HHS Public Access

Author manuscript

Med Care. Author manuscript; available in PMC 2018 May 30.

Published in final edited form as:

Med Care. 2016 October ; 54(10): 901–906. doi:10.1097/MLR.0000000000000625.

The Economic Burden of Prescription Opioid Overdose, Abuse and Dependence in the United States, 2013

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Abstract

Importance—It is important to understand the magnitude and distribution of the economic burden of prescription opioid overdose, abuse and dependence to inform clinical practice, research and other decision makers. Decision makers choosing approaches to address this epidemic need cost information to evaluate the cost effectiveness of their choices.

Objective—To estimate the economic burden of prescription opioid overdose, abuse, and dependence from a societal perspective

Design, Setting and Participants—Incidence of fatal prescription opioid overdose from the National Vital Statistics System, prevalence of abuse and dependence from the National Survey of Drug Use and Health. Fatal data are for the U.S population, nonfatal data are is a nationally representative sample of the U.S. civilian noninstitutionalized population ages 12 and older. Cost data are from various sources including health care claims data from the Truven Health MarketScan® Research Databases, and cost of fatal cases from the WISQARS™ (Web-based Injury Statistics Query and Reporting System) cost module. Criminal justice costs were derived from the Justice Expenditure and Employment Extracts published by the Department of Justice. Estimates of lost productivity were based on a previously published study.

Exposure—Calendar year 2013

Main Outcomes and Measures—Monetized burden of fatal overdose and abuse and dependence of prescription opioids.

Results—The total economic burden is estimated to be $78.5 billion. Over one third of this amount (is due to increased health care and substance abuse treatment costs ($28.9 billion). Approximately one quarter of the cost is borne by the public sector in health care, substance abuse treatment, and criminal justice costs.

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Conflict of Interest: The authors of this study report no conflict of interests.

Disclaimer: The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Conclusions and Relevance—These estimates can assist decision makers in understanding the magnitude of adverse health outcomes associated with prescription opioid use such as overdose, abuse, and dependence.

Introduction

The adverse health effects of the misuse of prescription opioids, including abuse, dependence, and overdose are a well-documented public health problem.(1) Fatal prescription drug overdoses have been described as an epidemic by the U.S. Centers for Disease Control and Prevention(2). Prescription opioids account for approximately 70% of fatal prescription drug overdoses. (3, 4)

Decision makers at both the federal and state levels have responded to the epidemic with several strategies aimed at reducing the burden of the epidemic. For example, in 2011 the U.S. Office of National Drug Control Policy issued a set of recommendations that, in part, call for all states to have functional prescription drug monitoring programs (PDMPs), and encourages federal agencies such as the Veterans Administration to share data with state PDMPs when legally permitted to do so(5). Policies such as these face a difficult task in addressing the overdose epidemic while balancing the care of patients who need treatment for pain. Also, decision makers in government and the health care sector face financial constraints that require strategies that are cost efficient as well as effective, while also considering the resource use for addressing other social and health problems.

An essential component in identifying prevention strategies that are cost effective is understanding the economic burden produced by the adverse health outcomes. Previous researchers have estimated the overall societal impact of prescription opioid misuse (6, 7). Other studies have examined specific components of the overall issue of opioid misuse, such as the cost of poisonings, nonmedical use (8), and abuse and workplace absenteeism(9). Most recently, Birnbaum et al (10) estimated the overall societal impact of prescription opioid abuse, dependence and misuse in the United States to be $55.7 billion in 2007. Since that year, however, the epidemic has continued to progress. From 2007 to 2013, the annual number of prescription opioid overdose deaths has increased by over 1,800 cases,(3) and the annual number of persons who abuse or are dependent on prescription opioids has increased by over 200,000 persons(11).

In this study, we present updated estimates of the economic burden of prescription opioid overdose, abuse and dependence for 2013 using the most recently available data. We also incorporate more comprehensive health care spending data than previous studies, and we use recently updated methods for valuing the loss of productivity (both through employment and household activities) for fatal and nonfatal cases.

