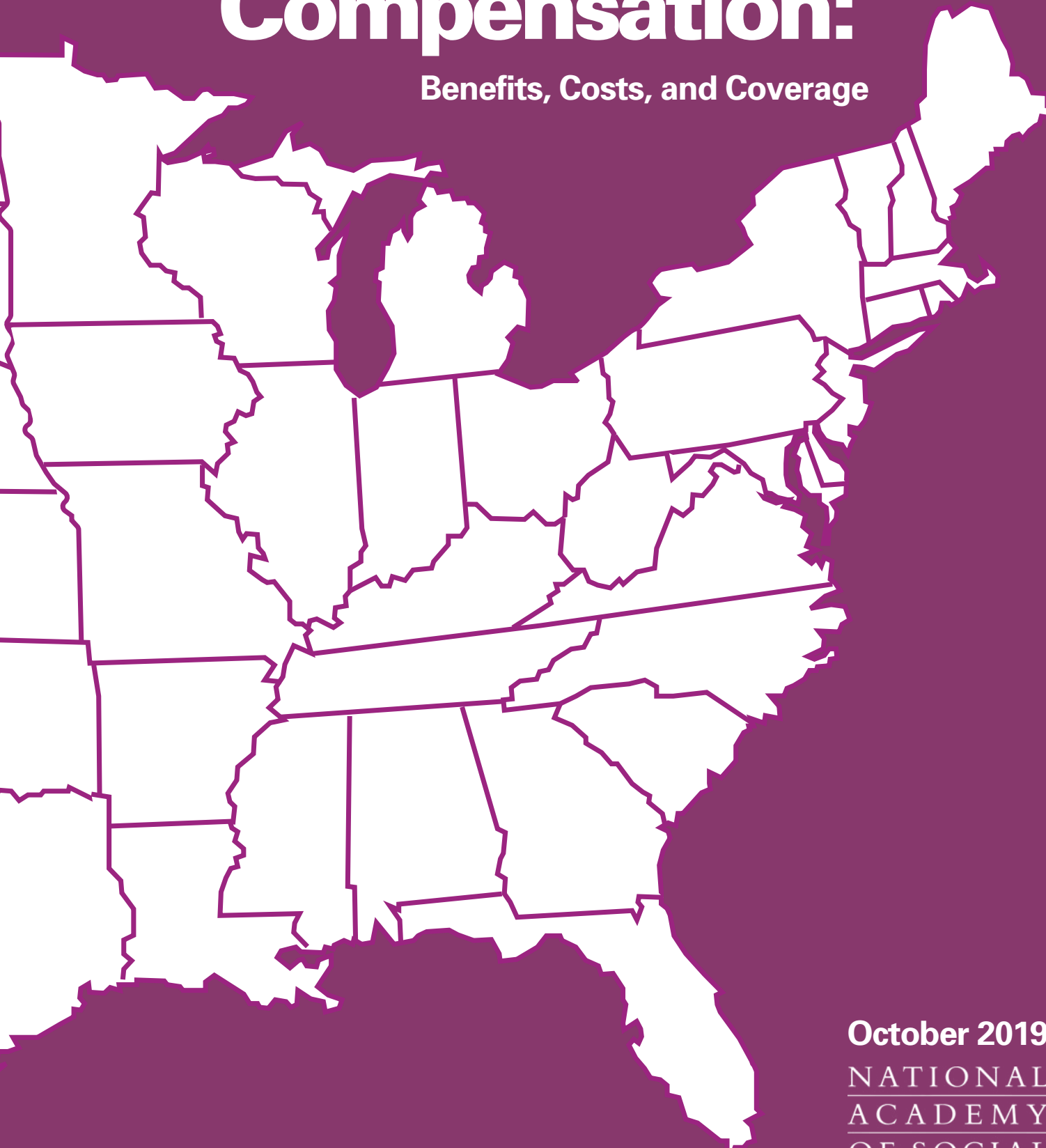


Workers' Compensation:

Benefits, Costs, and Coverage



October 2019

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The **National Academy of Social Insurance** (the Academy) is a non-profit, non-partisan organization made up of the nation's leading experts on social insurance. Social insurance encompasses broad-based systems that help workers pool risks to avoid loss of income due to retirement, death, disability, or unemployment, and to ensure access to health care. The mission of the Academy is to advance solutions to challenges facing the nation by increasing public understanding of how social insurance contributes to economic security. The Academy convenes steering committees and study panels that are charged with conducting research, issuing findings, and, in some cases, making recommendations based on their analyses. Members of these groups are selected for their recognized expertise in a particular area of social insurance, and with due consideration for the balance of disciplines and perspectives appropriate to the project.

This research report presents data on trends in workers' compensation benefits, costs, and coverage as of 2017. The report was prepared with the guidance of the Study Panel on Workers' Compensation Data and, in accordance with procedures of the Academy, has been reviewed for completeness, accuracy, clarity, and objectivity by a committee selected by the Board of Directors. The purpose of the report is to present the data and describe trends over time, but not to make policy recommendations.

The Centers for Medicare & Medicaid Services (CMS) provide funding to produce selected tables for this Report that are also used in its own estimates. The project also receives financial support from the California State Compensation Insurance Fund and in-kind support from the National Council on Compensation Insurance and the National Association of Insurance Commissioners.

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Workers' Compensation:

**Benefits, Costs, and Coverage
(2017 data)**

by

Elaine Weiss, Griffin Murphy, and Leslie I. Boden

with advice from the

Study Panel on Workers' Compensation Data

October 2019

**NATIONAL
ACADEMY
OF SOCIAL
INSURANCE**

Washington, DC

Preface

Workers' compensation provides funding for medical care, rehabilitation, and cash benefits for workers who are injured on the job or who contract work-related illnesses. The program also pays benefits to families of workers who die of work-related injuries or illnesses. The programs were established by state statute or within state constitutions beginning in 1911, before most federal social insurance programs were enacted. Unlike most other U.S. social insurance programs, workers' compensation is primarily a state program. (As described below, a number of federal programs, such as the Longshore and Black Lung funds, insure workers in specific occupations.) No federal laws set standards for the state workers' compensation programs or require comprehensive reporting of workers' compensation data, however, nor is there any federal financing of these state programs.

The lack of uniform federal standards or reporting requirements for state workers' compensation programs makes it difficult to provide national estimates based on uniform definitions of amounts of benefits paid, costs to employers, and numbers of workers covered. In order to produce national summary statistics on the program, it is necessary to compile data from various sources.

Until 1995, the U.S. Social Security Administration (SSA) produced the only comprehensive national data on workers' compensation benefits, costs, and coverage, with annual estimates dating back to 1946. SSA discontinued the series in 1995 and the National Academy of Social Insurance (the Academy) assumed the task of reporting national data on workers' compensation in 1997. The Academy published its first report that year and has produced the report annually ever since.

This is the Academy's 22nd annual report on workers' compensation benefits, costs, and coverage. This report presents new data on state and federal workers' compensation programs for 2017 and updated estimates for 2013-2016. The revised estimates in this report replace estimates in the Academy's prior reports.

The Academy and its expert advisors are continually seeking ways to improve the report and to adapt estimation methods to track new developments in

workers' compensation programs. Detailed descriptions of the methods used to produce the estimates in this report are available online at www.nasi.org/research/workers-compensation.

Despite the Academy's continued efforts to improve the quality of its estimates, there are limitations to the data which we acknowledge in the report. It is important to note, for example, that our estimates of workers' compensation costs borne by employers and in three states by employees may not capture the full cost borne by employers through insurance or other payments made outside the workers' compensation report system or other economic and human costs of work-related injuries, illnesses, and fatalities. These costs – borne by workers, families, and communities – are significant but beyond the scope of this report. Additionally, the report does not evaluate whether workers' compensation programs are meeting key objectives, such as: preventing work-related injuries and illnesses; compensating injured workers adequately and equitably; rehabilitating injured workers; and returning them to work at an affordable cost.

The audience for the Academy's annual report on workers' compensation includes actuaries, insurers, journalists, business and labor leaders, employee benefit specialists, federal and state policymakers, students, and researchers working in universities, government, and private consulting firms. The data from some tables are published by the National Safety Council (NSC) (in *Injury Facts*), by the Employee Benefit Research Institute (in *Employee Benefit News, Fundamentals of Employee Benefit Programs*) and by the SSA (in the *Annual Statistical Supplement to the Social Security Bulletin*).

The Academy's estimates inform state and federal policymakers in numerous ways. The federal Centers for Medicare & Medicaid Services (CMS), for example, uses the data in estimates and projections of health care spending in the United States. The National Institute for Occupational Safety and Health (NIOSH) uses the data to track the costs of workplace injuries in the United States. The International Association of Industrial Accident Boards and Commissions (IAIABC), the organization of state and provincial agencies that administer workers' compensation in the United States and Canada, uses the information to track and compare

the performance of workers' compensation programs in the United States with similar systems in Canada.

Acknowledgements

The Academy expresses its deep appreciation to staff members in the 50 states and District of Columbia workers' compensation offices who provide data on their jurisdictions each year. While there are too many individuals to name here, we are grateful for the time they spend responding to our survey and answering clarification questions as needed. Without support from these individuals, constructing this annual data series would be impossible. The Centers for Medicare & Medicaid Services (CMS) provide funding to produce selected tables for this Report that are also used in its own estimates. The project

also receives financial support from the California State Compensation Insurance Fund and in-kind support from the National Council on Compensation Insurance and the National Association of Insurance Commissioners.

The authors gratefully acknowledge the time and expertise contributed by members of the Academy's Study Panel on Workers' Compensation Data. All members of the Panel are listed on page iii, but we especially acknowledge the contributions of: Aaron Brandenburg, Terry Bogyo, John F. Burton Jr., Jeff Eddinger, Doug Holmes, Mike Manley, and Frank Neuhauser. Finally, we appreciate comments from Michael Dworsky (RAND Corporation), Jeanne Sears (University of Washington), and Steven Wurzelbacher (NIOSH) who reviewed a final draft for the Board.



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Additional appendices are published in *Sources, Methods, and State Summaries: A Companion to Workers' Compensation: Benefits, Costs, and Coverage* available on the Academy's website at www.nasi.org. These appendices provide more information on:

- Data sources for each state
- Methods used to estimate workers' compensation benefits and costs by type of coverage, including:
 - Deductibles
 - Self-insured benefit payments and administrative costs
 - Medical benefits
- Updated version of Table 9.B1 of the *Annual Statistical Supplement to the Social Security Bulletin*
- 2014 to 2017 trends in benefits paid by second injury funds, special funds, and guaranty funds
- State summary tables that report key metrics from 2013 to 2017

Highlights

For more than two decades, the National Academy of Social Insurance has produced an annual report on workers' compensation benefits, costs, and coverage. The report provides summary statistics on state and federal workers' compensation programs, with the aim of facilitating policymaking that improves the system for both injured workers and employers. This report provides new data for 2017, with comparison data for the five-year period from 2013 to 2017.

National Trends (Table 1)

- **Covered employment and wages continued to rise, albeit at a slower rate than in the past few years**
 - The number of U.S. workers covered by workers' compensation continues to grow, with that growth slowing slightly from 4.2 percent between 2013 and 2015 to 3.2 percent between 2015 and 2017. (Table 3)
 - A similar trend is seen with respect to covered wages, which grew by 10.7 percent 2013-2015, and then by 8.0 percent in the two subsequent years. (Table 4)
- **Benefits paid to injured workers and their health care providers continued to decline**
 - In 2017, workers' compensation total benefits paid were \$62.0 billion, a decrease of 2.2 percent from 2013. After falling by 1.8 percent from 2013-2015, the rate of decline in benefits slowed to 0.4 percent from 2015-2017. (Table 9)
 - Adjusting for the increase in coverage, however, total benefits were \$0.80 per \$100 of covered wages in 2017, a decrease of \$0.18 since 2013. (Table 12). This reflects a 19.6 percent decline in medical benefits per \$100 of covered wages (Table 10) and a 16.9 percent decline in cash benefits per \$100 of covered wages. (Table 11)
- **Employer costs increased in total, but decreased as a percentage of covered wages**
 - In 2017, employers' costs for workers' compensation were \$97.4 billion, a 9.1

percent increase since 2013. (Table 13)

When adjusted for the increase in covered wages, however, employers' costs were \$1.25 per \$100 of covered wages, down \$0.12 (8.8%) from 2013. (Table 14)

- **Declines in standardized benefits and costs are substantial:** The \$0.18 decline in benefits since 2013 represents an 18.2 percent decline in benefits per \$100 of payroll, and the \$0.12 decline in costs represents an 8.8 percent decline in costs per \$100 of payroll).¹

State Trends

- **Workers' compensation covered employment and wages increased in almost every state between 2013 and 2017²**
 - Covered jobs increased in all jurisdictions except Alaska, North Dakota, West Virginia, and Wyoming. The largest percentage increase (14.4%) occurred in Nevada. (Table 3)
 - Covered wages increased in all jurisdictions except Wyoming. The largest percentage increase occurred in Washington (30.5%), with seven states having increases greater than 25%. (Table 4)
- **Workers' compensation benefits per \$100 of covered wages decreased in almost all states**
 - Benefits per \$100 of covered wages decreased in all jurisdictions except Hawaii and Missouri. (Table 12)
 - The largest percent decrease occurred in Tennessee, where benefits declined by 38.2 percent between 2013 and 2017. (Table 12)
- **Employers' costs per \$100 of covered wages decreased in almost all states**
 - Costs per \$100 of covered wages decreased in all but five jurisdictions, with the largest percent decrease (38.3 percent) in Oklahoma. (Table 14)
 - Costs per \$100 of covered wages increased in five states. Among these states, the largest percent increases were in Hawaii and Missouri (7.3 percent and 5.6 percent, respectively). (Table 14)

1 The disparity between the smaller reduction in employer costs and the larger decline in benefits is discussed in the text accompanying table 15.

2 This report includes data from all fifty states and the District of Columbia, as well as for select federal programs. For the purposes of this report, we treat DC like a 51st state and, thus, use the terms "state" and "jurisdiction" interchangeably throughout.

Table 1**Overview of Workers' Compensation Benefits, Costs, and Coverage, 2013-2017**

Aggregate Benefits, Coverage, and Costs	Percent Change			
	2017	2013-2015	2015-2017	2013-2017
Covered Jobs (in thousands)	140,397	4.2	3.2	7.5
Covered Wages (in billions)	\$7,785	10.7	8.0	19.6
Workers' Compensation Benefits Paid (in billions)	62.0	-1.8	-0.4	-2.2
Medical Benefits	31.2	-2.3	-1.6	-3.8
Cash Benefits	30.8	-1.4	0.8	-0.6
Employer Costs for Workers' Compensation (in billions)	97.4	7.7	1.3	9.1

Benefits and Costs per \$100 of Covered Wages	Dollar Change			
	2017	2013-2015	2015-2017	2013-2017
Workers' Compensation Benefits Paid	\$0.80	-\$0.11	-\$0.07	-\$0.18
Medical Benefits	0.40	-0.06	-0.04	-0.10
Cash Benefits	0.40	-0.05	-0.03	-0.08
Employer Costs for Workers' Compensation	1.25	-0.04	-0.08	-0.12

Notes: Benefits are calendar-year payments to injured workers (cash benefits) and to providers of their medical care (medical benefits). Costs for employers who purchase workers' compensation insurance include calendar-year insurance premiums paid plus benefits paid by the employer to meet the annual deductible, if any. Costs for self-insuring employers are calendar-year benefits paid plus the administrative costs associated with providing those benefits.

Source: National Academy of Social Insurance estimates.

Background on Workers' Compensation

This section of the report, covering background material that is repeated annually, describes the history of workers' compensation insurance in the United States; the current structure of state workers' compensation programs; types of benefits paid; and how workers' compensation is financed. Reporting of detailed program data for 2017 begins on page 9, and a glossary of terms used in this report is available on page 61.

History of Workers' Compensation

Workers' compensation was the first social insurance program adopted in most developed countries. The

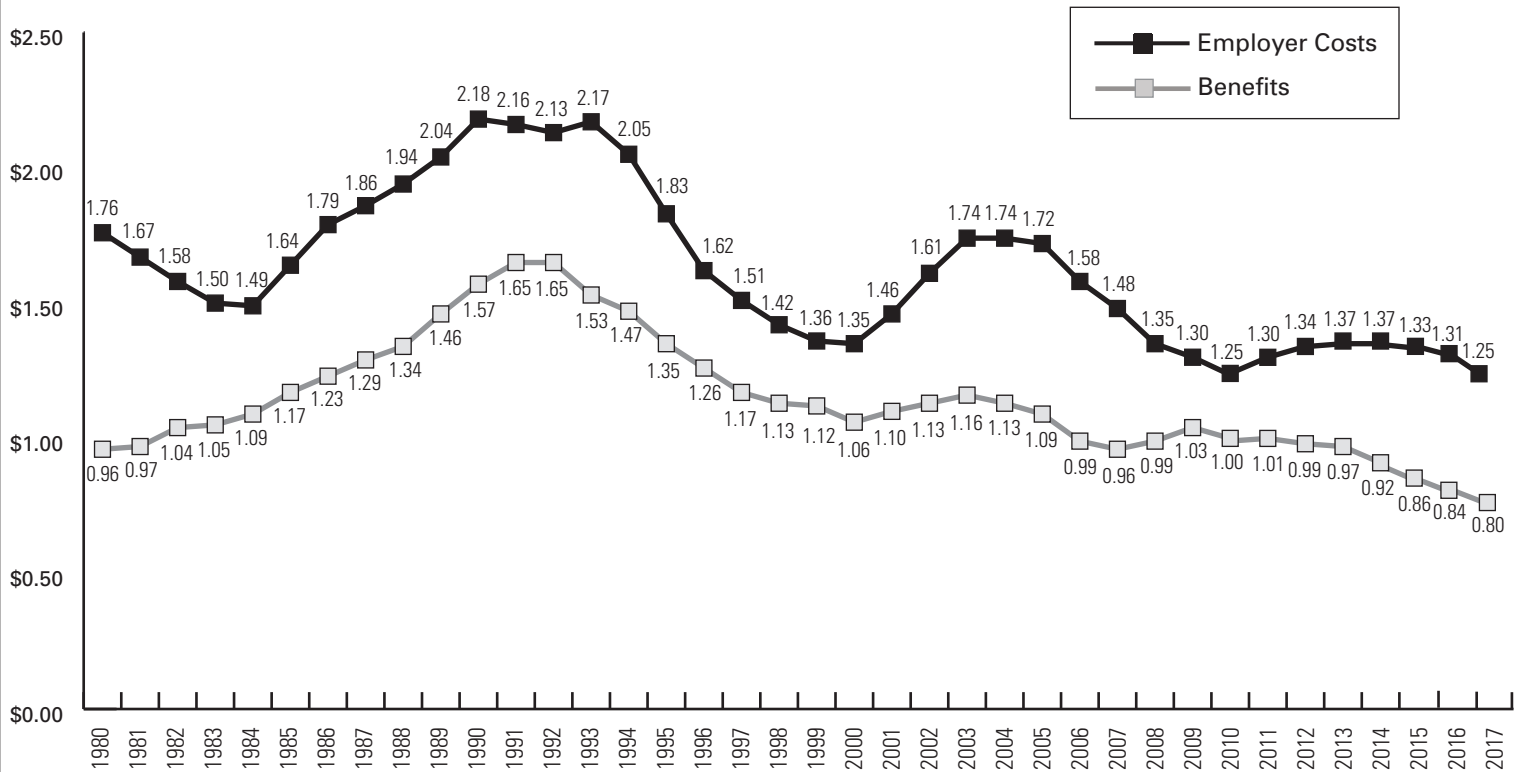
first modern workers' compensation laws, known as Sickness and Accident Laws based on the principle of employer liability for workplace injuries, were adopted in Germany in 1884 under Chancellor Otto von Bismarck (Clayton, 2004). In 1897, England passed a similar law that held employers liable so long as employees could prove that they had been injured on the job.

The first workers' compensation law in the United States was enacted in 1908 to cover certain federal civilian workers. The first state law, passed by New York in 1910, which was compulsory for certain very risky jobs, was struck down as unconstitutional by the state's court of appeals in 1911.³ That same year, Kansas and Washington passed the first state laws

3 "[I]n 1911, in *Ives v. South Buffalo Railway Co.*... the Court of Appeals of New York held the New York act unconstitutional on the

Figure 1

Workers' Compensation Benefits and Costs Per \$100 of Covered Wages, 1980-2017



Notes: Benefits are calendar-year payments to injured workers and to providers of their medical care. Costs for employers who purchase workers' compensation insurance include calendar-year insurance premiums paid plus benefits paid by the employer to meet the annual deductible, if any. Costs for self-insuring employers are calendar-year benefits paid plus the administrative costs associated with providing those benefits.

Source: National Academy of Social Insurance estimates.

that survived constitutional challenges (though New Jersey and Wisconsin both claim the “first in WC” title), with five other states enacting laws that went into effect that year.⁴ Most other states then adopted workers' compensation laws by 1920, though the last of the 48 contiguous states to pass one, Mississippi, did so only in 1948.

Before the enactment of these laws, the primary legal remedy for workers who were injured on the job was to file a tort suit claiming negligence by their employer.⁵ Employers had three commonly used legal defenses to shield themselves from liability: assumption of risk (showing that the injury resulted from an ordinary risk of employment of which the

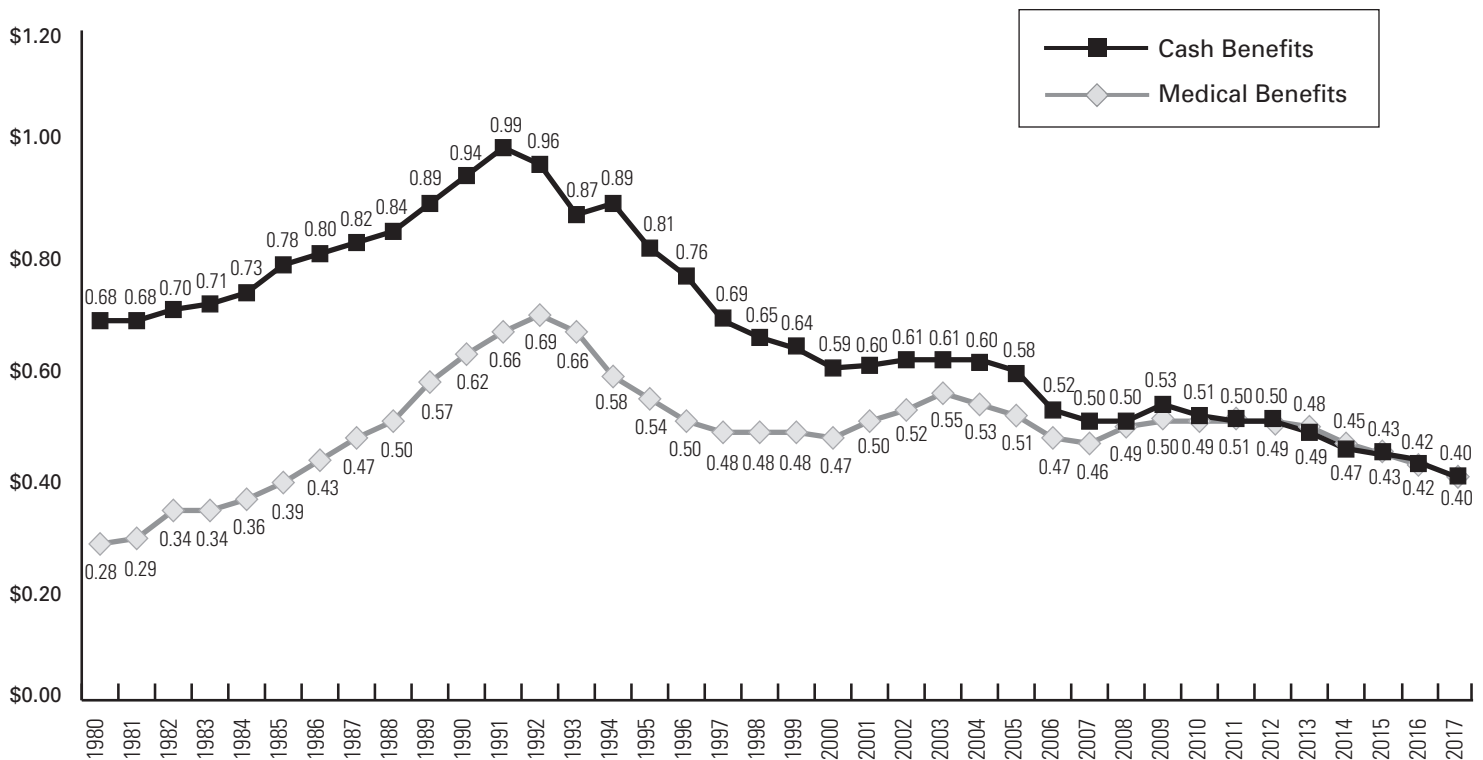
grounds of deprivation of property without due process of law,” (Willborn et al., 2017). In 1911, nine states, including Kansas, New Jersey, and Wisconsin, thus enacted elective laws in an effort to avoid similar decisions by their state courts. Washington, however, adopted a compulsory statute, which the Washington Supreme Court upheld (Somers and Somers, 1954).

4 Kansas and Washington had the first enactment date (March 14, 1911), but those laws were not effective until after May 3, 1911, the same date when the Wisconsin law was enacted and took effect (Krohm, 2011).

5 Some injured workers received voluntary compensation from employers or medical benefits paid through personal accident insurance, but many received no compensation at all (Fishback and Kantor, 1996).

Figure 2

Workers' Compensation Medical and Cash Benefits Per \$100 of Covered Wages, 1980-2017



Source: National Academy of Social Insurance estimates.

worker should have been aware);⁶ the fellow servant rule (showing the injury was caused by the negligence of a fellow worker, rather than the employer); or contributory negligence (showing that the worker's own negligence contributed to the injury, regardless of whether the employer was to any degree at fault).

Given the available defenses, along with workers' very limited resources to bring suits, employers prevailed in court in the vast majority of cases. In the minority of cases in which employees won, however, employers could be held liable for substantial and unpredictable amounts. Litigation also created

friction between employers and employees; dissatisfaction with the status quo on both sides set the stage for reform.

Initial reforms came in the form of employer liability acts, which eliminated some of the employers' common law defenses. Still, employees retained the burden of proving negligence on the part of the employer, which posed a significant obstacle to recovering damages (Burton and Mitchell, 2003).⁷ Ultimately, both employers and employees favored workers' compensation legislation, which would ensure that workers who sustained occupational injuries or contracted work-related diseases received

6 A more complete definition is provided by Willborn et al. (2017): "The assumption of risk doctrine... barred recovery for the ordinary risks of employment; as well as the extraordinary risks of employment, if the worker knew of them or might reasonably have been expected to know of them."

7 As a result, the employers' liability approach was abandoned in all jurisdictions and industries except the railroads, where it still applies.

predictable and timely compensation. As a quid pro quo, workers' compensation became the "exclusive remedy" for occupational injuries and diseases, and an employer's liability was limited to the statutory benefits specified in the state's workers' compensation act.

The adoption of state workers' compensation programs marked significant progress in the nation's economic, legal, and political history. Passage of the laws required extensive efforts on the part of both business and labor leaders in each state to reach agreement on the law's specifics. Ultimately, both employers and employees supported workers' compensation statutes, often referred to as the grand bargain because the laws contained some principles favorable to workers, some principles favorable to employers, and some principles beneficial to both parties. For example, workers could receive workers' compensation benefits even when the injury resulted from the worker being negligent or when the employer was not negligent.

Employers benefited from workers' compensation benefits that are much more limited than tort awards, and workers' compensation benefits specified in the statute became the exclusive remedy for injured workers, which meant that employers could not be sued for damages in a tort suit.⁸ In essence, workers' compensation statutes are a no-fault and limited liability approach to compensate for workplace injuries and diseases.⁹

For both workers and employers, simplified determination of benefits means that benefits could be paid without attorney involvement in most cases. When benefits are disputed, workers' compensation statutes in most states removed workplace injuries from the general court system and established workers' compensation agencies (or commissions) that were given

the primary responsibility for resolving disputes between workers and employers. Reformers felt this delivery system would also reduce the delays, uncertainties, and inconsistencies of the court system (Berkowitz and Berkowitz 1985, 161-163).

From the beginning, some segments of the working population were excluded from the state programs. Most importantly, given their prevalence in the labor market of the early 20th century, agricultural workers and people in domestic employment were explicitly excluded. Other workers, including independent contractors, have also been outside the reach of workers' compensation insurance.

Workers' compensation is the "exclusive remedy" for occupational injuries and diseases. An employer's liability is limited to the statutory benefits specified by the workers' compensation act in their jurisdiction.

Today, each of the 50 states and the District of Columbia has its own workers' compensation program, and there are several federal workers' compensation programs. (U.S. territories also have workers' compensation programs, which are not included in this report.) Consistent with previous editions of this report, the current report uses a *standard approach* to determining which workers' compensation programs to include in the estimates in all tables, figures, and the main text.

- The *standard approach* includes workers' compensation programs for civilians prescribed by state or federal laws that are paid directly by

8 Under the exclusive remedy concept, the worker accepts workers' compensation as payment in full and gives up the right to sue. There are limited exceptions to the exclusive remedy concept in some states, such as when there is an intentional injury of the employee or when an employer violates a safety regulation in a reckless manner. A suit is also possible if the employer is uninsured.

9 As John Burton notes, this compromise benefited workers by doing away with negligence tests and employers' special defenses, while employers received truncated liability and the guarantee that this was workers' exclusive remedy. Both benefited from simplified determination of the extent of liability and from specialized dispute resolution. In the past decade, concerns have been raised regarding state legislation that has curtailed the availability of benefits to workers. For example, Spieler (2017) and Burton (2017) argue that recent developments in many states are undermining the grand compromise that serves as the foundation for workers' compensation programs. These developments include the adoption of constricted compensability rules, the reduction in cash benefits, and the adoption of procedural hurdles, such as increasing the burden of proof for claimants. A development in several states that appears to be particularly inconsistent with the grand bargain is the adoption of what Burton terms the "dual-denial doctrine," which both makes it impossible for the worker to qualify for workers' compensation benefits and precludes the worker from bringing a tort suit by stating that workers' compensation is the exclusive remedy for a workplace injury.

employers or workers. The scope of this approach includes all state workers' compensation programs plus the Federal Employees' Compensation Act (FECA), which provides benefits to federal civilian workers, the portion of the Longshore and Harbor Workers Act (LHWCA) paid by employers, which provides protection to longshore, harbor, and other maritime workers, and the portion of the Black Lung Benefits Act financed by employers, which provides compensation to coal miners with black lung disease. In Appendix D, this report introduces two broader measures of the scope of workers' compensation programs in the US.

The state and federal programs in this report vary with respect to which employers and workers are covered, which injuries and diseases are compensable, and the levels of benefits provided. However, there are common features in most of these programs:

- Workers' compensation programs still largely adhere to the no-fault and limited liability principles that are the central features of the grand bargain agreed to when the program emerged in the early 20th Century.
- With the exceptions of Texas and Wyoming, workers' compensation insurance coverage is mandatory in all states, with limited exemptions for small employers. Workers in specific classifications, such as agricultural or domestic employees, and workers who are classified as independent contractors are generally excluded from coverage.¹⁰ In Texas, employers are not covered by the workers' compensation law unless they elect to be covered. Wyoming

employs an unusual system, requiring workers' compensation coverage only for workers in "extra-hazardous" occupations, which is what the state designates most occupations. Still, under the state's workers' compensation law, only 75% of the state's covered workforce are employed by employers who are required to provide coverage. In recent years, several large employers have decided not to provide workers' compensation coverage, leading to a shrinking share of workers with mandatory coverage.¹¹ In 2014, Oklahoma enacted a law that allowed employers to opt out of a traditional workers' compensation plan by adopting an alternative benefit plan. The Supreme Court of the State of Oklahoma held in September 2016 that the Opt-Out Act was unconstitutional.¹²

- In principle, workers' compensation pays 100 percent of injury-related medical costs for injured workers and cash benefits for a portion of wages lost because of the injury. Lost-time compensation may be subject to a waiting period (typically three to seven days) that may be paid retroactively if the disability involves hospitalization or a lengthy duration of work absence. Statutory wage-replacement rates vary by state but, on average, replace about two-thirds of a worker's pre-injury gross wage, subject to minimum and maximum weekly benefits, which vary among states. Cash benefits are tax-exempt.
- Workers' compensation benefits are financed exclusively by employers except in three states where workers pay part of the cost of benefits and services through direct payroll deductions or charges.¹³
- Employers purchase workers' compensation insurance from private insurers or from state

10 In addition, many states allow specific classes of employers to voluntarily purchase workers' compensation coverage or to opt out of statutory coverage, e.g., independent contractors, corporate officers, and local governments. ?

11 As University of Wyoming law professor Michael Duff notes, "Like the situation in Texas, most [Wyoming] employers not covered are liable in tort. Also like in Texas, there are significant numbers of workers employed by companies that offer 'alternative WC' plans." He points to *Araguz v. State*, ex rel. Wyoming Workers' Safety and Comp. Div., 2011 WY 148, 262 P.3d 1263 (Wyo. 2011), as an example of how dual-denial is expanding in that state. This case involved two injured Walmart employees. Duff 2018 and Elaine Weiss correspondence with Michael Duff, July 2019.

