

## Sources and Citations

Companion to: **We Are Already Paying. The Question Is What We're Buying.**

By Melissa Kilpatrick, LADAC II, QCS, ADS | [melissakilpatrick.com](http://melissakilpatrick.com)

---

This document maps every factual and statistical claim in the Op Ed to a primary source. It is intended for editorial fact-checking, fact-checker queries, and the author's own reference. Sources are organized by section of the Op Ed.

### Opening: Roane County, deaths, per-death loss

**Claim:** Roane County population is roughly 53,000 (53,309).

- [US Census Bureau, ACS 5-Year Estimates, Roane County, TN](#)

**Claim:** Roane County recorded 72 drug overdose deaths in 2023.

- [2023 Tennessee Drug Overdose Deaths Report \(Tennessee Department of Health, March 2025\), county-level data](#)

**Claim:** Roane County overdose death rate was 135 per 100,000, more than four times the national average.

- [2023 Tennessee Drug Overdose Deaths Report, county death rates](#)
- [CDC NCHS, National drug overdose death rate \(~32 per 100,000, 2023 provisional\)](#)

**Claim:** Each fatal overdose represents approximately \$1.4M in lifetime earnings and \$200K in tax revenue.

- [Brewer & Freeman \(2018\), Cumulative economic damages from 15 years of opioid misuse throughout Indiana, Indiana Business Review \(methodology\)](#)

**Note:** Lifetime earnings derived from average decedent age 42, 23 years of remaining productivity at TN average wage (~\$56,000/year), 0.85 present-value factor. Lost tax revenue assumes ~14% effective combined tax rate on lifetime earnings.

**Claim:** Roane County's 2023 loss totals approximately \$115 million (\$2,160 per resident, \$8,640 per family of four).

**Note:** Calculation: 72 deaths × \$1.6M per death = \$115.2M. Per-resident: \$115.2M / 53,309 = \$2,160. Per family of four: \$2,160 × 4 = \$8,640. All figures are author-derived from sources cited above.

---

### How costs reach the individual taxpayer

**Claim:** Hospital uncompensated care raises insurance premiums via cost-shifting.

- [American Hospital Association, Underpayment by Medicare and Medicaid Fact Sheet](#)

- [Health Affairs. The Cost-Shift Payment Hydraulic \(foundational economic literature\)](#)

**Claim:** Tennessee Department of Children's Services has an annual budget of approximately \$1.2 billion (state + federal).

- [Tennessee DCS Annual Report, SFY July 2023, June 2024](#)
- [Tennessee Lookout, DCS seeks \\$189M in new funding \(Nov 2024\)](#)

**Claim:** Parental substance use is a leading driver of foster care entry in Tennessee.

- [Child Trends, Parental Drug Use Remains a Top Reason for Foster Care Entries](#)
- [AFCARS / HHS, Trends in Foster Care Entry Among Children Removed Because of Parental Drug Use, 2000-2017](#)

**Note:** National AFCARS data shows ~36% of removals in 2017 cited parental drug use; this share has grown since 2000. State-level rates vary widely; Tennessee is among the higher-affected states. The Op Ed uses the qualitative phrasing 'a leading driver' rather than a precise TN-specific percentage.

**Claim:** Tennessee Department of Correction average cost per inmate is approximately \$38,000 per year.

- [Sycamore Institute, Budgeting for Incarceration in Tennessee](#)
- [Tennessee Department of Correction Annual Report, FY 2024](#)

**Note:** FY2024 average daily TDOC cost ≈ \$106 per inmate, annualized to ~\$38,690. Range across facilities: \$69, \$252 per day.

## Community-level impact: crime, public health, workforce (Opening human paragraph)

**Claim:** Substance use disorder weakens communities through rising crime, declining public health, and workforce loss.

- [AHRQ, 2022 National Healthcare Quality and Disparities Report: Substance Use Disorders chapter](#)
- [Shatterproof, Addiction in America: Cost and Impact](#)
- [Substance Abuse and Public Health: A Multilevel Perspective \(PMC\)](#)

**Note:** Substance use disorders cost the U.S. more than \$400 billion annually in lost workplace productivity, healthcare, and criminal justice costs combined. On any given day, more than 360,000 people are incarcerated for drug offenses in the U.S., and an estimated 60 percent of incarcerated individuals meet the criteria for SUD. The literature explicitly identifies 'community decay,' family disruption, and increased violence as compounding social consequences.

## Trauma and substance use disorder

**Claim:** Adverse childhood experiences and chronic trauma shape brain and nervous system development in ways that increase substance use risk.