Methods

Overview

In this study, we calculated cost estimates of prescription opioid overdose, abuse and dependence based on the incidence of overdose deaths and the prevalence of prescription

opioid abuse and dependence for calendar year 2013. We considered a societal perspective, which means we considered both the cost for persons experiencing overdose or abuse/dependence, and costs incurred by society in general, such as criminal justice related costs. The cost components that considered were health care and substance abuse treatment cost, criminal justice cost, and lost productivity. Costs calculated for abuse and dependence are annual costs, while costs for fatal cases are lifetime costs discounted to 2013 present value at a rate of 3%. We used the most recently available year of data for all cost components. When the most recent year of data available was earlier than 2013, costs were inflation-adjusted to 2013 dollars.

Our measure of incidence of prescription opioid overdose deaths in 2013 came from the CDC WONDER database, which records all deaths reported in the United States National Vital Statistics System. (3) Cases were identified using the multiple cause of death ICD-10 codes (T40.2–T40.4), which identify deaths across all intents (unintentional, intentional and undetermined). Prevalence of prescription opioid abuse and dependence was measured using the 2013 National Survey on Drug Use and Health (NSDUH). The NSDUH is a nationally representative sample of the U.S. civilian noninstitutionalized population ages 12 and older. The survey collects detailed information on substance use, including a questionnaire that can identify abuse and dependence based on the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV)(12) definition for a variety of substances, including prescription opioids. The survey also collects detailed data on health insurance coverage during the year, and basic demographic information such as gender and age. This information was used in assigning health care costs and lost productivity costs to abuse/dependence cases, as described in more detail below. Survey weights were included in the data that allow for estimation of nationally representative population totals for cases of substance abuse and dependence. Details of all calculations presented below may be found in the electronic appendix that accompanies this study.

Health Care Costs

A matched case-control design was employed to estimate the impact of prescription opioid abuse diagnoses on health care spending. This design was implemented using the de-identified Truven Health MarketScan® Research Databases for commercial, Medicaid and Medicare health plan enrollees. The MarketScan® data capture person-specific utilization, expenditures, and enrollment across inpatient, outpatient, and prescription drug claims. The commercial database includes private-sector health data from approximately 100 different insurance companies. The Medicare database contains claims for Medicare-eligible retirees with employer-sponsored Medicare Supplemental plans, and include expenditures buy both Medicare and supplemental coverage. The MarketScan® Medicaid Database contains the pooled healthcare experience of approximately seven million Medicaid enrollees from 11 geographically dispersed states. The Medicaid data does not identify the states included in order to preserve confidentiality. Since the estimation strategy requires the comparison of expenditures at an individual level, the analysis excludes those in capitated payment plans.

Prescription opioid abuse and dependence cases were identified using previously described methodology.(13) Diagnosed commercial, Medicare, and Medicaid cases were identified as

patients with ≥1 diagnosis for opioid abuse or dependence during the third quarter of 2011 through the fourth quarter of 2012, defined using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) codes for opioid abuse, dependence or overdose (304.0X (opioid type dependence), 304.7X (combinations of opioid type dependence with any other drug dependence), 305.5X (nondependent opioid abuse), 965.00 (poisoning by opium (alkaloids) unspecified), 965.02 (poisoning by methadone), and 965.09 (poisoning by other opiates and related narcotics)). It is not possible to distinguish prescription opioid dependence from heroin dependence with the ICD-9 codes. The implications of this limitation of the data for our results will be discussed below.

All patients were continuously eligible with non-capitated plan coverage during the 18-month study period. The 18-month study period consisted of a 12-month observation period with first diagnosis as the index date, and a 6-month baseline period preceding the observation period that was used for propensity score matching. For example, if patient A's first abuse diagnosis date was Feb 1, 2012 then this date was considered the index date for this patient. Then the 18-month study period included the 6-month baseline period (August 1, 2011–Jan 31, 2012) before the index date and the 12-month period (February 1, 2012–January 31, 2013) after the index date. For the comparison patients, the index date was assigned as the date of a random medical claim, and the data were then organized around this date by the same method.