12 As the section on major changes to state law, starting on p.36, details, in 2013 Oklahoma passed sweeping statutory changes to the state's workers' compensation program that became effective in January 2014. Although some of those changes, in particular the opt-out portion, were subsequently struck down by the state supreme court in 2016, the aftereffects of other changes still linger in the form of sharply declining costs for employers and benefits for injured workers.

13 Employees directly pay for a portion of workers' compensation programs in New Mexico, Oregon, and Washington, as discussed in Appendix D.

workers' compensation insurance funds. In most states, large employers have the option to self-insure.

Workers' Compensation Benefits

Injured workers or their medical providers may collect benefits through one of three basic types of claims:

- **Medical-only claims:** Most workers' compensation claims do not involve lost work time in excess of the waiting period for cash benefits, so only medical benefits (and no cash benefits) are paid for these claims. "Medical-only" claims are the most common type of workers' compensation claim, but they represent only a small share of overall payments.¹⁴
- **Temporary disability claims:** When a work-related injury or illness temporarily prevents a worker from returning to his or her pre-injury job or to another job for the same employer, the worker receives temporary total disability (TTD) benefits in addition to medical benefits. These TTD benefits replace approximately two-thirds of the worker's gross, pre-injury weekly earnings up to state-specified limits. Depending on the jurisdiction, if workers had additional jobs with another employer at the time of injury, earnings from that second or other job may or may not be covered by temporary disability benefits, even if the worker cannot perform any job.

Compensation for temporary disability is subject to minimum and maximum benefit levels that vary from state to state. As of 2019, the minimum weekly TTD benefit ranged from a low of \$20 in Arkansas, Florida, and Wisconsin, to a high of \$561 in North Dakota. The maximum weekly benefit ranged from a low of \$494 in Mississippi to a high of \$1,765 in

Iowa.¹⁵ Generally, the maximum benefit is tied to the state's average weekly wage.

Most workers who receive TTD benefits fully recover and return to work, at which time those benefits end. In many cases, however, employers make accommodations that allow injured workers to return to transitional work before they are physically able to resume all of their former job duties. In these cases, workers may be assigned to restricted duties or given shorter hours at lower wages. When injured workers return to work at less than their pre-injury wage during the healing period, they may be eligible for *temporary partial disability* (TPD).

- **Permanent disability claims:** Some injured workers experience work-related injuries or illnesses that result in permanent impairments. These workers may be eligible for either permanent partial or permanent total disability benefits, after they reach maximum medical improvement (the point at which further medical intervention is no longer expected to improve functional capacity or provide further healing).¹⁶ Permanent total disability (PTD) benefits are paid to workers who are considered legally unable to work at all because of a work-related injury or illness.¹⁷ States differ in their methods for determining whether a worker is entitled to permanent partial disability benefits, the extent of permanent disability, and the amount of benefits to be paid (Barth and Niss, 1999; Burton, 2008). There are three operational approaches to determining eligibility for PPD benefits: The *impairment approach* pays benefits if the worker has a permanent medical loss, without regard to actual loss of earnings. The *loss of earning capacity approach* pays benefits if the impairment causes a permanent loss of earning capacity. The *wage loss approach* pays benefits only if the worker has actual wage

14 For example, medical-only claims accounted for 75 percent of workers' compensation cases, but only 6 percent of total benefit payments, in the 38 NCCI member states for policy years 1998-2009 (NCCI 2013).

15 Arizona, Colorado, Iowa, Maine, Montana, Nebraska, Nevada, Oklahoma, and Rhode Island do not have a specified minimum weekly TTD benefit. Details on benefit and coverage provisions of state laws are summarized in Appendix C.

16 In most claims where the workers ultimately receive permanent disability benefits, there is initially a period in which the workers receive temporary disability benefits, as described in the preceding paragraphs.

17 Most states allow permanently and totally disabling conditions to be compensated for life if the condition leads to an inability to work. The requirements for a PTD benefit vary across jurisdictions, but many have a provision such that if an injured worker has a permanent disability rating over a specified threshold (for instance, more than 70 percent disabled), then the worker would qualify.

losses. In the first case, the amount of permanent disability benefits is determined by some measure of physical loss to the body; in the second case by an estimate of reduced earning capacity. In the third case, if the worker has the ability to work in some capacity and actually works, he or she will not receive PPD benefits if no wage loss is incurred. Most states impose limits on either the maximum duration or maximum amount of permanent disability benefits. Many cases involving permanent disability are settled through the use of compromise and release agreements, which generally provide a lump sum to the injured worker, may cover possible future medical costs, and release the employer from future liability.¹⁸

- **Fatalities:** Workers' compensation programs also pay death benefits when a work-related illness or injury is fatal. The benefits typically include an amount for funeral and burial expenses, as well as cash benefits for the workers' family or other dependents.

Sources of Workers' Compensation Insurance

Non-federal employers pay for workers' compensation by purchasing insurance from a private insurance carrier or a state workers' compensation insurance fund (a state fund), or by self-insuring. Federal workers' compensation insurance covers federal civilian employees and some private-sector workers who are employed either in high-risk jobs or jobs related to national defense (see *Federal Programs* on p.71). Many states also have special workers' compensation funds to cover exceptional circumstances, such as a second work-related injury.

Private insurance. Workers' compensation policies provided by private insurers operate much like automobile or homeowners' insurance. Employers

purchase insurance for a premium that varies according to expected risk. There are two types of policies: 1) policies that require the insurer to pay all workers' compensation benefits; and 2) policies with a deductible that require the employer to reimburse the insurer for benefits paid up to the specified deductible amount. With a deductible policy, the employer is self-insuring to a specified limit, and in return pays a lower premium. Deductibles may be written into an insurance policy on a per-injury basis, an aggregate-benefit basis, or a combination of the two. Most states permit deductible policies in workers' compensation insurance, but state regulations vary on the specifics.

State funds. In 21 states, workers' compensation insurance is provided to some (or all) employers by a state fund. State workers' compensation insurance funds, which are established by an act of the state legislature, may be designated as *exclusive* or *competitive*. An *exclusive* state fund is the sole provider of workers' compensation insurance in a state (although most states with exclusive state funds allow large employers to self-insure). A *competitive* state fund competes with private insurers. In this report, we define an insurer as a *competitive* state fund if: 1) the insurer sells workers' compensation policies to private-sector employers in the voluntary insurance market; and 2) the insurer is exempt from federal taxes.¹⁹ In 2017, four states had exclusive state funds and, according to our criteria, 16 states had competitive state funds.^{20, 21} In addition, South Carolina's state fund provides workers' compensation insurance for state and local government employees and competes with private insurers for the quasi-state agency market segment. West Virginia discontinued its state fund in 2006. However, the state was still paying benefits in 2017 on some claims involving injuries that occurred before 2006.

18 See glossary for complete definition.

19 All competitive state funds are exempt from federal taxes, and six funds (Hawaii, Idaho, Louisiana, New Mexico, Texas, and Utah) are also exempt from paying state premium taxes.

20 In 2017, North Dakota, Ohio, Washington, and Wyoming had exclusive state funds. Competitive state funds operated in California, Colorado, Hawaii, Idaho, Kentucky, Louisiana, Maryland, Missouri, Montana, New Mexico, New York, Oklahoma, Oregon, Pennsylvania, Rhode Island, and Texas.

21 Of the 16 competitive state funds, 13 (all but ID, NM, and OR) operated as the "insurer of last resort" by selling policies to high-risk employers or any other employers that were unable to self-insure or to purchase insurance from a private carrier. See Table 8 footnotes for information on Utah.

Self-insurance. Many large employers choose to self-insure for workers' compensation.²² Where self-insurance is permitted, employers must apply for permission to self-insure from the regulatory authority and demonstrate that they have sufficient financial resources to cover their expected workers' compensation losses.²³ Some states permit groups of employers in the same industry or trade association to self-insure through group self-insurance.

Federal programs. The federal government covers workers' compensation benefits for federal civilian employees under the Federal Employees Compensation Act (FECA). Federal programs also cover some private-sector workers, including coal miners with black lung disease, employees of overseas contractors with the U.S. government, energy employees exposed to certain hazardous materials, workers engaged in manufacturing atomic bombs, and veterans injured while on active duty in the armed forces. The federal government also provides oversight for workers covered under the Longshore and Harbor Workers' Compensation Act (LHWCA), but employers are still required to purchase private insurance or self-insure. (More details about these federal programs are provided in Appendix B.)

Guaranty funds. State *guaranty funds* ensure benefit payments to injured workers in cases where a private insurance carrier or self-insured employer becomes insolvent and lacks sufficient earmarked assets to pay outstanding benefits. The benefit payments and administrative costs of guaranty funds for private insurers are typically funded through assessments on workers' compensation insurers, while the costs of guaranty funds for self-insured employers are funded through assessments on self-insuring employers.

Second injury funds. Second injury funds reimburse employers or insurance carriers in cases where an employee with a pre-existing condition related to a work-related injury experiences another work-related injury or illness. The second injury fund pays any costs associated with the *prior condition* in order to reduce the cost burden on the current employer.

The funds encourage employers to hire injured workers who want to return to work with residual impairments, because the current employer is responsible only for workers' compensation benefits associated with a subsequent illness or injury. Second injury funds are financed through assessments on employers and, in a small number of jurisdictions, with general fund monies.²⁴

Employers pay for workers' compensation by purchasing insurance from a private carrier, or a state workers' compensation insurance plan (called a state fund), or some large employers may self-insure.

Estimates for 2017

The workers' compensation system involves multiple stakeholder groups: employers, workers, insurers, attorneys, medical providers, and state governments. The estimates presented in this report reflect the experience mainly of two groups: workers who rely on compensation for workplace injuries and illnesses and employers (including the federal government) who pay the bills. The estimates represent benefits and costs paid in each of the last five calendar years.

Estimates of benefits for 2017 include only payments made in 2017 for injuries and illnesses that occurred in 2017 *and in prior years*. If an employer purchases workers' compensation insurance from a private insurer or state fund, estimates of costs for 2017 include premiums *that incorporate projected future liabilities* for injuries and illnesses that occur in 2017. If an employer is self-insured, the cost estimates include only those payments made in 2017, even though the employer is liable for future costs. For additional discussion of these measures, refer to the Addendum, *Benefits Paid vs. Benefits Incurred*.

22 All states allow employers to self-insure except for North Dakota and Wyoming, both of which require all employers to obtain workers' compensation insurance from their exclusive state funds.

23 Nearly all self-insured firms are required to post some type of financial security (e.g. surety bonds) so that workers' compensation benefits are paid even if the employer experiences financial distress.

24 See Sources and Methods 2017 on the Academy's website for further details on special funds, second injury funds, and guaranty funds.

The Academy's measures are designed to provide the best available estimates of workers' compensation benefits, costs, and coverage at the state and national levels. The estimates provide data on trends over time, both nationally and within states. However, it is not appropriate to use the estimates to compare the performance of workers' compensation systems across different states.

The Academy has designed its measures to provide the best available estimates of workers' compensation benefits, costs, and coverage in a given year and over time. The estimates are *not* designed to assess the performance of the insurance industry or insurance markets. Other organizations analyze insurance trends.²⁵ The estimates also are *not designed* to measure the performance of the workers' compensation system with respect to: the prevention of occupational injuries and illnesses; the adequacy or equity of benefits paid to workers; the adequacy of payment for medical coverage; affordability of compensation; or the impact of vocational rehabilitation and job accommodations in returning injured employees to work or on the benefits they receive.

Finally, it is *not appropriate* to use the estimates to compare the performance of workers' compensation systems in different states. Benefits and costs vary across states not only due to differences in their workers' compensation laws and systems, but also because states vary in the relative risk of their mix of industries and occupations. A meaningful compari-

son of benefits or costs across states is beyond the scope of this report. As described in the following table, Oregon produces a biannual report on state costs of workers' compensation premiums that does control for industry mix. However, that report also lacks some controls needed for a valid comparison of system performance.

Covered Employment and Wages

There is no national system for counting the number of jobs covered by workers' compensation, so the number of covered jobs and amount of covered wages must be estimated. The Academy's methodology is designed to count the number of jobs that are legally required to be covered by workers' compensation under state laws.²⁶ (This is true for all states except Texas, for which we acquire information on both workers who are required to be covered, and also those who are covered but not required to be. It has recently come to our attention that not all workers in Wyoming are required to be covered by workers' compensation. Until we have the necessary data, however, we will report 100 percent coverage in Wyoming.)

Methods for Estimating Covered Employment and Wages

We use the number of jobs and amount of wages covered by unemployment insurance (UI) in each state as the starting point for our estimates.²⁷ Then, we estimate the number of jobs that are not required to be covered by workers' compensation according to each state's statute regarding exemptions for small firms and/or agricultural employers. We subtract the number of exempted jobs from the UI base to determine the number of UI-covered jobs that are covered by workers' compensation. We then calculate the proportion of UI-covered jobs that are covered by workers' compensation in each state, and apply this

25 The National Council on Compensation Insurance and state rating bureaus, for example, assess insurance developments in the states and advise regulators and insurers on proposed insurance rates.

26 Workers' compensation covered employment is measured in terms of "covered jobs" as opposed to "covered workers." Refer to Appendix A, Employed Workforce Coverage Estimates.

27 Unemployment Insurance (UI) programs provide cash benefits to workers who become unemployed (through no fault of their own) and meet specific eligibility requirements. The UI programs are largely controlled by the states, although there are several federal standards, including a requirement that states produce uniform data. (These aspects of federal involvement are not present in workers' compensation.)

Comparing the NASI and Oregon Workers' Compensation Reports

Title/type of report	National Academy of Social Insurance, <i>Workers' Compensation Benefits, Costs, and Coverage</i>	Oregon Dept. of Consumer and Business Services, <i>Oregon Workers' Compensation Premium Rate Ranking</i>
Purpose of study	Provides information on annual worker's compensation benefits, costs, and coverage that SSA provided until 1995, at both the national and state levels, so that researchers, policymakers, others can assess trends etc.	To compare Oregon's worker's compensation premium rates with those of other states, initially because the state had one of the highest rates in the US (The Oregon premium rate fell to 32% below the median state in the 2018 study and was the sixth lowest in the country)
Data/information provided	As per the title, provides data on national- and state-level worker's compensation benefits, costs, and coverage	"Compares average manual rates, rates for expected claim costs plus factors for insurer expense and profit"
Frequency of Publication	Annual since 1997	Biannual (every other year) since 1986
Data source(s)	State agency surveys, A.M. Best, NCCI, estimates based on these and on state public reports	State rate-making data from NCCI and other rating agencies.
50 states and DC	Yes	Yes
In which ways are data comparable across states?	For every state, the report provides benefits, costs, and coverage (and benefits and costs standardized to per \$100 of wages)	Comparable based on Oregon's industry mix; uses NCCI classification codes to establish constant set of risk classifications for each state.*
Caveats in interpreting the data	This report aggregates costs to employers and benefits paid to employees and medical care providers. It does not include any adjustment for industrial mix across states, so it is impossible to know whether a state with lower costs is safer due to industrial mix, safer due to better safety practices within industries, more efficient in providing benefits, or poses greater barriers for injured workers to access workers' compensation benefits. With no standardization of differences in injury risk across states, assessing the impact of a state's laws on benefit and cost levels is difficult and not comparable across states.	This report only attempts to compare base insurance rates between states for the same industries. It is impossible to know whether a state with lower rates has employers with better safety practices, is more efficient in providing benefits, or sets up greater barriers for injured workers to access workers' compensation benefits. Self-insured employers are not included, and benefits are not addressed.

* In states that do not use the NCCI classification system, the report uses classes similar to the NCCI classes.

proportion to the state's UI-covered wages to obtain total workers' compensation covered wages. In Texas, where coverage is optional for employers, we apply the proportion of jobs in firms that opt in to workers' compensation to the UI base.

The Academy's methodology may undercount the actual number of jobs (and amount of wages) covered because some employers that are not required to carry workers' compensation coverage do so anyway. For example, self-employed persons are not typically required to carry unemployment or workers' compensation insurance, but, in some states, those persons may voluntarily elect to be covered. Likewise, in states with exemptions for small firms, some of those small firms may voluntarily purchase workers' compensation insurance.

On the other hand, our methodology may overestimate the number of jobs (and wages) covered because some employers who are required to carry state's workers' compensation insurance do not do so. Every state has a program to detect and penalize employers who fail to report or cover jobs under state labor statutes, but no definitive national study has documented the extent of noncompliance. (For more details on the Academy's methods for estimating coverage, refer to Appendix A.)

While the rates of increase have fluctuated in recent years, covered employment and wages have both increased steadily since 2010. From 2013-2017, covered non-federal employment increased by about 10 million jobs, or 7.7 percent.

National Estimates of Covered Employment and Wages

In 2017, workers' compensation covered an estimated 140.4 million U.S. jobs, a 1.4 percent increase from the previous year (Table 2). Covered wages totaled \$7.8 trillion, an increase of 4.8 percent from 2016 (Table 2). Covered employment and wages have increased steadily since 2010, but the rate of increase has fluctuated across those years.

Between 2013 and 2017, covered non-federal employment increased by an estimated nearly 10 million jobs, or 7.7 percent (Table 3). Covered non-federal wages increased much more substantially, by \$1.25 trillion or 19.9 percent (Table 4).

Overall, in 2017, workers' compensation coverage extended to an estimated 97.5 percent of all non-federal jobs covered by unemployment insurance (Table A.1), and 86.8 percent of all jobs in the U.S. (Table A.2).²⁸

In contrast to the trend in the non-federal sector, coverage in the federal workers' compensation program grew by just 1.1 percent between 2013 and 2017, adding 32,000 jobs (Table 3). This was due to a combination of a decline in covered jobs of 0.5 percent between 2013 and 2015 and a rebound of 1.7 percent from 2015 to 2017. With respect to covered wages, federal workers gained ground by 6.3 percent from 2013 to 2015, and by 5.0 percent from 2015-2017, for a total of an 11.6 percent increase over the study period (Table 4).

State Estimates of Covered Employment and Wages

Between 2013 and 2017, all states except Alaska, North Dakota, West Virginia, and Wyoming experienced an increase in the number of jobs covered by workers' compensation (Table 3). Alaska experienced an increase in covered jobs from 2013 to 2015

28 According to unpublished estimates provided by the BLS, 3.6 percent of civilian (non-federal) workers represented by the BLS National Compensation Survey (NCS) were employed in establishments reporting zero annual workers' compensation costs in March 2018 (DOL, 2019). Civilian workers are those employed in private industry or state and local governments. Excluded from private industry are the self-employed and farm and private household workers. Federal government workers are excluded from the public sector. The private industry series and the state and local government series provide data for the two sectors separately. The Academy's estimate of legally required workers' compensation coverage is 97.5 percent of all non-federal UI covered jobs in 2017, slightly above NCS estimates.

Table 2**Workers' Compensation Covered Jobs and Covered Wages, 1997-2017**

Year	Covered Workers		Covered Wages	
	(thousands)	Percent Change	(billions)	Percent Change
1997	118,145	2.9	3,591	7.6
1998	121,485	2.8	3,885	8.2
1999	124,349	2.4	4,151	6.8
2000	127,141	2.2	4,495	8.3
2001	126,972	-0.1	4,604	2.4
2002	125,603	-1.1	4,615	0.2
2003	124,685	-0.7	4,717	2.2
2004	125,878	1.0	4,953	5.0
2005	128,158	1.8	5,213	5.3
2006	130,339	1.7	5,544	6.3
2007	131,734	1.1	5,857	5.6
2008	130,643	-0.8	5,954	1.7
2009	124,856	-4.4	5,675	-4.7
2010	124,638	-0.2	5,834	2.8
2011	125,876	1.0	6,058	3.8
2012	127,916	1.6	6,335	4.6
2013	130,561	2.1	6,509	2.8
2014	133,081	1.9	6,840	5.1
2015	136,001	2.2	7,206	5.4
2016	138,459	1.8	7,432	3.1
2017	140,397	1.4	7,785	4.8

Source: National Academy of Social Insurance estimates. See Appendix A for more details.

Table 3
Workers' Compensation Covered Jobs by State, 2013–2017

State	Number of Jobs (in thousands)							Percent Change			Ranking (1=largest percent increase, 2013–2017)
	2013	2014	2015	2016	2017	2013–2015	2015–2017	2013–2017			
Alabama	1,717	1,737	1,765	1,790	1,811	2.8	2.6	5.5	27		
Alaska	313	315	317	311	307	1.2	-3.1	-1.9	48		
Arizona	2,431	2,485	2,555	2,625	2,692	5.1	5.4	10.7	11		
Arkansas	1,098	1,109	1,129	1,144	1,153	2.8	2.1	5.0	32		
California	15,139	15,567	16,051	16,471	16,775	6.0	4.5	10.8	10		
Colorado	2,271	2,353	2,428	2,485	2,542	6.9	4.7	12.0	6		
Connecticut	1,623	1,636	1,645	1,649	1,652	1.4	0.4	1.8	45		
Delaware	407	417	427	432	435	5.0	1.9	7.0	17		
District of Columbia	519	532	545	556	565	5.1	3.5	8.8	15		
Florida	7,045	7,278	7,561	7,827	8,006	7.3	5.9	13.6	3		
Georgia	3,737	3,849	3,968	4,077	4,159	6.2	4.8	11.3	7		
Hawaii	583	593	605	614	621	3.7	2.6	6.4	20		
Idaho	618	634	652	675	694	5.5	6.4	12.2	5		
Illinois	5,590	5,669	5,754	5,801	5,840	2.9	1.5	4.5	35		
Indiana	2,799	2,842	2,892	2,936	2,967	3.3	2.6	6.0	22		
Iowa	1,464	1,483	1,497	1,506	1,506	2.2	0.6	2.8	42		
Kansas	1,303	1,322	1,332	1,335	1,335	2.2	0.3	2.5	43		
Kentucky	1,738	1,765	1,794	1,820	1,833	3.2	2.2	5.5	25		
Louisiana	1,858	1,889	1,896	1,873	1,872	2.1	-1.3	0.8	47		
Maine	569	573	578	585	591	1.6	2.1	3.8	38		
Maryland	2,384	2,406	2,443	2,477	2,503	2.5	2.4	5.0	30		
Massachusetts	3,244	3,315	3,382	3,448	3,497	4.3	3.4	7.8	16		
Michigan	3,944	4,015	4,085	4,164	4,217	3.6	3.2	6.9	18		
Minnesota	2,643	2,682	2,727	2,765	2,805	3.2	2.9	6.1	21		
Mississippi	1,018	1,027	1,041	1,052	1,056	2.3	1.4	3.7	39		

Missouri	2,467	2,496	2,541	2,578	2,602	3.0	2.4	5.5	26
Montana	421	424	432	438	442	2.7	2.4	5.1	28
Nebraska	905	918	931	940	944	2.9	1.4	4.3	36
Nevada	1,140	1,182	1,224	1,262	1,304	7.4	6.5	14.4	1
New Hampshire	611	619	629	640	646	3.0	2.6	5.7	23
New Jersey	3,769	3,793	3,841	3,905	3,957	1.9	3.0	5.0	31
New Mexico	738	746	755	756	759	2.4	0.5	2.9	41
New York	8,549	8,710	8,878	9,015	9,137	3.8	2.9	6.9	19
North Carolina	3,814	3,899	4,002	4,099	4,168	4.9	4.1	9.3	14
North Dakota	414	432	424	404	401	2.4	-5.5	-3.2	50
Ohio	5,033	5,108	5,182	5,242	5,286	2.9	2.0	5.0	29
Oklahoma	1,502	1,527	1,538	1,518	1,523	2.3	-0.9	1.4	46
Oregon	1,651	1,699	1,760	1,813	1,855	6.5	5.4	12.3	4
Pennsylvania	5,482	5,529	5,576	5,621	5,682	1.7	1.9	3.6	40
Rhode Island	445	452	459	462	466	3.0	1.5	4.6	34
South Carolina	1,755	1,804	1,858	1,904	1,941	5.9	4.4	10.6	12
South Dakota	389	395	400	404	406	2.8	1.5	4.3	37
Tennessee	2,550	2,607	2,677	2,745	2,787	5.0	4.1	9.3	13
Texas	8,678	8,903	9,238	9,472	9,642	6.5	4.4	11.1	9
Utah	1,216	1,253	1,301	1,348	1,390	7.0	6.8	14.3	2
Vermont	292	295	298	298	300	1.8	0.7	2.5	44
Virginia	3,400	3,416	3,490	3,543	3,590	2.7	2.9	5.6	24
Washington	2,889	2,972	3,049	3,141	3,215	5.5	5.5	11.3	8
West Virginia	680	677	672	660	659	-1.1	-1.9	-3.0	49
Wisconsin	2,671	2,708	2,742	2,775	2,797	2.7	2.0	4.7	33
Wyoming	272	277	275	264	262	1.2	-4.8	-3.7	51
Total Non-Federal	127,790	130,337	133,244	135,666	137,594	4.3	3.3	7.7	
Federal Employees	2,771	2,744	2,756	2,793	2,803	-0.5	1.7	1.1	
TOTAL	130,561	133,081	136,001	138,459	140,397	4.2	3.2	7.5	

Source: National Academy of Social Insurance estimates. See Appendix A for more details.

Table 4
Workers' Compensation Covered Wages by State, 2013-2017

State	Covered Wages (in millions)						Percent Change			Ranking (1 = largest percent increase, 2013-2017)
	2013	2014	2015	2016	2017	2013-2015	2015-2017	2013-2017		
Alabama	\$70,928	\$73,424	\$76,375	\$78,472	\$81,485	7.7	6.7	14.9	36	
Alaska	15,822	16,499	17,008	16,316	16,105	7.5	-5.3	1.8	49	
Arizona	110,455	115,300	121,117	126,025	133,656	9.7	10.4	21.0	16	
Arkansas	42,297	43,869	45,693	47,069	49,031	8.0	7.3	15.9	28	
California	861,194	914,844	986,111	1,033,048	1,100,775	14.5	11.6	27.8	2	
Colorado	114,426	122,942	130,421	134,653	143,486	14.0	10.0	25.4	7	
Connecticut	101,064	104,441	107,652	108,469	109,939	6.5	2.1	8.8	45	
Delaware	21,108	22,104	22,963	23,117	24,183	8.8	5.3	14.6	38	
District of Columbia	39,756	41,850	44,245	45,668	48,115	11.3	8.7	21.0	15	
Florida	304,273	322,822	346,215	364,707	384,192	13.8	11.0	26.3	5	
Georgia	172,639	183,067	194,315	204,389	214,633	12.6	10.5	24.3	9	
Hawaii	24,753	25,911	27,455	28,671	29,899	10.9	8.9	20.8	17	
Idaho	22,475	23,768	25,003	26,421	28,353	11.2	13.4	26.2	6	
Illinois	292,573	305,179	320,627	325,926	337,050	9.6	5.1	15.2	35	
Indiana	115,798	120,024	126,044	130,020	136,138	8.8	8.0	17.6	24	
Iowa	59,873	62,775	65,691	67,335	69,094	9.7	5.2	15.4	34	
Kansas	53,607	55,958	57,907	58,383	59,712	8.0	3.1	11.4	42	
Kentucky	70,161	73,262	77,074	79,531	82,084	9.9	6.5	17.0	26	
Louisiana	81,171	84,992	86,388	84,735	86,288	6.4	-0.1	6.3	47	
Maine	21,976	22,783	23,734	24,489	25,473	8.0	7.3	15.9	29	
Maryland	123,586	127,741	133,953	137,952	143,060	8.4	6.8	15.8	31	
Massachusetts	200,044	211,967	225,054	232,040	244,117	12.5	8.5	22.0	12	
Michigan	184,682	193,413	203,240	210,922	220,107	10.0	8.3	19.2	19	
Minnesota	132,003	137,888	145,477	149,647	157,008	10.2	7.9	18.9	22	
Mississippi	36,491	37,457	38,485	39,429	40,228	5.5	4.5	10.2	43	

Missouri	105,206	109,409	114,664	117,819	122,160	9.0	6.5	16.1	27
Montana	15,492	16,159	16,969	17,472	18,247	9.5	7.5	17.8	23
Nebraska	35,821	37,450	39,527	40,613	41,956	10.3	6.1	17.1	25
Nevada	49,922	52,491	55,562	59,063	62,315	11.3	12.2	24.8	8
New Hampshire	29,762	31,506	32,889	34,090	35,440	10.5	7.8	19.1	20
New Jersey	223,167	229,085	238,725	244,360	252,669	7.0	5.8	13.2	40
New Mexico	29,316	30,466	31,291	31,314	32,137	6.7	2.7	9.6	44
New York	538,418	572,923	598,418	611,626	644,759	11.1	7.7	19.8	18
North Carolina	165,770	173,996	184,809	192,323	202,470	11.5	9.6	22.1	11
North Dakota	19,693	21,884	21,396	19,611	20,035	8.6	-6.4	1.7	50
Ohio	222,973	232,924	242,199	247,780	257,739	8.6	6.4	15.6	33
Oklahoma	62,828	65,819	67,038	65,518	67,541	6.7	0.8	7.5	46
Oregon	73,690	78,393	84,407	89,028	94,162	14.5	11.6	27.8	3
Pennsylvania	267,201	277,707	289,036	292,931	304,850	8.2	5.5	14.1	39
Rhode Island	20,964	22,004	22,940	23,474	24,279	9.4	5.8	15.8	30
South Carolina	69,139	72,860	77,269	80,873	84,985	11.8	10.0	22.9	10
South Dakota	14,263	15,065	15,838	16,401	16,979	11.0	7.2	19.0	21
Tennessee	111,158	116,327	123,676	128,687	134,637	11.3	8.9	21.1	14
Texas	441,226	470,775	498,207	511,121	534,512	12.9	7.3	21.1	13
Utah	50,081	53,039	56,871	60,227	63,904	13.6	12.4	27.6	4
Vermont	12,133	12,533	12,983	13,248	13,645	7.0	5.1	12.5	41
Virginia	171,116	175,107	183,411	188,077	196,441	7.2	7.1	14.8	37
Washington	151,870	162,254	171,473	184,150	198,259	12.9	15.6	30.5	1
West Virginia	26,685	27,210	27,351	26,777	27,888	2.5	2.0	4.5	48
Wisconsin	113,807	118,192	123,895	127,192	131,615	8.9	6.2	15.6	32
Wyoming	12,143	12,781	12,632	11,752	11,985	4.0	-5.1	-1.3	51
Total Non-Federal	\$6,307,002	\$6,632,638	\$6,991,723	\$7,212,962	\$7,559,821	10.9	8.1	19.9	
Federal Employees	\$202,017	\$206,877	\$214,726	\$218,918	\$225,416	6.3	5.0	11.6	
TOTAL	\$6,509,020	\$6,839,515	\$7,206,449	\$7,431,880	\$7,785,237	10.7	8.0	19.6	

Source: National Academy of Social Insurance estimates.

coupled with a larger decrease in the following two years, yielding a net decrease. Similarly, North Dakota's large decrease in covered jobs between 2015 and 2017 (of 5.5%) much more than offset the 2.4% 2013-2015 increase, rendering it 50th of 51 jurisdictions in terms of growth in covered jobs. The three states with the largest percentage gains in covered employment were Nevada (14.4%), Utah (14.3%), and Florida (13.6%).

Between 2013 and 2017, almost every state experienced increases in workers' compensation covered employment, and even greater percentage increases in covered wages.

Covered wages largely parallel the trend in covered jobs (covered wages must grow more quickly than covered jobs unless there is no wage growth in the economy at all). The across-the-board increases in both largely represent the continuing improvement in the economy over the analysis period. Indeed, Wyoming was the only state to experience a decrease in covered wages over this period (of 1.3%) with all other states seeing modest-to-substantial increases. The vast majority of states – 43 – experienced increases in covered wages of more than 10 percent. Four West Coast states – Washington, California, Oregon, and Utah – experienced the greatest increases (30.5%, 27.8%, 27.8%, and 27.6%). States with the smallest increases include North Dakota (1.7%), Alaska (1.8%), and West Virginia (4.5%).

Workers' Compensation Benefits Paid

Data Sources and Methods for Estimating Benefits Paid

This section describes the primary data sources that we use to estimate workers' compensation benefits nationally and for each state. A detailed, state-by-state explanation of how the benefit estimates in this report are produced is available in *Sources and Methods: A Companion to Workers' Compensation: Benefits, Costs, and Coverage 2017*, on the Academy's website (www.nasi.org)

The Academy's estimates of workers' compensation benefits paid are based on three main data sources: 1) data from a questionnaire on workers' compensation benefits and costs, distributed annually by the Academy to state agencies overseeing workers' compensation programs; 2) data purchased from A.M. Best, a private company that specializes in collecting insurance data and rating insurance companies; and 3) data from the National Council on Compensation Insurance (NCCI). The data from state agencies, A.M. Best, and NCCI allow us to piece together estimates of workers' compensation benefits paid by private insurance carriers, state funds, and self-insured employers. The U.S. Department of Labor provides data on benefits paid through federal programs.²⁹

Academy questionnaire. The primary source of data on benefits paid to injured workers is the responses of state workers' compensation agencies to the Academy's annual questionnaire. The questionnaire is designed to collect information on amounts of medical and cash benefits paid in a calendar year, as well as benefits paid through special funds, second injury funds, and guaranty funds. This year, we received responses from at least one agency or organization in 37 out of 51 jurisdictions.