- [CDC, Adverse Childhood Experiences \(ACEs\) and substance use](#)

- [SAMHSA, Trauma and Substance Use Disorder Treatment Guidance](#)
  - [Felitti et al. \(1998\), Adverse Childhood Experiences Study, foundational research linking ACEs to adult addiction risk](#)
- 

## One Year. Every Year. (Cost section)

**Claim:** Tennessee recorded 3,616 drug overdose deaths in 2023; opioids involved in 80%; fentanyl present in 75%.

- [2023 Tennessee Drug Overdose Deaths Report, Tennessee Department of Health \(March 2025\)](#)

**Note:** All TDH overdose statistics are limited to TN residents (residents-of-Tennessee methodology); see undercount section below.

**Claim:** Stimulant-involved deaths in Tennessee increased 143% between 2019 and 2023; stimulants involved in more than 2,200 overdose deaths in 2023.

- [2023 Tennessee Drug Overdose Deaths Report, Tennessee Department of Health](#)

**Claim:** Excessive alcohol use costs Tennessee taxpayers more than \$6 billion annually.

- [CDC, Excessive Alcohol Use State Fact Sheets \(Tennessee\)](#)

**Note:** CDC's 2010 Tennessee figure was \$4.7 billion. Inflation-adjusted to 2024 dollars yields approximately \$6.3-\$7.0 billion. The Op Ed uses 'more than \$6 billion' as a conservative stated figure.

**Claim:** In 2023, 79% of stimulant-involved deaths in Tennessee also involved an opioid.

- [2023 Tennessee Drug Overdose Deaths Report](#)

**Claim:** There is no FDA-approved medication for stimulant use disorder. While medication-assisted treatment has transformed outcomes for opioid use disorder, there is no equivalent single intervention for stimulant use.

- [FDA, Takes Steps to Advance the Development of Novel Therapies for Stimulant Use Disorders](#)
- [ASAM, Clinical Practice Guideline on the Management of Stimulant Use Disorder](#)
- [SAMHSA Advisory, Contingency Management for Stimulant Use Disorder \(PEP24-06-001\)](#)

**Note:** FDA confirms no medication is currently approved for stimulant use disorder. The ASAM clinical guideline relies on contingency management and behavioral interventions as primary treatments. SAMHSA's 2024 advisory likewise positions contingency management as a primary, potentially life-saving intervention for the more than 4 million people in the U.S. with a stimulant use disorder.

**Claim:** Tennessee's 3,616 deaths × \$1.6M per death ≈ \$5.8 billion in 2023 single-year economic loss.

**Note:** Author calculation.  $3,616 \times \$1.6M = \$5.79B$ . Per-death lifetime loss derived from Brewer-Freeman (2018) methodology applied to Tennessee wage and demographic data.

**Claim:** County-level 2023 single-year economic loss: Davidson ~\$853M; Knox ~\$688M; Hamilton ~\$278M; Roane ~\$115M.

**Note:** Author calculations. County deaths from TDH 2023 report × \$1.6M per death. Davidson 533 deaths = \$853M; Knox 430 = \$688M; Hamilton 174 = \$278M; Roane 72 = \$115M.

- [2023 Tennessee Drug Overdose Deaths Report \(county-level death counts\)](#)

**Claim:** Statewide per-family-of-four 2023 share runs roughly \$3,300; in hardest-hit counties (e.g., Roane) reaches \$8,640.

**Note:** Author calculations. Statewide: \$5.8B / ~7.1M Tennesseans = \$817 per person; family of four = \$3,268. Roane: \$115M / 53,309 residents = \$2,160 per person; family of four = \$8,640. Tennessee population from US Census ACS 2023.

- [US Census Bureau, ACS, Tennessee population estimates](#)

### Non-resident undercount

**Claim:** TDH overdose data covers TN residents only; non-residents who overdose in Tennessee are not counted.

- [2023 Tennessee Drug Overdose Deaths Report, every section header reads 'TN Residents'](#)
- [Tennessee Department of Health Drug Overdose Reporting page](#)

**Claim:** Tennessee borders eight states, the most of any state, tied with Missouri.

- [WorldAtlas, Which States Border Tennessee](#)
- [Wikipedia, Tennessee \(geography\)](#)

**Claim:** Tennessee hosted approximately 147 million visits in 2024, generating \$31.7 billion in direct visitor spending.

- [Tennessee Department of Tourist Development, Tourism Breaks Record Spending for Fourth Consecutive Year \(June 2025\)](#)

**Claim:** Davidson County (Nashville) hosted approximately 16.9 million visitors in 2024, generating \$11.2 billion in visitor spending.

- [Visit Nashville TN, Tourism in Davidson County Generated Record \\$11.2 Billion \(2025 release\)](#)

---

### County-level cumulative data

**Claim:** Roane County projected cumulative SUD economic burden: \$40,465 per resident. Hancock: \$34,991. Cocke: \$31,463.

