



The Perryman Group

The High Economic Costs of the Opioid Crisis

Sept 2023

Opioid addiction and overdoses have devastated individuals, families, and communities across the state, nation, and world. The human costs of this health crisis are immeasurable and are the reason that aggressively attacking this crisis is a social and humanitarian imperative. At the same time, there are significant economic consequences and impacts that stem from this massive health issue. The Perryman Group recently estimated the costs of the opioid crisis in Texas in order to provide a perspective on the magnitude of these negative effects.

Several categories of costs were included in this assessment. Incremental medical outlays were estimated based using prior cost data for Texas derived by the National

Institutes of Health using a large, paired sample of individuals. The totals were updated to 2022 based on recent case and death incidence information and medical inflation. Substance abuse treatment costs were also analyzed; these expenses are related to assistance for people trying to recover from addiction. Resources required for public safety needs such as incarceration stemming from opioid complications are also significant and were quantified.

In addition to these categories of more direct channels of economic costs which lead to billions in losses to the Texas economy each year, opioids also decrease productivity and earnings. In both fatal and non-fatal overdose cases, negative economic effects for 2022 were estimated, as well

Estimated Economic Costs to Texas of the Opioid Crisis

Component	Total Expenditures	Gross Product	Personal Income	Jobs
Medical Cost	-\$23.064 b	-\$11.318 b	-\$7.627 b	-120,000
Substance Abuse Treatment	-\$2.145 b	-\$0.996 b	-\$0.596 b	-8,760
Public Safety	-\$8.994 b	-\$4.175 b	-\$2.497 b	-36,724
Loss Productivity/Earnings - Non-Fatal	-\$34.980 b	-\$17.235 b	-\$10.534 b	-180,180
Loss Productivity/Earnings - Fatal (2022 Only)	-\$33.232 b	-\$16.374 b	-\$10.007 b	-171,175
Total, All Components	-\$102.417 b	-\$50.099 b	-\$31.260 b	-516,838

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Notes: Based on estimated 2022 levels and related dynamic responses through the economy. See page 5 for additional detail on methods and assumptions used.

as lost lifetime potential earnings and productive capacity associated with fatalities during that year.

The Perryman Group estimates that the economic harms of the opioid crisis to the Texas economy includes \$50.1 billion in gross product each year and more than 516,800 jobs (based on estimated 2022 levels and including multiplier effects). These negative effects occur year after year as long as the crisis persists and will grow even larger as the problem worsens. In fact, the estimated harm (adjusted for inflation) has more than doubled since 2017.

For people who died of overdoses in 2022, economic losses would go on for years into the future. The Perryman Group projected total losses of deaths in 2022 based on typical work-life

patterns and other data and found that they include an estimated \$114.6 billion in gross product and nearly 1.2 million job-years of employment. (A job-year is one person working for one year, though it could be multiple individuals working partial years.) Again, as long as the numbers of overdoses are rising, these substantial harms will also continue to compound and escalate over time.

Even beyond these measurable economic losses are the noneconomic harms such as lost time with family and other quality-of-life decreases associated with opioids. Empirical estimates of the economic value placed on these noneconomic factors based on the approach used by the World Health Organization total an additional \$84.6 billion.

While these economic costs are substantial and growing, there is evidence that substance abuse may be underreported in Texas by as much as 70%. To the extent to which incidence is underestimated, actual harms are higher. In addition, public safety cost estimates do not include the losses incurred by victims.

The opioid crisis is a tragedy affecting all Texans. Even beyond the often devastating consequences for individuals and their families, opioid addiction and overdose involve substantial economic costs. Effectively dealing with the issue can improve the quality of life for those suffering while also reducing productivity losses, medical and public safety costs, and other economic fallout.