To account for baseline differences in demographics, comorbidities, and health care resource use, abusers were matched 1:1 to comparison patients based on propensity scores estimated using a logistic regression model for all study patients. For commercial and Medicare analyses, the regression model included age, sex (male/female), baseline health care costs, Charlson comorbidity index, region of patient residence (Northeast, North Central, South, West), and plan type (e.g. Exclusive Provider Organization (EPO), HMO, Non-Capitated Point-of-Service etc.) as independent variables. Because Medicaid has slightly different variables, the logistic regression used following variables: age, sex (male/female), race (White, black, Hispanic and other), baseline health care costs, Charlson comorbidity index, Medicare eligibility, basis of eligibility (e.g. low income child), and plan type (e.g. Basic/major medical, Comprehensive, EPO, HMO, PPO etc.). The cost was total health care cost including inpatient and outpatient care and all prescription drugs. Health care costs in the 12-month observation period were compared between abuse or dependence cases and matched comparison patients to determine the excess annual per patient health care costs. Nonlinear regression models were estimated to account for the skewed nature of the health care expenditure data (gamma family with log link), with expenditures as the dependent variable and an indicator for diagnosed or control group as the independent variable (14).

Excess medical and drug per-patient costs were then multiplied by the relevant number of opioid abuse patients derived from the NSDUH for each insurance coverage category reported in the survey data (Private, Medicare, Medicaid, CHAMPUS/VA, other and uninsured). CHAMPUS/VA and other categories were assigned costs for private coverage. The uninsured were assigned 50% of the cost of private insurance, based on reports that show this to be the typical ratio of spending for the uninsured population (15).

While the estimation described above will account for the cost of health services reimbursed by insurance plans for those diagnosed with opioid use disorder, there are other sources of payment for substance abuse treatment that are important to measure. Substance abuse treatment costs that were not paid by health insurance (such as public programs like SAMSHA block grants and private foundation funding) were calculated by identifying non-insurance-based federal, state, local, and private expenditures on substance abuse treatment(11). These costs were multiplied by the share of drug abuse and dependence cases associated with prescription opioids in the 2013 NSDUH.

Criminal Justice Costs

We followed an apportionment approach previously described (10)to update criminal justice costs to 2013(16). This method consists of using reported criminal justice spending for drug crimes and multiplying that number by the share of drug abuse and dependence cases represented by prescription opioids from NSDUH. The criminal justice costs consisted of four components: (1) police protection, (2) legal and adjudication, (3) correctional facilities, and (4) property lost due to crimes. We obtained spending data on police protection, legal and adjudication activities, and correctional facilities from the Justice Expenditure and Employment Extracts, 2012 – Preliminary(17) and data on property lost due to crimes from the Crime in the United States 2012(18). We replicated the calculation procedures in Birnbaum, et al (2011) to estimate the proportions of these three components attributable to prescription opioid abuse or dependence: the ratio of arrests for the components of police protection and legal and adjudication (18–21), the ratio of incarcerations for the correctional facilities component (22), and the ratio for the component of property lost due to crimes.

Lost Productivity Costs

We considered lost productivity costs from: (1) premature death from prescription opioid abuse or dependence, (2) reduced productive hours for abuse/dependence, and (3) incarceration. We estimated the cost of fatal opioid abuse or dependence by entering the number of prescription opioid overdose deaths in 2013 into the Cost of Injury Reports application under CDC's WISQARS™ (Web-based Injury Statistics Query and Reporting System) cost module(23). The WISQARS cost module estimates the lost productivity of a fatal injury based on the sex and age of the decedent and the mechanism of injury. Cost are assigned based on the earnings expected for a person of the decedent's sex and age over the remaining expected lifespan. We used the cost estimate for those that died from poisonings, for all intents.

In calculating lost productivity for abuse and dependence, we used an approach that values the loss of "productive hours". Productive hours are any time that is spent in paid employment or household productivity. The measure of production value employed estimated the average time spent in employment and household production and estimated the value (including fringe benefits) of this time by age and sex category. This value then was multiplied by the percentage reduction in productivity attributable to drug abuse/dependence (17% for males and 18% for females(24)), and finally summed over values across all gender and age groups. The prevalence of prescription opioid abuse/dependence cases for each gender and age group were tabulated from the 2013 NSDUH, then multiplied that by the

corresponding per person annual production value of U.S. population, (25) which was inflated to 2013 dollars.