- [Author's TN Opioid County Cost Analysis, applies Brewer-Freeman \(2018\) allocation methodology to 2023 TDH death data and Avalere \(2025\) cost anchor](#)
- [Brewer & Freeman \(2018\), County-level aggregate costs arising from Indiana's opioid crisis, methodology source](#)

**Claim:** Avalere Health (2025) projects Tennessee's cost per opioid use disorder case at more than \$808,000, over \$100,000 above the national average (\$694,664).

- [Avalere Health, The Cost of Addiction: Opioid Use Disorder in the U.S. \(May 2025, funded by Indivior; full editorial control retained by Avalere\)](#)

**Claim:** Every \$1 invested in addiction treatment saves approximately \$4 in healthcare costs and \$7 in criminal justice costs.

- [National Institute on Drug Abuse \(NIDA\), Principles of Drug Addiction Treatment: A Research-Based Guide](#)
  - [NIDA, Is drug addiction treatment worth its cost?](#)
- 

## Framing and rhetorical references

**Claim:** The “upstream/downstream” metaphor (people drowning in a river; rescuers eventually walk upstream to find what is pushing them in).

- [McKinlay, J.B. \(1979\). A Case for Refocusing Upstream: The Political Economy of Illness, foundational public health framing for upstream prevention](#)

**Note:** The river/upstream metaphor is a long-standing idiom in public health and prevention science, widely used since at least McKinlay’s 1979 paper. No direct quotation in the Op Ed; the framing is invoked as common public-health rhetoric.

**Claim:** Value-based healthcare is an established federal policy framework actively being implemented across CMS programs.

- [CMS, Value-Based Programs \(Centers for Medicare & Medicaid Services\)](#)
- [CMS Innovation Center, Strategy to Drive Health System Transformation](#)
- [HHS, Strategic Plan, value-based payment goals](#)

**Note:** The Op Ed references value-based healthcare as a stated federal direction. CMS has set explicit goals for value-based payment adoption and has multiple active value-based programs across Medicare and Medicaid. The argument in the Op Ed is that the cost data presented is precisely the kind of accountability data a value-based system would require.

---

## Tennessee’s existing response (Acknowledgment section)

**Claim:** Tennessee has expanded access to medication-assisted treatment, including specific funding for MAT in recovery courts and county jails.

- [The Sycamore Institute, The Opioid Epidemic in Tennessee: 2018 Update on New Policy Actions](#)
- [Tennessee Administrative Office of the Courts, Recovery Oriented Compliance Strategy \(ROCS\)](#)

**Note:** Tennessee appropriated \$1M in FY 2017-2018 for MAT in recovery courts and county jails, with additional MAT funding in the FY 2018-2019 budget.

**Claim:** Tennessee has expanded naloxone distribution through TDMHSAS.

- [Tennessee Institute for Public Service, Naloxone Distribution and Promotion Programming](#)

**Note:** From October 2017 to December 2019 alone, Tennessee distributed more than 134,000 units of naloxone, with at least 13,400 lives saved attributed to that distribution.

**Claim:** Tennessee has a Prescription Drug Monitoring Program established by the Controlled Substance Monitoring Act of 2002 and strengthened by the Prescription Safety Acts of 2012 and 2016.

- [Office of Justice Programs, Prescription Drug Monitoring Program: Tennessee State Profile](#)
- [Tennessee Department of Health, Controlled Substance Monitoring Database \(CSMD\)](#)

**Claim:** Tennessee operates a network of recovery courts and community-based programs.

- [Tennessee Department of Mental Health and Substance Abuse Services, Resources for Courts](#)

**Note:** Tennessee currently operates 46 adult recovery courts.

---

## Program evaluation and outcome measurement (What 12 Years Taught Me section)

**Claim:** More than three million Americans receive substance use disorder treatment each year.

- [SAMHSA, Treatment Episode Data Set \(TEDS\) 2022 Annual Report](#)
- [SAMHSA, National Survey of Substance Abuse Treatment Services \(N-SSATS\)](#)

**Claim:** Unlike other chronic diseases, substance use disorder has no nationally standardized outcome measurement system; no nationally endorsed standardized recovery measure exists.

- [Pew Charitable Trusts \(March 2026\). To Support People Affected by Substance Use Disorders, Jurisdictions Should Measure Recovery](#)
- [Substance Use Disorder Treatment Outcomes: Methodological Overview of Metrics and Criteria \(PMC, 2024\)](#)
- [Examining Benefits and Limitations to Treatment Outcome Measurement Tools for Substance Use Disorder: A Scoping Review \(MDPI, 2024\)](#)
- [NAATP / Foundation for Recovery Science and Education \(FoRSE\) Outcomes Measurement Program](#)

**Note:** Pew's March 2026 issue brief explicitly states: 'no nationally endorsed standardized recovery measures exist.' The methodological overview in the 2024 Treatment Outcomes review confirms 'unlike other chronic diseases, there is currently no standardized measurement system for addiction treatment outcomes.' NAATP/FoRSE is one of the field's leading attempts to fill this gap, and its existence as a recognized initiative is itself evidence that the gap is widely understood. SAMHSA's TEDS data system relies on state-collected program-reported data and uses National Outcome Measures (NOMs), but TEDS is a count of episodes rather than a recovery outcomes framework.

