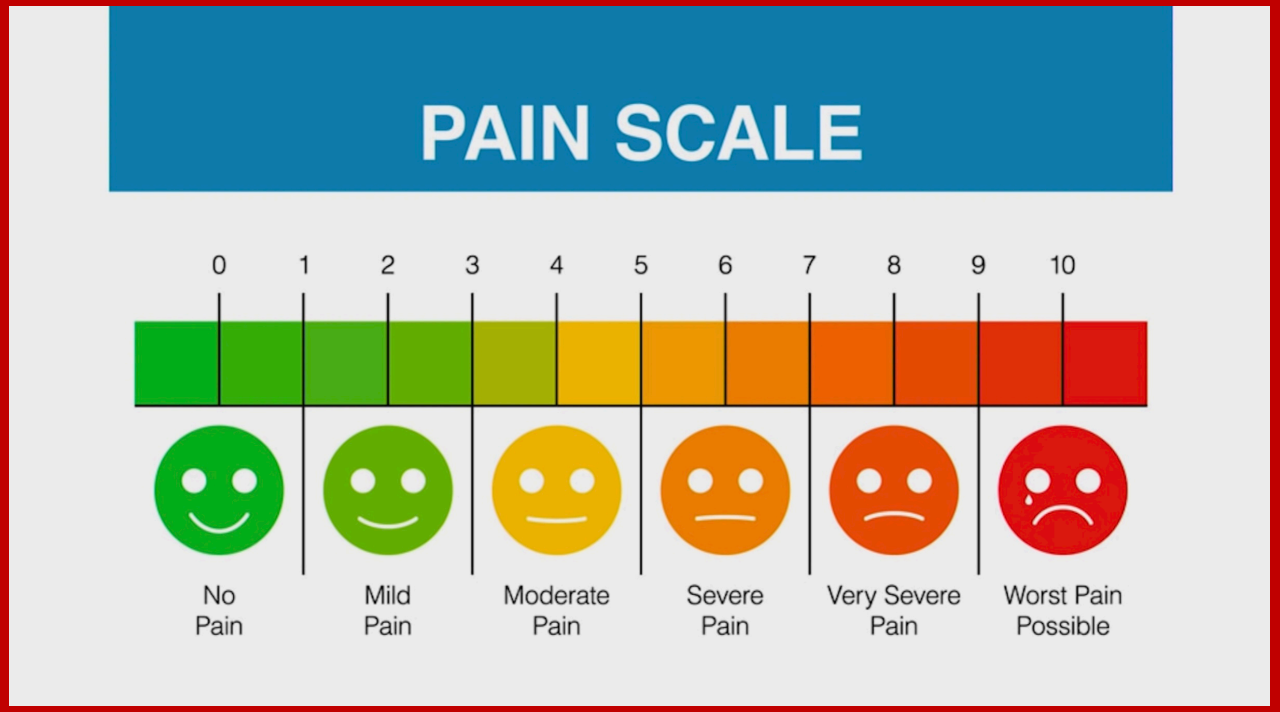

US suicides rose steadily over last two decades
50,000 suicides
40,000
30,000
20,000
10,000
0
1970
1980
1990
2000
2010
2020


Active shooter incidents
40
30
20
10
0
2000
2005
2010
2015
2020
Source: FBI
USAFACTS

WASHINGTON (Reuters) - Fifty-nine percent of U.S. mental health drug prescriptions are written by family doctors, not psychiatrists, raising concerns about the quality of some treatments, according to a study released on Wednesday. Sep 29, 2009

The bulk of mental health services for people with depression are provided in primary care settings. **Primary care providers** prescribe 79 percent of antidepressant medications and see 60 percent of people being treated for depression in the United States, and they do that with little support from specialist services. Jun 13, 2013

https://www.ncbi.nlm.nih.gov › pmc

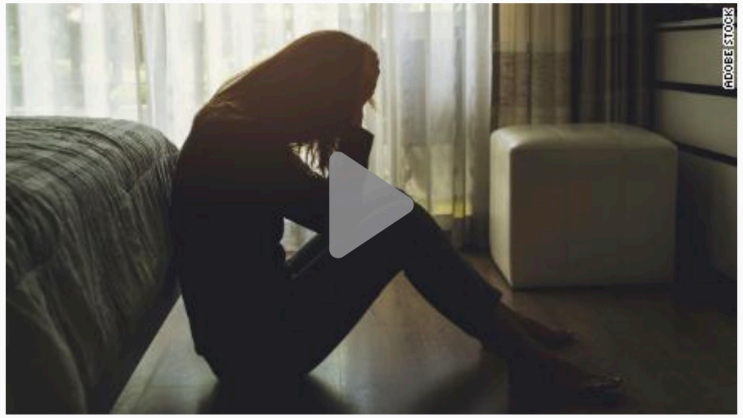


CNN health

For the first time, US task force proposes recommendation to screen for anxiety in adults