States vary in their ability to provide complete data on benefits paid. One of the most common reporting problems relates to benefits paid by self-insured employers. If a state does not report self-insured ben-

29 Note that while, in previous reports, Table 5 reports benefits paid by insurers, this report uses the term payer instead. We made this change to clarify that states can be either employers or insurers, depending on the context, and that the federal government is a payer, but not an insurer, with respect to WC. That is, it pays benefits but does not insure other entities.

efits, benefits are imputed using one of two methods. The first method utilizes historical self-insured benefits paid in the particular state, if available, along with information on the ratio of self-insured benefit payments to total benefits paid in states where the data are available to control for trends in self-insured benefit payments over time. If historical data are not available for the specific state we are estimating, we rely on a second method that utilizes covered wages in that state and the ratio of self-insured benefits to wages in states where the data are available.

Among the states that did not directly reply to the survey, some published annual reports from which we could obtain the workers' compensation information normally included in the questionnaire. For some states, we obtained information on benefits paid through special funds, second injury funds, or guaranty funds from data on the websites of the state workers' compensation agency.

A.M. Best data. The A.M. Best data supplement the state survey data in cases where the survey data are incomplete, missing, or determined to be incorrect. The A.M. Best data used for this report provide information on benefits paid in each state for 2013 through 2017 (A.M. Best, 2019). The data include information for all private carriers in every state and for 16 of the 22 state funds. The A.M. Best data do not include information about benefits paid by the other six state funds, by self-insured employers, by employers under deductible policies, or by special funds.³⁰

NCCI data. NCCI is the primary source of data on medical benefits in the 38 states in which it is licensed (NCCI, 2019). In states where NCCI data are not available, estimates of medical benefits are based on report from the states. In cases where state data are incomplete and NCCI is licensed, NCCI is also a source for data on reimbursements paid through deductible policies and for amounts of cov-

ered wages for employers insured by private insurers or a competitive state fund.

Estimating deductibles. The availability of deductible policies varies by state.³¹ Among the states that allow deductible policies, a few can provide us with complete information on deductible policies, but most cannot. For states that provide information on deductibles, we rely on the survey data alone, or together with data from A.M. Best, to estimate amounts paid for the deductibles. For states that do not include deductibles in the survey, we rely on NCCI data on manual equivalent premiums, together with data from A.M. Best to estimate deductible payments.³² See *Sources and Methods 2017* on the Academy's website for a detailed description of the methods used to estimate deductibles.

Benefits paid. The Academy's estimates of workers' compensation benefits in this report reflect amounts paid for work-related injuries and illnesses in calendar year 2017 regardless of when those injuries occurred. This measure of benefits is commonly used in reporting data on social insurance programs, private employee benefits, and other income security programs.

Benefits incurred. A different measure, accident year incurred losses (or accident year incurred benefits) is the common reporting measure for private workers' compensation insurers and some state funds. Incurred benefits measure the total expected benefits associated with injuries that occur in a particular year, regardless of whether the benefits are paid in that year or future years. The two measures, accident year *benefits paid* and accident year *benefits incurred*, reveal important but different information. For a discussion of the relative merits of each measure, refer to the *Addendum, Benefits Paid vs. Benefits Incurred*.

30 A.M. Best does not provide data on the four exclusive state funds (Ohio, North Dakota, Washington, and Wyoming), the state fund in South Carolina that only provides benefits to government workers, or the state fund in West Virginia that discontinued in 2006, but was still paying benefits on roughly 11,000 claims in 2017.

31 Deductible policies are not allowed in the four states with exclusive state funds (Ohio, North Dakota, Washington, and Wyoming), or in Wisconsin. Five states (California, New York, Oregon, Pennsylvania, and Rhode Island) do not allow deductible policies in the competitive state funds.

32 Accurately estimating high-deductible policies is particularly challenging. The Academy notes that numbers in this report may not fully capture either the benefits or costs, and is working on better methodology for the latter.

National Estimates of Benefits Paid

Total benefits paid. Table 5 shows workers' compensation benefits paid by each type of payer (private insurer, state fund, self-insured, federal government) from 1997 to 2017. Altogether, workers' compensation payers paid about \$62 billion in benefits in 2017, a 0.15 percent decrease from the total paid in 2016. Private carriers were the largest single payer category, followed by self-insured employers, state funds, and the federal government.

The \$62 billion in total workers' compensation benefits paid in 2017 represent a 0.15 percent decrease from 2016. This decline continues a trend that has been consistent across the last four years studied in this report.

Benefits by type of payer. In 2017, private insurers continued to dominate the workers' compensation insurance market, with 55.5 percent of all coverage and \$34.4 billion in benefits paid. Self-insured employers were the next largest payer, with 24.6 percent of all coverage and \$15.3 billion in benefits paid. State funds paid \$8.8 billion (14.3%) and the federal government the remaining \$3.5 billion (5.6%) of all coverage. (Table 5)

Over the last two decades, the workers' compensation insurance market has shifted away from coverage by state funds and toward coverage by private insurers. As shown in Table 5, private insurance carriers increased their share of benefits paid by 3.9 percentage points between 1997 and 2017, while the share of benefits paid by state funds declined by nearly three percentage points.³³

Over the same period, there has been fairly little change in the share of workers' compensation benefits paid by self-insured employers or the federal government. Self-insured employers accounted for 24.6 percent of total benefits paid, and the federal government for 5.6 percent in 2017.³⁴

Deductibles. Employers who have workers' compensation policies with deductibles must reimburse their insurer for benefits paid up to the deductible amount. Part of the benefit payments that are attributed to private insurers and state funds in Table 5 are thus paid by employers, as is depicted in Table 7.

In 2017, employers paid \$10.7 billion in benefits under deductible policies, or 17.3 percent of total benefits paid (Table 6). The vast majority of benefits paid under deductible provisions are by employers covered through private insurers (97.2% of total deductibles paid in 2017), as opposed to deductibles paid by employers covered through a state fund (2.8% of total). The share of benefits paid by employers under deductible provisions increased by 53.2 percent between 1997 and 2007, and by another 18.6 percent between 2007 and 2017.

Employers who have policies with deductibles are, in effect, self-insured up to the amount of the deductible.³⁵ If we allocate the amount of benefits paid under deductibles to self-insurance (instead of to private carriers as in Table 5) we obtain a more accurate picture of the share of the workers' compensation market for which employers are assuming primary financial risk. Table 7 shows the share of

Over the last two decades, the workers' compensation insurance market has shifted away from coverage by state funds in favor of coverage by private insurers.

33 The decline in the relative importance of state funds in recent years largely reflects the decline in coverage of the California State Fund (which accounted for 50 percent of the California workers' compensation insurance market in 2004 but only 10 percent more recently) and, to a lesser extent, the dissolution of funds in West Virginia (in 2009), Arizona (in 2012), and Utah (in 2017).

34 The self-insured share fluctuated slightly at the turn of the century, but never fell below 21.6 percent, and it has decreased by only 0.1 percentage points over the twenty year period in Table 5. While the federal government share is down 1 percentage point since 1997, since 1999 it has remained steady between 6.2 percent and 5.6 percent.

35 Deductible policies may be written in a variety of ways, and the maximum amount may represent a specified number of injuries and the corresponding benefits paid, or a specified amount of the aggregate benefits paid.

Table 5**Workers' Compensation Benefits Paid by Type of Payer, 1997-2017**

Year	Private Insurers		State Funds		Self-Insured Employers		Federal Government		All Insurers				
	Total (millions)	% Share	Total (millions)	% Share	Total (millions)	% Share	Total (millions)	% Share	Total Benefits (millions)	% Change from Prior Year	Total Medical (millions)	% Change from Prior Year	% Medical
1997	21,676	51.6	7,157	17.1	10,357	24.7	2,780	6.6	41,971	0.0	17,397	3.9	41.5
1998	23,579	53.6	7,187	16.3	10,354	23.5	2,868	6.5	43,987	4.8	18,622	7.0	42.3
1999	26,383	57.0	7,083	15.3	9,985	21.6	2,862	6.2	46,313	5.3	20,055	7.7	43.3
2000	26,874	56.3	7,388	15.5	10,481	22.0	2,957	6.2	47,699	3.0	20,933	4.4	43.9
2001	27,905	54.9	8,013	15.8	11,839	23.3	3,069	6.0	50,827	6.6	23,137	10.5	45.5
2002	28,085	53.7	9,139	17.5	11,920	22.8	3,154	6.0	52,297	2.9	24,203	4.6	46.3
2003	28,395	51.9	10,442	19.1	12,717	23.2	3,185	5.8	54,739	4.7	25,733	6.3	47.0
2004	28,632	51.0	11,146	19.9	13,115	23.4	3,256	5.8	56,149	2.6	26,079	1.3	46.4
2005	29,039	50.9	11,060	19.4	13,710	24.0	3,258	5.7	57,067	1.6	26,361	1.1	46.2
2006	27,946	50.9	10,555	19.2	13,125	23.9	3,270	6.0	54,896	-3.8	26,206	-0.6	47.7
2007	29,410	52.2	10,153	18.0	13,482	23.9	3,340	5.9	56,385	2.7	27,105	3.4	48.1
2008	30,725	52.3	10,347	17.6	14,255	24.3	3,424	5.8	58,750	4.2	28,987	6.9	49.3
2009	30,909	52.9	9,997	17.1	13,987	23.9	3,543	6.1	58,435	-0.5	28,157	-2.9	48.2
2010	31,090	53.2	9,809	16.8	13,894	23.8	3,672	6.3	58,465	0.1	28,715	2.0	49.1
2011	33,014	53.7	9,837	16.0	14,805	24.1	3,777	6.1	61,433	5.1	30,805	7.3	50.1
2012	33,911	54.1	9,977	15.9	14,991	23.9	3,776	6.0	62,655	2.0	31,266	1.5	49.9
2013	35,203	55.5	9,508	15.0	15,020	23.7	3,693	5.8	63,424	1.2	32,113	2.7	50.6
2014	35,033	55.5	9,228	14.6	15,161	24.0	3,681	5.8	63,102	-0.5	32,139	0.1	50.9
2015	34,496	55.4	9,015	14.5	15,049	24.2	3,706	6.0	62,266	-1.3	31,385	-2.3	50.4
2016	34,578	55.7	8,896	14.3	15,031	24.2	3,603	5.8	62,108	-0.3	31,246	-0.4	50.3
2017	34,414	55.5	8,844	14.3	15,275	24.6	3,483	5.6	62,016	-0.1	30,891	-1.1	49.8

Notes: Benefits are calendar-year payments to injured workers and to providers of their medical care, including benefits paid by employers through deductible policies. Federal benefits include benefits paid under the Federal Employees' Compensation Act and employer-financed benefits paid through the Federal Black Lung Disability Trust Fund. Federal benefits include a portion of employer-financed benefits under the Longshore and Harbor Workers' Compensation Act. See Appendix B for more information about federal programs.

Source: National Academy of Social Insurance estimates based on data received from state agencies, the U.S. Department of Labor, A.M. Best, and the National Council on Compensation Insurance.

Table 6**Workers' Compensation Employer-Paid Benefits Under Deductible Provisions, 1997-2017**

Year	Deductibles (millions \$)			Deductibles as a % of Total Benefits
	Total	Private Insured	State Fund Insured	
1997	3,994	3,760	234	9.5
1998	4,644	4,399	245	10.6
1999	5,684	5,452	232	12.3
2000	6,201	5,931	270	13.0
2001	6,388	6,085	303	12.6
2002	6,922	6,511	411	13.2
2003	8,020	7,547	474	14.7
2004	7,645	7,134	510	13.6
2005	7,798	7,290	508	13.7
2006	7,575	7,052	524	13.8
2007	8,217	7,684	533	14.6
2008	8,603	8,095	508	14.6
2009	8,582	8,118	464	14.7
2010	8,904	8,466	438	15.2
2011	9,248	8,822	426	15.1
2012	9,940	9,494	446	15.9
2013	10,496	10,152	344	16.5
2014	10,618	10,285	332	16.8
2015	10,569	10,219	350	17.0
2016	10,564	10,240	324	17.0
2017	10,720	10,419	301	17.3

Notes: For states that provide information on deductible payments, we rely on the survey data alone, or together with data from AM Best, to estimate amounts paid for deductibles. For states that do not include deductibles in the survey, we rely on NCCI data on manual equivalent premiums together with data from AM Best to estimate deductible payments. (See the *Sources and Methods 2017* available at www.nasi.org for more details).

Source: National Academy of Social Insurance estimates.

workers' compensation benefits directly paid by employers from 1997 to 2017. For 2017, the results indicate that employers paid 41.9 percent of total benefits (as opposed to 24.6% in Table 5), while private insurers paid 38.7 percent (as opposed to 55.5%). The remaining benefits were paid by state funds and the federal government. (Table 7) In 2017, workers' compensation insurers paid \$0.40 per \$100 of covered wages toward medical benefits, a 19.6 percent decrease from 2013 (Table 10). The change reflects the effects of a 3.8 percent decline in

total medical benefits over the five-year period, accompanied by a 19.6 percent increase in covered wages.

In 2017, medical benefits represented almost exactly half (49.8%) of total workers' compensation benefits paid. Historically, medical benefits, paid to health care providers, have been a smaller share of workers' compensation benefits than cash benefits paid to injured workers. Since 2008, however, medical and cash benefits have accounted for roughly equal shares

Table 7**Percentage Distribution of Workers' Compensation Benefit Payments, by Type of Coverage: With and Without Deductibles, 1997-2017**

Year	Total Benefits (millions)	Percent of Total Benefits								
		Private Insured			State Fund Insured			Self-Insured	Federal	Total Employer Paid (9)=(2)+(5)+(7)
		Employer Paid	Insurer Paid after Deductibles	Total	Employer Paid	Insurer Paid After Deductibles	Total			
		(1)	(2)	(3)	(4)	(5)	(6)			
1997	41,971	51.6	9.0	42.7	17.1	0.6	16.5	24.7	6.6	34.2
1998	43,987	53.6	10.0	43.6	16.3	0.6	15.8	23.5	6.5	34.1
1999	46,313	57.0	11.8	45.2	15.3	0.5	14.8	21.6	6.2	33.8
2000	47,699	56.3	12.4	43.9	15.5	0.6	14.9	22.0	6.2	35.0
2001	50,827	54.9	12.0	42.9	15.8	0.6	15.2	23.3	6.0	35.9
2002	52,297	53.7	12.4	41.3	17.5	0.8	16.7	22.8	6.0	36.0
2003	54,739	51.9	13.8	38.1	19.1	0.9	18.2	23.2	5.8	37.9
2004	56,149	51.0	12.7	38.3	19.9	0.9	18.9	23.4	5.8	37.0
2005	57,067	50.9	12.8	38.1	19.4	0.9	18.5	24.0	5.7	37.7
2006	54,896	50.9	12.8	38.1	19.2	1.0	18.3	23.9	6.0	37.7
2007	56,385	52.2	13.6	38.5	18.0	0.9	17.1	23.9	5.9	38.5
2008	58,750	52.3	13.8	38.5	17.6	0.9	16.7	24.3	5.8	38.9
2009	58,435	52.9	13.9	39.0	17.1	0.8	16.3	23.9	6.1	38.6
2010	58,465	53.2	14.5	38.7	16.8	0.7	16.0	23.8	6.3	39.0
2011	61,433	53.7	14.4	39.4	16.0	0.7	15.3	24.1	6.1	39.2
2012	62,655	54.1	15.2	39.0	15.9	0.7	15.2	23.9	6.0	39.8
2013	63,424	55.5	16.0	39.5	15.0	0.5	14.4	23.7	5.8	40.2
2014	63,102	55.5	16.3	39.2	14.6	0.5	14.1	24.0	5.8	40.9
2015	62,266	55.4	16.4	39.0	14.5	0.6	13.9	24.2	6.0	41.1
2016	62,108	55.7	16.5	39.2	14.3	0.5	13.8	24.2	5.8	41.2
2017	62,016	55.5	16.8	38.7	14.3	0.5	13.8	24.6	5.6	41.9

Notes: Shaded columns sum to 100%. Total employer paid benefits include employer-paid deductibles under private carriers and state funds, as well as benefits paid by self-insured employers.

Source: National Academy of Social Insurance estimates based on Tables 5 and 6.

of total benefits, with medical benefits slightly higher than cash benefits for the first time in 2011 (Figure 3). Between 2013 and 2017, the share of medical benefits decreased slightly (from 50.6% in 2013 to

49.8% in 2017) because medical benefits paid decreased at a faster rate (3.8%) than cash benefits paid (0.6%) (Table 5).

Table 8

Workers' Compensation Benefits Paid, by Type of Insurer and State, 2017

State	Private Insured ^a		State Fund Insured ^a		Self-Insured ^b		Total Benefits Paid (thousands) ^c	Medical Benefits Paid (thousands) ^d	Percent Medical	Ranking (1=largest percent medical)
	Benefits (thousands)	Percent Share	Benefits (thousands)	Percent Share	Benefits (thousands)	Percent Share				
Alabama	\$294,376	49.0			\$305,982	51.0	\$600,358	\$413,046	68.8	4
Alaska	170,048	75.2			56,111	24.8	226,159	149,039	65.9	11
Arizona	583,058	78.4			161,076	21.6	744,135	508,988	68.4	5
Arkansas	149,859	69.6			65,580	30.4	215,440	142,406	66.1	10
California	7,485,063	61.7	1,040,316	8.6	3,608,819	29.7	12,134,198	6,501,854	53.6	30
Colorado	251,487	31.0	380,747	46.9	178,940	22.1	811,174	461,558	56.9	21
Connecticut	654,589	71.8			256,777	28.2	911,367	403,735	44.3	44
Delaware	170,209	76.7			51,577	23.3	221,786	112,002	50.5	34
District of Columbia	89,685	69.2			39,919	30.8	129,604	52,101	40.2	46
Florida	2,356,482	68.7			1,075,117	31.3	3,431,599	2,306,034	67.2	7
Georgia	1,007,942	73.5			364,143	26.5	1,372,084	712,112	51.9	32
Hawaii	156,012	48.0	48,792	15.0	120,301	37.0	325,104	156,050	48.0	40
Idaho	93,841	33.1	179,745	63.5	9,571	3.4	283,157	180,088	63.6	15
Illinois	1,730,739	74.8			583,045	25.2	2,313,784	1,027,320	44.4	43
Indiana	512,735	86.2			82,077	13.8	594,813	423,507	71.2	2
Iowa	506,805	77.0			151,151	23.0	657,956	353,322	53.7	26
Kansas	321,226	75.6			103,744	24.4	424,970	270,281	63.6	16
Kentucky	326,342	54.5	120,854	20.2	151,388	25.3	598,584	320,841	53.6	29
Louisiana	456,827	57.2	116,427	14.6	225,458	28.2	798,713	447,279	56.0	23
Maine	170,516	66.8			84,751	33.2	255,267	128,654	50.4	35
Maryland	493,017	52.8	156,637	16.8	283,501	30.4	933,154	448,847	48.1	39
Massachusetts	887,429	73.6			317,992	26.4	1,205,421	398,266	33.0	49
Michigan	590,593	64.2			329,156	35.8	919,749	450,222	49.0	38
Minnesota	787,756	74.6			268,840	25.4	1,056,596	567,283	53.7	28
Mississippi	239,761	75.4			78,293	24.6	318,053	190,514	59.9	18
Missouri	661,215	61.7	161,425	15.1	248,184	23.2	1,070,824	611,441	57.1	20
Montana	79,217	31.2	136,121	53.6	38,424	15.1	253,763	171,543	67.6	6
Nebraska	246,406	79.5			63,504	20.5	309,910	190,905	61.6	17
Nevada	240,429	68.2			112,363	31.8	352,792	187,333	53.1	31
New Hampshire	145,335	70.3			61,293	29.7	206,628	136,994	66.3	9
New Jersey	1,835,657	76.9			551,254	23.1	2,386,911	1,187,652	49.8	36

New Mexico	186,713	62.9	17,560	5.9	92,457	31.2	296,730	173,587	58.5	19
New York	2,756,045	44.5	1,369,480	22.1	2,065,510	33.4	6,191,035	2,092,441	33.8	48
North Carolina	838,816	75.2			276,162	24.8	1,114,979	524,040	47.0	42
North Dakota ^e	280	0.2	156,929	99.8	0		157,209	87,125	55.4	24
Ohio ^e	10,374	0.6	1,439,796	81.9	307,113	17.5	1,757,283	646,679	36.8	47
Oklahoma	288,989	51.0	183,804	32.4	93,887	16.6	566,680	304,307	53.7	26
Oregon	212,315	30.8	337,815	49.1	138,496	20.1	688,626	373,924	54.3	25
Pennsylvania	2,021,025	71.7	169,426	6.0	627,840	22.3	2,818,291	1,331,845	47.3	41
Rhode Island	61,057	39.1	72,255	46.3	22,899	14.7	156,210	49,987	32.0	50
South Carolina ^f	650,425	70.2	64,271	6.9	211,178	22.8	925,874	408,310	44.1	45
South Dakota	95,894	96.1			3,926	3.9	99,820	64,284	64.4	14
Tennessee	575,389	86.9			86,456	13.1	661,846	431,523	65.2	12
Texas	728,984	51.2	415,664	29.2	279,073	19.6	1,423,721	801,555	56.3	22
Utah ^g	226,318	82.5			47,958	17.5	274,275	190,347	69.4	3
Vermont	125,508	87.2			18,477	12.8	143,985	74,584	51.8	33
Virginia	742,831	76.7			225,511	23.3	968,342	624,581	64.5	13
Washington ^e	16,906	0.7	1,930,930	78.3	516,948	21.0	2,464,784	757,259	30.7	51
West Virginia ^h	152,439	36.9	169,257	41.0	90,937	22.0	412,633	202,190	49.0	37
Wisconsin	1,027,944	87.9			141,829	12.1	1,169,773	912,938	78.0	1
Wyoming ^e	740	0.4	175,693	99.6	0		176,433	117,399	66.5	8
Total Non-Federal	\$34,311,801	58.8	\$8,841,799	15.1	\$15,228,719	26.1	\$58,382,320	\$29,693,129	50.9	
All Federal ⁱ							\$3,483,448	\$1,111,279	31.9	
Federal Employees ^j							\$2,780,499	\$938,569	33.8	
TOTAL							\$61,865,768	\$30,804,408	49.8	

Notes: Benefits are calendar-year payments to injured workers and to providers of their medical care. Benefits paid under special funds, second injury funds and guaranty funds are prorated across private insured, state fund insured and self-insured employers.

a. Deductibles paid under private insurance policies and state fund policies are included in these estimates, even though they are technically paid by the employer.

b. Self-insured includes individual self-insured and group self-insured.

c. These data may not include benefits paid under second injury funds for some states and may, therefore, be an understatement of total benefits paid.

d. For further details see *Sources and Methods 2017* available at www.nasi.org.

e. States with exclusive state funds (Ohio, North Dakota, Washington, and Wyoming) may have some amounts of benefits paid in the private insured category, because: (1) some employers doing business in these states may need to obtain coverage from private carriers under the US Longshore and Harbor Workers' Act; (2) some employers carry liability coverage which the state fund is not authorized to provide; and/or (3) some employers obtain excess compensation coverage from private carriers.

f. South Carolina's State Accident Fund is not a competitive state fund.

g. Utah Senate Bill 92, passed in 2017, repealed the statute creating the Workers' Compensation Fund (Utah's public state fund). The former-lead company of WCF is now known as WCF Mutual Insurance Company, and is a for-profit mutual insurance company. Though this did not become effective until January 1, 2018, AM Best data on Utah classified all 2017 Utah premiums and losses under private insurance. WCF Mutual Insurance Company will remain the insurer of last resort in Utah until 2020.

h. West Virginia completed the transition from monopolistic state fund to competitive insurance status on July 1, 2008.

i. Federal benefits include: those paid under the Federal Employees' Compensation Act for civilian employees; the portion of the Black Lung benefit program that is financed by employers; and a portion of benefits under the Longshore and Harbor Workers' Compensation Act that are not reflected in state data, namely, benefits paid by self-insured employers and by special funds under the LHWCA. See Appendix B for more information about federal programs.

j. Included in the Federal benefits total.

Source: National Academy of Social Insurance estimates are based on data received from state agencies, the U.S. Department of Labor, A.M. Best, and the National Council on Compensation Insurance.

Table 9**Workers' Compensation Total Benefits Paid and Five-Year Percent Change by State, 2013-2017**

State	Total Benefits (thousands)					Percent Change			Ranking (1=largest percent increase, 2013-2017)
	2013	2014	2015	2016	2017	2013-2015	2015-2017	2013-2017	
Alabama	\$639,311	\$636,575	\$617,384	\$601,283	\$600,358	-3.4	-2.8	-6.1	33
Alaska	252,617	232,657	240,560	226,466	226,159	-4.8	-6.0	-10.5	43
Arizona	716,081	733,998	736,274	751,532	744,135	2.8	1.1	3.9	11
Arkansas	222,693	210,205	199,335	197,466	215,440	-10.5	8.1	-3.3	27
California	12,101,392	12,073,853	12,018,241	12,141,821	12,134,198	-0.7	1.0	0.3	18
Colorado	813,317	788,503	828,897	799,517	811,174	1.9	-2.1	-0.3	19
Connecticut	1,016,739	988,699	981,552	894,683	911,367	-3.5	-7.2	-10.4	42
Delaware	240,313	249,385	228,240	224,932	221,786	-5.0	-2.8	-7.7	37
District of Columbia	130,997	118,297	120,312	119,586	129,604	-8.2	7.7	-1.1	22
Florida	3,557,509	3,495,334	3,314,500	3,312,493	3,431,599	-6.8	3.5	-3.5	28
Georgia	1,387,355	1,378,811	1,313,826	1,376,683	1,372,084	-5.3	4.4	-1.1	23
Hawaii	260,352	270,720	298,237	306,058	325,104	14.6	9.0	24.9	2
Idaho	248,646	254,266	262,809	267,976	283,157	5.7	7.7	13.9	3
Illinois	2,640,523	2,724,990	2,400,514	2,356,374	2,313,784	-9.1	-3.6	-12.4	45
Indiana	642,981	590,323	566,137	576,173	594,813	-12.0	5.1	-7.5	36
Iowa	629,126	640,437	617,523	664,365	657,956	-1.8	6.5	4.6	8
Kansas	435,493	437,991	423,553	423,741	424,970	-2.7	0.3	-2.4	26
Kentucky	671,474	637,181	671,024	640,169	598,584	-0.1	-10.8	-10.9	44
Louisiana	810,944	784,362	774,639	796,024	798,713	-4.5	3.1	-1.5	25
Maine	253,049	252,308	231,899	240,819	255,267	-8.4	10.1	0.9	16
Maryland	977,809	980,011	964,670	908,180	933,154	-1.3	-3.3	-4.6	30
Massachusetts	1,075,739	1,119,617	1,088,513	1,138,921	1,205,421	1.2	10.7	12.1	4
Michigan	1,246,512	1,110,978	1,077,947	956,841	919,749	-13.5	-14.7	-26.2	50
Minnesota	1,066,026	1,086,696	1,033,268	1,029,149	1,056,596	-3.1	2.3	-0.9	21
Mississippi	332,790	336,689	331,683	305,690	318,053	-0.3	-4.1	-4.4	29
Missouri	832,116	938,031	1,002,385	1,026,446	1,070,824	20.5	6.8	28.7	1
Montana	248,007	245,531	252,799	261,047	253,763	1.9	0.4	2.3	14

Nebraska	298,764	318,197	301,206	313,572	309,910	0.8	2.9	3.7	13
Nevada	358,023	350,735	339,985	352,916	352,792	-5.0	3.8	-1.5	24
New Hampshire	226,282	213,433	213,834	205,579	206,628	-5.5	-3.4	-8.7	40
New Jersey	2,298,801	2,335,358	2,344,051	2,357,222	2,386,911	2.0	1.8	3.8	12
New Mexico	317,951	326,236	326,983	308,728	296,730	2.8	-9.3	-6.7	35
New York	5,557,058	5,670,369	5,866,157	5,956,772	6,191,035	5.6	5.5	11.4	5
North Carolina	1,414,819	1,278,651	1,216,697	1,203,807	1,114,979	-14.0	-8.4	-21.2	48
North Dakota	182,405	192,237	180,660	165,943	157,209	-1.0	-13.0	-13.8	46
Ohio	2,083,012	2,039,265	1,931,317	1,841,253	1,757,283	-7.3	-9.0	-15.6	47
Oklahoma	842,617	759,562	708,059	604,060	566,680	-16.0	-20.0	-32.7	51
Oregon	659,789	655,748	632,244	629,547	688,626	-4.2	8.9	4.4	9
Pennsylvania	2,974,245	2,998,028	2,974,544	3,124,120	2,818,291	0.0	-5.3	-5.2	32
Rhode Island	170,090	164,932	161,653	157,145	156,210	-5.0	-3.4	-8.2	39
South Carolina	890,239	895,530	890,175	905,428	925,874	0.0	4.0	4.0	10
South Dakota	100,354	99,615	106,520	104,711	99,820	6.1	-6.3	-0.5	20
Tennessee	884,453	768,296	722,935	687,532	661,846	-18.3	-8.5	-25.2	49
Texas	1,564,396	1,499,915	1,536,899	1,468,105	1,423,721	-1.8	-7.4	-9.0	41
Utah	270,960	259,258	269,076	275,146	274,275	-0.7	1.9	1.2	15
Vermont	150,947	150,540	149,866	140,006	143,985	-0.7	-3.9	-4.6	31
Virginia	898,743	920,801	918,764	945,676	968,342	2.2	5.4	7.7	6
Washington	2,338,564	2,399,873	2,412,253	2,437,100	2,464,784	3.2	2.2	5.4	7
West Virginia	440,473	419,669	414,304	429,067	412,633	-5.9	-0.4	-6.3	34
Wisconsin	1,166,481	1,204,142	1,167,144	1,171,712	1,169,773	0.1	0.2	0.3	17
Wyoming	191,825	184,398	178,444	175,053	176,433	-7.0	-1.1	-8.0	38
Total Non-Federal	\$59,731,202	\$59,421,235	\$58,560,489	\$58,504,634	\$58,532,581	-2.0	0.0	-2.0	
All Federal ^a	\$3,693,254	\$3,681,205	\$3,705,848	\$3,603,265	\$3,483,448	0.3	-6.0	-5.7	
Federal Employees ^b	\$2,948,132	\$2,940,811	\$2,988,242	\$2,890,670	\$2,780,499	1.4	-7.0	-5.7	
TOTAL	\$63,424,456	\$63,102,440	\$62,266,337	\$62,107,899	\$62,016,029	-1.8	-0.4	-2.2	

Notes: Benefits are calendar-year payments to injured workers and to providers of their medical care. Data sources for each state are described in detail in *Sources and Methods 2017* available at www.nasi.org.

a Includes federal benefits as described in Table 8.

b Included in the federal benefits total.

Source: National Academy of Social Insurance estimates based on data from state agencies, A.M. Best, National Association of Insurance Commissioners, the U.S. Department of Labor, and the Social Security Administration.

State Estimates of Benefits Paid in 2017

Benefits by type of insurer. Table 8 shows the shares of workers' compensation benefits paid by each type of insurer in each state in 2017. The shares vary considerably across states for several reasons: not all states have a state fund; where state funds exist, their legal status varies; the incentives to self-insure vary across states; and two states (North Dakota and Wyoming) do not allow self-insurance.

Take-up rates for self-insurance vary widely across states. Among the 49 jurisdictions that allow self-insurance, the share of benefits attributed to self-insured employers ranged from less than 4 percent (in Idaho and South Dakota) to greater than 50 percent in 2017.

North Dakota and Wyoming have exclusive state funds and do not allow self-insurance. In 2017, their state funds accounted for more than 99 percent of total workers' compensation benefits paid (Table 8). Ohio and Washington have exclusive state funds but allow employers to self-insure. In 2017, their state funds accounted for approximately 80 percent of total benefits paid (81.9% and 78.3%, respectively). Among the other 17 states that have an active state fund, the share of benefits accounted for by the fund ranged from less than 10 percent (California, New Mexico, Pennsylvania, and South Carolina) to close to half in Colorado (46.9 percent), Oregon (49.1 percent), and Rhode Island (46.6 percent) and greater than 50 percent (Idaho and Montana).

Among the states that do not have a state fund, private carriers typically accounted for between 70 and 80 percent of benefits paid in 2017, while self-insured employers accounted for 20 to 30 percent. Alabama is the exception, with self-insured employ-

ees covering just over half of benefits paid in 2017 (51 percent), by far the highest of any state, and private insurers paying the remaining 49 percent. Hawaii has the second-highest share of benefits paid by self-insured employers, at 37.0 percent in 2017. The converse is true in Indiana, South Dakota, Tennessee, Vermont, and Wisconsin, with private carriers accounting for more than 85 percent of benefits paid in 2017 (over 96 percent in South Dakota).³⁶ There are several explanations for the tremendous variation in take-up rates for self-insurance across states:

- 1) Large employers are more likely to self-insure, and some states (e.g., Michigan), have a disproportionate share of large employers relative to other states;
- 2) Financial incentives to self-insure vary across states due to differences in state workers' compensation statutes;
- 3) Self-insurance and private insurance are substitutes. When workers' compensation premium rates are rising in a state, employers tend to shift to self-insurance, while when premium rates are declining, they tend to shift to private insurance;
- 4) Measurement error may account for some of the observed variation in the share of benefits paid by self-insured employers, because our methods for estimating benefits paid under self-insurance vary across states, depending on state agencies' responses to the Academy's survey.