To calculate lost productivity due to incarceration, we first used the numbers of inmates incarcerated for crimes attributed to prescription opioid abuse/dependence at federal, state, and local levels in 2013. After estimating the numbers of federal, state, and local inmates incarcerated for crimes attributed to prescription opioid abuse or dependence, we then multiplied those numbers by the per person annual production value of the U.S. population inflated to 2013 dollars.

Finally, a sensitivity analysis for all major cost categories was conducted. This was done by calculating the cost numbers at the endpoints of the 95% confidence interval of both the prevalence of prescription opioid abuse and dependence and the number of prescription opioid deaths.

Results

Table 1 reports the prevalence of prescription opioid abuse and dependence, and the number of fatal overdoses from prescription opioids in 2013. Almost 2 million people are estimated to meet the DSM-IV criteria for abuse and dependence, and over 16,000 died from prescription opioid overdoses. Both of these numbers represent a substantial increase from the most recently published comprehensive cost estimates from 2007, with the number of fatal cases over 1,800 higher, and the prevalence of abuse and dependence increased by approximately 200,000 persons.

Table 2 reports the estimates of annual health care cost differences for patients diagnosed with opioid abuse or dependence and their matched comparisons. The cost differences for all three types of insurance are large and statistically significant. Medicare has the largest cost difference at over $17,000. Private insurance has a cost increase of $15,500, and Medicaid is over $13,700. Full regressions results for the propensity score matching and health care expenditure regressions are available in the electronic appendix.

The aggregate costs associated with fatal overdose and abuse/dependence cases, and the range of estimates based on the variation in estimated abuse, dependence and overdose outcomes, are reported in Table 3. The aggregate cost for these prescription opioid related overdose, abuse and dependence was over $78.5 ($70.1 – $87.3) billion. Almost two-thirds of these costs were related to health care, substance abuse treatment, and lost productivity for nonfatal cases (Figure). Total spending for health care and substance abuse treatment accounted for over $28 billion ($26.1 ($21.4 –30.8) billion from insurance and $2.8 ($2.6 – $3.2) billion from other sources. Fatal cases account for a little more than one quarter of the costs ($21.5 ($21.2 – $21.8) billion).

The aggregate costs demonstrate the substantial amount of the economic burden that is borne by federal, state and local government. Over 14 percent of the cost is funded by public health insurance programs (Medicare, Medicaid and Champus/VA), and 3.2 percent is from additional government sources for substance abuse treatment. Almost all of the criminal justice related costs (96%, or $7.3 of $7.7 billion) goes to activities directly funded by state

and local government. Taken together, this means that almost 25 percent of the aggregate economic burden is funded by public sources. In addition, some portion of the lost earnings will be borne by the public sector in the form of forgone tax revenue.

Discussion

The analysis presented here is subject to several limitations. In some cases, these limitations can help identify areas for further research that will improve our understanding of the impact of the prescription opioid overdose epidemic. For example, our estimates of non-fatal costs are based on the prevalence of abuse and dependence. Ideally, the economic burden of an adverse health outcome would be estimated by calculating the lifetime cost of the condition-that is, observing the condition from its onset until it ends. Then, the total value of preventing the condition from occurring would be known. At the present time though, information in the research literature about the natural history of opioid misuse does not allow for such a calculation, and surveillance systems are not in place to adequately measure the incidence of the condition in the population.

Our health care cost estimates used the definition of opioid abuse and dependence identified by ICD-9 diagnosis codes. This definition does not differentiate between prescription opioids and heroin. Because we are interested in the difference in health care spending between those with abuse or dependence and those without, this will bias our results if prescription opioid abuse or dependence and heroin abuse or dependence have different effects on health care spending. Based on responses to the NSDUH, prescription opioid abuse and dependence is far more common than for heroin. In 2013, an estimated 1.9 million people reported prescription opioid abuse or dependence, while 517,000 reported heroin abuse or dependence (with some reporting both). If diagnosed opioid abuse/dependence follows a pattern similar to NSDUH responses and heroin and prescription opioid users are equally likely to be treated, the effect on our estimates should be mitigated.

Finally, we did not attempt to attribute costs to specific drugs if multiple types of drug abuse were reported. This could bias our results if the health care cost impact of abuse and dependence is different between prescription opioids and heroin, or if abuse of prescription opioids alone has a different effect from abuse of multiple drugs. We are also unable to account for the impact of diversion of drugs for nonmedical use. Future research could analyze whether this is the case using data that allows for these different sources of abuse and dependence to be identified.