By Naomi Thomas, CNN

Updated 11:00 AM ET, Tue September 20, 2022

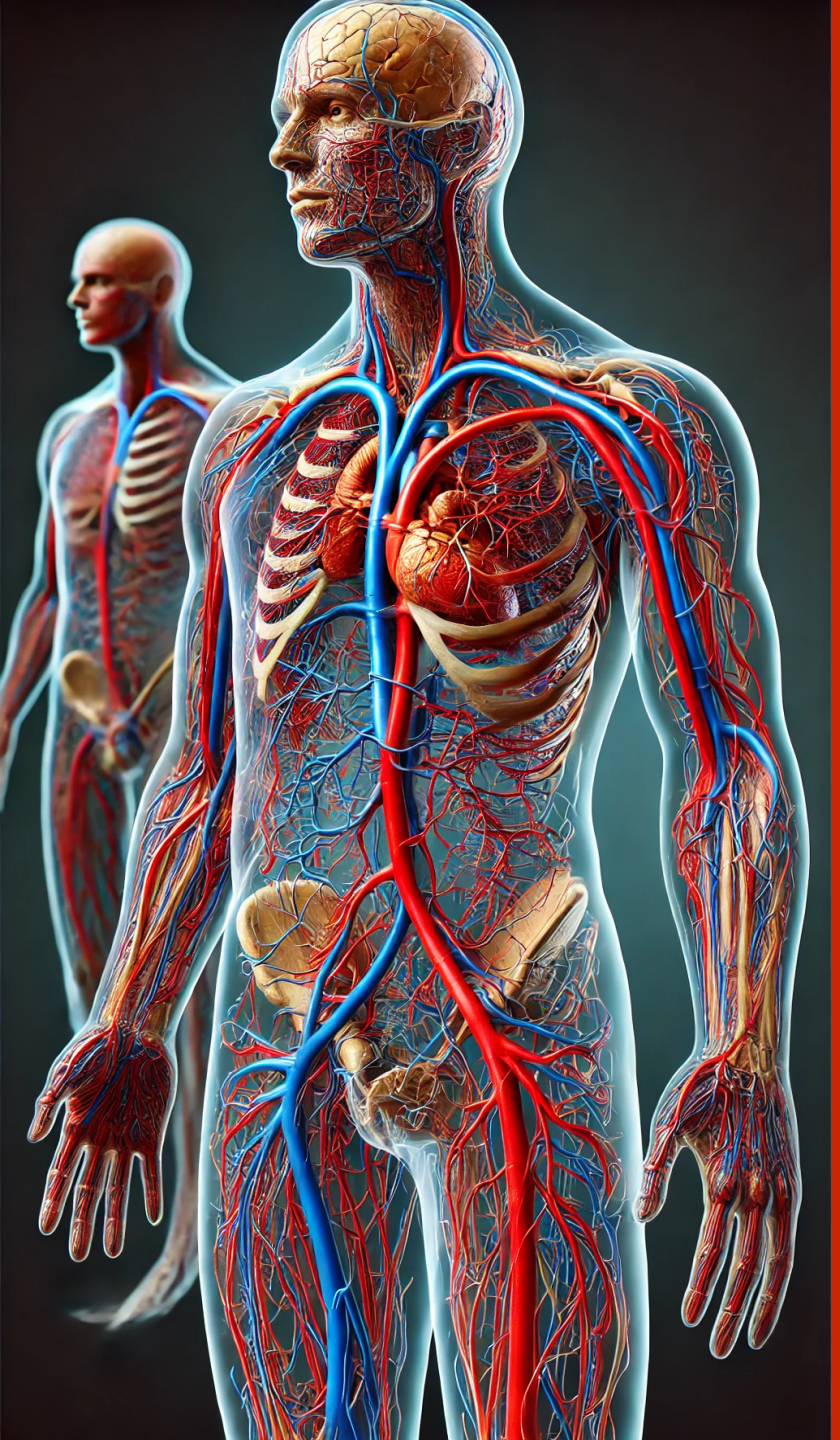


Psychotherapist on navigating the uncertainty of a global pandemic 06:55

(CNN) — The US Preventive Services Task Force says for the first time that adults under the age of 65 should be screened for anxiety, according to a draft recommendation posted on Tuesday.

REPUTATION BUILDING

- **LECTURE: COMMUNITY CENTER, LIBRARY, CHURCH, MEDICAL SOCIETY EVENTS**
- **SET UP TOWN HALL WITH LOCAL EXPERTS**
- **INTEGRATIVE HEALTH CLINIC MARKETING**
- **INTEGRATIVE HEALTH MODALITIES (AMI)**
  - All joint manipulation and Active PT program
  - Joint Injections
  - Stim, Traction, Cold Laser and Light Therapy
  - STARR Exercise Program (gym for the brain)
  - Supplements
    - Multi, B-Complex, Omega 3, Vitamin D3/K
    - NO (Nitric Oxide enhancer)
    - Ketones (exogenous vs endogenous)
    - Heavy Metal Detoxification



Nature Meets Science

Nitric Oxide

Potent Vasodilator (muscle, organ, brain, ED)

Increased Endurance (O2 delivery)

Improved Recovery (metabolic waste)

Increases ATP Production

Anti-Inflammatory

Ketones

Immediate & Sustained Energy

Enhance Mitochondrial Function

Reduce Oxidative Stress (recovery)

Anti-Inflammatory (recovery)

Enhance Cognitive Function (mental clarity & focus)

THE RIPPLE EFFECT

WE HAVE A MORAL AND PROFFESIONAL OBLIGATION TO BE THE THOUGHT LEADERS AROUND THIS TOPIC PLEASE JOIN ME IN SPREADING THE MESSAGE OF PREVENTION

drjohnrosa.com