Medical benefits paid. Table 8 shows, for each state, the amount of medical benefits paid and medical benefits as a percent of total benefits. In 2017, the median share of medical benefits was 53.7 percent. The share of medical benefits was highest in Wisconsin (78.0%), followed by Indiana (71.2%), Utah (69.4%), and Alabama (68.8%). The share of medical benefits was lowest in Washington (30.7%), Rhode Island (32.0%), and Massachusetts (33.0%). Note that the share of medical benefits in a state can be high either because medical benefits are relatively high or because cash benefits are relatively low.

36 Private carrier workers' compensation benefit payments occur in states with exclusive state funds for a few possible reasons. First, some policies sold to employers provide multistate coverage whereas the exclusive state fund may be restricted to providing benefits only in the state where it operates. Second, the exclusive state fund may not be permitted to offer employers' liability coverage, federal LWHCA coverage, or excess coverage for authorized self-insurers.

State Trends in Benefits Paid

Table 9 shows total workers' compensation benefits paid in each state in the years 2013 to 2017. Over the five-year period, benefits decreased in 34 jurisdictions (compared to 29 jurisdictions that experienced decreases from 2012 to 2016). The largest decreases were in Oklahoma (32.7%), Michigan (26.2%), and Tennessee (25.2%). In contrast, only 17 states experienced increases in total workers' compensation benefits. The states with the greatest increases were Missouri (28.7%), Hawaii (24.9%), Idaho (13.9%), and Massachusetts (12.1%).

The within-state totals of workers' compensation benefits paid vary from year to year for a number of reasons. Benefits change as within-state employment changes, although much of the impact occurs with a lag. Benefits also are affected by changes to a state's legal system for processing claims, such as changes in statutory rules, legal decisions, administrative processes, reporting requirements, and lags in recording results. Other factors that may explain within-state changes in benefits over time include: changes in the number of work-related injuries and illnesses; fluctuations in wage rates; changes in the mix of occupations/industries; changes in the costs and effectiveness of medical care (including changes to the medical fee schedule); changes to the indemnity benefit schedule; differences in the way stakeholders interact with the system over time (e.g., whether or not employees and/or employers have and exercise the right to choose a physician); changes in return-to-work and vocational rehabilitation efforts; and changes to coverage requirements (e.g. exclusions for small employers or agricultural employers).

Benefits Per \$100 of Covered Wages

Much of the interstate variation and intertemporal variation in benefit payments described above can be attributed to different trends in employment and wages across states. To control for differential trends in employment and wages over the time period covered in this report, we construct a standardized measure of benefits, benefits per \$100 of covered wages. Variations in the standardized measure of

benefits capture interstate differences in the factors described above (i.e., type and nature of injuries, quality of medical care, value of cash benefits, and return-to-work investments).

We caution the reader that, due to the factors described above that are not taken into account in this report, the data on standardized benefits (benefits paid per \$100 of covered wages) do not provide meaningful comparisons of the performance of state workers' compensation systems. For example, standardized benefits do not indicate the extent to which cash benefits compensate workers for their losses due to injury (i.e., benefit adequacy). Moreover, standardized benefits could be high or low in a given state for a number of reasons completely unrelated to the adequacy of benefits that injured workers receive.³⁷ For example, if a state has a disproportionate share of risky occupations (e.g., mining), and all else is held equal, standardized benefits will tend to be higher. If a state has high prices for medical care relative to the average wage rate, all else equal, standardized benefits will tend to be higher.

Table 10 shows trends in *medical benefits per \$100 of covered wages* in each state between 2013 and 2017. The national trend was a decrease of nearly 20 percent (19.6%) over this five-year period. Across this five-year period, medical benefits per \$100 of covered wages fell in 48 jurisdictions, with the largest percent decreases in Ohio (36.4%), North Carolina (33.9%), and Tennessee (32.9%). The only two states to see increases were Hawaii (15.9%) and Missouri (11.8%).

Table 11 shows trends in *cash benefits per \$100 of covered wages* in each state between 2013 and 2017. Nationally, this figure fell by 16.9 percent over the five years covered in the report. All but three states experienced decreases in standardized cash benefits of varying sizes. The states that experienced increases are Missouri (9.6%), Alaska (0.6%), and Wyoming (0.5%). Decreases ranged from as large as 47.2 percent in Michigan and 46.2 percent in Oklahoma, to as small as 1.5% in Delaware and 4.2% Wisconsin. Table 12 shows total benefits paid per \$100 of covered wages by state from 2013 through 2017.

37 To provide meaningful comparisons of benefit adequacy, a study should compare the benefits that injured workers actually receive to the wages they lose because of their occupational injuries or diseases. Such wage-loss studies have been conducted in several states (e.g., California, New Mexico, Oregon, Wisconsin, and Michigan), but the data for estimating wage losses are not available for most states. (See, e.g., May 2019 report on New York's Workers' Compensation system describing challenges to producing such a study for that state. Parrott and Martin 2019.) For benefit adequacy studies, see Hunt and Dillender (2017), Seabury et al. (2014), Boden et al. (2005), and Hunt (2004)

Table 10**Workers' Compensation Medical Benefits Paid per \$100 of Covered Wages and Five-Year Percent Change by State, 2013-2017**

State	Medical Benefits (per \$100 covered wages)						Percent Change			Ranking (1=largest percent increase, 2013-2017)
	2013	2014	2015	2016	2017	2013-2015	2015-2017	2013-2017		
	Alabama	\$0.62	\$0.60	\$0.55	\$0.54	\$0.51	-11.0	-8.2	-18.3	
Alaska	1.12	1.00	0.99	0.91	0.93	-11.7	-6.5	-17.4	27	
Arizona	0.43	0.42	0.40	0.40	0.38	-5.7	-5.5	-10.9	15	
Arkansas	0.35	0.31	0.28	0.27	0.29	-19.8	4.4	-16.3	24	
California	0.81	0.76	0.69	0.65	0.59	-15.9	-13.8	-27.5	45	
Colorado	0.41	0.37	0.36	0.33	0.32	-13.7	-10.1	-22.4	39	
Connecticut	0.46	0.45	0.41	0.36	0.37	-10.0	-10.5	-19.4	31	
Delaware	0.68	0.64	0.57	0.53	0.46	-15.5	-19.1	-31.6	48	
District of Columbia	0.12	0.10	0.10	0.09	0.11	-17.5	8.8	-10.2	11	
Florida	0.78	0.73	0.66	0.61	0.60	-15.7	-8.5	-22.8	40	
Georgia	0.41	0.37	0.33	0.35	0.33	-18.5	0.1	-18.4	29	
Hawaii	0.45	0.47	0.49	0.49	0.52	8.1	7.2	15.9	1	
Idaho	0.72	0.68	0.68	0.65	0.64	-5.3	-6.6	-11.5	17	
Illinois	0.41	0.40	0.34	0.33	0.30	-16.5	-10.1	-25.0	42	
Indiana	0.41	0.36	0.32	0.31	0.31	-22.5	-1.3	-23.6	41	
Iowa	0.56	0.54	0.50	0.52	0.51	-10.7	1.5	-9.4	9	
Kansas	0.48	0.48	0.45	0.47	0.45	-7.2	1.3	-6.0	6	
Kentucky	0.52	0.48	0.48	0.44	0.39	-7.7	-19.1	-25.3	43	
Louisiana	0.54	0.50	0.50	0.53	0.52	-7.4	4.2	-3.6	4	
Maine	0.55	0.53	0.47	0.47	0.51	-15.3	7.9	-8.6	8	
Maryland	0.37	0.36	0.33	0.31	0.31	-9.8	-5.9	-15.1	20	
Massachusetts	0.18	0.18	0.16	0.16	0.16	-9.9	-0.6	-10.4	14	
Michigan	0.29	0.26	0.26	0.22	0.20	-8.3	-22.5	-28.9	46	
Minnesota	0.45	0.43	0.38	0.37	0.36	-14.4	-5.8	-19.4	32	
Mississippi	0.54	0.53	0.51	0.45	0.47	-5.7	-7.6	-12.9	19	
Missouri	0.45	0.49	0.49	0.50	0.50	9.5	2.1	11.8	2	
Montana	1.02	0.99	1.00	0.99	0.94	-2.7	-5.7	-8.2	7	

Nebraska	0.51	0.53	0.48	0.49	0.46	-5.8	-6.0	-11.4	16
Nevada	0.36	0.33	0.31	0.32	0.30	-14.3	-2.9	-16.8	25
New Hampshire	0.49	0.45	0.42	0.40	0.39	-15.3	-7.8	-21.9	38
New Jersey	0.52	0.53	0.51	0.49	0.47	-2.9	-7.6	-10.3	12
New Mexico	0.64	0.58	0.60	0.56	0.54	-7.1	-9.6	-16.0	22
New York	0.34	0.34	0.34	0.33	0.32	-1.5	-3.5	-4.9	5
North Carolina	0.39	0.34	0.30	0.29	0.26	-22.2	-15.1	-33.9	50
North Dakota	0.56	0.51	0.46	0.46	0.43	-16.7	-6.0	-21.8	36
Ohio	0.39	0.35	0.32	0.29	0.25	-19.8	-20.7	-36.4	51
Oklahoma	0.60	0.54	0.50	0.46	0.45	-17.1	-10.2	-25.5	44
Oregon	0.47	0.45	0.40	0.37	0.40	-15.2	-0.9	-16.0	21
Pennsylvania	0.53	0.52	0.48	0.50	0.44	-8.8	-9.3	-17.3	26
Rhode Island	0.26	0.26	0.21	0.22	0.21	-17.5	-3.3	-20.2	33
South Carolina	0.60	0.56	0.53	0.51	0.48	-11.5	-8.9	-19.4	30
South Dakota	0.48	0.45	0.45	0.41	0.38	-5.4	-16.0	-20.5	34
Tennessee	0.48	0.40	0.37	0.35	0.32	-23.2	-12.5	-32.9	49
Texas	0.22	0.19	0.18	0.16	0.15	-17.8	-16.6	-31.5	47
Utah	0.38	0.34	0.32	0.32	0.30	-14.9	-7.4	-21.2	35
Vermont	0.61	0.63	0.60	0.54	0.55	-1.5	-8.9	-10.3	13
Virginia	0.32	0.32	0.31	0.32	0.32	-2.6	2.2	-0.4	3
Washington	0.49	0.47	0.43	0.41	0.38	-12.4	-10.8	-21.8	37
West Virginia	0.86	0.76	0.75	0.77	0.73	-13.5	-2.9	-16.0	23
Wisconsin	0.79	0.79	0.73	0.72	0.69	-8.0	-4.6	-12.2	18
Wyoming	1.09	1.02	0.95	1.01	0.98	-13.3	3.6	-10.1	10
Total Non-Federal	\$0.49	\$0.47	\$0.43	\$0.42	\$0.39	-12.2	-8.7	-19.9	
Federal Employees ^a	\$0.46	\$0.49	\$0.48	\$0.47	\$0.42	6.1	-14.1	-8.9	
TOTAL ^b	\$0.49	\$0.47	\$0.44	\$0.42	\$0.40	-11.7	-8.9	-19.6	

Notes: Benefits are payments in the calendar year to injured workers and to providers of their medical care. Data source for each state is described in detail in *Sources and Methods 2017* available at www.nasi.org.

^a Includes Federal Employee Compensation Act medical benefits from Table B1.

^b Includes federal (medical) benefits as described in Table 8.

Source: National Academy of Social Insurance estimates are based on data from state agencies, A.M. Best, National Association of Insurance Commissioners (NAIC), the U.S. Department of Labor and the Social Security Administration.

Table 11**Workers' Compensation Cash Benefits per \$100 of Covered Wages and Five-Year Percent Change by State, 2013-2017**

State	Cash Benefits (per \$100 covered wages)					Percent Change			Ranking (1=largest percent increase, 2013-2017)
	2013	2014	2015	2016	2017	2013-2015	2015-2017	2013-2017	
Alabama	\$0.28	\$0.27	\$0.26	\$0.23	\$0.23	-8.9	-10.3	-18.3	31
Alaska	0.48	0.41	0.42	0.47	0.48	-10.8	12.9	0.6	2
Arizona	0.22	0.21	0.20	0.19	0.18	-7.3	-14.1	-20.4	36
Arkansas	0.18	0.16	0.16	0.15	0.15	-12.0	-5.7	-17.0	28
California	0.59	0.56	0.53	0.52	0.51	-9.6	-4.1	-13.3	19
Colorado	0.30	0.27	0.28	0.27	0.24	-6.3	-12.3	-17.8	29
Connecticut	0.55	0.50	0.50	0.46	0.46	-8.9	-7.9	-16.1	24
Delaware	0.46	0.48	0.42	0.44	0.45	-8.6	7.7	-1.5	4
District of Columbia	0.21	0.19	0.17	0.17	0.16	-17.5	-6.6	-22.9	43
Florida	0.39	0.35	0.30	0.29	0.29	-23.0	-2.9	-25.2	45
Georgia	0.40	0.38	0.34	0.32	0.31	-13.1	-10.8	-22.5	42
Hawaii	0.60	0.58	0.60	0.58	0.57	-0.3	-5.7	-6.0	7
Idaho	0.39	0.39	0.37	0.37	0.36	-4.4	-2.0	-6.4	9
Illinois	0.50	0.49	0.41	0.40	0.38	-17.5	-6.8	-23.1	44
Indiana	0.15	0.13	0.13	0.13	0.13	-9.7	-6.0	-15.1	23
Iowa	0.49	0.48	0.44	0.46	0.44	-10.3	1.1	-9.4	13
Kansas	0.33	0.30	0.28	0.26	0.26	-13.9	-9.0	-21.6	39
Kentucky	0.43	0.39	0.39	0.37	0.34	-10.6	-12.7	-22.0	41
Louisiana	0.46	0.42	0.40	0.41	0.41	-13.5	2.1	-11.8	15
Maine	0.60	0.58	0.51	0.51	0.50	-15.0	-2.4	-17.0	27
Maryland	0.42	0.41	0.39	0.35	0.34	-8.3	-12.5	-19.7	33
Massachusetts	0.36	0.35	0.32	0.33	0.33	-10.1	3.5	-7.0	10
Michigan	0.39	0.31	0.27	0.23	0.21	-31.2	-19.9	-44.9	49
Minnesota	0.36	0.35	0.33	0.32	0.31	-9.1	-4.6	-13.2	18
Mississippi	0.37	0.37	0.35	0.33	0.32	-5.3	-9.2	-13.9	20
Missouri	0.34	0.37	0.38	0.38	0.38	11.8	-2.0	9.6	1
Montana	0.58	0.53	0.49	0.50	0.45	-14.4	-8.6	-21.8	40
Nebraska	0.32	0.32	0.28	0.28	0.28	-13.2	2.0	-11.4	14

Nevada	0.36	0.34	0.30	0.28	0.27	-15.0	-12.2	-25.4	46
New Hampshire	0.27	0.22	0.23	0.20	0.20	-13.0	-14.9	-26.0	47
New Jersey	0.51	0.49	0.47	0.47	0.47	-6.5	0.3	-6.2	8
New Mexico	0.44	0.49	0.45	0.42	0.38	1.3	-14.3	-13.2	17
New York	0.69	0.65	0.64	0.64	0.64	-6.8	-1.3	-8.0	12
North Carolina	0.46	0.39	0.35	0.33	0.29	-23.4	-17.4	-36.8	48
North Dakota	0.37	0.37	0.38	0.39	0.35	3.0	-8.3	-5.6	6
Ohio	0.54	0.53	0.48	0.45	0.43	-10.9	-10.4	-20.2	35
Oklahoma	0.74	0.62	0.55	0.47	0.39	-24.7	-29.9	-47.2	51
Oregon	0.42	0.39	0.35	0.33	0.33	-17.6	-4.0	-20.9	37
Pennsylvania	0.58	0.56	0.55	0.57	0.49	-6.4	-10.9	-16.6	25
Rhode Island	0.55	0.49	0.49	0.45	0.44	-11.1	-11.1	-20.9	38
South Carolina	0.69	0.67	0.62	0.61	0.61	-9.7	-2.5	-11.9	16
South Dakota	0.23	0.21	0.22	0.23	0.21	-2.3	-5.7	-7.9	11
Tennessee	0.32	0.26	0.22	0.18	0.17	-31.5	-21.5	-46.2	50
Texas	0.14	0.13	0.13	0.12	0.12	-5.3	-9.5	-14.3	21
Utah	0.16	0.14	0.15	0.14	0.13	-7.0	-13.3	-19.4	32
Vermont	0.63	0.58	0.55	0.52	0.51	-12.7	-8.2	-19.8	34
Virginia	0.21	0.20	0.19	0.18	0.17	-7.8	-7.8	-15.0	22
Washington	1.05	1.01	0.98	0.91	0.86	-6.9	-12.0	-18.1	30
West Virginia	0.79	0.79	0.77	0.83	0.75	-2.5	-1.7	-4.2	5
Wisconsin	0.23	0.23	0.21	0.20	0.20	-8.5	-9.1	-16.8	26
Wyoming	0.49	0.42	0.47	0.48	0.49	-4.6	5.3	0.5	3
Total Non-Federal	\$0.46	\$0.43	\$0.41	\$0.39	\$0.38	-10.8	-6.3	-16.5	
Federal Employees ^a	\$1.00	\$0.93	\$0.91	\$0.85	\$0.82	-9.5	-9.9	-18.5	
TOTAL ^b	\$0.48	\$0.45	\$0.43	\$0.41	\$0.40	-10.8	-6.8	-16.9	

Notes: Benefits are payments in the calendar year to injured workers and to providers of their medical care. Data source for each state is described in detail in *Sources and Methods 2017*, available at www.nasi.org.

a Includes Federal Employee Compensation Act compensation benefits from Table B1.

b Includes federal (cash) benefits as described in Table 8.

Source: National Academy of Social Insurance estimates based on data from state agencies, A.M. Best, National Association of Insurance Commissioners, the U.S. Department of Labor, and the Social Security Administration.

Table 12
Workers' Compensation Total Benefits Paid Per \$100 of Covered Wages, by State, 2013-2017

State	2013	2014	2015	2016	2017	Percent Change			Ranking (1=largest percent increase, 2013-2017)
						2013-2015	2015-2017	2013-2017	
Alabama	\$0.90	\$0.87	\$0.81	\$0.77	\$0.74	-10.3	-8.9	-18.3	31
Alaska	1.60	1.41	1.41	1.39	1.40	-11.4	-0.7	-12.0	13
Arizona	0.65	0.64	0.61	0.60	0.56	-6.2	-8.4	-14.1	19
Arkansas	0.53	0.48	0.44	0.42	0.44	-17.1	0.7	-16.5	25
California	1.41	1.32	1.22	1.18	1.10	-13.3	-9.6	-21.6	41
Colorado	0.71	0.64	0.64	0.59	0.57	-10.6	-11.0	-20.5	36
Connecticut	1.01	0.95	0.91	0.82	0.83	-9.4	-9.1	-17.6	29
Delaware	1.14	1.13	0.99	0.97	0.92	-12.7	-7.7	-19.4	34
District of Columbia	0.33	0.28	0.27	0.26	0.27	-17.5	-0.9	-18.3	30
Florida	1.17	1.08	0.96	0.91	0.89	-18.1	-6.7	-23.6	43
Georgia	0.80	0.75	0.68	0.67	0.64	-15.9	-5.5	-20.5	35
Hawaii	1.05	1.04	1.09	1.07	1.09	3.3	0.1	3.4	2
Idaho	1.11	1.07	1.05	1.01	1.00	-5.0	-5.0	-9.7	10
Illinois	0.90	0.89	0.75	0.72	0.69	-17.0	-8.3	-23.9	45
Indiana	0.56	0.49	0.45	0.44	0.44	-19.1	-2.7	-21.3	40
Iowa	1.05	1.02	0.94	0.99	0.95	-10.5	1.3	-9.4	9
Kansas	0.81	0.78	0.73	0.73	0.71	-10.0	-2.7	-12.4	14
Kentucky	0.96	0.87	0.87	0.80	0.73	-9.0	-16.2	-23.8	44
Louisiana	1.00	0.92	0.90	0.94	0.93	-10.2	3.2	-7.3	6
Maine	1.15	1.11	0.98	0.98	1.00	-15.1	2.6	-13.0	15
Maryland	0.79	0.77	0.72	0.66	0.65	-9.0	-9.4	-17.6	28
Massachusetts	0.54	0.53	0.48	0.49	0.49	-10.1	2.1	-8.2	7
Michigan	0.67	0.57	0.53	0.45	0.42	-21.4	-21.2	-38.1	50
Minnesota	0.81	0.79	0.71	0.69	0.67	-12.0	-5.3	-16.7	26
Mississippi	0.91	0.90	0.86	0.78	0.79	-5.5	-8.3	-13.3	18
Missouri	0.79	0.86	0.87	0.87	0.88	10.5	0.3	10.8	1

Montana	1.60	1.52	1.49	1.49	1.39	-6.9	-6.6	-13.1	16
Nebraska	0.83	0.85	0.76	0.77	0.74	-8.6	-3.1	-11.4	12
Nevada	0.72	0.67	0.61	0.60	0.57	-14.7	-7.5	-21.1	39
New Hampshire	0.76	0.68	0.65	0.60	0.58	-14.5	-10.3	-23.3	42
New Jersey	1.03	1.02	0.98	0.96	0.94	-4.7	-3.8	-8.3	8
New Mexico	1.08	1.07	1.04	0.99	0.92	-3.7	-11.6	-14.9	20
New York	1.03	0.99	0.98	0.97	0.96	-5.0	-2.0	-7.0	5
North Carolina	0.85	0.73	0.66	0.63	0.55	-22.9	-16.4	-35.5	48
North Dakota	0.93	0.88	0.84	0.85	0.78	-8.8	-7.1	-15.3	22
Ohio	0.93	0.88	0.80	0.74	0.68	-14.6	-14.5	-27.0	47
Oklahoma	1.34	1.15	1.06	0.92	0.84	-21.2	-20.6	-37.4	49
Oregon	0.90	0.84	0.75	0.71	0.73	-16.3	-2.4	-18.3	32
Pennsylvania	1.11	1.08	1.03	1.07	0.92	-7.5	-10.2	-16.9	27
Rhode Island	0.81	0.75	0.70	0.67	0.64	-13.1	-8.7	-20.7	38
South Carolina	1.29	1.23	1.15	1.12	1.09	-10.5	-5.4	-15.4	23
South Dakota	0.70	0.66	0.67	0.64	0.59	-4.4	-12.6	-16.4	24
Tennessee	0.80	0.66	0.58	0.53	0.49	-26.5	-15.9	-38.2	51
Texas	0.35	0.32	0.31	0.29	0.27	-13.0	-13.7	-24.9	46
Utah	0.54	0.49	0.47	0.46	0.43	-12.6	-9.3	-20.7	37
Vermont	1.24	1.20	1.15	1.06	1.06	-7.2	-8.6	-15.2	21
Virginia	0.53	0.53	0.50	0.50	0.49	-4.6	-1.6	-6.1	3
Washington	1.54	1.48	1.41	1.32	1.24	-8.6	-11.6	-19.3	33
West Virginia	1.65	1.54	1.51	1.60	1.48	-8.2	-2.3	-10.4	11
Wisconsin	1.02	1.02	0.94	0.92	0.89	-8.1	-5.7	-13.3	17
Wyoming	1.58	1.44	1.41	1.49	1.47	-10.6	4.2	-6.8	4
Total Non-Federal	\$0.95	\$0.90	\$0.84	\$0.81	\$0.77	-11.6	-7.6	-18.2	
Federal Employees	\$1.46	\$1.42	\$1.39	\$1.32	\$1.23	-4.6	-11.4	-15.5	
TOTAL	\$0.97	\$0.92	\$0.86	\$0.84	\$0.80	-11.3	-7.8	-18.2	

Note: "Federal Employees" total includes only workers covered under the Federal Employees' Compensation Act.

Source: National Academy of Social Insurance estimates.

Nationwide, benefits paid were \$0.80 per \$100 of covered wages in 2017, down \$0.18, or 18.2 percent, from 2013. Benefits per \$100 of covered wages decreased by \$0.11 between 2013 and 2015, and by \$0.07 from 2015 to 2017. As shown in Figure 1, standardized benefits have decreased by almost one third (32%) from the 20-year high of \$1.17 per \$100 of covered wages in 1997 to \$0.80 in 2017.

Nationwide, workers' compensation benefits were \$0.80 per \$100 of covered payroll in 2017, a decrease of more than a third from \$1.26 in 1997.

Between 2013 and 2017, benefits per \$100 of covered wages decreased in all but two jurisdictions: Missouri (up 10.8%) and Hawaii (3.4%). Thirty-one states experienced decreases of at least 15 percent, and eight states experienced decreases of 25 percent or more.

State outliers. The largest percent decrease in standardized benefits was in Tennessee (38.2%), followed closely by Michigan (38.1%), Oklahoma (37.4%), and North Carolina (35.5%). In any given year, some states may experience a major increase or decrease for the first time. In three of these states, however, the large decreases have been ongoing for the past few years and are attributable to the legislative changes described below.

In 2013, Tennessee enacted a Workers' Compensation Reform Act that took effect on January 1, 2014 (Tennessee Bureau of Workers Compensation, 2017). The legislation established a new administrative process for resolving claims, overseen by a new Court of Workers' Compensation Claims and a Workers' Compensation Appeals Board. Eligibility for benefits was restricted to cases in which work-related injuries were the primary cause of the workers' current disability, and PPD benefit rates were reduced, although the maximum duration of PPD benefits was increased from 400 to

450 weeks. The legislation also adopted new medical treatment guidelines, which narrowed reimbursable treatment regimens to those explicitly listed in the guidelines. These reforms help explain the sharp declines in both cash and medical benefits per \$100 of covered wages seen over the study period (of 46.2 and 32.9 percent, respectively).

In 2011, Michigan enacted changes to its workers' compensation laws that redefined disability and post-work capacity and made the criteria required to establish disability and/or wage loss more stringent. The law changed from defining "disability" as "a limitation of an employee's wage earning capacity in work suitable to his or her qualifications and training resulting from a personal injury or work-related disease" to occurring only "if a personal injury covered under this act results in the employee's being unable to perform all jobs paying the maximum wages in work suitable to that employee's qualifications and training, which includes work that may be performed using the employee's transferable work skills." (Michigan Legislature, 2011-2012 Legislative Session, HB 5002.) As a result, cash benefits declined by 44.9 percent, the third-largest decline in the country. (With standardized medical benefits also declining by 28.9 percent over the study period, a reduction that is not related to the legal changes described above, Michigan saw the second largest total decline in standardized benefits.³⁸)

As previously noted, an Oklahoma statute allowed certain employers in the state to opt out of workers' compensation insurance from 2014 through part of 2016, when the statute was declared unconstitutional. Oklahoma also implemented other significant changes to its workers' compensation statutes during the study period. These revisions include: changes to provider reimbursement and medical fee schedules; reductions in permanent disability ratings for PPD and PTD claims by the amount of impairment determined to be pre-existing; reductions in both the maximum TTD benefit amount and duration; and adoption of a new administration system governed by a three-member Workers' Compensation Commission.³⁹ Overall in Oklahoma, standardized medical benefits declined by 25.5 percent and cash

38 It is possible that the 2011 changes either reduced claim volumes by weakening the financial incentive to claim, or that the disability and work capacity changes led to previously compensable claims now falling outside of the system, but the data do not shed light on either of those potential explanations.

benefits by 47.2 percent over the study period. From 2015-2017, when these changes were fully implemented, standardized medical and cash benefits fell by 10.2 percent and 29.9 percent respectively.

The decline in standardized benefits in North Carolina is not well understood. North Carolina House Bill 709 (passed in 2011) capped temporary total disability benefits at 500 weeks, and new reduced medical fee schedules became effective in 2015, but these changes do not appear substantial enough to explain the sizable decline in standardized benefits (NCCI ASB).

The increase in standardized benefits in Missouri, which runs counter to virtually every other state, appears to be explained in large part by two characteristics that are unusual/unique to the state. First, Missouri is one of a shrinking number of states to have no fee schedule in place; the only medical cost containment strategy it has adopted is restricting the doctors that an injured worker can consult.⁴⁰ Second, 2005 restrictions the state had enacted that sharply reduced funding for its Second Injury Fund led, over the subsequent years, to severe problems in paying injured workers that led the legislature to reverse course in 2013.⁴¹ Those changes sharply increased employer liability for injuries that had gone uncompensated for many years, likely explaining in part the notable increase in benefits over this study period.

The increases in Hawaii likely reflect increases in the fee schedule for medical services that were enacted in 2013.

Cash Benefits by Type of Claim

The National Council on Compensation Insurance (NCCI) provides data on the relative incidence (or frequency) of each type of disability claim (temporary total, permanent partial, and permanent total, as well as fatalities) as a proportion of the total number of cases receiving cash benefits and total benefits incurred (NCCI 2019a). Data are reported for each state's "policy period," which may or may not correspond to a calendar year. Data are available for the 38 states in which NCCI is licensed. Figures 4a and 4b display the data for 1996 to 2015, the most recent year available.

Figure 4a shows the *percentage of indemnity claims* (claims involving cash benefits) attributed to each type of disability claim. Figure 4b shows the percentage of total benefits attributed to each type of indemnity claim.⁴² The bulk of total benefits for workers' compensation go to permanent disability claims, of which permanent partial disability claims are the most common.⁴³ In 2015, temporary total disability (TTD) claims accounted for 61.5 percent of all indemnity claims, but only 33.2 percent of benefits incurred (Figures 4a & 4b). PPD claims accounted for 37.8 percent of indemnity claims, but 55.4 percent of benefits incurred.

39 Oklahoma Senate Bill 1062. In addition to the statutory changes that reduced compensation paid per claim, the number of workers' compensation claims filed in Oklahoma declined dramatically after the legislative changes were implemented in 2014. (There were 7,935 claims filed in 2017, down over 45 percent from 2012 (Oklahoma Workers' Compensation Commission, 2018). The decline is not due to a decline in employment – State employment rose by 2.6 percent between 2012 and 2017 (Oklahoma Employment Security Division, https://www.ok.gov/oesc/Labor_Market/Quarterly_Census_of_Employment_and_Wages/). The statutory changes also made some previously compensable injuries non-compensable, and there is anecdotal evidence that claimants or their attorneys may have foregone filing claims, including fraudulent claims that have been discouraged or weeded out by the statutory changes (Personal communication of Christopher McLaren with Stormy Moore, Director of Permitting Services, Oklahoma Workers' Compensation Commission.)

40 *Workers' Compensation Research Institute index*, 2018, Figure 2: Interstate Comparison of Priced Paid for Professional Services, WCRI MPI-WC in 36 States, 2018. The other three – Indiana, New Hampshire, and Wisconsin – are also non-fee schedule states.

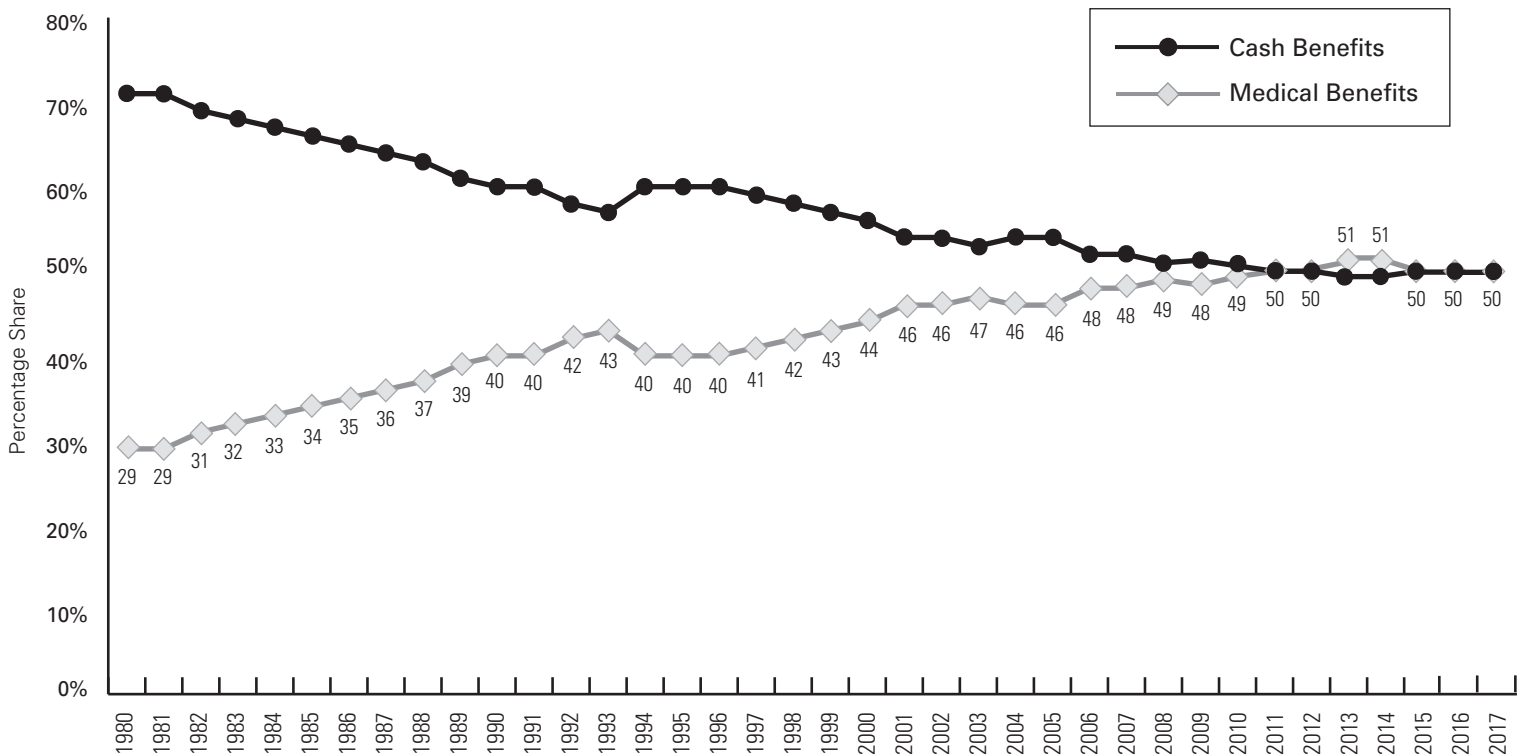
41 David A. Lieb, "Missouri Senate Backs Bill to Bolster Second Injury Fund," *Insurance Journal*. May 13, 2013. "More than a thousand disabled workers could finally begin receiving payments for their job-related injuries if the Missouri House gives final approval to legislation intended to replenish an insolvent state fund."