We also estimated the per case health care cost impact using a convenience sample of persons enrolled in commercial insurance plans, Medicare plans with an employer sponsored supplemental plan, and subset of state Medicaid plans. The populations covered by these plans are not representative of the U.S. population, and also may not be representative of the populations most at risk for opioid overdose, abuse, or dependence. For example, many people receiving Social Security disability payments are covered by both Medicare and Medicaid. In our analysis, health care spending was only measured for one health insurance plan for each dependent person. In the case of these “dual eligible” patients,

our health care cost estimates will be too low. We also depended on medical diagnosis of abuse and dependence, which could underreport the true rate.

Finally, it is extremely difficult to measure all costs to society from an epidemic. In this case, there are many costs we were unable to measure, such as the reduction in quality of life of those who are dependent. These impacts are substantial, with a previous study finding a quality adjusted life year reduction of approximately 50% (26). We also cannot account for the pain and suffering of family members who have lost loved ones due to fatal overdoses. The costs that we can identify, however, do help increase our understanding of the impact of the epidemic.

The economic burden estimates presented here help to quantify some of the adverse health impacts associated with prescription opioids. In the ideal case, decision makers could use these estimates when weighing the benefits and risks of using opioids to treat pain, and evaluating prevention measures to reduce harmful use. However, at the present time a full accounting of both the benefits and costs of prescription opioid use is not available.

The results presented here are also helpful in understanding the distribution of the economic burden. A large share of the cost is borne by the public sector, both through direct services from government agencies, but also through tax revenue that will be lost from reduced earnings. Also, the health care sector bears approximately one-third of the costs we have estimated here.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

Funding Sources: None. All authors are federal employees and conducted this work as part of their official duties.

References

1. Paulozzi L, Jones C, Mack K, et al. Vital signs: overdoses of prescription opioid pain relievers---United States, 1999–2008. MMWR Morbidity and mortality weekly report. 2011; 60:1487–1492. [PubMed: 22048730]
2. Paulozzi L, Baldwin G, Franklin G, et al. CDC grand rounds: prescription drug overdoses - a U.S. epidemic. MMWR Morbidity and mortality weekly report. 2012; 61:10–13. [PubMed: 22237030]
3. Centers for Disease Control and Prevention, National Center for Health Statistics. [Accessed September 18, 2015] Multiple Cause of Death 1999–2013 on CDC WONDER Online Database, released 2015. 2015. Available at: http://wonder.cdc.gov/mcd-icd10.html
4. Jones CM, Mack KA, Paulozzi LJ. Pharmaceutical overdose deaths, United States, 2010. JAMA. 2013; 309:657–659. [PubMed: 23423407]
5. Office of National Drug Control Policy. Epidemic: Responding to America's Prescription Drug Abuse Crisis. 2011
6. Strassels SA. Economic burden of prescription opioid misuse and abuse. Journal of managed care pharmacy : JMCP. 2009; 15:556–562. [PubMed: 19739878]
7. Birnbaum HG, White AG, Reynolds JL, et al. Estimated costs of prescription opioid analgesic abuse in the United States in 2001: a societal perspective. The Clinical journal of pain. 2006; 22:667–676. [PubMed: 16988561]