Estimated Economic Costs to Texas of the Opioid Crisis

Results by Component and Industry (Page 1 of 2)

	Expenditures	Gross Product	Personal Income	Employment
COMPONENT: Medical Costs				
Agriculture	-\$1.446 b	-\$0.306 b	-\$0.205 b	-2,814
Mining	-\$0.391 b	-\$0.091 b	-\$0.049 b	-237
Utilities	-\$0.970 b	-\$0.220 b	-\$0.096 b	-357
Construction	-\$0.455 b	-\$0.238 b	-\$0.196 b	-2,378
Manufacturing	-\$3.994 b	-\$1.171 b	-\$0.639 b	-8,451
Wholesale Trade	-\$0.838 b	-\$0.567 b	-\$0.327 b	-3,217
Retail Trade*	-\$3.042 b	-\$2.263 b	-\$1.313 b	-35,330
Transportation & Warehousing	-\$0.680 b	-\$0.455 b	-\$0.301 b	-3,552
Information	-\$0.460 b	-\$0.284 b	-\$0.121 b	-936
Financial Activities*	-\$3.231 b	-\$0.871 b	-\$0.324 b	-2,904
Business Services	-\$0.899 b	-\$0.549 b	-\$0.448 b	-4,716
Health Services	-\$5.383 b	-\$3.643 b	-\$3.080 b	-44,120
Other Services	-\$1.276 b	-\$0.660 b	-\$0.528 b	-10,987
Total, All Industries	-\$23.064 b	-\$11.318 b	-\$7.627 b	-120,000
COMPONENT: Substance Abuse Treatment				
Agriculture	-\$0.041 b	-\$0.011 b	-\$0.008 b	-102
Mining	-\$0.134 b	-\$0.031 b	-\$0.015 b	-71
Utilities	-\$0.122 b	-\$0.027 b	-\$0.012 b	-43
Construction	-\$0.089 b	-\$0.045 b	-\$0.037 b	-446
Manufacturing	-\$0.439 b	-\$0.139 b	-\$0.079 b	-920
Wholesale Trade	-\$0.104 b	-\$0.070 b	-\$0.040 b	-397
Retail Trade*	-\$0.271 b	-\$0.203 b	-\$0.118 b	-3,137
Transportation & Warehousing	-\$0.082 b	-\$0.052 b	-\$0.034 b	-404
Information	-\$0.056 b	-\$0.034 b	-\$0.015 b	-113
Financial Activities*	-\$0.448 b	-\$0.164 b	-\$0.058 b	-509
Business Services	-\$0.148 b	-\$0.096 b	-\$0.078 b	-826
Health Services	-\$0.082 b	-\$0.057 b	-\$0.048 b	-687
Other Services	-\$0.129 b	-\$0.067 b	-\$0.054 b	-1,105
Total, All Industries	-\$2.145 b	-\$0.996 b	-\$0.596 b	-8,760
COMPONENT: Public Safety				
Agriculture	-\$0.171 b	-\$0.048 b	-\$0.032 b	-426
Mining	-\$0.563 b	-\$0.128 b	-\$0.064 b	-298
Utilities	-\$0.513 b	-\$0.115 b	-\$0.050 b	-182
Construction	-\$0.373 b	-\$0.187 b	-\$0.154 b	-1,871
Manufacturing	-\$1.842 b	-\$0.581 b	-\$0.330 b	-3,858
Wholesale Trade	-\$0.434 b	-\$0.294 b	-\$0.169 b	-1,664
Retail Trade*	-\$1.134 b	-\$0.850 b	-\$0.494 b	-13,151
Transportation & Warehousing	-\$0.343 b	-\$0.217 b	-\$0.143 b	-1,692
Information	-\$0.233 b	-\$0.144 b	-\$0.062 b	-474
Financial Activities*	-\$1.879 b	-\$0.689 b	-\$0.244 b	-2,134
Business Services	-\$0.621 b	-\$0.402 b	-\$0.328 b	-3,461
Health Services	-\$0.345 b	-\$0.238 b	-\$0.201 b	-2,880
Other Services	-\$0.543 b	-\$0.282 b	-\$0.225 b	-4,634
Total, All Industries	-\$8.994 b	-\$4.175 b	-\$2.497 b	-36,724

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Notes: Based on estimated 2022 levels and related dynamic responses through the economy. See page 5 for additional detail on methods and assumptions used

Estimated Economic Costs to Texas of the Opioid Crisis

Results by Component and Industry (Page 2 of 2)