42 In 2015, medical-only claims accounted for 75 percent of all workers' compensation claims, but less than 10 percent of all benefits paid (NCCI, 2019a). Since 1999, there has been a gradual decline in the share of medical-only claims from 78.3 percent to the current 75.3 percent. On the other hand, the share of benefits paid for medical-only claims has increased from 6.2 percent in 1999 to 7.4 percent of overall benefits in 2015.

43 The NCCI typically classifies workers' compensation claims into discrete types according to the most severe type of disability benefit received. For example, a permanent partial disability beneficiary has typically received temporary disability benefits until the point of maximum medical improvement, but the entire cost of cash benefits for the claim is ascribed to permanent partial disability.

Figure 3

Percentage Share of Medical and Cash Benefits, 1980-2017



Source: National Academy of Social Insurance estimates. The percentage share of medical and cash benefits sum to 100 percent.

Between 1996 and 2015, TTD claims *decreased* as a share of all indemnity claims (10.7 percentage points) but *increased* as a share of benefits incurred (8.0 percentage points). At the same time, PPD claims increased as a share of indemnity claims (10.9 percentage points) but *decreased* as a share of benefits incurred (6.5 percentage points). Over this time, many of the claims leaving the system were smaller claims, usually temporary total disability claims, thus accounting for the decrease in overall share of TTD claims. If, at the same time, average TTD benefits were increasing relative to average PPD benefits, this could explain the increase in TTD claims as a share of benefits incurred.

Permanent total disability and fatality claims are relatively rare, accounting for less than one percent of claims involving cash benefits (approximately 0.6 percent in every year from 2003 to 2015). However, these claims tend to be expensive. In 2015, PTD

and fatality claims represented 0.6 percent of total indemnity claims, but 11.4 percent of benefits incurred (Figures 4a & 4b).

Employer Costs for Workers' Compensation

Data Sources for Estimating Employer Costs

This section describes the primary sources of data that we use to estimate the employer costs for workers' compensation. The Academy's estimates of employer costs are equal to the sum of: premiums and deductibles paid to private insurers and state funds; benefits and administrative costs paid by self-insured employers; and assessments paid to special funds (e.g., second-injury funds).⁴⁴ A detailed, state-by-state explanation of how the cost estimates are

⁴⁴ Work by Frank Neuhauser on behalf of the Data Panel suggests that our current methods do not fully capture assessments on employers that go toward special funds. To this extent, employer costs may be underestimated. We hope to adapt our methodology in

produced is provided in *Sources and Methods: A Companion to Workers' Compensation Benefits, Costs, and Coverage, 2017*, available on the Academy's website. The primary sources of cost data are the state surveys, A.M. Best, and NCCI.

The Academy's methods for estimating employer costs vary according to the employer's source of workers' compensation coverage. For employers purchasing insurance from private carriers or state funds, the costs of workers' compensation in any year equals the sum of premiums paid in that year plus reimbursements paid to the insurer under deductible provisions.

For self-insured employers, workers' compensation costs include medical and cash benefits paid during the calendar year, plus the administrative costs of providing those benefits. Administrative costs include the direct costs of managing claims, as well as expenditures for litigation, cost containment (e.g., utilization review, treatment guidelines) taxes, licenses, and fees. Self-insured employers generally do not report the administrative costs of workers' compensation separately from the costs of administering other employee benefit programs, so the costs associated with administering workers' compensation must be estimated. The National Association of Insurance Commissioners reports the ratio of administrative costs to total benefits paid for private insurers who report to them (NAIC, 2019). To estimate administrative costs for self-insured employers, we assume that the ratio of administrative costs to total benefits paid is the same for self-insured employers as it is for private insurers.⁴⁵

For the federal employee workers' compensation program, employer costs are benefits paid plus administrative costs, as reported by the U.S. Department of Labor (DOL, 2019).

The Academy's estimates of employer costs also include estimates of assessments for special funds,

second-injury funds, and guaranty funds. Employer assessments for special funds or second-injury funds are estimates from the assessment rates a state applies either to premiums or losses (benefits paid). State assessment rates are provided either by state agencies or by NCCI. Assessments for insurance guaranty funds are paid by insurers, so these are included in reported premiums.

The fact that data on employer costs must be compiled from a variety of sources imposes some limitations on the report. First, there may be some direct workers' compensation costs not captured in the estimates. We may, for example, be missing some unreported expenditures, such as those for legal or case management services. Second, our estimates are limited to the monetary costs of work-related injuries and illnesses paid by employers. The estimates do not include the costs borne by employers who pay injured workers' full salaries during periods of light duty or other post-injury job accommodations. Some of this payment is a loss to the employer because of the reduced productivity of the worker(s) being accommodated. Finally, our estimates do not include the costs imposed on workers, families, and society in the form of pain and suffering, uncompensated lost wages, and unreimbursed medical costs. These costs are beyond the scope of this report.

National Estimates of Employer Costs

Table 13 shows employer costs for workers' compensation by type of coverage for 1997 through 2017. In 2017, total employer costs were \$97.4 billion, an increase of 0.4 percent since 2016, and of 9.1 percent since 2013.

This increase in employer costs is largely explained by trends in employment and wages over the study period. Controlling for growth in employment and wages, employer costs actually decreased by \$0.12 per \$100 of covered wages (8.8%) between 2013

future reports to more adequately incorporate employer assessment costs in each state. (Neuhauser estimated a total discrepancy of \$3.5 billion—almost 4 percent of total non-federal costs—for 2016, but his methods have not yet been replicated for other years studied.)

45 Private insurers face some cost factors, such as commissions, profit allowances, and taxes on premiums that self-insurers do not face. NAIC estimates of administrative costs are equal to the amount spent on direct defense and cost containment expenses plus taxes, licenses, and fees, divided by direct losses paid (for more detail see *Sources and Methods 2017*). NAIC's estimate of administrative costs is based on the experience of private insurers. Other reports have found higher administrative overhead costs as a percent of total premiums compared to those reported by NAIC (e.g., Neuhauser et al., 2010).

Figure 4a

Types of Disabilities in Workers' Compensation Cases with Cash Benefits, 1996-2015

Percentage of Cases

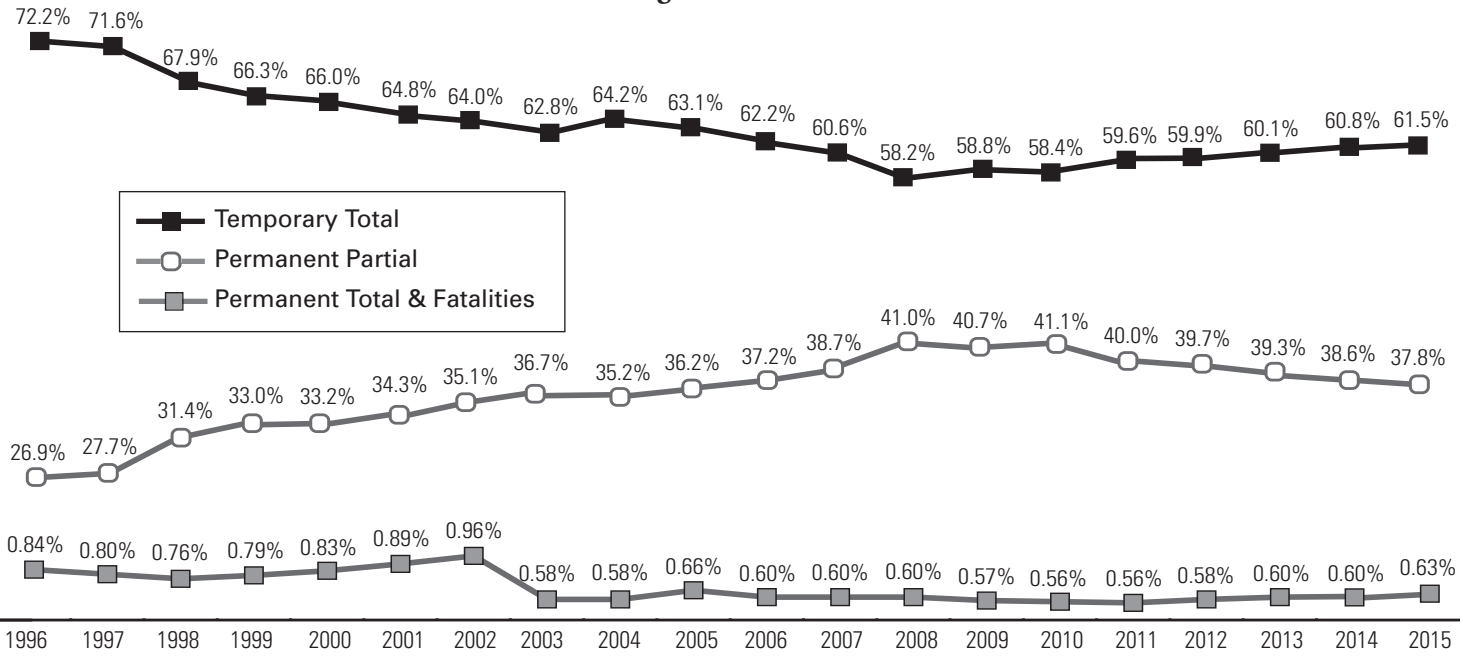
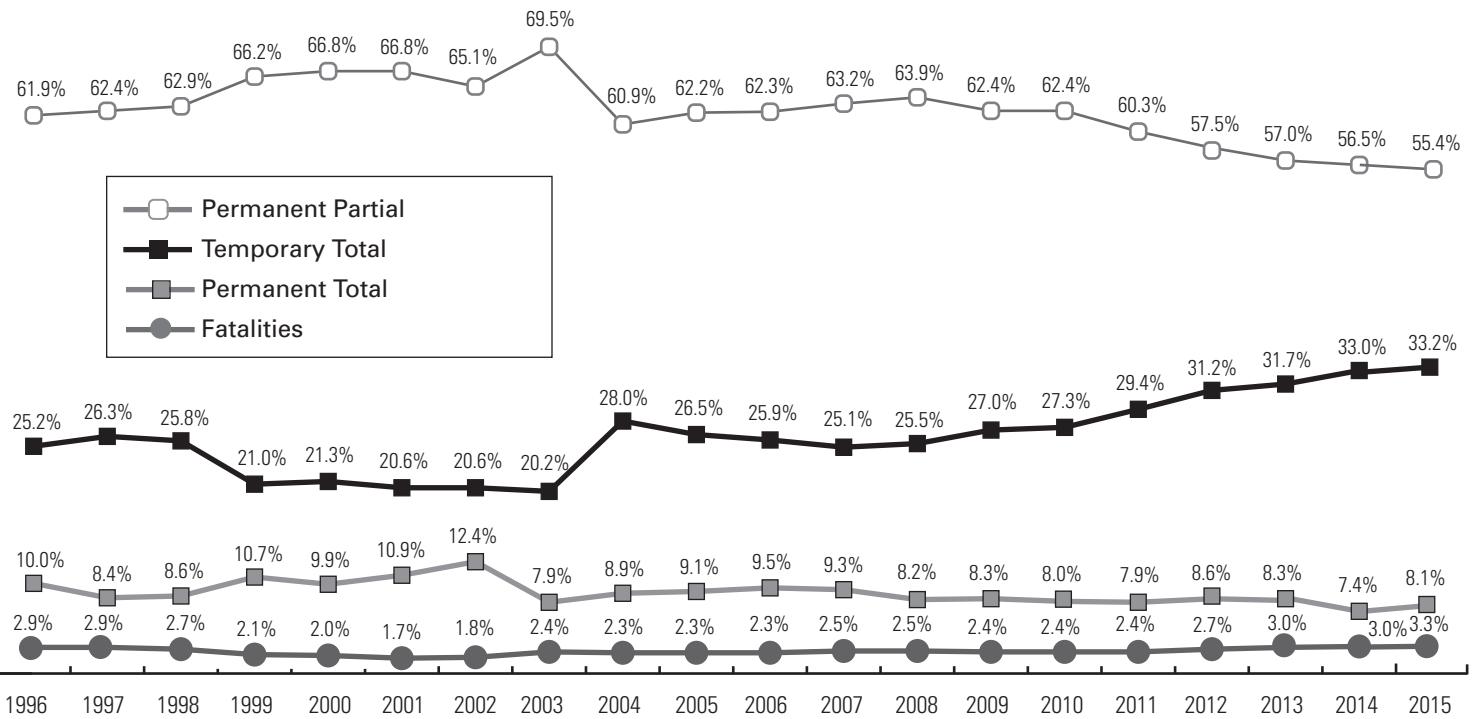


Figure 4b

Percentage of Benefits



Notes: Cases classified as permanent partial include cases that are closed with lump sum settlements. Benefits paid in cases classified as permanent partial, permanent total and fatalities can include any temporary total disability benefits also paid in such cases. The data are from the first report from the NCCI Annual Statistical Bulletin.

Source: NCCI 2000-2019, Annual Statistical Bulletin, Exhibits X and XII.

and 2017 (Table 14). Among non-federal employers, costs per \$100 of covered wages decreased by \$0.13 (10.0%) across these five years, with the bulk of that decrease taking place in the latter years. (A 3.4% decrease from 2013 to 2015 (\$1.34 to \$1.30 per \$100 of covered wages) was followed by a 6.9% decrease from 2015 to 2017 (\$1.30 to \$1.21)).

In 2017, costs to employers insured through private carriers accounted for over 62.3 percent of total workers' compensation costs (\$60.7 billion); costs for employers insured through state funds were 12.6 percent (\$12.2 billion); costs for self-insured employers were 18.8 percent (\$18.3 billion); and costs for federal government programs were 6.3 percent (\$6.1 billion) (Table 13). Over the five-year study period (2013-2017), the share of costs paid by self-insured employers and by state funds both decreased by nearly one percentage point, while the shares accorded to private insured and to the federal government increased slightly.

State Estimates of Employer Costs

Table 14 reports estimates of employer costs for workers' compensation per \$100 of covered wages by state from 2013 to 2017. Costs are aggregated across all types of insurers (which excludes the federal government) and across all industries. Consistent with the national trend, employer costs per \$100 of covered wages decreased in 45 of 51 jurisdictions, compared to 39 in last year's report. Once again, Oklahoma experienced the largest relative decrease in standardized costs (38.3%), followed by Ohio (33.7%)⁴⁶, North Dakota (29.5%), and Michigan (27.8%)⁴⁷.

The decline in standardized costs in Oklahoma is likely the result of multiple factors. First, as described earlier, the state implemented significant changes to its workers' compensation laws (see p.36 for more detail). Second, the "opt-out" provision, which was effective from 2014 through part of 2016, allowed employers to provide insurance for injured workers under alternative benefit systems. Without accurate estimates of the number of jobs covered in opt-out plans, our estimates of covered jobs and wages would over-estimate coverage, which would result in lower standardized costs (and benefits) than they should be.⁴⁸ It is worth noting that the decrease in standardized costs, in both relative and absolute terms, was smaller between 2016 and 2017 than in any other consecutive data years in this report.

In North Dakota there were also large decreases in standardized employer costs in 2013-2015 (\$0.18, or 10.1%), and then a decrease of roughly twice as much from 2015 to 2017 (\$0.35, or 21.5%). This decline likely reflects changes to the state's workers' compensation law that were enacted in 2013, which affect both medical and cash benefits.⁴⁹

Employer costs per \$100 of covered wages increased in only a small handful of states. Moreover, these increases were small relative to the aforementioned decreases. The largest increase were in Hawaii (\$0.11; 7.3%) and Missouri (\$0.07; 5.6%). The increases in Hawaii likely reflect increases in the fee schedule for medical services that were enacted in 2013 (NCSL, 2013). Indeed, Hawaii experienced the highest percent increase in standardized medical

46 In 2011, the Ohio Bureau of Workers' Compensation approved the "Grow Ohio Incentive Program" which offered new employers a 25 percent discount on workers' compensation premiums for two years, or immediate access to the group rating program offered by the state fund. The latter option offers employers eligibility to reduce premiums up to the maximum allowable amount (53 percent since 2013). This program became effective in February of 2012. The extent to which this incentive program has impacted employer costs requires further investigation. This program does not help to explain the decreases in benefits that took place.

47 See p 36 for details on recent changes to legislation in Michigan.

48 The Oklahoma Department of Insurance did not track the number of workers covered by opt-out plans between 2014 and 2016. However, there is preliminary evidence that roughly 22,500 employees were covered by alternative plans in 2014 (Grabell and Berkes, 2015). If correct, this would represent 1.5 percent of Oklahoma's workforce at the time, although some officials believe even that number to be high. If we assume that 1.5 percent of the workforce was covered by opt-out plans, this would result in standardized costs of \$1.47 (compared to \$1.45) and standardized benefits of \$1.00 (vs. \$0.98) in 2016. It is possible that the number of employers opting out of Oklahoma's workers' compensation system increased in 2015 and 2016, which would have led to a greater difference in standardized costs and benefits.

49 In April 2013, the North Dakota legislature approved changes to the state's workers' compensation statute that include: disallowing pain as a sole factor to indicate increasing severity of a preexisting injury; increasing restrictions on benefits in cases of out-of-state filing or incarceration; reducing PPD ratings for some amputations; and allowing employers greater latitude in selecting among competing medical opinions (NCSL, 2013).

Table 13**Workers' Compensation Employer Costs, by Type of Coverage, 1997-2017**

Year	Total (millions)	% Change	Private Insured ^a		State Fund Insured ^a		Self-Insured ^a		Federal ^b	
			(millions)	% of total	(millions)	% of total	(millions)	% of total	(millions)	% of total
1997	54,365	0.9	30,594	56.3	8,268	15.2	12,145	22.3	3,358	6.2
1998	55,028	1.2	31,446	57.1	8,130	14.8	11,981	21.8	3,471	6.3
1999	56,392	2.5	33,740	59.8	7,577	13.4	11,580	20.5	3,496	6.2
2000	60,681	7.6	36,038	59.4	8,934	14.7	12,089	19.9	3,620	6.0
2001	67,387	11.1	38,110	56.6	11,778	17.5	13,721	20.4	3,778	5.6
2002	74,114	10.0	41,600	56.1	14,794	20.0	13,822	18.6	3,898	5.3
2003	82,294	11.0	45,493	55.3	17,820	21.7	15,011	18.2	3,970	4.8
2004	86,114	4.6	47,601	55.3	19,103	22.2	15,337	17.8	4,073	4.7
2005	89,838	4.3	50,972	56.7	18,225	20.3	16,545	18.4	4,096	4.6
2006	87,493	-2.6	51,648	59.0	15,729	18.0	15,979	18.3	4,138	4.7
2007	86,537	-1.1	52,291	60.4	13,898	16.1	16,112	18.6	4,236	4.9
2008	80,602	-6.9	47,338	58.7	12,244	15.2	16,680	20.7	4,341	5.4
2009	73,921	-8.3	42,965	58.1	10,640	14.4	16,252	22.0	4,065	5.5
2010	72,788	-1.5	42,798	58.8	9,565	13.1	16,197	22.3	4,228	5.8
2011	78,935	8.4	46,614	59.1	10,382	13.2	17,493	22.2	4,447	5.6
2012	84,682	7.3	51,267	60.5	10,995	13.0	17,881	21.1	4,539	5.4
2013	89,234	5.4	55,025	61.7	12,097	13.6	17,508	19.6	4,604	5.2
2014	93,519	4.8	57,271	61.2	13,298	14.2	18,037	19.3	4,914	5.3
2015	96,091	2.8	59,237	61.6	13,323	13.9	18,100	18.8	5,432	5.7
2016	97,009	1.0	60,174	62.0	13,075	13.5	18,097	18.7	5,663	5.8
2017	97,371	0.4	60,672	62.3	12,246	12.6	18,343	18.8	6,110	6.3

a Costs for second injury funds and special funds are included in the totals. The costs for special funds are estimated from assessment rates, based on premiums and losses. Employee contributions to workers' compensation costs in Washington state are included in the totals from 2011 to 2017, and in New Mexico and Oregon from 2013 to 2017.

b Federal costs include costs to the Federal government under the Federal Employees' Compensation Act and employer costs associated with the Federal Black Lung Disability Trust Fund. In years before 1997, federal costs also include the part of the Black Lung program financed by federal funds. In 1997–2017 federal costs include employer costs associated with the Longshore and Harbor Workers' Compensation Act. See Appendix B for more information about federal programs.

Sources: National Academy of Social Insurance estimates of costs for private carriers and state funds are based on information from A.M. Best and direct contact with state agencies. Costs for federal programs are from the Department of Labor and the Social Security Administration. Self-insured administrative costs are based on information from the National Association of Insurance Commissioners.

benefits paid (15.9%) in the country between 2013 and 2017 (Table 10).⁵⁰

Although there is considerable inter-state variation in employer costs for workers' compensation per \$100 of covered wages, readers are cautioned against using the estimates in Table 14 to identify states with more or less favorable climates for employers or workers. The data on average costs by state do not mean that states with lower costs offer a more competitive environment for employers, because states differ in their mix of high-risk/low-risk industries. Consider, for example, two industries: logging, for which the workers' compensation rate is \$40 per \$100 of wages, and banking, for which the rate is \$1 per \$100 of wages. Suppose State A has 80 percent of its employees in logging and 20 percent in banking, so average costs for workers' compensation are \$32.20 per \$100 of wages. State B has 20 of its employees in logging and 80 percent in Banking, so average employer costs for workers' compensation are \$8.20 per \$100 of wages. If Timber-R-U's moved from State A to State B to take advantage of the lower average costs of workers' compensation, it would not save on those costs. Rather, Timber-R-U's would continue to pay workers' compensation premiums of \$40 per \$100 of its wages.

This simple example demonstrates that a meaningful comparison of employer costs across states must control for variations in the proportions of employers in different insurance classifications (which are, in turn, based on the riskiness of industries and occupations) in each state. Such comparisons are beyond the scope of this report.

Furthermore, the cost data reported here likely do not capture the full impact of recent changes in laws that have altered the workers' compensation market within a state. Because the Academy reports costs paid in a particular year, regardless of injury date, cost data for 2017 include a substantial proportion of cash benefits paid for injuries that occurred in previous years, under legal regimes and economic conditions that may have been quite different from the current

conditions in a state. (Note, too, that the current data are for 2017, and therefore nearly two more years of changes are not captured in this report.)

Readers are cautioned that it is not appropriate to use the data on employer costs per \$100 of covered payroll to identify states with more favorable workers' compensation systems for employers or workers, as the Academy's estimates do not control for differences across states in the relative mix of their industries or occupations, a critical factor in cost.

Benefits Paid Relative to Employer Costs

Table 15 reports ratios of workers' compensation benefits paid relative to employer costs, from 1997 through 2017. The benefits and costs measured are standardized estimates.

The reader is cautioned that the ratios represent benefits and costs *paid* in a given year, but not necessarily for the same claims. The benefits measure includes payments for all injuries/illnesses that occurred in the given year *as well as for some injuries and illnesses that occurred in prior years*. The costs measure (premiums paid to insurers and state funds), on the other hand, includes projected future liabilities for injuries and illnesses that occurred in the given year. In other words, the costs and benefits paid in a given year are not tracking the full costs of a particular set of claims.⁵¹

50 The small increase in standardized employer costs in Delaware occurred partly before the study period for this report, in 2012-2014. In June 2013, in response to 2013 recommendations of the state's Workers' Compensation Task Force, Delaware increased medical costs controls and requirements for utilization review and expanded return-to-work options and workplace safety programs, after which costs stabilized (NCSL, 2013).

51 For employers covered by private insurers or state funds, costs are largely determined by premiums paid. However, in a given year, premiums paid by employers do not necessarily match benefits received by workers. Premiums in a given year pay for all compensable

Table 14**Employer Costs for Workers' Compensation Per \$100 of Covered Wages, by State, 2013-2017**

State	2013	2014	2015	2016	2017	Percent Change			Ranking (1=largest percent increase, 2013-2017)
						2013-2015	2015-2017	2013-2017	
Alabama	\$1.17	\$1.17	\$1.14	\$1.10	\$1.05	-2.2	-7.9	-9.9	25
Alaska	2.57	2.32	2.29	2.32	2.27	-11.1	-0.8	-11.8	29
Arizona	0.98	1.00	0.98	0.95	0.88	0.1	-10.5	-10.4	27
Arkansas	0.86	0.81	0.80	0.77	0.74	-7.0	-7.6	-14.0	33
California	1.97	2.01	1.98	1.97	1.83	0.6	-7.6	-7.1	16
Colorado	0.98	1.02	1.05	1.02	0.97	6.7	-7.9	-1.7	8
Connecticut	1.30	1.35	1.33	1.26	1.20	2.2	-9.6	-7.6	19
Delaware	1.45	1.44	1.43	1.47	1.47	-1.0	2.5	1.5	3
District of Columbia	0.60	0.53	0.63	0.48	0.51	4.0	-19.6	-16.4	39
Florida	1.54	1.55	1.40	1.35	1.43	-9.3	2.2	-7.2	17
Georgia	1.16	1.15	1.12	1.10	1.08	-4.1	-3.0	-7.0	15
Hawaii	1.51	1.57	1.64	1.67	1.62	8.8	-1.4	7.3	1
Idaho	1.67	1.66	1.70	1.70	1.69	1.4	-0.3	1.1	4
Illinois	1.31	1.29	1.21	1.15	1.07	-7.6	-12.0	-18.6	41
Indiana	0.88	0.85	0.84	0.81	0.75	-4.1	-11.0	-14.7	35
Iowa	1.63	1.60	1.56	1.54	1.48	-4.0	-5.3	-9.1	22
Kansas	1.35	1.31	1.22	1.14	1.07	-9.2	-12.1	-20.2	43
Kentucky	1.15	1.09	1.06	0.98	0.91	-8.2	-14.5	-21.5	45
Louisiana	1.53	1.53	1.46	1.45	1.44	-3.9	-1.9	-5.8	13
Maine	1.42	1.40	1.37	1.37	1.35	-3.9	-1.1	-4.9	12
Maryland	1.07	1.09	1.07	1.00	0.98	-0.5	-7.6	-8.1	20
Massachusetts	0.75	0.74	0.71	0.73	0.73	-5.1	2.9	-2.4	10
Michigan	1.02	0.95	0.91	0.80	0.74	-11.0	-18.9	-27.8	47
Minnesota	1.15	1.13	1.13	1.12	1.03	-2.0	-9.1	-10.9	28
Mississippi	1.41	1.51	1.42	1.29	1.27	0.8	-10.3	-9.6	24
Missouri	1.12	1.24	1.24	1.22	1.19	10.1	-4.1	5.6	2
Montana	2.24	2.23	2.15	2.12	2.01	-3.7	-6.9	-10.3	26
Nebraska	1.35	1.34	1.28	1.25	1.18	-5.2	-7.5	-12.3	32
Nevada	1.01	1.01	0.99	0.95	0.89	-2.0	-10.1	-11.9	30

New Hampshire	1.31	1.25	1.16	1.10	1.03	-11.5	-11.2	-21.4	44
New Jersey	1.48	1.56	1.53	1.51	1.45	3.0	-5.0	-2.1	9
New Mexico ^a	1.52	1.60	1.58	1.45	1.40	3.6	-11.3	-8.1	21
New York	1.45	1.42	1.45	1.50	1.46	0.0	0.6	0.6	5
North Carolina	1.20	1.15	1.09	1.06	0.97	-8.7	-11.7	-19.3	42
North Dakota	1.81	1.68	1.63	1.45	1.28	-10.1	-21.5	-29.5	49
Ohio	1.01	1.06	0.87	0.76	0.67	-14.0	-22.9	-33.7	50
Oklahoma	2.04	1.81	1.61	1.38	1.26	-21.2	-21.6	-38.3	51
Oregon ^b	1.28	1.22	1.12	1.12	1.07	-12.4	-4.0	-15.9	37
Pennsylvania	1.52	1.48	1.47	1.45	1.34	-3.9	-8.4	-12.0	31
Rhode Island	1.11	1.13	1.14	1.18	1.11	2.6	-2.9	-0.3	7
South Carolina	1.83	1.81	1.74	1.72	1.71	-5.1	-1.4	-6.5	14
South Dakota	1.37	1.31	1.28	1.21	1.16	-6.8	-9.4	-15.6	36
Tennessee	1.23	1.07	0.96	0.93	0.87	-21.6	-9.7	-29.2	48
Texas	0.75	0.73	0.67	0.57	0.54	-10.3	-19.1	-27.5	46
Utah	0.92	0.92	0.88	0.88	0.83	-4.2	-5.4	-9.4	23
Vermont	1.96	1.81	1.82	1.79	1.68	-6.9	-8.0	-14.3	34
Virginia	0.75	0.76	0.75	0.76	0.75	0.3	-0.1	0.2	6
Washington ^c	1.69	1.66	1.66	1.68	1.57	-1.9	-5.6	-7.4	18
West Virginia	1.71	1.56	1.58	1.41	1.41	-7.8	-10.5	-17.5	40
Wisconsin	1.69	1.67	1.70	1.71	1.63	0.6	-4.3	-3.7	11
Wyoming	2.03	2.01	2.04	2.03	1.70	0.4	-16.6	-16.3	38
Total Non-Federal	\$1.34	\$1.34	\$1.30	\$1.27	\$1.21	-3.4	-6.9	-10.0	
Federal Employees ^d	\$1.54	\$1.51	\$1.46	\$1.39	\$1.31	-4.8	-10.7	-15.0	
TOTAL	\$1.37	\$1.37	\$1.33	\$1.31	\$1.25	-2.7	-6.2	-8.8	

Note: Generally states with exclusive state funds operate special funds (or their equivalents) and their experience is included in the benefit and costs entries for those exclusive state funds.

a In New Mexico, employers are assessed \$2.30 per covered worker on the last day of each quarter. Of that assessment, \$2.00 per employee fund the Workers' Compensation Administration of New Mexico, while the residual \$0.30 per employee fund an Uninsured Employers' Fund. Employees also pay \$2.00 each on the last day of each quarter toward funding the Workers' Compensation Administration.

b In Oregon, employers and employees split the Oregon Workers Benefit Fund Assessment equally. The assessment was 3.3 cents per hour worked from 2013 through 2016 but fell to 2.8 cents per hour worked in 2017.

c In Washington state both employers and employees contribute to workers' compensation premiums. In 2017, employees contributed 22 percent of total premiums (25 percent of state fund premiums and 12 percent of self-insured employer cost-of-living-adjustment premiums).

d The "Federal Employees" row depicts the total costs of the Federal Employees Compensation Act (Table B1) per \$100 of federal employee covered wages. In past reports we have included costs of the Longshore and Harbor Workers' Compensation Act and the Black Lung Benefits Act. Consistent with Table 12, data on all three programs is included in the "Total" row. See Appendix B for more information about federal programs.

Source: National Academy of Social Insurance estimates.

Table 15**Workers' Compensation Benefit/Cost Ratios, 1997-2017**

Year	Medical Benefits per \$100 Covered Wages	Cash Benefits per \$100 Covered Wages	Total Benefits per \$100 Covered Wages	Employer Costs per \$100 Covered Wages	Total Benefits per \$1 Employer Cost
1997	0.48	0.69	1.17	1.51	0.77
1998	0.48	0.65	1.13	1.42	0.80
1999	0.48	0.64	1.12	1.36	0.82
2000	0.47	0.59	1.06	1.35	0.79
2001	0.50	0.60	1.10	1.46	0.75
2002	0.52	0.61	1.13	1.61	0.71
2003	0.55	0.61	1.16	1.74	0.67
2004	0.53	0.60	1.13	1.74	0.65
2005	0.51	0.58	1.09	1.72	0.64
2006	0.47	0.52	0.99	1.58	0.63
2007	0.46	0.50	0.96	1.48	0.65
2008	0.49	0.50	0.99	1.35	0.73
2009	0.50	0.53	1.03	1.30	0.79
2010	0.49	0.51	1.00	1.25	0.80
2011	0.51	0.50	1.01	1.30	0.78
2012	0.49	0.50	0.99	1.34	0.74
2013	0.49	0.48	0.97	1.37	0.71
2014	0.47	0.45	0.92	1.37	0.67
2015 ^a	0.44	0.43	0.86	1.33	0.65
2016	0.42	0.42	0.84	1.31	0.64
2017	0.40	0.40	0.80	1.25	0.64

Notes: Benefits are calendar-year payments to injured workers and to providers of their medical care. Employer costs are calendar-year expenditures for workers' compensation insurance premiums, benefits paid under deductibles or self-insurance, and administrative costs.

a In extended form, medical benefits per \$100 is \$0.43551, and cash benefits per \$100 is \$0.42852. These round up to \$0.44 and \$0.43 respectively, but sum to \$0.86404 which rounds down to \$0.86.