8. Hansen RN, Oster G, Edelsberg J, et al. Economic Costs of Nonmedical Use of Prescription Opioids. The Clinical journal of pain. 2011; 27:194–202. [PubMed: 21178601]
9. Van Hasselt M, Keyes V, Bray J, et al. Prescription Drug Abuse and Workplace Absenteeism: Evidence from the 2008–2012 National Survey on Drug Use and Health. Journal of Workplace Behavioral Health. 2015; 30:379–392.
10. Birnbaum HG, White AG, Schiller M, et al. Societal costs of prescription opioid abuse, dependence, and misuse in the United States. Pain Medicine. 2011; 12:657–667. [PubMed: 21392250]
11. Substance Abuse and Mental Health Services Administration. projections of national expenditures for treatment of mental and substance use disorders, 2010–2020. Rockville, MD: 2014.
12. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. Washington (DC): American Psychiatric Association; 1994.
13. Rice JB, Kirson NY, Shei A, et al. The economic burden of diagnosed opioid abuse among commercially insured individuals. Postgraduate medicine. 2014; 126:53–58. [PubMed: 25141243]
14. Manning, WG. Encyclopedia of Health Economics. San Diego: Elsevier; 2014. Modeling Cost and Expenditure for Healthcare A2 - Culyer, Anthony J; p. 299-305.
15. Coughlin T, Holahan J, Caswell K, McGrath M. Uncompensated Care for the Uninsured in 2013: A Detailed Examination. 2014
16. Gross Domestic Product: Implicit Price Deflator. 2015 [database online].
17. Bureau of Justice Statistics. Justice Expenditure and Employment Extracts, 2012 – Preliminary. Available at: http://www.bjs.gov/index.cfm?ty=pbdetail&iid=5239
18. United States Department of Justice, Federal Bureau of Investigation. Crime in the United States 2012. 2013
19. Office of National Drug Control Policy. The economic costs of drug abuse in the United States, 1992–2002. Executive Office of the President; Washington, DC, USA: 2004.
20. US Department of Health and Human Services. Results from the 2012 National Survey on Drug Use and Health: Summary of national findings. Rockville, MD: USA: Substance Abuse and Mental Health Services Administration; 2013.
21. Drug Enforcement Administration. National Forensic Laboratory Information System: 2012 Annual Report. Washington, DC: 2013.
22. Carson EA. Prisoners in 2013. Bureau of Justice Statistics. 2014
23. Web-based injury statistics query and reporting system (WISQARS). 2015 [database online].
24. National Drug Intelligence Center. The Economic Impact of Illicit Drug Use on American Society. Washington D.C: United States Department of Justice; 2011.
25. Grosse SD, Krueger KV, Mvundura M. Economic productivity by age and sex: 2007 estimates for the United States. Medical care. 2009:S94–S103. [PubMed: 19536021]
26. Wittenberg E, Bray JW, Aden B, et al. Measuring benefits of opioid misuse treatment for economic evaluation: health-related quality of life of opioid-dependent individuals and their spouses as assessed by a sample of the US population. Addiction. 2016; 111:675–684. [PubMed: 26498740]