	Expenditures	Gross Product	Personal Income	Employment
COMPONENT: Loss Productivity/Earnings - Non-Fatal				
Agriculture	-\$0.342 b	-\$0.112 b	-\$0.067 b	-1,399
Mining	-\$2.696 b	-\$1.080 b	-\$0.451 b	-3,217
Utilities	-\$1.865 b	-\$0.403 b	-\$0.182 b	-1,071
Construction	-\$1.540 b	-\$0.829 b	-\$0.653 b	-8,154
Manufacturing	-\$6.410 b	-\$2.097 b	-\$1.277 b	-13,076
Wholesale Trade	-\$1.607 b	-\$1.235 b	-\$0.722 b	-8,358
Retail Trade*	-\$4.420 b	-\$3.399 b	-\$1.988 b	-64,247
Transportation & Warehousing	-\$1.038 b	-\$0.668 b	-\$0.437 b	-7,684
Information	-\$0.851 b	-\$0.573 b	-\$0.254 b	-2,769
Financial Activities*	-\$7.960 b	-\$2.618 b	-\$0.962 b	-18,220
Business Services	-\$2.696 b	-\$1.940 b	-\$1.689 b	-17,729
Health Services	-\$1.492 b	-\$1.180 b	-\$0.982 b	-15,462
Other Services	-\$2.062 b	-\$1.100 b	-\$0.871 b	-18,794
Total, All Industries	-\$34.980 b	-\$17.235 b	-\$10.534 b	-180,180
COMPONENT: Loss Productivity/Earnings - Fatal (2022 Only)				
Agriculture	-\$0.325 b	-\$0.107 b	-\$0.064 b	-1,329
Mining	-\$2.562 b	-\$1.026 b	-\$0.428 b	-3,056
Utilities	-\$1.772 b	-\$0.383 b	-\$0.173 b	-1,018
Construction	-\$1.463 b	-\$0.787 b	-\$0.620 b	-7,747
Manufacturing	-\$6.089 b	-\$1.992 b	-\$1.214 b	-12,422
Wholesale Trade	-\$1.527 b	-\$1.173 b	-\$0.686 b	-7,941
Retail Trade*	-\$4.199 b	-\$3.229 b	-\$1.888 b	-61,036
Transportation & Warehousing	-\$0.986 b	-\$0.635 b	-\$0.415 b	-7,300
Information	-\$0.809 b	-\$0.544 b	-\$0.241 b	-2,630
Financial Activities*	-\$7.562 b	-\$2.487 b	-\$0.913 b	-17,310
Business Services	-\$2.561 b	-\$1.843 b	-\$1.604 b	-16,843
Health Services	-\$1.418 b	-\$1.121 b	-\$0.933 b	-14,689
Other Services	-\$1.959 b	-\$1.045 b	-\$0.828 b	-17,855
Total, All Industries	-\$33.232 b	-\$16.374 b	-\$10.007 b	-171,175
TOTAL, ALL COMPONENTS				
Agriculture	-\$2.325 b	-\$0.584 b	-\$0.376 b	-6,069
Mining	-\$6.346 b	-\$2.356 b	-\$1.006 b	-6,878
Utilities	-\$5.243 b	-\$1.149 b	-\$0.513 b	-2,672
Construction	-\$3.920 b	-\$2.085 b	-\$1.660 b	-20,597
Manufacturing	-\$18.775 b	-\$5.980 b	-\$3.538 b	-38,728
Wholesale Trade	-\$4.510 b	-\$3.339 b	-\$1.945 b	-21,577
Retail Trade*	-\$13.065 b	-\$9.944 b	-\$5.800 b	-176,901
Transportation & Warehousing	-\$3.129 b	-\$2.027 b	-\$1.330 b	-20,631
Information	-\$2.409 b	-\$1.580 b	-\$0.693 b	-6,923
Financial Activities*	-\$21.080 b	-\$6.831 b	-\$2.501 b	-41,077
Business Services	-\$6.925 b	-\$4.831 b	-\$4.148 b	-43,575
Health Services	-\$8.720 b	-\$6.238 b	-\$5.243 b	-77,837
Other Services	-\$5.969 b	-\$3.154 b	-\$2.507 b	-53,376
Total, All Industries	-\$102.417 b	-\$50.099 b	-\$31.260 b	-516,838

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Notes: Based on estimated 2022 levels and related dynamic responses through the economy. See page 5 for additional detail on methods and assumptions used

Estimated Economic Costs to Texas of the Opioid Crisis

Lost Productivity and Earnings - Fatal (Long-Term Losses from Deaths in 2022)