Source: National Academy of Social Insurance estimates.

In 2017, total workers' compensation benefits paid were \$0.80 per \$100 of covered wages, down from

\$0.84 in 2016. Total benefits included \$0.40 for medical benefits and \$0.40 for cash benefits.⁵²

injuries that occur in the same year and for benefits paid (on the same injuries) in future years. On the other hand, the majority of cash benefits paid in any given year are for injuries that occurred in previous years (and are covered by the premiums paid in those same previous years). Premiums are influenced by a number of factors, including previous workers' compensation liability experience and insurers' past and anticipate investment returns on reserves set aside to cover future liabilities.

52 See footnote c to Table 15 for explanation of rounding numbers.

Employer costs were \$1.25 per \$100 of covered wages. As shown in Figure 1, these are the lowest levels of both standardized costs and benefits in the past 38 years of data (though costs were as low in 2010). The benefit/cost ratio for 2017 was \$0.64 meaning that, on average, \$0.64 of benefits were paid to injured workers for every dollar of employer costs.

Employer costs for workers' compensation exceed benefits paid (i.e., the benefit/cost ratio is less than one) because some part of employer costs go to administrative expenses and profits for workers' compensation insurers. In addition, employer premiums must account for future inflation in medical costs. That is, employers are paying up front for the costs of current claims that will be paid in future years. Finally, the costs of workers' compensation insurance include a risk premium to compensate for the expected variation in costs from year to year.

The benefit/cost ratio varies from year to year for a number of reasons, including: 1) changes in the proportion of costs of administrative expenses; 2) changes in the underwriting results of the workers' compensation industry, as measured by the overall operating ratio; 3) insurers use a greater (or smaller) portion of their returns on investments, rather than premiums, to defray all or part of their workers' compensation costs; 4) the expected number/severity of workplace injuries increases or decreases; 5) any changes in the proportion of workplace injuries that result in filed and compensated claims; and 6) the time lag between changes in employer costs (premiums collected) and changes in benefits paid varies.

The benefit/cost ratio in 2017 (0.64) continued to be at its lowest point since 2006. The ratio increased by \$0.13 per \$100 of covered wages between 2007 and 2011, then declined by \$0.14 between 2011 and 2017. These trends are typical of changes in workers' compensation benefits and costs in response to changes in the economy. In periods of recession, employer premiums decrease more rapidly than benefits (because premiums reflect expected future liabilities for current injuries), so the benefit/cost ratio increases. In periods of expansion, the opposite is true.

Part of the declining ratio of benefits to costs between 2013 and 2017 might be explained by the increasingly favorable underwriting results for the workers' compensation insurance industry between 2013 and 2017. The most comprehensive measure of underwriting results is the overall operating ratio, which is calculated as (1) the total of all insurance company expenditures (2) minus investment income (3) as a percentage of premiums. The lower the overall operating ratio, the more favorable are the underwriting results for the workers' compensation insurance industry (Brandenburg et al, 2017).

Between 2013 and 2017, the overall operating ratio for the workers' compensation insurance industry declined from 83.1 to 77.7 (Brandenburg 2019, Table 1), which represented a 6.5 percent improvement in underwriting results for workers' compensation insurance companies during these four years. To put the 2017 results in an historical context, the 77.7 overall operating ratio represented the best underwriting results for the workers' compensation insurance industry since the NAIC data series began in 1976. In other words, workers' compensation has been an increasingly profitable line of business for private insurers.

Estimates of Employer Costs from Other Sources

The Academy's estimates compared to Bureau of Labor Statistics (BLS) estimates.

The BLS publishes a quarterly report on Employer costs for Employee Compensation (DOL, 2019a). Estimates are derived from a representative sample of establishments in the private sector, state and local governments. Costs are reported for five benefit categories (paid leave, supplemented pay, insurance, retirement and savings, and legally required benefits) per employee hour worked. Workers' compensation benefits are included within the legally required benefits category. The purpose of the BLS report is to provide average estimate of employer costs per hour worked, inclusive of wages, salaries, and employee benefits.⁵³

53 Burton (2015) uses data from the BLS survey to calculate employer costs for workers' compensation per \$100 of covered payroll and compares it with the Academy's national estimates. This series, which is scheduled to be published by the National Institute of Occupational Safety and Health (NIOSH), is derived from different methods of data collection compared to the Academy.

The purpose of the Academy's report is quite different. The BLS collects data on a broad range of employee benefits, while this Academy report focuses on workers' compensation. The Academy seeks to provide summary data on workers' compensation benefits paid to workers and costs borne by employers at the state and national levels. Our estimates of \$61.9 billion in benefits paid and \$97.2 billion in costs borne by employers in 2017 are the only data that answer questions about aggregate benefits and costs of workers' compensation in the United States.

The Academy's estimates compared to Oregon Rate Ranking estimates.

The Oregon Workers' Compensation Rate Ranking study (Oregon Department of Consumer and Business Services, 2018) also provides estimates of employer costs for workers' compensation. The study, conducted on a biennial basis by the state of Oregon, compares workers' compensation premium rates across states for a standardized set of insurance classifications. The standardization is designed to factor out differences in hazard mix (riskiness of industries) across states to provide a measure of interstate differences in costs for comparable risk distributions.⁵⁴ The standardized rates are based on the Oregon mix of insurance classifications, hence the rankings could be somewhat different if they were standardized based on another state. (See the table on p.11)

Results of the Oregon study should not be compared to the estimates of employer costs reported here. Interstate differences in employer costs that appear in the Academy data are influenced in part by the different risk profiles presented by each state's economy, as well as by variations in self-insurance across states. The Oregon study reports rates for a constant set of

risk classifications across states, and does not include self-insured employers.⁵⁵

Costs to Workers

In some states, a portion of the costs of workers' compensation are directly paid by workers, as discussed in more detail in Appendix D. In Washington, for example, workers contribute directly to the insurance premiums for workers' compensation through payroll deductions. In 2017, about 22.0 percent of the total costs of workers' compensation in Washington were paid directly by workers.⁵⁶ In some states, workers pay a portion of the costs for special workers' compensation funds. In Oregon, for example, workers pay into the Workers' Benefit Fund, which funds a benefit adjustment fund for long-term cases, return-to-work programs, and death benefits. New Mexico has a quarterly workers' compensation assessment for each employee that goes toward funding the Workers' Compensation Administration of New Mexico.⁵⁷ Data in this report primarily covers the employer-paid portion of workers' compensation, but New Mexico, Oregon, and Washington explicitly require employee contributions and are thus included in our estimates.⁵⁸

In addition, workers bear considerable costs that are outside the workers' compensation system, such as the portion of lost wages that are not replaced by workers' compensation benefits. Most workers' compensation statutes provide for weekly benefits that are two-thirds of pre-injury wages. However, the statutes also include weekly maximum and minimum benefit amounts such that the mean replacement rate is less than the two-thirds nominal replacement rate.⁵⁹ In addition, many states impose limits on the duration of permanent partial disability

54 The Oregon estimates are standardized on 50 out of 450 rate classifications.

55 Burton (2013) and Manley (2013) provide more extended discussions of the differences between the measures of employer costs from the Academy and Oregon studies.

56 Employees contributed 25.0 percent of state fund premiums and paid half of the cost-of-living adjustment premium for self-insured employees in 2017, which accounted for 10.9 percent of self-insured workers' compensation costs.

57 See footnote 14 or footnote a to Table 14 for details about New Mexico's assessment.

58 See Appendix D for details on these programs.

59 A study assessing ten-year losses and replacement rates in five states find that rates were far below the two-thirds ideal, ranging from a high of 46% in New Mexico to a low of just 29% in Wisconsin, with the other three states, California (37%), Washington (41%), and Oregon (42%) in between. Reville, R. T., L. I. Boden, J. Biddle and C. Mardesich (2001). "An evaluation of New Mexico workers' compensation permanent partial disability and return to work." Santa Monica, CA, Rand Institute for Civil Justice.

Table 16**Fatal Occupational Injuries - All and Private Industry, 1997-2017**

Year	Number of Fatal Injuries		Fatal Injury Incidence Rates	
	All	Wage & Salary Workers	All	Wage & Salary Workers
1997	6,218	4,959	4.7	4.1
1998	6,026	4,782	4.5	3.9
1999	6,023	4,884	4.5	3.9
2000	5,915	4,731	4.3	3.7
2001 ^a	5,900	4,770	4.3	3.8
2002	5,534	4,481	4.0	3.5
2003	5,575	4,405	4.0	3.4
2004	5,764	4,587	4.1	3.5
2005	5,734	4,592	4.0	3.5
2006	5,840	4,808	4.2	3.6
2007 ^b	5,657	4,613	4.0	3.5
2008	5,214	4,183	3.7	3.2
2009	4,551	3,448	3.5	2.8
2010	4,690	3,651	3.6	3.0
2011	4,693	3,642	3.5	2.9
2012	4,628	3,571	3.4	2.8
2013	4,585	3,635	3.3	2.8
2014	4,821	3,728	3.4	2.8
2015	4,836	3,751	3.4	2.8
2016	5,190	4,098	3.6	3.0
2017	5,147	4,069	3.5	2.9

Note: Wage & Salary workers includes individuals employed in private industry or government, but excludes individuals who are self-employed.

a 2001 totals exclude fatalities from the September 11 terrorist attacks.

b Prior to 2007, fatal injury rates represented the number of fatal occupational injuries per 100,000 employed workers. These rates measure the risk of fatal injury for those employed during a given period of time, regardless of hours worked. Starting in 2007, the BLS adopted a new methodology to calculate fatal injury rates based on the number of hours worked. Hours-based rates measure fatal injury risk based on the average employment and average hours worked during a given period of time. Hours-based fatal injury rates are considered more accurate and should not be directly compared to employment-based rates.

Source: U.S. Department of Labor (2018).

benefits (so that benefits may cease while workers are still experiencing lost earnings from a workplace

injury or illness). The limits on duration further reduce the real replacement rate of cash benefits.⁶⁰

60 Seabury et al. (2014) estimated earnings losses for New Mexico workers' compensation claimants injured from 1994-2000. On average, workers lost 15% of earnings in the 10 years after injury; workers' compensation replaced 16% of earnings losses for the average worker.

Workers also bear costs in the form of waiting periods. A waiting period is the time a worker must wait after experiencing a work-related injury before he or she can begin collecting cash benefits. All but three states (Hawaii, Rhode Island, and Oklahoma) have provisions to pay retroactive benefits to cover the waiting period for more serious (longer duration) lost-time injuries. In most states the retroactive period is between 7 and 21 days (1-3 weeks), but Alaska and New Mexico require workers to wait 28 days (close to a month), and Nebraska's retroactive period is 42 days (see Appendix Table C). Waiting periods may result in lost wages or partial wage replacement if either 1) a worker is injured for fewer days than the waiting period and, thus, does not qualify for cash benefits, or 2) a worker is out of work for more days than the waiting period, but fewer days than the retroactive period. In these cases, the uncompensated time loss attributable to the waiting period constitutes a cost to the worker. The financial costs of uncompensated waiting periods are not routinely tracked or reported by individual states, however, and are therefore extremely difficult to collect and tabulate.

Some injured workers may incur costs because they have income that is not covered by workers' compensation at all. For example, workers holding multiple jobs may not be compensated for lost earnings from a second or subsequent job. Many states also have rules excluding certain types of income (e.g., overtime or shift differentials) from coverage. Other costs to workers may include losses of fringe benefits that occur during periods of injury-related work absence; loss of home production attributable to a work-related injury or illness; and loss of employer contributions to health insurance premiums (unless the worker is also on leave under the Family and Medical Leave Act, or the employer's insurance plan allows continued participation during periods of injury-related work absence). Refer to Leigh and Marcin (2012) for estimates of how the costs of work-related injuries are allocated among insurers, government payers, and injured workers.

Disputed claims are responsible for significant costs to injured workers (and employers). Workers often

hire attorneys to represent them in claims disputes; attorney fees can siphon off 20 percent or more of the cash benefit of their clients. Insured employers are represented by their insurance carrier in legal proceedings, although there are also unreimbursed costs to employers, such as reduced productivity related to injured workers' disability and the cost of time off work for managers and other witnesses to participate in hearings.

Studies comparing lost earnings with workers' compensation benefits show that the proportion of lost earnings replaced by workers' compensation benefits is smaller than can be explained by statutory provisions. This suggests that conclusions drawn only from statutory provisions overestimate the extent of workers' injury-related lost earnings replaced by workers' compensation benefits. (See footnotes 39, 56, and 57.)

Finally, a large portion of costs borne by workers are for work-related injuries and illnesses that never result in a successful workers' compensation claim. Occupational illnesses in particular are frequently uncompensated (see, e.g., Boden and Ozonoff, 2008; Fan et al., 2006; Roseman et al., 2006; and Spieler, 2017).

Incidence of Workplace Injuries and Workers' Compensation Claims

Incidence of Work-Related Injuries

Fatal injuries. The BLS collects information on work-related injuries that result in a worker's death from the National Census of Fatal Occupational Injuries (DOL 2018). According to the BLS data, 5,147 fatal work-related injuries occurred in 2017, a decrease of 0.8 percent from 2016, marking the reversal of an upward trend in fatalities that began in 2013 (Table 16). Over the 20-year period from 1997-2017, total workplace fatalities declined by roughly 17 percent, and the fatality rate (controlling for employment) declined by approximately 25 percent.⁶¹

61 Prior to 2007, BLS fatal injury rates represented the number of fatal occupational injuries per 100,000 employed workers. Since then, the incidence rate accounts for the total number of hours worked by all employees during the calendar year. Incidence rates are reported on a full-time equivalent basis (one FTE worker is defined as 2,000 hours worked per year). Rates before and after 2007 are therefore not strictly comparable, and the 25 percent reduction is an approximation.

In 2017, the total number of fatalities included 4,069 (79%) wage and salary workers and 1,078 (21%) self-employed workers. The leading cause of work-related fatalities in 2017 was transportation incidents, accounting for roughly 40 percent of all fatal injuries. Other leading causes of fatalities were: falls, slips, and trips (17%); contact with objects and equipment (14%); and exposure to harmful substances or environments (10%). Violence and injuries accounted for another 16% of fatalities, more than half of which were homicides (DOL, 2018).

Annual work-related fatalities have declined 17 percent over the last two decades, despite a slight uptick in the years after the recession in response to the expanding economy.

Nonfatal injuries and illnesses. The BLS also collects information on reported nonfatal work-related injuries or illnesses from a sample survey of employers (Survey of Occupational Injuries and Illnesses) (DOL 2018a). The survey reported 2.81 million recordable nonfatal workplace injuries and illnesses in private industry workplaces in 2017, roughly one-third of which (882,730) involved days away from work (DOL 2018a). Both metrics declined from 2016; nonfatal workplace injuries and illnesses declined 1.6 percent and cases involving days away from work fell 1.1 percent, despite increases in employment over that time.

The incidence rate per 100 FTE workers, which controls for changes in employment levels, also declined from 2.9 per 100 workers in 2016 to 2.8 in 2017 (Table 17). The decline in the incidence of all reported nonfatal occupational injuries and illnesses continues a trend that has persisted over the last two decades. Since 1997, the incidence rate has decreased 61 percent from 7.1 per 100 FTE workers, to 2.8 per 100 in 2017. Since 2002, after the Occupational Safety and Health Administration (OSHA) changed

recordkeeping requirements, the incidence rate per 100 FTE workers is down 47 percent.⁶²

Injuries involving lost work time or work restrictions. Figure 5 and Table 17 show trends in the incidence of reported work-related injuries and illnesses among private-industry employees for cases involving either days away from work or injury-related job accommodations (job transfer or restrictions on work). These data also come from the BLS employer survey (DOL, 2018a).

The incidence of reported injuries or illnesses involving days away from work has also declined, down from 2.1 per 100 FTE workers in 1997 to 0.9 per 100 in 2017, the third year in which the rate has been below 1.0 per 100 workers across the twenty-year study period (Table 17 and Figure 5). While the incidence rate of injuries or illnesses involving days away from work has declined steadily since 1997, the incidence of cases resulting in job transfers or work restrictions only began to fall more recently, around 2004-2005. In 2005, that rate was 1.0 per 100, similar to the prior decade, but has since fallen to 0.7, where it has been since 2011, a decline of roughly one third.

Some of the changes in the 1990s, when the incidence of reported injuries involving work absence was decreasing while the incidence of transfers/work restrictions was increasing, may reflect a greater focus on employer accommodations that enable injured workers to return to modified work, until they are fully recovered and able to return to their pre-injury jobs. The declining incidence rate of cases with job transfer or restriction in recent years is not necessarily indicative of less focus on employer accommodations, because the overall incidence rate of cases with any days away from work is also declining. In fact, over time, the proportion of cases with job transfers or restrictions is rising as a share of total cases with either days away from work or with a job transfer or restriction. This suggests that workers today are more likely than they were in the past of benefiting from employer accommodations.

In 2017, the most common reported nonfatal workplace injuries and illnesses that resulted in days away from work in private industry were: sprains, strains,

62 The break in the trend lines in 2002 represents a change in OSHA recordkeeping requirements in that year, indicating that the data before and after 2002 may not be strictly comparable.

Table 17**Non-Fatal Occupational Injuries and Illnesses Among Private Industry Employers, 1996-2017**

Year	Number of Cases (millions)			Incidence Rate (per 100 full-time workers)		
	All Cases	Cases with Any Days Away from Work	Cases with Job Transfer or Restriction	All Cases	Cases with Any Days Away from Work	Cases with Job Transfer or Restriction
1996	6.2	1.9	1.0	7.4	2.2	1.1
1997	6.1	1.8	1.0	7.1	2.1	1.2
1998	5.9	1.7	1.1	6.7	2.0	1.2
1999	5.7	1.7	1.0	6.3	1.9	1.2
2000	5.7	1.7	1.1	6.1	1.8	1.2
2001	5.2	1.5	1.0	5.7	1.7	1.1
2002*	4.7	1.4	1.1	5.3	1.6	1.2
2003	4.4	1.3	1.0	5.0	1.5	1.1
2004	4.3	1.3	1.0	4.8	1.4	1.1
2005	4.2	1.2	1.0	4.6	1.4	1.0
2006	4.1	1.2	0.9	4.4	1.3	1.0
2007	4.0	1.2	0.9	4.2	1.2	0.9
2008	3.7	1.1	0.8	3.9	1.1	0.9
2009	3.3	1.0	0.7	3.6	1.1	0.8
2010	3.1	0.9	0.7	3.5	1.1	0.8
2011	3.0	0.9	0.6	3.4	1.0	0.7
2012	3.0	0.9	0.7	3.4	1.0	0.7
2013	3.0	0.9	0.7	3.3	1.0	0.7
2014	3.0	0.9	0.7	3.2	1.0	0.7
2015	2.9	0.9	0.7	3.0	0.9	0.7
2016	2.9	0.9	0.7	2.9	0.9	0.7
2017	2.8	0.9	0.6	2.8	0.9	0.7

Note: Data for 2002 and beyond are not strictly comparable to data from prior years because of changes in OSHA recordkeeping requirements.

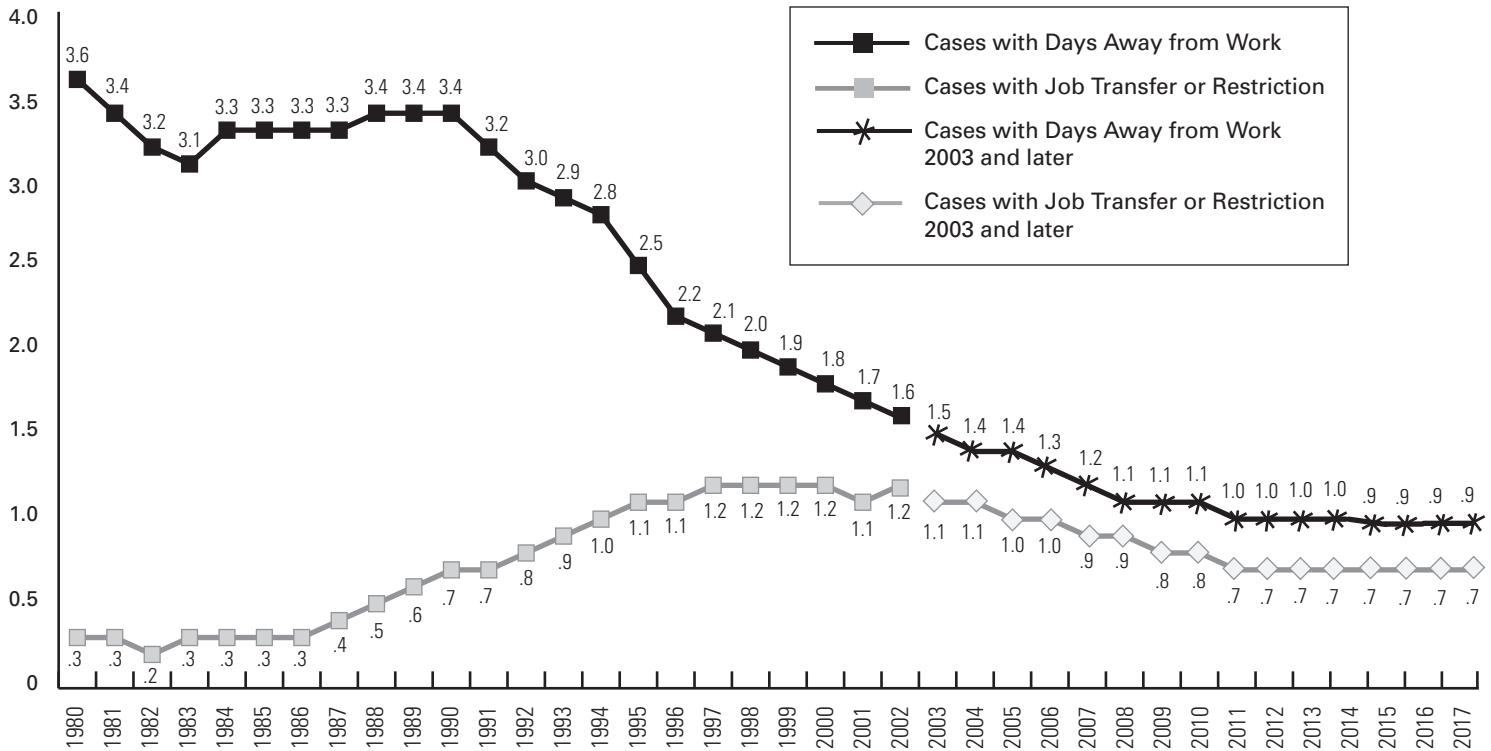
Source: U.S. Department of Labor (2018a).

and tears (31.5 per 10,000 FTE workers); soreness or pain, including back pain (14.5); bruises and contusions (8.0); and fractures (8.5) (DOL, 2018a). The three major occupational groups with the highest incidence of injuries and illnesses involving days away from work in private industry were: protective

service (298.4 per 10,000 FTE); transportation and material moving occupations (235.3); and building and grounds cleaning and maintenance occupations (233.2). Each of these occupational groups had incidence rates that were more than 260 percent of the

Figure 5

Private Industry Occupational Injuries and Illnesses: Incidence Rates, 1980-2017



Notes: The break in the graph indicates that the data for 2003 and beyond are not strictly comparable to prior year data due to changes in Occupational Safety & Health Administration recordkeeping requirements. Cases involving days away from work are cases requiring at least one day away from work with or without days of job transfer or restriction. Job transfer or restriction cases occur when, as a result of a work-related injury or illness, an employer or health care professional keeps, or recommends keeping an employee from doing the routine functions of his or her job or from working the full workday that the employee would have been scheduled to work before the injury or illness occurred.

Source: U.S. Department of Labor (2017a).

incidence rate (89.4 per 10,000 FTE) for the private sector as a whole (DOL 2018a).

Incidence of Workers' Compensation Claims

The National Council on Compensation Insurance collects information on the number of workers' compensation claims paid by private carriers in 38 states (NCCI, 2019a).⁶³ The data, replicated in Table 18 for years 1996-2015 (the most recent year reported), show declining trends in the incidence (or frequency) of claims similar to the declining trends in the

incidence of work-related injuries reported by the BLS.

According to the NCCI data, the number of workers' compensation claims covered by privately insured employers declined by 56.8 percent between 1996 and 2015 (compared to the BLS estimate of 53.4 percent decrease in injuries and illnesses for private industry employers over the same time period). The NCCI data indicate that the number of temporary total disability claims from private industry declined by 60.1 percent between 1996 and 2015

63 NCCI measures the frequency of lost time claims for injuries occurring in the accident year per \$1 million of earned premium in that year, adjusted by state for changes in average weekly wages.

Table 18**Workers' Compensation Claims Per 100,000 Insured Workers:
Private Carriers in 38 Jurisdictions, 1996-2015**

Policy Period	Total	Medical Only (MO)	MO as Percent of Total	Temporary Total (TTD)	TTD as Percent of Total	Permanent Partial (PPD)	PPD as Percent of Total
1996	6,837	5,281	77.2%	1,124	16.4%	419	6.1%
1997	6,725	5,230	77.8%	1,070	15.9%	414	6.2%
1998	6,474	5,035	77.8%	977	15.1%	452	7.0%
1999	6,446	5,047	78.3%	927	14.4%	461	7.2%
2000	6,003	4,685	78.0%	870	14.5%	437	7.3%
2001	5,510	4,277	77.6%	799	14.5%	423	7.7%
2002	5,239	4,036	77.0%	770	14.7%	422	8.1%
2003	4,901	3,747	76.5%	725	14.8%	423	8.6%
2004	4,728	3,635	76.9%	702	14.8%	385	8.1%
2005	4,571	3,514	76.9%	667	14.6%	383	8.4%
2006	4,376	3,351	76.6%	638	14.6%	381	8.7%
2007	4,076	3,107	76.2%	587	14.4%	375	9.2%
2008	3,615	2,730	75.5%	515	14.2%	363	10.0%
2009	3,452	2,659	77.0%	521	15.1%	357	10.3%
2010	3,492	2,621	75.1%	509	14.6%	358	10.3%
2011	3,412	2,565	75.2%	504	14.8%	339	9.9%
2012	3,278	2,464	75.2%	487	14.9%	323	9.9%
2013	3,191	2,390	74.9%	484	15.2%	312	9.8%
2014	3,076	2,308	75.0%	470	15.3%	293	9.5%
2015	2,952	2,222	75.3%	449	15.2%	276	9.3%
Percent change, 1996-2015	-56.8	-57.9		-60.1		-34.1	

Source: National Council of Compensation Insurance, 1997-2019, Exhibit XII, *Annual Statistical Bulletin*. The most recent data available is 2015.

(compared to the BLS estimate of a 52.1 percent decline in injuries and illnesses involving days away

from work for private industry employers, unchanged from 1996-2014 (Tables 17 & 18).⁶⁴

⁶⁴ While the trends in private-sector injury or illness claims from the BLS and NCCI are similar over time. There are a number of reasons why they may differ. First, there are discrepancies in the classification of claims. In workers' compensation, there is generally a three-to-seven-day waiting period before a claim is recorded (and would be reported in NCCI data), whereas any case in which a

The reader is cautioned that injury rates that have been extrapolated from workers' compensation claims data may not be wholly accurate because key stakeholders have incentives to under-report or over-report occupational injuries and illnesses.⁶⁵ There is also evidence that changes in workers' compensation laws and procedures since 1990 have made it more difficult for workers to file claims, resulting in reductions in reported injury and claim rates (Ruser and Boden 2003, Guo and Burton 2010).

There are many reasons to suspect under-reporting on the part of workers, employers, and/or medical providers. *Workers* may not report injuries for one or more of several reasons: they do not know that the injury is covered by workers' compensation; they believe that filing for benefits would be too time-consuming, difficult, or stressful; they believe that the injury is something to be expected as part of their job; or they fear employer retaliation (Galizzi et al., 2010; Pransky et al., 1999; Strunin and Boden, 2004). *Employers* may fail to report injuries because: their recordkeeping is faulty; they want to maintain a superior safety record to protect their experience rate; or they are unaware that an injury is covered by workers' compensation (Azaroff et al., 2002; Lashuay and Harrison, 2006; and Wuellner and Phipps, 2018). Medical providers may fail to report injuries and illnesses that take time to develop, such as carpal tunnel syndrome, noise-induced hearing loss, and lung diseases like silicosis, because they are unaware of the workplace connection.⁶⁶

There are also incentives for workers and/or medical providers to over-report injuries or illnesses as work-related. The 100 percent coverage of medical costs under workers' compensation creates incentives for both groups to identify a work-related cause when the etiology of an injury or illness is uncertain.

Workers have incentives to report an injury as work-related because there are no deductibles or co-payments for health care. They may also receive more generous cash benefits from workers' compensation than from a private disability plan or state unemployment insurance.

With respect to providers, there is evidence that soft-tissue conditions are more likely to be classified as work-related in states with higher workers' compensation physician reimbursement rates (Fomenko and Gruber, 2016). The trend towards capitated payment systems in health care also influences medical provider incentives. One study found that an increase in capitation payments under group health plans led to an increase in the number of soft-tissue conditions that were labeled work-related and paid by workers' compensation (Victor et al., 2015).

Addendum

Other Benefits Available to Disabled Workers

The primary purpose of this report is to describe trends in workers' compensation benefits, costs, and coverage with respect to two key stakeholder groups: the injured workers who receive benefits and the employers who pay for them. Workers' compensation cash benefits, however, can be supplemented by other sources of income for injured workers, and workers' compensation medical benefits can also be augmented health care provided by other programs. This addendum describes the major disability support programs that interact with workers' compensation, namely: temporary sick leave, short- and long-term disability benefits, retirement benefits, Social Security Disability Insurance, and Medicare.

worker misses at least one day away from work is classified as a "days away from work" (DAFW) case by OSHA and reflect as such in BLS published data. Second, the BLS and NCCI cover different jurisdictions – the BLS covers injuries and illnesses across the entire U.S., whereas NCCI only records workers' compensation claims for private insurers and competitive state funds in 38 jurisdictions. And even in these jurisdictions, NCCI does not record any workers' compensation claims that occurred at self-insured firms. Third, there is evidence that some employers do not comply with OSH recordkeeping or Survey of Occupational Injuries and Illness reporting instructions, leading to underreporting of workers' compensation-eligible claims in BLS data (Rappin et al., 2016).

65 See Azaroff et al. (2002), Spieler and Burton (2012), and OSHA (2015) for reviews of studies on the reporting of work-related injuries and illnesses.

66 Studies have typically shown much less reporting of these types of conditions as work-related as is suggested by their prevalence in medical data (Stanbury et al., 1995; Biddle et al., 1998; Morse et al., 1998; Milton et al., 1998; DOL, 2008). According to a GAO report, some health care providers say that they have been pressured to provide less treatment than they believe is warranted in order to avoid the need to report an injury or illness as work-related (GAO, 2009).

Sick Leave. Sick leave is a common form of wage replacement for short-term absences from work due to illnesses or injuries unrelated to work. About 68 percent of all private-sector employees had access to some type of paid sick leave in 2017, provided through their employer or a private short-term disability plan (DOL, 2017c). Sick leave typically pays 100 percent of wages for a number of days depending on the worker's job tenure and hours worked. Employers or union contracts can provide for continuation of wages during the waiting period (three to seven days) of their workers' compensation disability claim.

Paid sick leave is often utilized to cover work absences associated with minor work-related injuries. Compared to filing a claim for workers' compensation temporary disability benefits, sick leave is administratively much easier for workers to access and employers to administer. For employers, the workers' compensation option has reporting requirements and negative impacts on premium rates that are not part of paid sick leave. For workers, the decision to report and pursue a workers' compensation claim involves a lower wage replacement rate and a minimum three-day wage penalty (unless they also apply for paid sick leave).⁶⁷ These factors all provide incentives for employers and injured workers to rely on other programs (such as health insurance and paid sick leave) for compensation.

Short-term disability benefits. Five states (California, Hawaii, New Jersey, New York, and Rhode Island) have Temporary Disability Insurance (TDI) programs, also known as State Disability Insurance (SDI) or paid medical leave, that provide short- to medium-term disability insurance for employees. In these five states, TDI is a statutory program that provides partial wage replacement for workers taking time off to recover from a non-work-related injury or illness, or from pregnancy (Glynn et al, 2017). And some private employers offer short-term disability insurance to their workers even in states in which such insurance is not required. About 39 percent of private industry workers had access to short-term disability insurance through one of these mechanisms in 2017, and 38 percent were covered (DOL, 2018c). Typically,

workers must have a specified amount of past employment or earnings to qualify for benefits, and benefits replace about half of the worker's prior earnings. In general, workers receiving workers' compensation benefits are not eligible to simultaneously receive these types of short-term disability benefits.

There are also short-term disability plans that cover periods of work absence longer than the available paid sick leave, but shorter than required to qualify for long-term disability benefits. In addition, there are state and municipal short-term disability benefit programs for public employees (particularly for police and firefighters) that coordinate with workers' compensation programs or, in some cases, are an alternative to workers' compensation.

Long-term disability insurance. Long-term disability insurance covered 32 percent of private-sector employees in 2017 (DOL, 2017c). Such coverage is most common among relatively high-paying management, professional, and related occupations. About 54 percent of workers in management and professional-related occupations were covered by long-term disability plans as of 2017, compared to 33 percent of workers in sales and office occupations and 14 percent of workers in service occupations (DOL 2018c). Long-term disability insurance is also sold in individual policies, typically to high-earning professionals. Individual policies are not included in the coverage statistics reported to the DOL.