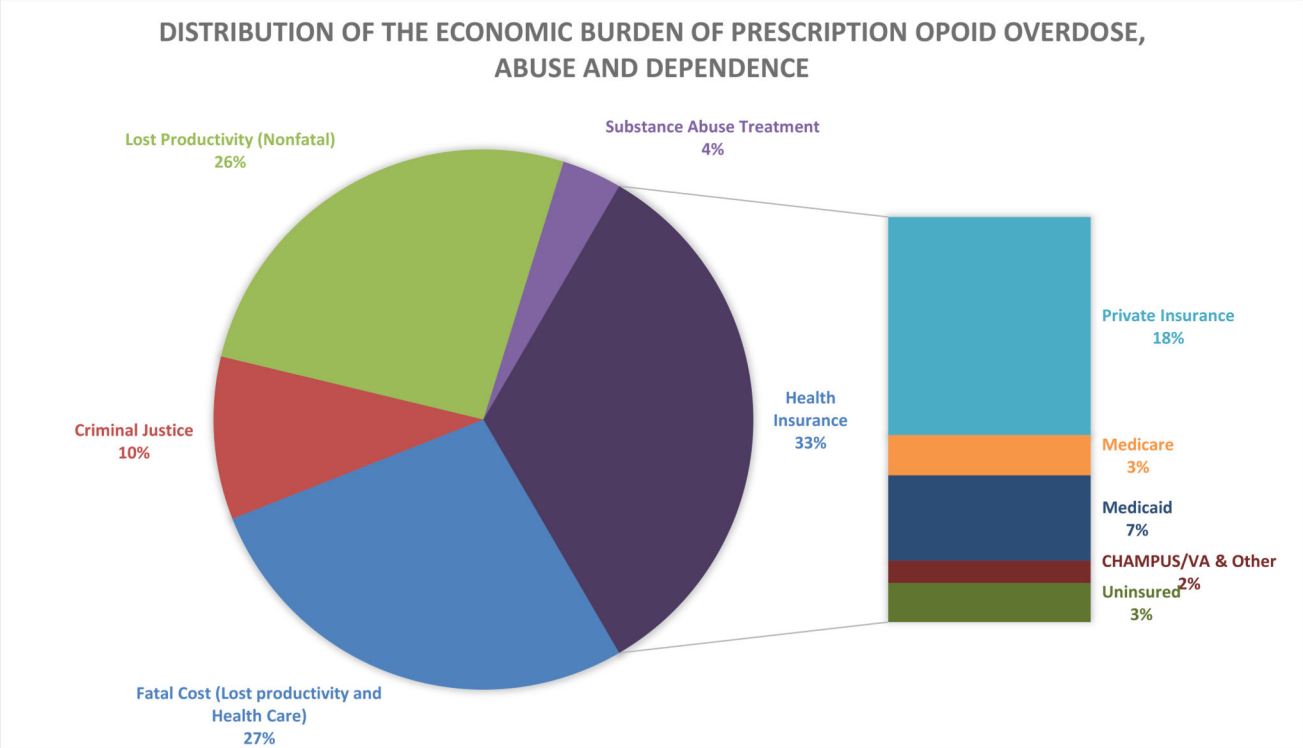

Figure.

Table 1

Prevalence of Prescription Opioid Abuse and Dependence, and Fatal Overdose, United States 2013

Outcome	Cases in 2013 (95% Confidence Interval)
Prescription Opioid Abuse and Dependence (Millions)	1.935 (1.586, 2.284)
Fatal Overdose** (Number of Deaths)	16,235 (15,985, 16,485)

* National Survey of Drug Use and Health, 2013

** CDC WONDER database, ICD-10 Multiple Cause of Death Codes

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Table 2

Estimated Annual Health Insurance Cost Increase after Diagnosis with Prescription Opioid Misuse Disorder – MarketScan Commercial, Medicare and Medicaid Databases, United States (2013 Dollars)

	Estimated Incremental Effect (95% Confidence Interval)
Private Health Insurance (N=116,225)	$15,500 ($14,922, $16,078)
Medicare (N=6,917)	$17,052 ($13,472, $20,632)
Medicaid (N=30,454)	$13,743 ($12,341, $15,145)

Table 3

Aggregate Societal Costs of Prescription Opioid Abuse, Dependence and Fatal Overdose, United States (Millions of 2013 Dollars)

Nonfatal Costs	**Aggregate Costs (Range based on 95% CI of prevalence)**	**Percentage of Aggregate Costs**
Health Care		
Private Insurance	$14,041	17.9%
Medicare	$2,593 *	3.3%
Medicaid	$5,490 *	7.0%
Champus/VA	$428 *	0.5%
Other	$1,003	1.3%
Uninsured	$2,519	3.2%
Total	**$26,075**	**33.2%**
	($21,372 – $30,778)	
Substance Abuse Treatment		
Federal	$721 *	0.9%
State and Local	$1,823 *	2.3%
Private	$276	0.4%
Total	**$2,820**	**3.6%**
	($2,567 – $3,245)	
Criminal Justice		
Police protection	$2,812 *	3.6%
Legal and adjudication	$1,288 *	1.6%
Correctional facilities	$3,218 *	4.1%
Property lost due to crime	$335	0.4%
Total criminal justice costs	**$7,654**	**9.7%**
	(*)	
Lost Productivity		
Reduced productive time/increased disability	$16,262	20.7%
	($13,329 – $19,195)	
Production lost for incarcerated individuals	$4,180	5.3%
	($3,957 – $ 4,556)	
Total	**$20,441**	**26.0%**
	($17,286 – $23,751)	
Total Non Fatal Costs	**$56,990**	**72.6%**
	($48,879 – $65,428)	

Nonfatal Costs	**Aggregate Costs (Range based on 95% CI of prevalence)**	**Percentage of Aggregate Costs**
Fatal Costs		
Lost Productivity	$21,429	27.3%
Health Care	$84	0.1%
Total Fatal Costs	**$21,513**	**27.4%**
	($21,182 – $21,844)	
Total of Nonfatal and Fatal	**$78,503**	**100.0%**
	($70,061 – $87,272)	

* -denotes public sector costs