	Expenditures	Gross Product	Personal Income	Job-Years*
Agriculture	-\$2.276 b	-\$0.747 b	-\$0.449 b	-9,302
Mining	-\$17.927 b	-\$7.182 b	-\$2.996 b	-21,386
Utilities	-\$12.403 b	-\$2.681 b	-\$1.209 b	-7,122
Construction	-\$10.237 b	-\$5.510 b	-\$4.340 b	-54,215
Manufacturing	-\$42.615 b	-\$13.940 b	-\$8.493 b	-86,935
Wholesale Trade	-\$10.685 b	-\$8.212 b	-\$4.800 b	-55,571
Retail Trade*	-\$29.384 b	-\$22.599 b	-\$13.215 b	-427,149
Transportation & Warehousing	-\$6.902 b	-\$4.445 b	-\$2.903 b	-51,084
Information	-\$5.661 b	-\$3.810 b	-\$1.690 b	-18,408
Financial Activities*	-\$52.924 b	-\$17.407 b	-\$6.393 b	-121,138
Business Services	-\$17.924 b	-\$12.900 b	-\$11.228 b	-117,874
Health Services	-\$9.923 b	-\$7.845 b	-\$6.527 b	-102,797
Other Services	-\$13.708 b	-\$7.313 b	-\$5.792 b	-124,954
Total, All Industries	-\$232.569 b	-\$114.590 b	-\$70.033 b	-1,197,934

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Notes: Based on estimated 2022 levels and related dynamic responses through the economy. A job-year is one person working for one year, though it could be multiple individuals working partial years. See page 5 for additional detail on methods and assumptions used.

METHODOLOGY

Medical costs, substance abuse treatment costs, and public safety outlays were estimated based on studies by the National Institutes of Health, updated to the present based on data describing growth in the scope of the epidemic and increases in medical costs.^[1] These direct costs were allocated across 500 industries based on the incidence of medical cost by industry. Productivity losses were estimated based on the scope of the crisis, numbers of overdoses, and typical work-life and earnings patterns. The related multiplier effects were also estimated where appropriate. Because the direct earnings are estimated across the entire economy, the only additional effects captured were those associated with lost downstream spending. The effects on output and expenditures were determined using the coefficients from the system described below.

Any economic stimulus, whether positive or negative, leads to dynamic responses across the economy. The Perryman Group has developed complex and comprehensive models over the past four decades to measure these dynamic responses. The Perryman Group's US Multi-Regional Impact Assessment System has been used in hundreds of analyses for clients ranging from major corporations to government agencies and has been peer reviewed on multiple occasions. The impact system uses a variety of data (from surveys, industry information, and other sources) to describe the various goods and services (known as resources or inputs) required to produce another good/service. This process allows for estimation of the total economic impact (including multiplier effects) of the proposed development. The models used in the current analysis reflect the specific industrial composition and characteristics of Texas.

[1] Sources used in this analysis include the following:

[Drug Overdose Mortality by State](#), CDC, National Center for Health Statistics, (n.d.)

[JEC Analysis Finds Opioid Epidemic Cost US Nearly \\$1.5 Trillion in 2020](#), September 28, 2022

Shiroiwa, Takeru, Takasahi Fukuda, Shunya Ikeda, Kojiro Shimozuma, [QALY and Productivity Loss: Empirical Evidence for "Double Counting"](#), Value in Health, Volume 16, Issue 4, June 2013, 581-587

[Provisional Data Shows US Drug Overdose Deaths Top 100,000 in 2022](#), CDC NCHS: A Blog of the National Center for Health Statistics, May 18, 2023

Luo, F., M. Li, C. Florence, [State-Level Economic Costs of Opioid Use Disorder and Fatal Opioid Overdose – United States, 2017](#), MMWR Morbidity and Mortality Weekly Report, 70:541-546, April 16, 2021

Florence, Curtis, Feijun Luo, and Ketra Rice, [The Economic Burden of Opioid Use Disorder and Fatal Opioid Overdose in the United States, 2017](#), Drug and Alcohol Dependence, Volume 218, January 1, 2021

Rayasam, Renuka, [With National Data on Drug Overdoses Lacking, University of Texas Project Looks to Help Provide a Solution](#), The Texas Tribune, July 5, 2022

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He has provided economic analysis and expert testimony for civil litigation across a wide range of practice areas including antitrust and competition, intellectual property disputes, securities, and commercial and complex litigation. His work combines strong expertise in economic damages calculation, asset valuation, market analysis, and statistical methods and econometrics.



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