Long-term disability benefits are usually paid after a waiting period of three to six months or after short-term disability benefits end. Long-term disability insurance is generally designed to replace 60 percent of earnings, although replacement rates of 50 or 66 percent are also common. Almost all long-term disability insurance is coordinated with Social Security Disability Insurance (SSDI) and workers' compensation. That is, private long-term disability benefits are reduced dollar-for-dollar by the amount of Social Security or workers' compensation benefits received. If Social Security benefits replace 40 percent of a worker's prior earnings, for example, a long-term disability benefit that replaces 60 percent of earnings

⁶⁷ Workers' compensation typically replaces two-thirds of a worker's pre-injury wages before tax up to a maximum, but these benefits are not taxed. A useful wage-replacement comparison is workers' compensation benefits and post-tax wages.

would pay the balance to achieve a 60 percent wage replacement.

Retirement benefits. Retirement benefits may also be available to workers who become disabled because of a work-related injury or illness. Most defined-benefit pension plans have some disability provision; benefits may be available at the time of disability or may continue to accrue until retirement age. Defined-contribution pension plans will often make funds in an employee's account available without penalty if the worker becomes disabled, but these plans do not have the insurance features of defined-benefit pensions or disability insurance.

Federal disability programs. Social Security Disability Insurance (SSDI) and Medicare provide cash and medical benefits, respectively, to workers who become disabled and unable to work prior to normal retirement age. SSDI benefits are available to workers with disabilities whether or not the disability results from a work-related injury, but the eligibility rules for SSDI differ from the rules for workers' compensation.

Workers are eligible for workers' compensation benefits from their first day of employment, while eligibility for SSDI requires workers to have a history of contributions to the Social Security system.⁶⁸

Workers' compensation cash benefits begin after a few days of work absence, while SSDI benefits begin only after a five-month waiting period. Workers'

compensation provides benefits for both short- and long-term disabilities and for partial as well as total disabilities. SSDI benefits are paid only to workers who have long-term impairments that preclude gainful employment that is suitable for the worker by virtue of their training and expertise.

Medicare pays health care costs for persons who receive SSDI benefits after an additional 24-month waiting period (or 29 months after the onset of disability). Medicare covers all medical conditions, whether or not the primary disability is work-related. In 2017, workers' compensation benefits paid (cash benefits plus medical payments) totaled \$62.0 billion. SSDI paid \$142.7 billion in wage replacement benefits to disabled persons and their dependents, and Medicare paid \$99.2 billion for medical care for disabled persons under age 65, for a total of \$241.9 billion (SSA, 2018; CMS, 2019).

Dual beneficiaries. If a worker becomes eligible for both SSDI and workers' compensation cash benefits, one or both programs will reduce benefits to ensure that the payments to beneficiaries do not exceed allowable limits based on the worker's past earnings.⁶⁹ The Social Security Amendments of 1965 require that SSDI benefits be reduced (or "offset") such that the combined total of workers' compensation and SSDI benefits does not exceed 80 percent of the worker's prior earnings.⁷⁰ The offset provision affects 35 states; 15 states that had established reverse-offset laws prior to the 1965 legislation received exemptions.⁷¹ In reverse-offset states,

68 To qualify for SSDI, individuals must meet two different earnings tests: 1) a recent work test, based on age at the time of disability; and 2) a duration of work test. Generally, workers must have earned at least 20 work credits in the 10 years immediately before becoming disabled, although younger workers may qualify with fewer credits.

69 The interaction between workers' compensation and SSDI is complex. Studies have investigated the impact of changes to workers' compensation programs on SSDI outcomes using aggregate data and found mixed results (e.g. Guo and Burton, 2012; McInerney and Simon, 2012). While the potential impact and magnitude of changes in workers' compensation on SSDI is unclear, studies using individual-level data have found evidence that work-related injuries are a significant source of disability later in life (e.g., Reville and Schoeni, 2004; O'Leary et al., 2012). Burton and Guo (2016) examine the relationship between SSDI and workers' compensation programs in detail and provide a number of policy options aimed at improve the interaction between the two.

70 The cap remains at 80 percent of the worker's average earnings before disability except that, in the relatively few cases when Social Security disability benefits for the worker and dependents exceed 80 percent of prior earnings, the benefits are not reduced below the Social Security amount. This cap also applies to coordination between SSDI and other public disability benefits derived from jobs not covered by Social Security, such as state or local government jobs where the governmental employer has chosen not to cover its employees under Social Security. The portion of workers' compensation benefits that offset (reduce) SSDI benefits are subject to federal income tax (IRC section 86(d)(3)).

71 States with reverse offset laws for some or all types of workers' compensation benefits are: Alaska, California, Colorado, Florida, Louisiana, Minnesota, Montana, Nevada, New Jersey, New York, North Dakota, Ohio, Oregon, Washington, and Wisconsin. California's reverse offset laws apply only to workers' compensation benefits paid through the Subsequent Injuries Fund and Industrial Disability Leave. In addition, there are reverse offset rules for other types of public disability benefits in Hawaii, Illinois, New Jersey, and New York (SSA Program Operations Manual System, DI 52105.0001). Legislation in 1981 eliminated states' option to adopt reverse offset laws.

Table 19**Dual Eligible Individuals: Social Security Disability Insurance (SSDI) Beneficiaries with Workers' Compensation (WC) or Public Disability Benefits (PDB), 2017**

Type of Case	Total		Workers		Dependents	
	Number	Percent	Number	Percent	Number	Percent
All Disability Insurance Beneficiaries	10,411,252	100.0	8,695,475	100.0	1,715,777	100.0
Total Dual Eligibles	1,161,996	11.2	963,330	11.1	198,666	11.6
Currently Receiving SSDI and WC or PDB	559,973	5.4	466,668	5.4	93,305	5.4
SSDI Reduced by Cap	88,819	0.9	67,863	0.8	20,956	1.2
SSDI Not Reduced by Cap	363,909	3.5	308,908	3.6	55,001	3.2
Reverse Jurisdiction	43,822	0.4	36,585	0.4	7,237	0.4
Pending Decision on WC or PDB	63,423	0.6	53,312	0.6	10,111	0.6
SSDI Previously Offset by WC or PDB	602,023	5.8	496,662	5.7	105,361	6.1

Notes: Social Security disability benefits are offset against workers' compensation and certain other public disability benefits (PDB) in most states. In general, PDBs refer to disability benefits earned in state, local, or federal government employment that are not covered by Social Security. There are 15 states with reverse offset laws where SSDI is the first payer for some or all types of workers' compensation benefits. The states are Alaska, California, Colorado, Florida, Louisiana, Minnesota, Montana, Nevada, New Jersey, New York, North Dakota, Ohio, Oregon, Washington, and Wisconsin. California's reverse offset laws only apply to workers' compensation benefits paid through the Subsequent Injuries' Fund and Industrial Disability Leave. SSDI previously offset by WC or PDB consists of the entire universe of beneficiaries who are currently receiving SSDI benefits that at one point had their SSDI benefits offset by WC or PDB, but no longer do.

Source: Social Security Administration, Master Beneficiary Record, 100 percent data, and Social Security Administration Workers' Compensation and Public Disability Benefit file, 100 percent data (SSA, 2018a).

workers' compensation benefits are reduced (offset) by SSDI benefits.

According to the Medicare Secondary Payer Act, workers' compensation is the primary payer for illnesses and injuries covered under workers' compensation laws. Medicare is the secondary payer for medical costs after the workers' compensation payer's obligation is met.⁷²

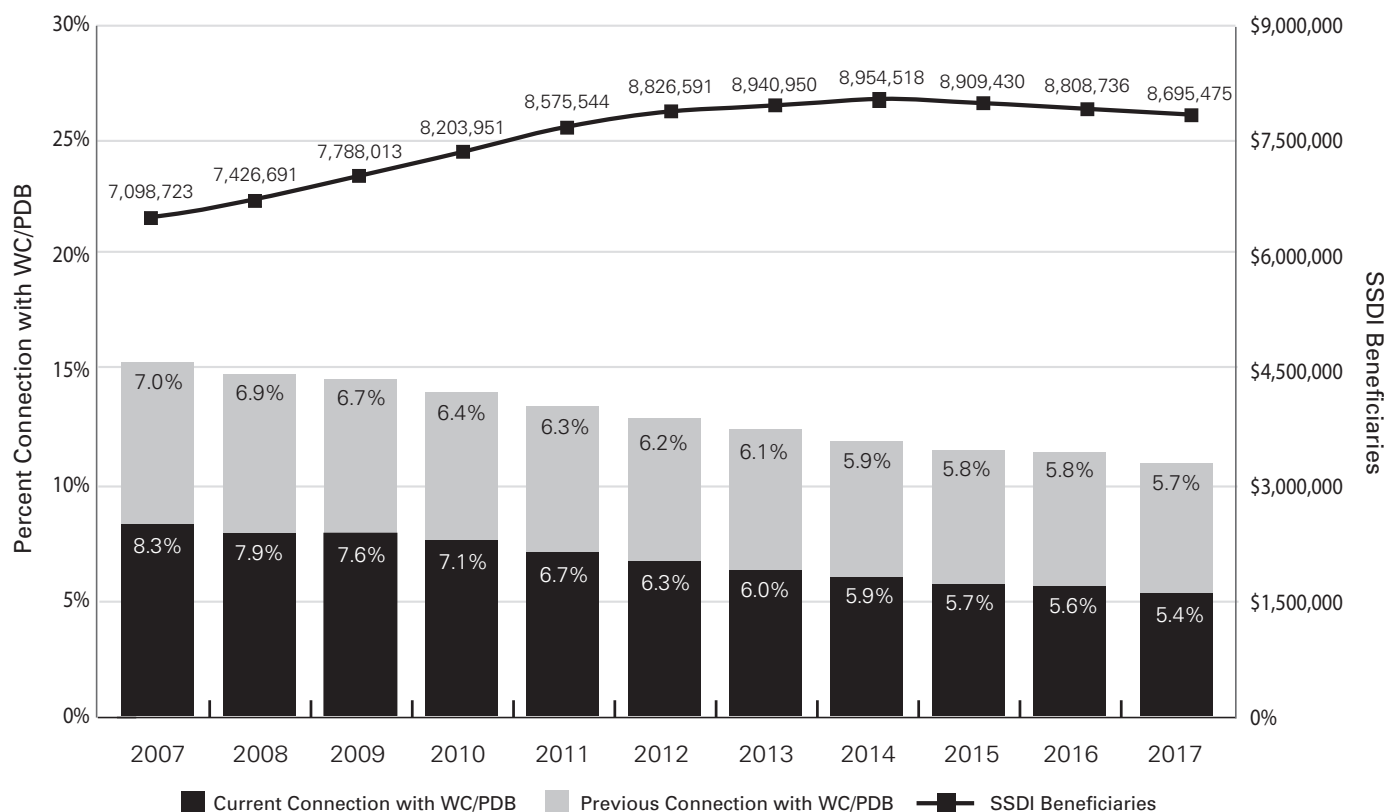
As of December 2017, about 8.7 million workers with disabilities and 1.7 million dependents received SSDI benefits (SSA, 2019). (Table 19) About 560,000 (5.4%) of these individuals were dual beneficiaries of workers' compensation or other public disability benefit (PDB) programs in 2017.⁷³ Of these, about 89,000 persons (0.9% of total beneficiaries; 15.9% of beneficiaries currently receiving SSDI and WC or PDB) were currently

72 There are specific provisions within the federal Medicare statute requiring that self-insured employers and insurance plans report workers compensation payments for purposes of administering the Medicare Secondary Payer Provisions. The reports are required for individuals who are Medicare beneficiaries or likely to be Medicare beneficiaries due to disability. Although not comprehensive reports with respect to all employees subject to workers' compensation, the reports are used as the basis for determining federal policy that may be effectively imposed on the state workers' compensation programs.

73 In general, PDBs refer to disability benefits earned in state, local, or federal government employment that are not covered by Social Security.

Figure 6

Proportion of Worker SSDI Beneficiaries with Connection to Workers' Compensation or Public Disability Benefits, 2007-2017



receiving scheduled SSDI benefits because of the offset provision.

Between 2007 and 2017, the total number of disabled workers receiving SSDI benefits increased 22.5 percent, though there was a 2.4 percent decline from 2015 to 2017 (Figure 6). Over the entire time period, the proportion of workers with disabilities receiving SSDI benefits with a current connection to WC or other PDB programs fell 3.2 percentage points to 5.4 percent of all SSDI recipients in 2017. The decline in the proportion of SSDI recipients with a current connection to WC or PDB is due to the combination of the increasing number of SSDI recipients and a decline in the absolute number of workers with a current connection to WC or PDB, which fell 19.8 percent over the time period. The proportion of SSDI recipients with a previous con-

nection to WC or PDB also declined between 2007 and 2017, but this is due to the increase in total SSDI recipients – the absolute number of SSDI recipients with a previous connection to WC or PDB increased by 1.1 percent over the time period.

Benefits Incurred vs. Benefits Paid

The Academy's estimates of workers' compensation benefits in this report reflect amounts paid for work-related injuries and illnesses within a calendar year, regardless of when those injuries occurred. A different metric, accident-year incurred losses (or accident-year incurred benefits), measures the total expected benefits associated with injuries that occur in a particular year, regardless of whether the benefits are paid in that year or future years.⁷⁴

74 A more detailed discussion of these measures is included in the Glossary and in Thomason et al. (2001).

For the purpose of setting insurance premiums, it is vital to estimate the incurred benefits the premiums are required to cover. When an employer purchases workers' compensation insurance for a particular period, the premiums are designed to cover current and future liabilities for all injuries that occur during the period covered by the policy. NCCI and state rating bureaus use trends in accident-year (or policy-year) incurred benefits to help determine their rates.

Benefits incurred are also more appropriate for policy purposes than benefits paid. For example, if a state lowers benefits or tightens compensability rules for new injuries as of a given date, benefits would be expected to decline in the future. The policy change will show up immediately in estimates of incurred benefits but will be observed more slowly in measures of paid benefits, because paid benefits also include benefits for injuries occurring in years prior to (and unaffected by) the policy change.

Notwithstanding the advantages of tracking benefits incurred, there are also a number of disadvantages. It

takes many years before the estimated losses associated with injuries occurring in a given year are reliable and stable, whereas benefits paid are known and fixed for any given reporting period. Further, using incurred-loss data instead of paid losses may have some advantages for setting actuarial reserves and rate making, but it has the disadvantage of not being readily available from state agencies, self-insured employers, many state funds, or from federal workers' compensation programs. Nor are incurred losses from different sources useful to aggregate without an understanding of how the incurred losses were estimated by each source. Finally, data on incurred benefits do not include benefits paid by employers under large-deductible policies, benefits paid by employers insured under monopolistic state funds, or benefits paid in states with a rating bureau. For these reasons, the Academy relies on calendar-year benefits paid to provide the most accurate and consistent estimates of state-by-state and national workers' compensation payments.

Glossary

Accident Year: The year in which an injury occurred, or the year of onset or manifestation of an illness.

Accident Year Incurred Benefits: Benefits associated with all injuries and illnesses occurring in the accident year, regardless of the years in which the benefits are paid. (Also known as calendar accident year incurred benefits.)

Black Lung Benefits: See: Coal Mine Health and Safety Act.

BLS: The Bureau of Labor Statistics (BLS) in the U.S. Department of Labor is a statistical agency that collects, processes, analyzes, and disseminates statistical data about the labor market. For more information, visit www.bls.gov.

Calendar Year Paid Benefits: Benefits paid during a calendar year regardless of when the injury or illness occurred.

Coal Mine Health and Safety Act: The Coal Mine Health and Safety Act (Public Law 91-173) was enacted in 1969 and provides black lung benefits to coal miners disabled as a result of exposure to coal dust and to their survivors.

Combined Ratio After Dividends. The combined ratio after policy holder dividends is a measure of the profitability of an insurer. The ratio equals the sum of losses, loss adjustment expenses, underwriting expenses, and dividends to policyholders, divided by net premiums. The ratio is expressed as a percent. (See: Overall Operating Ratio.)

Compromise and Release (C&R) Agreement: An agreement to settle a workers' compensation case. State laws vary as to the nature of these releases, but there are typically three elements to a C&R agreement: a compromise between the worker's claim and the employer's offer concerning the amount of cash and/or medical benefits to be paid; the payment of the compromised amount in a fixed amount (commonly called a "lump sum" but which may or may not be paid to the claimant at once); and the release of the employer from further liability. Unless it was "full and final", the release may allow for reopening medical or indemnity payments under specific conditions.

Covered Employment: The Academy's coverage data include jobs in firms that are required to be covered by workers' compensation programs. A more inclusive measure of covered employment would also include jobs in firms that voluntarily elect coverage. A less inclusive measure of covered employment would exclude workers who are legally required to be covered by workers' compensation programs who actually are not covered.

Deductibles: Under deductible policies written by private carriers or state funds, the insurer is responsible for paying all the workers' compensation benefits, but employers are responsible for reimbursing the insurer for those benefits up to a specified deductible amount. Deductibles may be written into an insurance policy on a per injury basis, or an aggregate basis, or a combination of a per injury basis with an aggregate cap.

Defense Base Act: The Defense Base Act (DBA-42 U.S.C. §§ 1651-54) is a federal law extending the Longshore and Harbor Workers' Compensation Act (33 U.S.C. §§ 901-50), passed in 1941 and amended later, to persons: (1) employed by private employers at U.S. defense bases overseas; (2) employed under a public work contract with the United States performed outside the U.S.; (3) employed under a contract with the United States, for work performed outside the U.S. under the Foreign Assistance Act; or (4) employed by an American contractor providing welfare or similar services outside the United States for the benefit of the Armed Services.

DI: Disability insurance from the Social Security program. See: SSDI.

Disability: A loss of functional capacity associated with a health condition.

Experience Rating: An insurance policy is experience rated if insurance premiums reflect the relative risk of loss of the insured. There are two levels of experience rating in workers' compensation. Manual rates (or pure premiums) are developed for each insurance classification (category of work) in a state based on previous benefit payments by all firms operating in that classification. Firm-level experience rating compares an employer's loss experience to the

average losses of other firms in the same insurance classification. An experience modification is developed and applied to the premium of firms which are large enough for the insured's experience to be a reliable indicator of benefit costs in the future.

FECA: The Federal Employees' Compensation Act (FECA) Public Law (103-3 or 5 U.S.C. §§ 8101-52), enacted in 1916, provides workers' compensation coverage to U.S. federal civilian and postal workers around the world for work-related injuries and occupational diseases.

FELA: The Federal Employers' Liability Act (FELA 45 U.S.C. § 51 et seq.), enacted in 1908, gives railroad workers engaged in interstate commerce an action in negligence against their employer in the event of work-related injuries or occupational diseases.

Guaranty Fund: A guaranty fund is a special state-based fund that assumes all or part of the liability for workers' compensation benefits provided to a worker when the employer or insurance carrier legally responsible for those benefits is unable to make payments. Guaranty funds for private insurance carriers (all states with private carriers have these) and for self-insuring employers (less than half the states have these) are always separate funds. Both types are financed by assessments on insurers or self-insured employers, respectively.

Group Self-Insurance: A special form of self-insurance that is available to groups of employers, which is only available in a little over half of the states. This is similar to a mutual insurance company and, as such, is closely regulated.

IAIABC: The International Association of Industrial Accident Boards and Commissions (IAIABC) is the organization representing workers' compensation agencies in the United States, Canada, and other nations and territories. For more information, visit www.iaiabc.org.

Impairment: An impairment is an anatomical or functional abnormality or loss resulting from an injury or disease. The impairment can be physical or mental.

Incurred Losses (or Incurred Benefits): Benefits paid to the valuation date plus liabilities for future

benefits for injuries that occurred in a specified period, such as an accident year.

Jones Act: The Jones Act is Section 27 of the Merchant Marine Act (P.L. 66-261), passed in 1920, which extends the provision of the Federal Employers' Liability Act to qualifying sailors (individuals assigned to a vessel or fleet that operates in navigable waters, meaning waterways capable of being used for interstate or foreign commerce).

LHWCA: The Longshore and Harbor Workers' Compensation Act (LHWCA 33 U.S.C. §§ 901-50), enacted in 1927, requires employers to provide workers' compensation protection for longshore, harbor, and other maritime workers. See: Defense Base Act (DBA).

Loss Adjustment Expenses: Salaries and fees paid to insurance adjusters, as well as other expenses incurred from adjusting claims.

Losses: A flexible term that can be applied in several ways: Paid benefits, incurred benefits, fully developed benefits, and possibly including incurred but not reported benefits.

Manual Equivalent Premium (MEP): A firm's payroll multiplied by the approved rate for the firm's insurance classification code. The manual equivalent premium represents an employer's costs for workers' compensation without adjustment for schedule rating, deductible credits, or experience rating.

NAIC: The National Association of Insurance Commissioners (NAIC) is the national organization of chief insurance regulators in each state, the District of Columbia, and five U.S. territories. It assists state insurance regulators, individually and collectively, to achieve insurance regulatory goals. For more information, visit www.naic.org.

NCCI: The National Council on Compensation Insurance, Inc. (NCCI) is a national organization that assists private carriers and insurance commissioners in collecting statistical information for pricing workers' compensation coverage in 38 states. For more information, visit www.ncci.com.

No-fault: A liability rule that, in workers' compensation, holds the employer fully liable for medical costs

and compensation for injury-related work absences, without proof of negligence or culpability.

Overall Operating Ratio: The combined ratio after dividends minus net investment gain/loss and other income, as a percent of net premium.

OSHA: The OSH Act created the Occupational Safety and Health Administration (OSHA) within the U.S. Department of Labor. OSHA is responsible for promulgating standards, inspecting workplaces for compliance, and prosecuting violations.

OSH Act: The Occupational Safety and Health Act (OSH Act Public Law 91-596) is a federal law enacted in 1970 that establishes and enforces workplace safety and health rules for nearly all private-sector employers.

Paid Losses (or Paid Benefits): Benefits paid during a specified period, such as a calendar year, regardless of when the injury or disease occurred.

Permanent Partial Disability (PPD): A disability that, although permanent, does not completely limit a person's ability to work. A statutory benefit award is paid for qualifying injuries.

Permanent Total Disability (PTD): A permanent disability that is deemed by law to preclude material levels of employment.

Residual Market: The mechanism used to provide insurance for employers who are unable to purchase insurance in the voluntary private market. In some jurisdictions, the state fund is the "insurer of last resort" and serves the function of the residual market. In others, there is a separate pool financed by assessments of private insurers, which is also known as an assigned risk pool.

Schedule Rating: A debit and credit plan that recognizes variations in the hazard-causing features of an individual risk.

Second Injury Fund: A second injury fund is a special fund that assumes all or part of the liability for workers' compensation benefits provided to a worker because of the combined effects of a work-related injury or disease with a preexisting medical condition. The second injury fund pays costs associated

with the prior condition to encourage employers to hire injured workers who want to return to work.

Self-insurance: Self-insurance is a state-regulated arrangement in which the employer assumes responsibility for the payment of workers' compensation benefits to the firm's employees with workplace injuries or diseases. Most employers do not self-insure but instead purchase workers' compensation insurance from a private carrier or state fund.

SSA: The U.S. Social Security Administration (SSA) administers the Social Security program, which pays retirement, disability, and survivors' benefits to workers and their families, and the federal Supplemental Security Income program, which provides income support benefits to low-income, aged, and disabled individuals. For more information, visit www.ssa.gov.

SSDI: Social Security Disability Insurance (SSDI) pays benefits to insured workers who sustain severe, long-term work disabilities due to any cause. See: DI.

Temporary Partial Disability (TPD): A temporary disability that does not completely limit a person's ability to work.

Temporary Total Disability (TTD): A disability that temporarily precludes a person from performing the pre-injury job or another job at the employer that the worker could have performed prior to the injury.

Unemployment Insurance (UI): Federal/state program that provides cash benefits to workers who become unemployed through no fault of their own and who meet certain eligibility criteria set by the states.

U.S. Census County Business Patterns (CBP): County Business Patterns is an annual series that provides subnational economic data by industry. CBP basic data items are extracted from the Business Register (BR), a database of all known single and multi-establishment employer companies maintained and updated by the U.S. Census Bureau.

U.S. DOL: The U.S. Department of Labor administers a variety of federal labor laws including those that guarantee workers' rights to safe and healthy working conditions, a minimum hourly wage and

overtime pay, freedom from employment discrimination, unemployment insurance, and other income support. For more information, visit www.dol.gov.

WC: Workers' compensation. A social insurance program established by statute that is mandatory for most employers, and that provides cash and medical benefits for covered work-related injuries and illnesses.

WCRI: The Workers' Compensation Research Institute (WCRI) is a research organization providing information about public policy issues involving

workers' compensation systems. For more information, visit www.wcrinet.org

Work-Related Injury/Illness: An injury or illness caused by activities related to the workplace. The usual legal test for "work-related" is "arising out of and in the course of employment." However, the definition of a work-related injury or disease that is compensable under a state's workers' compensation program can be quite complex and varies across states.

Appendix A: Coverage Estimates

The basis for the NASI estimates of workers' compensation coverage is the number of jobs in each state which are covered by unemployment insurance (UI) (DOL, 2018b). Jobs which are not required to be covered by UI include: some farm and domestic jobs which pay less than a threshold amount; some state and local jobs (such as elected positions); jobs in some nonprofit organizations (such as religious organizations, for whom coverage is optional in some states); jobs held by self-employed persons or unpaid family workers; and railroad jobs (which are covered under a separate unemployment insurance program.) Railroad jobs are also covered under a separate workers' compensation program (see Appendix B).

All U.S. employers who are required to pay unemployment taxes must report quarterly data to their state employment security agencies regarding their jobs and wages covered by unemployment insurance. These employer reports are the basis for statistical reports prepared by the U.S. Bureau of Labor Statistics, known as the ES-202 data. These data are a census of the universe of U.S. jobs which are covered by unemployment insurance (DOL, 2017).

Key assumptions underlying the Academy's estimates of workers' compensation coverage, shown in Table A, are:

- (1) Jobs which are not reported as covered by UI are assumed not to be covered by workers' compensation.
- (2) Jobs which are reported to be covered by UI are assumed to be covered by workers' compensation as well, except in the following cases:
 - (a) Jobs in small firms (which are required to be covered by unemployment insurance in every state) are assumed to be *not covered* by workers' compensation if the state law

exempts small firms from mandatory workers' compensation coverage.

- (b) Jobs in agricultural industries (which may or may not be covered by UI) are assumed to be *not covered* by workers' compensation if the state law exempts agricultural employers from mandatory workers' compensation coverage.
 - (c) Jobs in Texas, where workers' compensation coverage is elective for almost all employers, require a different calculation. For Texas, we base our coverage estimates on periodic surveys conducted by the Texas Department of Insurance Workers' Compensation Research and Evaluation Group (TDI, 2017).
- (3) All federal jobs are covered by workers' compensation, regardless of the state in which they are located.

Small Firm Exemptions. Private firms with *fewer than three employees* are exempt from mandatory workers' compensation coverage in five states: Arkansas, Georgia, New Mexico, North Carolina, and Virginia. Firms with *fewer than four employees* are exempt in two states: Florida and South Carolina. Firms with *fewer than five employees* are exempt from mandatory coverage in four states: Alabama, Mississippi, Missouri, and Tennessee⁷⁵. The Academy assumes that jobs are not covered by workers' compensation if they are in a small firm that meets the specific exemption requirements in one of these states.

To estimate the number of jobs affected by the small firm exemptions, we use data from the U.S. Census Statistics of Small Businesses (SUSB). The SUSB is

75 In previous reports we have reported Michigan, Oklahoma, West Virginia, and Wisconsin as having small business exemptions of 3, 5, 3, and 3 respectively. Further research has revealed that: in Michigan, "all private employers regularly employing 1 or more employees 35 hours or more per week for 13 weeks or longer during the preceding 52 weeks" must carry workers' compensation (per Michigan.gov); in Oklahoma, the exemption applies only to employers who employ five or fewer of their relatives by blood or marriage (we assume this number to be negligible) (85A Okl. St. § 2(18)(b)(5)); in West Virginia, employers with fewer than 3 "intermittent" employees who work fewer than 11 days in a quarter are exempt (we assume this number to be negligible) (W. Va. Code § 23-2-1); and in Wisconsin, employers with less than 3 employees who are "paid wages of \$500 or more in any calendar quarter" must have coverage (we assume the number of employers with 1 or 2 employees being paid less than \$500 in any quarter to be negligible) (Wis. Stat. § 102.04.1(b)2).

an annual data series that reports national and state-level employment by enterprise size and industry.⁷⁶ These data identify the number of jobs in firms with fewer than five employees.

For the five states with workers' compensation exemptions for firms with fewer than five employees, we directly apply the fraction of jobs in these small firms as reported by the SUSB to the number of UI-covered jobs to calculate the number of jobs affected by the exemption. In 2016 (the most recent year the data are available), these proportions were: Alabama, 4.3 percent; Mississippi, 4.6 percent; Missouri, 4.9 percent; and Tennessee, 3.6 percent (Census SUSB, 2017).

For the states that exempt firms with fewer than three or four workers, the SUSB proportions of jobs in small firms (fewer than five employees) must be adjusted downward to correspond to the workers' compensation cutoff in each state. We use national data on small firms from the U.S. Census Bureau (2005) to make the adjustments. The data indicate that, among those jobs reported to be in small firms by the SUSB (2017), 71.8 percent are in firms with fewer than four employees and 43.9 percent are in firms with fewer than three employees.

For the five states that exempt firms with fewer than three workers, the proportions of jobs in small firms were reported to be: Arkansas, 4.7 percent; Georgia, 4.5 percent; New Mexico, 5.1 percent; North Carolina, 4.4 percent; and Virginia, 4.4 percent (Census SUSB, 2017). These proportions are adjusted by a factor of 43.9 percent to estimate the proportion of jobs in exempt firms. For example, the proportion of Arkansas jobs in firms with fewer than three employees was estimated to be 2.0 percent ($4.66\% \times 43.9\%$).

For the two states that exempt firms with fewer than four workers, the proportions of jobs in small firms were: Florida, 5.6 percent, and South Carolina, 4.5

percent. These proportions were adjusted by a factor of 71.8 percent to estimate the proportion of jobs in exempt firms. For South Carolina, the proportion of jobs in firms with fewer than four employees was estimated to be 3.3 percent ($4.53\% \times 71.8\%$).

The adjusted ratios were applied to the total number of UI-covered jobs in each state to calculate the number of exempt jobs. In total, we estimated that 902,000 jobs were excluded from workers' compensation coverage in 2017 because of small-firm exemptions from mandatory coverage.

Agricultural Exemptions. We assume that agricultural jobs are excluded from workers' compensation coverage if they are in a state where agricultural jobs are exempt from mandatory coverage. Only 14 jurisdictions have no exemption for agricultural jobs: Alaska, Arizona, California, Connecticut, District of Columbia, Hawaii, Idaho, Massachusetts, New Hampshire, New Jersey, Ohio, Oregon, Washington and Wyoming.⁷⁷ In states with agricultural exemptions, we identify the number of agricultural jobs using the Quarterly Census of Employment and Wages (DOL, 2017a). The Quarterly Census provides estimates of total employment by state and industry using North American Industry Classification System (NAICS) codes. We estimated that 437,952 jobs were excluded from workers' compensation in 2017 because of state agricultural exemptions.

Texas. In Texas, where workers' compensation coverage is elective for almost all employers, the Academy's estimate of coverage is based on periodic surveys conducted by the Texas Department of Insurance Workers' Compensation Research and Evaluation Group (TDI, 2017). Their most recent survey estimated that 82 percent of private-sector jobs were covered by workers' compensation in 2017. We applied this ratio to all UI-covered jobs in Texas (other than federal government jobs, which were not included in the Texas surveys) to determine the total number of jobs covered by workers' com-

76 Through 2017, the Academy's report relied on the Census County Business Patterns (CBP) to estimate small firm employment. However, the CBP only measures employment at establishments, which refers to a single physical location where business is conducted. The SUSB publishes data on the number of establishments and the number of firms, which is a more appropriate measure for our purposes because workers' compensation coverage exemptions are based on the size of the firm, not the size of a particular establishment. The differences in employment between the SUSB and the CBP are small. Previous estimates were updated in 2018 using the SUSB for consistency.

77 Washington also has an exemption for agricultural workers, but it is limited to some family members of family-owned operations. RCW 51.12.020 – employments excluded include "...Any child under eighteen years of age employed by his or her parents in agricultural activities on the family farm..."

pensation. In 2017, we estimated that 2.1 million jobs in Texas were not covered by workers' compensation.

Employed Workforce Coverage Estimates. The workers' compensation coverage estimates described above are an estimate of the proportion of UI-covered jobs that are also covered by workers' compensation. However, there are a number of jobs that are not covered by either UI or workers' compensation. To develop an estimate of the proportion of all jobs in the economy that are covered by workers' compensation, not just UI-covered jobs, we rely on data from the Current Population Survey (CPS). The CPS reports total employment in the country – which was 153.3 million in 2017 (DOL, 2018d). However, the CPS is a household survey that questions individuals about their employment, and provides an estimate of the total number of employed *workers*. The Quarterly Census of Employment and Wages (QCEW), on the other hand, is an employer-based survey that tracks jobs.