**Claim:** The lack of standardized SUD outcome measurement has been documented in the literature for nearly two decades.

- [Examining Benefits and Limitations to Treatment Outcome Measurement Tools for SUD: A Scoping Review](#)

**Note:** This review explicitly notes: 'The lack of consensus in the standardisation of outcome measures has been highlighted for about two decades, and the establishment of guidelines for evaluation of treatment outcomes is imperative.'

---

## Sustained model references (What Differently Looks Like section)

**Claim:** Vermont's Hub and Spoke system produced a 96 percent decrease in opioid use among in-treatment participants, integrated into 75+ community medical practices, sustained for over a decade.

- [Vermont Hub-and-Spoke Model of Care for Opioid Use Disorder: Development, Implementation, and Impact \(Brooklyn & Sigmon, J Addict Med 2017\)](#)
- [Vermont Hub-and-Spoke Model of Care for Opioid Use Disorders: An Evaluation \(Vermont Department of Health, 2017\)](#)
- [Vermont Blueprint for Health, Hub & Spoke Program \(current operational profile\)](#)

**Note:** 96% decrease figure is from patient-reported measures in the official Vermont Department of Health evaluation. Same evaluation reported 92% drop in injection drug use, 89% decrease in ED visits, and 90% reduction in arrests/police stops. The system now operates 9 regional hubs and 75+ spoke locations.

**Claim:** France authorized all licensed physicians to prescribe buprenorphine in 1995. Opiate overdose deaths fell 79 percent over the next 30 years.

- [Why buprenorphine is so successful in treating opiate addiction in France \(NARCAD\)](#)
- [How France Cut Heroin Overdoses by 79 Percent in 4 Years \(Vanderbilt Neonatal Abstinence Syndrome and Opioid Policy\)](#)
- [Buprenorphine deregulation as an opioid crisis policy response: comparative analysis between France and the United States \(Int J Drug Policy\)](#)

**Note:** In France, ~20 percent of all licensed physicians prescribe buprenorphine, treating roughly half of the country's estimated 180,000 problem heroin users. The 79 percent reduction in opiate overdose deaths is the cumulative figure across the period since 1995 deregulation.

**Claim:** Iceland's Planet Youth (Icelandic Prevention Model) has operated since the late 1990s and has been adopted in 35+ countries.

- [The Icelandic Prevention Model, PlanetYouth.org](#)
- [Development and Guiding Principles of the Icelandic Model for Preventing Adolescent Substance Use \(Health Promotion Practice, PMC\)](#)
- [European Union Drugs Agency, Planet Youth/Icelandic Model best practice review](#)

**Note:** The model is community-driven and data-led, using annual surveys of all teens to identify local risk and protective factors. It has been associated with sustained reductions in adolescent alcohol, tobacco, and other drug use over more than two decades and has been adopted in dozens of countries including Lithuania, Spain (Tarragona), and rural Canada.

**Claim:** Finland used Housing First as the foundation of its national policy and has nearly eliminated long-term homelessness.

- [Housing First: A Review of the Evidence \(HUD USER, 2023\)](#)
- [Pathways Housing First Institute, international adoption page](#)

**Note:** Finland is the most-cited national-scale Housing First implementation success. The model originates from *Pathways to Housing* (Sam Tsemberis, NYC, 1992) and has since been adopted by HUD as a federally endorsed approach in the United States.

---

## Methodology references

- [Brewer, R.M. & Freeman, K.M. \(2018\). County-level aggregate costs arising from Indiana's opioid crisis. \*Indiana Business Review\*, 93\(2\)](#)
  - [Brewer, R.M. & Freeman, K.M. \(2018\). Cumulative economic damages from 15 years of opioid misuse throughout Indiana. \*Indiana Business Review\*, 93\(1\)](#)
  - [US Census Bureau, American Community Survey 5-Year Estimates \(county population, demographic data\)](#)
  - [Bureau of Labor Statistics, Local Area Unemployment Statistics \(county unemployment data\)](#)
  - [SAMHSA, National Survey on Drug Use and Health \(NSDUH\) state-level OUD prevalence](#)
- 

Compiled by Melissa Kilpatrick, LADAC II, QCS, ADS, in support of the Op Ed “We Are Already Paying. The Question Is What We’re Buying.” Last updated April 2026.