Some individuals have multiple jobs, so comparing the number of workers' compensation covered jobs to the total number of employed workers in the population may overestimate the overall workers' compensation coverage rate. To improve this estimate, we used the Integrated Public Use Microdata

Series of the CPS (IPUMS-CPS, 2018) to identify the distribution of employed individuals with one, two, three, four or more jobs. Using that distribution of multiple jobholders, combined with the number of employed workers and multiple jobholders, we expanded total employment to develop an estimate of the total number of jobs in the economy.^{78, 79} This measure allowed us to calculate the percentage of total jobs among the employed workforce that are covered by workers' compensation using a consistent unit of measure in the numerator and denominator: jobs.

As Table A.2 shows, workers' compensation covered 86.8 percent of the total jobs in the economy in 2017. Since 2013, the proportion of total jobs covered by workers' compensation remained relatively stable, with a slight increase of 0.7 percentage points. This slight increase occurred because growth in the number of workers' compensation covered jobs has outpaced growth in total employment and total jobs in the economy. Between 2013 and 2017, total employment and total jobs increased 6.5 and 6.6 percent respectively, while workers' compensation covered jobs increased 7.5 percent. The number of multiple-job holders as reported by the CPS increased to 7.6 million in 2017, up 7.8 percent since 2013 and almost reaching a pre-recession high of 7.7 million in 2007 (DOL, 2018d).

78 We start by subtracting the number of multiple jobholders from total employment as reported by the CPS to get the number of workers with only one job (DOL, 2018e). Next, we use data from the Integrated Public Use Microdata Series of the CPS (IPUMS-CPS, 2018) to identify the distribution of multiple jobholders based on whether they have two, three, or four or more jobs. Using this distribution, we expand the number of multiple jobholders to get the total number of jobs held by multiple jobholders. Using this approach, we calculate total jobs as: Total Jobs = (Total Employment – Multiple Jobholders) + Multiple Jobholders*[(2*% Two Jobs) + (3*% Three Jobs) + (4*% Four or More Jobs)].

This approach differs slightly from what was used in the 2015 data. Last year's measure was calculated using total employment from the CPS, expanded by the distribution of multiple jobholders as: Total Jobs = Total Employment*[(% One Job) + (2*% Two Jobs) + (3*% Three Jobs) + (4*% Four or More Jobs)]. The key difference in our updated approach is that we use the total number of multiple jobholders as reported by the CPS, instead of only relying on the distribution of jobholders as reported in the IPUMS to estimate the number of multiple jobholders. The differences between the two approaches are small. The approach we used this year minimizes the impact of weighting estimates to achieve population level totals. All of the estimates in Table A.2 have been updated to reflect the update.

79 The BLS reports that 4.9 percent of the U.S. employed workforce held more than one job in 2017.

Table A.1**Documenting Workers' Compensation Coverage Estimates, 2017 Annual Averages**

State	Unemployment Insurance (UI) Covered Jobs ^a		Workers' Compensation (WC) Exemptions			WC as a Percent of UI (7)
	Total (1)	Private, Non-Farm Firms (2)	Small Firm ^b (3)	Agriculture ^c (4)	Covered Jobs (6)	
Alabama	1,883,689	1,569,540	67,333	5,232	1,811,124	96.1
Alaska	307,051	246,285	-	-	307,051	100.0
Arizona	2,691,888	2,346,394	-	-	2,691,888	100.0
Arkansas	1,180,505	996,738	20,421	7,340	1,152,744	97.6
California	16,774,812	14,364,125	-	-	16,774,812	100.0
Colorado	2,556,247	2,183,656	-	14,067	2,542,180	99.4
Connecticut	1,651,589	1,437,975	-	-	1,651,589	100.0
Delaware	436,113	377,930	-	1,259	434,854	99.7
District of Columbia	564,636	524,884	-	-	564,636	100.0
Florida	8,355,833	7,385,333	298,112	52,116	8,005,605	95.8
Georgia	4,245,363	3,685,591	72,408	13,837	4,159,118	98.0
Hawaii	620,770	526,587	-	-	620,770	100.0
Idaho	694,051	570,566	-	-	694,051	100.0
Illinois	5,854,800	5,138,632	-	14,975	5,839,825	99.7
Indiana	2,980,236	2,613,984	-	13,424	2,966,812	99.5
Iowa	1,522,712	1,284,659	-	16,534	1,506,178	98.9
Kansas	1,346,567	1,118,856	-	11,071	1,335,496	99.2
Kentucky	1,838,185	1,575,213	-	5,113	1,833,072	99.7
Louisiana	1,876,742	1,593,537	-	4,797	1,871,945	99.7
Maine	594,049	509,962	-	3,398	590,651	99.4
Maryland	2,507,107	2,163,123	-	3,986	2,503,121	99.8
Massachusetts	3,497,093	3,108,997	-	-	3,497,093	100.0
Michigan	4,242,506	3,708,825	-	25,922	4,216,584	99.4
Minnesota	2,823,879	2,455,067	-	18,529	2,805,350	99.3
Mississippi	1,103,201	887,403	40,586	6,732	1,055,883	95.7
Missouri	2,726,609	2,357,001	114,804	9,468	2,602,337	95.4

Montana	446,250	371,510	-	3,996	442,254	99.1
Nebraska	955,948	799,598	-	11,898	944,050	98.8
Nevada	1,307,282	1,167,385	-	3,486	1,303,796	99.7
New Hampshire	645,894	567,574	-	-	645,894	100.0
New Jersey	3,957,470	3,426,750	-	-	3,957,470	100.0
New Mexico	781,281	624,434	13,968	8,596	758,717	97.1
New York	9,160,322	7,876,752	-	23,025	9,137,297	99.7
North Carolina	4,258,246	3,612,932	69,499	20,416	4,168,331	97.9
North Dakota	404,638	339,411	-	3,779	400,859	99.1
Ohio	5,286,314	4,632,829	-	-	5,286,314	100.0
Oklahoma	1,532,790	1,250,532	-	9,675	1,523,115	99.4
Oregon	1,855,172	1,565,282	-	-	1,855,172	100.0
Pennsylvania	5,701,950	5,104,196	-	20,260	5,681,690	99.6
Rhode Island	466,511	417,309	-	712	465,799	99.8
South Carolina	2,000,996	1,681,811	54,689	5,589	1,940,718	97.0
South Dakota	411,139	343,747	-	5,179	405,960	98.7
Tennessee	2,881,865	2,514,490	89,360	5,451	2,787,054	96.7
Texas ^d	11,814,852	10,104,675	-	46,610	9,641,569	81.6
Utah	1,394,541	1,197,698	-	4,777	1,389,764	99.7
Vermont	302,501	253,676	-	2,770	299,731	99.1
Virginia	3,660,392	3,132,006	61,152	8,882	3,590,358	98.1
Washington	3,215,260	2,659,933	-	-	3,215,260	100.0
West Virginia	660,036	546,732	-	799	659,237	99.9
Wisconsin	2,821,132	2,448,836	-	24,252	2,796,880	99.1
Wyoming	262,065	201,315	-	-	262,065	100.0
Total Non-Federal	141,061,080	121,572,276	902,332	437,952	137,594,123	97.5
Federal Employees	2,802,584				2,802,584	100.0
TOTAL	143,863,664	121,572,276	902,332	437,952	140,396,707	97.6

a. UI-covered employment reported in the ETA-202 data produced by the Bureau of Labor Statistics (DOL, 2018b)

b. Data on employees at small firms came from the U.S. Census Bureau (2005; 2017).

c. Data on agricultural workers came from the Quarterly Census of Employment and Wages (DOL, 2018b)

d. In 2017 there were 2,126,673 workers not covered by workers' compensation in Texas. Data on workers not covered by workers' compensation in Texas came from the Texas Department of Insurance (TDI, 2018).

Source: National Academy of Social Insurance estimates.

Table A.2**Workers' Compensation Coverage as a Percent of the Employed Workforce,
2007-2017 National Averages**

Year	Total Employment ^a (thousands)	Total Jobs ^b (thousands)	WC Covered Jobs ^c (thousands)	WC % Coverage of Total Jobs	WC % Coverage of Total Employment
	(1)	(2)	(3)	(4) = (3) / (2)	(5) = (3) / (1)
2007	146,047	154,453	131,625	85.2	90.1
2008	145,362	153,712	130,941	85.2	90.1
2009	139,877	147,847	125,246	84.7	89.5
2010	139,064	146,627	124,863	85.2	89.8
2011	139,869	147,462	126,281	85.6	90.3
2012	142,469	150,077	128,339	85.5	90.1
2013	143,929	151,664	130,561	86.1	90.7
2014	146,305	154,143	133,067	86.3	91.0
2015	148,834	156,861	136,001	86.7	91.4
2016	151,436	159,761	138,459	86.7	91.4
2017	153,337	161,702	140,397	86.8	91.6

a. Data on total employment as reported in the Current Population Survey (DOL, 2018d).

b. Total Jobs are estimated by multiplying total employment by the proportional distribution of single- and multiple-job holders. Data on the proportional distribution of single- and multiple-jobholders processed from the Integrated Public Use Microdata Series-CPS (IPUMS-CPS, 2018).

c. Workers' Compensation Covered Jobs from Table A and previous editions of this report.

Source: National Academy of Social Insurance estimates.

Appendix B: Federal Programs

Various federal programs compensate certain categories of workers and/or their dependents for work-related injuries or illnesses. Our aim in this report is to include in the national totals of workers' compensation benefits/costs those federally administered programs that are financed by employers, and are not included in the benefits/costs reported by the states. We do not include in our national totals compensation programs which cover private-sector workers but are financed by general federal revenues. Details on specific federal programs are provided below.

Federal Programs Included in the NASI Estimates

Federal Employees

The Federal Employees' Compensation Act of 1916 (FECA) provided the first comprehensive workers' compensation program for federal civilian employees. In 2017, total FECA benefits were approximately \$2.8 billion (Table B1). Thirty-six percent of benefits were for medical care, a five percentage point increase from 2013. The share of benefits for medical care is lower in the FECA program than in most state workers' compensation systems because federal cash benefits, particularly for higher-wage workers, replace a larger share of pre-injury wages than do most state programs. Administrative costs for the FECA program were \$168 million in calendar year 2017, or 6.0 percent of total benefits paid (DOL, 2019). The benefits and costs of the FECA program are included in the national totals in this report under federal programs.

Longshore and Harbor Workers

The Longshore and Harbor Workers' Compensation Act (LHWCA) requires employers to provide workers' compensation protection for longshore, harbor, and other maritime workers. The original program was enacted in 1927 in response to a U.S. Supreme Court decision holding that the Constitution prohibits states from extending workers' compensation coverage to maritime employees who are injured while working over navigable waters. The LHWCA excludes coverage of the master or crew of a vessel. In 1941, the Defense Base Act (DBA) extended the LWHCA to require coverage for other types of workers who fall outside the jurisdiction of state workers'

compensation programs, such as employees working on overseas military bases, and persons working overseas for private contractors of the United States. Other extensions of the Act have required coverage for special groups of workers, such as workers on offshore drilling rigs.

Private employers cover workers protected by the LWHCA by purchasing private insurance or self-insuring. The Division of Longshore and Harbor Workers' Compensation also administers a special fund to pay certain types of claims authorized under the LHWCA (e.g. for second injuries, or in cases where an employer and their workers' compensation carrier are insolvent or out of business). The special fund is underwritten by annual assessments on employers.

The Academy's data series on benefits of workers' compensation allocate part of the benefits paid under the LHWCA to the states where the companies operate, and part to federal programs. Benefits paid by private carriers under the LWHCA are not identified separately in the information provided by A.M. Best or the state agencies, so these benefits appear with the state data. Benefits paid by private employers who self-insure under the LHWCA, and benefits paid from the LHWCA special fund, are not reported by the states or A.M. Best. Consequently, these benefits are included with federal programs in this report.

As shown in Table B2, employers paid \$114 million to the LWHCA special fund in 2017, which covered benefit payments of \$107 million. Direct and indirect administrative costs to the federal government totaled approximately \$14.8 million.

Coal Miners with Black Lung Disease

The Black Lung Benefits Act, enacted in 1969, provides compensation for coal miners with pneumoconiosis (black lung disease) and their survivors. The program has two parts. Part B is financed by federal general revenues and was administered by the Social Security Administration until 1997, when administration shifted to the U.S. Department of Labor. Part C is paid through the Black Lung Disability Trust Fund, which is financed by coal mine operators through a federal excise tax on all

coal that is mined and sold in the United States. In this report, only the Part C benefits that are financed by employers are included in national totals of workers' compensation benefits and employer costs. Benefits under Part C are paid directly by the responsible mine operator or insurer from the federal Black Lung Disability Trust Fund, or from federal general revenue funds.

Table B3 shows benefits paid under both parts of the black lung program from 2013 through 2017. Total benefits in 2017 were \$265.5 million, of which \$82.6 million was paid under Part B and \$182.8 million under Part C. Part C benefits included \$46.3 million for medical care (25% of Part C benefits paid). Medical benefits are a relatively small share of black lung benefits because many of the recipients of benefits are deceased coal miners' dependents, whose medical care is not covered by the program.

Table B3 also shows accounting data for the black lung trust fund, and federal costs for administering the program. In 2017, direct administrative costs for Part C were \$35.5 million. Together with benefit payments of \$182.8 million, expenditures under Part C were \$218.3 million. Employers paid \$417.6 million into the trust fund in 2017, but payments on past debt far exceeded the extra revenues.

No data are available on the experience of employers who self-insure under the black lung program. Any such benefits and costs are not reflected in Table B3 and are not included in national estimates.

Federal Programs Not Included in NASI Estimates

Energy Employees

Part B of the Energy Employees Occupational Illness Compensation Program Act (EEOICPA) provides workers' compensation benefits to civilian workers (and/or their survivors), who become ill as a result of exposure to radiation, beryllium, or silica, in the production or testing of nuclear weapons and other materials. The program pays medical benefits for the treatment of covered conditions, and lump sum cash payments of up to \$150,000 for eligible workers.

Part E of the EEOICPA provides compensation for employees of Department of Energy contractors and for uranium miners, millers, and ore transporters who become injured on the job. Workers (or their qualifying survivors) are eligible for cash awards of up to \$250,000. Wage loss, medical, and survivor benefits are also provided under certain conditions.

Table B4 provides information on benefits and costs of both Parts B and E of the EEOICPA for 2013-

Table B.1

Federal Employees' Compensation Act, Benefits and Costs, 2013-2017 (in thousands)

	2013	2014	2015	2016	2017
Total Benefits	\$2,948,132	\$2,940,811	\$2,988,242	\$2,890,670	\$2,780,499
Compensation Benefits	2,024,568	1,929,360	1,946,890	1,860,675	1,841,930
Medical Benefits	923,564	1,011,450	1,041,353	1,029,995	938,569
% Medical	31	31	34	35	36
Direct Administrative Costs	158,625	173,570	156,233	161,130	167,752
Total Costs	3,106,757	3,114,380	3,144,475	3,051,800	2,948,251
Indirect Administrative Costs ^a	7,299	8,426	10,398	8,765	7,113

a. Includes legal and investigative support from the Office of the Solicitor and the Office of the Inspector General.

Source: U.S. Department of Labor (2019).

2017. In 2017, total benefits paid under Part B were \$846.4 million, of which \$277.3 million (33%) were paid as compensation benefits (DOL, 2019). Part E benefits in 2017 were \$412.1 million, of which \$326.4 million (79%) were compensation. Benefits under both Parts B and E are financed by general federal revenues and are not included in our national totals.

Workers Exposed to Radiation

The Radiation Exposure Compensation Act of 1990 provides lump sum compensation payments to individuals who contracted certain cancers and other

serious diseases as a result of exposure to radiation released during above-ground nuclear weapons testing or during employment in underground uranium mines. The lump sum payments are specified by law and range from \$50,000 to \$100,000. Table B5 shows cumulative payments under the Radiation Exposure Compensation Act since its enactment in 1990. From the beginning of the program through December 2017, 34 million claims were paid for a total of \$2.2 billion, or roughly \$65,328 per claim (DOJ, 2019). The program is financed with federal general revenues and is not included in national totals in this report.

Table B.2

Longshore and Harbor Workers' Compensation Act (LHWCA), Benefits, Costs, and Death Claims,^a 2013-2017 (in thousands)

	2013	2014	2015	2016	2017
Total LHWCA Benefits	\$2,141,859	\$2,224,254	\$2,103,284	\$2,087,225	\$2,055,701
Insurance Carriers	927,417	961,542	893,226	881,492	865,913
Self-Insurance Employer	420,016	429,307	421,030	416,151	406,888
LHWCA Special Fund	120,100	117,694	113,307	109,643	107,117
DCCA Special Fund	8,383	8,243	8,078	6,856	6,117
DBA ^a benefits	665,943	707,468	667,644	673,083	669,667
Number of DBA Death Claims ^b	211	146	100	88	103
Total Annual Assessments	132,000	123,000	116,000	120,000	120,000
LHWCA	123,000	118,000	108,000	112,000	114,000
DCCA	9,000	5,000	8,000	8,000	6,000
Administrative Expenses	13,302	14,164	14,280	14,588	14,801
General Revenue	11,190	12,029	12,116	12,423	12,636
Trust Fund	2,112	2,135	2,164	2,166	2,165
Indirect Administrative Costs ^c	1,211	1,534	1,426	915	842

a. Includes benefit costs for cases under the Defense Base Act (DBA) and all other extensions to the LHWCA.

b. Number of civilian overseas deaths.

c. Includes legal and investigative support from the Office of the Solicitor and the Office of the Inspector General. These are not employer costs but are provided for through general revenue appropriations.

Source: U.S. Department of Labor (2019).

Table B.3**Black Lung Benefits Act, Benefits and Costs, 2013-2017
(in thousands)**

	2013	2014	2015	2016	2017
Total Benefits	\$337,282	\$312,814	\$287,841	\$278,596	\$265,474
Part C Compensation	162,410	148,926	141,290	143,212	136,508
Part C Medical Benefits	34,213	36,224	33,900	36,733	46,320
Part B Compensation	140,659	127,664	112,651	98,651	82,646
Total Direct Administrative Costs	35,950	35,408	36,020	38,201	40,564
Part C (DOL)	31,085	30,633	31,198	33,236	35,472
Part B (SSA)	4,865	4,775	4,822	4,964	5,093
Trust Fund Advances from U.S. Treasury ^a	424,750	518,250	666,250	1,003,750	1,438,750
Bond Payments ^b	457,542	477,757	498,739	528,293	405,392
Interest Payments on Past Advances ^c	261,128	549,181	1,037,392	1,335,288	2,015,732
Coal Tax Revenues Received by the Black Lung Trust Fund	512,866	573,694	524,230	436,889	417,628
Indirect Administrative Costs ^d	24,661	25,489	28,972	29,430	30,608

- a Advance of funds required when Trust Fund expenses exceed tax revenues received in a given year. Under the Emergency Economic Stabilization Act of 2008 (EESA), total Trust Fund debt (cumulative advances) at the end of 2008 was converted to zero coupon bonds that are repayable to the U.S. Treasury on an annual basis.
- b Repayment of bond principal and interest on principal debt as required by the Trust Fund debt restructuring portion of the EESA.
- c The amount shown is the repayment of one-year obligations of the Trust Fund, which include the previous year's advances from the U.S. Treasury and applicable interest due on those advances, as required under the EESA.
- d Includes legal and investigative support from the Office of the Solicitor and the Office of the Inspector General, services provided by the Department of the Treasury, and costs for the Office of Administrative Law Judges (OALJ) and the Benefits Review Board (BRB). OALJ and BRB costs are not included for any other program but cannot be separately identified for Coal Mine Workers' Compensation.

Source: U.S. Department of Labor (2019).

Veterans of Military Service

U.S. military personnel are covered by the federal veterans' compensation program of the Department of Veterans Affairs. The program provides cash benefits to veterans who sustain total or partial disabilities while on active duty. Table B6 shows the number of recipients, and the value of cash benefits paid, in fiscal year 2017. As shown in Table B6, 4.55 million veterans were receiving monthly compensation payments for service-connected disabilities in 2017. Of these, 62.0 percent of veterans had a disability rating of 30 percent or more. Total monthly payments for

disabled veterans and their dependents were \$5.8 billion in 2017, or about \$70.0 billion for the year (VA, 2018). Hence, annual cash benefits paid under the veterans' compensation program in 2017 were almost double the cash benefits paid under all other workers' compensation programs (Table 1). Because it is so large, covers such a high proportion of serious injuries, and provides medical care through an entirely separate health care system, we do not include the veterans' compensation program in the national totals we estimate for regular workers' compensation programs.

Table B.4**Benefits and Costs of the Energy Employees Occupational Illness Compensation Program Act: Parts B and E 2013-2017 (in thousands)**

	2013	2014	2015	2016	2017
Total Benefits Part B	814,122	697,694	654,398	780,846	846,354
Medical Benefits ^a	329,435	352,133	367,858	487,618	569,060
Compensation Benefits	484,687	345,561	286,540	293,228	277,294
Direct Administrative Costs ^b	49,599	51,933	52,079	54,319	58,014
Total Benefits Part E ^c	375,336	333,944	333,731	355,864	412,144
Medical Benefits ^d	68,732	73,216	69,564	77,005	85,793
Compensation Benefits	306,604	260,728	264,166	278,859	326,351
Direct Administrative Costs ^b	68,516	66,781	67,530	68,499	70,142

a Medical payments made for claimants eligible under Part B only and claimants eligible under both Part B and Part E.

b Part B costs for 2002-2008 include funding for the Department of Health and Human Services/National Institute for Occupational Safety and Health's (DHHS/NIOSH) conduct of dose reconstructions and special exposure cohort determinations. For 2002, these costs were \$32.7 million; 2003, \$26.8 million; 2004, \$51.7 million; 2005, \$50.5 million; 2006, \$58.6 million; 2007, \$55.0 million; and 2008, \$41.5 million. Beginning in 2009, these costs are a direct appropriation to DHHS/NIOSH. Part B costs for 2009-17 include funding for an Ombudsman position. For 2009, these costs were \$0.1 million; 2010, \$0.4 million; 2011, \$0.2 million; 2012, \$0.3 million; 2013, \$0.5 million; 2014, \$0.6 million; and 2015, \$0.6 million; 2016, \$0.7 million; and 2017, \$0.8 million. Part E costs for 2005-17 also include funding for an Ombudsman position. For 2005 these costs were \$0.2 million; 2006, \$0.5 million; 2007, \$0.7 million; 2008, \$0.8 million; 2009, \$0.8 million; 2010, \$0.5 million; 2011, \$0.8 million; 2012, \$0.8 million; 2013, \$0.8 million; 2014, \$0.8 million; 2015, \$0.7 million; 2016, \$0.7 million; and 2017, \$0.9 million.

c The Energy Part E benefit program was established in October 2004.

d Medical payments made for claimants eligible under Part E only.

Source: U.S. Department of Labor (2019).

Railroad Employees and Merchant Mariners

Federal laws specify employee benefits for railroad workers involved in interstate commerce, and for merchant mariners. These programs provide health insurance as well as short- and long-term cash benefits for ill or injured workers whether or not their

conditions are work-related. The benefits are not exclusively workers' compensation benefits and are not included in our national totals. Under federal laws, these workers also retain the right to bring tort suits against their employers if the worker believes a work-related injury or illness was caused by employer negligence (Williams and Barth, 1973).

Table B.5

**Radiation Exposure Compensation Act,
Benefits Paid as of December, 2017
(in thousands)**

Claim Type	# Claims	Benefits Approved
Downwinder	21,199	\$1,059,920
Onsite Participant	4,342	316,254
Uranium Miner	6,364	635,675
Uranium Miller	1,739	173,900
Ore Transporter	350	35,000
TOTAL	33,994	\$2,220,749

Source: U.S. Department of Justice (2018).

Table B.6

Federal Veterans' Compensation Program: Fiscal Year 2017

Class of Dependent	Number	Monthly Value (in thousands)
Veteran Recipients - Total	4,552,819	\$5,832,620
Veterans Less Than 30 Percent Disabled (no dependency benefit)	1,730,326	420,947
Veterans 30 Percent Disabled or More	2,822,493	5,411,674

Source: U.S. Department of Veterans Affairs (2018).

Appendix C: Workers' Compensation under State Laws

Table C identifies the parameters that determine workers' compensation benefits *under the current laws* in each jurisdiction.

The benefit parameters defined in this table include the following:

- The *waiting period* before a worker becomes eligible for cash benefits.
- The *retroactive period* when a worker becomes eligible for compensation for the waiting period.
- The minimum and maximum weekly *benefit payments for temporary total disability*.
- The maximum *duration of temporary total disability benefits*.
- The maximum *weekly benefit and benefit limitations for permanent partial disability*.
- The maximum *weekly benefit and benefit limitations for permanent total disability*.
- The *maximum weekly benefit and benefit limitations for death benefits*.

Table C

Workers' Compensation State Laws as of 2018

State	Waiting Period		Temporary Total Disability (TTD)			Permanent Total Disability (PTD)				Permanent Partial Disability (PPD)		Death Benefits (DB)	
	Waiting Period	Retro-active Period	Min Weekly Benefit	Max Weekly Benefit	Max Duration (Weeks)	Basis of PTD Calculation	Max Weekly Benefit	Max Duration (Weeks)	Limit to Monetary PTD Benefits	Max Weekly Benefit	Max Benefit for "Unscheduled Injuries"	Max Weekly Benefit ^a	Statutory Limit for Dependency Benefits
Alabama	3 days, TTD only	21 days	\$232	\$865	Duration of TTD disability	66 2/3% PIWW	\$865	No	None	\$220	300 weeks	\$843	500 weeks
Alaska	3 days, for income benefits only	28 days	\$266	\$1,211	Until medically stable	80% of spendable earnings	\$1,211	no	Up to max TTD weekly rate.	% of impairment x \$177k, paid in lump sum ^b	No unscheduled PPD	\$1,211	12 years ^c
Arizona	7 days	14 days	n/a	\$1,185 ^d	Duration of TTD disability	66 2/3% AMW	\$1,185 ^d	No	None	\$1,185 ^d	None unless rearranged by Industrial Commission	\$1,185 ^d	None
Arkansas	8 days	14 days	\$20	\$695	450 weeks	66 2/3% PIWW	\$695	No	Limit on weekly amount but not total amount	\$505	450 weeks	\$695	\$225,875; benefit in excess payable from Death and PD Trust Fund
California	3 days	14 days	\$188	\$1,251	104 weeks ^e	66 2/3 of AWW	\$1,251	No	None	\$290	n/a	\$1,251	320,000 Spouse plus Children ^f
Colorado	3 days	14 days	None	\$988	Duration of TTD disability	66 2/3% of AWW	\$988	No	None	\$307 for scheduled injuries; \$988 unscheduled	400 weeks ^g	\$988	None
Connecticut	3 days	7 days	\$257	\$1,298	Duration of TTD disability	75% (of after-tax income)	\$1,298	No	None	\$1,046	520 weeks plus healing period	\$1,298	None
Delaware	3 days	7 days	\$238	\$714	Duration of TTD disability	66 2/3% AWW	\$714	No	None	\$714	300 weeks	\$1,070	None
District of Columbia	3 days	14 days	\$367	\$1,522	Duration of TTD disability	66 2/3% PIWW	\$1,522	No	First \$75,000 in benefits paid by employer / insurer. Amounts over \$75,000 paid from PTD Trust Fund	1,522	500 weeks; may petition for additional 167 weeks	1,522, Max 100% SAAW	None
Florida	7 days	21 days	\$20	\$939	104 weeks	66 2/3% PIWW	\$939	Age 75 ^h	None	\$688	2 weeks for each % of impairment from 1-10%; 3 weeks from 11-15%; 4 weeks from 16-20%; and 6 weeks for each rating over 21%	\$939	\$150,000

Georgia	7 days	21 days	\$50	\$575	400 weeks unless catastrophic injury	66 2/3% PIWW	\$575	No	None	\$575	300 weeks	\$575	\$230,000 for surviving spouse with no dependents
Hawaii	3 days, TTD only	None	\$225	\$899	Duration of TTD disability	66 2/3% PIWW	\$899	No	None	\$899	312 weeks	Spouse = \$634 With Children = \$899	312 weeks
Idaho	5 days	14 days	\$354	\$707	Duration of TTD disability. Benefit continues in recovery period.	67% of AWW	\$707	No	Weekly rate may change after the first 52 weeks of TTD and each year thereafter on January 1, based on the increase in the ASWW	\$432	500 weeks	\$472	500 weeks
Illinois	3 days, TTD only	14 days	Varies w/ dependency	\$1,507	Duration of TTD disability	66 2/3% AWW	\$1,507	No	None	\$814 ^k	500 weeks	\$1,507	\$500,000 or 25 years
Indiana	7 days	21 days	\$75	\$1,170	500 weeks ^L	66 2/3% AWW	\$1,170	500 weeks ^L	\$390,000	None	\$390,000	\$1,170	\$390,000
Iowa	3 days; no waiting period for PPD	14 days	None	\$1,765	Duration of TTD disability	80% (of spendable earnings)	\$1,765	No	None	\$1,623	500 weeks	\$1,765	None
Kansas	7 days	21 consecutive days	\$25	\$645	Duration of TTD disability	66 2/3% AWW	\$645	Up to Monetary Limit	\$155,000	\$645	415 weeks; functional impairment only = \$75,000, all other cases = \$130,000	\$645	\$300,000
Kentucky	7 days	14 days	\$174	\$955	Duration of TTD disability or until injured worker qualifies for normal old age Social Security benefit	66 2/3% AWW	\$955	Until injured worker qualifies for normal old age Social Security benefit	None	\$716	425 weeks if rating is 50% or less; 520 wks if over 50%, limited to qualification for normal old age Social Security	Spouse = \$434 With Children = \$651	When employee would have reached 70
Louisiana	7 days	14 days	\$175	\$657	None	66 2/3% PIWW	\$657	No	None	\$657	520	\$657	None
Maine	7 days ^m	14 days	None	\$829.30	520 weeks ⁿ	66 2/3% AWW	\$829.30	No	None	\$829	520 weeks with potential to extend for extreme hardship	\$829.30	500 weeks

Table C continued

Workers' Compensation State Laws as of 2018

State	Waiting Period		Temporary Total Disability (TTD)			Permanent Total Disability (PTD)				Permanent Partial Disability (PPD)			Death Benefits (DB)	
	Waiting Period	Retro-active Period	Min Weekly Benefit	Max Weekly Benefit	Max Duration (Weeks)	Basis of PTD Calculation	Max Weekly Benefit	Max Duration (Weeks)	Limit to Monetary PTD Benefits	Max Weekly Benefit	Max Benefit for "Unscheduled Injuries"	Max Weekly Benefit ²	Statutory Limit for Dependency Benefits	
Maryland	3 days, TTD only	After 14 days	\$50 or employee's AWW	\$1,116	Duration of TTD disability	66 2/3% PIWW	\$1,116	No	\$45,000	\$837	None	\$1,116	144 months ^O	
Massachusetts	5 days	21 days	20% SAWW; \$277 from 10/18-10/19	100% SAWW; \$1,383 from 10/18-10/19	156 weeks	66 2/3% AWW	\$1,383	No	None	\$1,338	N/A	SAWW at time of death; \$1,338 until 10/18	250 weeks	
Michigan	7 days	13 days	\$256	\$922	Duration of TTD disability	80% (of spendable earnings)	\$922	800 weeks ^P	None	Q	N/A	\$922	500 weeks; time limit does not apply to children	
Minnesota	3 days	9 days	\$130 or the worker's actual wage, whichever is less	\$1098.54 ^T	90 days after MMI or after end of retraining, up to a total of 130 weeks	66 2/3% PIWW	\$1098.54 ^T	Until age 72 or 5 years after injury, whichever is later	None	\$1,062 ^T	\$515,000	\$1098.54 ^T	Benefits ends after 10 years or 10 years after the last child is no longer dependent, minimum payable is \$60,000	
Mississippi	5 days ^S	13 days	\$25	\$494	450 weeks	66 2/3% AWW	\$494	450 weeks	\$219,168	\$494	450 weeks	\$494	450 weeks or \$22,516	
Missouri	3 days	14 days	\$40	\$948	400 weeks	66 2/3% PIWW	\$948	No	None	\$496	400 weeks	\$948	None	
Montana	4 days or 32 hours, whichever less	21 days or more ^T	None	\$793	Disability until MMI, restrictions are identified and job analyses are approved, or return to work	66 2/3% PIWW	\$793	Until injured worker qualifies for normal old age Social Security benefit	None	\$396	400 weeks	\$793	500 weeks	
Nebraska	7 days	41 days	None	\$855	Until MMI or return to work	66 2/3% PIWW	\$855	No	None	\$855	300 weeks	\$855	None	
Nevada	5 days ^U	5 days ^U	None	\$902	Duration of TTD disability	The maximum as of July 1, 2018, is equal to SAWW x 150% x 4.33 x 662/3% = \$3,904.36	\$902	No	Per maximum compensation limit and formula	\$874	Benefits paid for 5 years or to age 70, whichever is later	\$902	None	
New Hampshire	3 days	13 days or more	\$316 ^V	\$1,583	Duration of TTD disability	60 % of wage loss	\$1,583	No	None	\$1,583	350 weeks for a whole person award	\$1,583	None	

New Jersey	7 days	7 days	\$246	\$921	400 weeks	70%	\$921	600 weeks	None	\$921	600 weeks	\$921	Lifetime with exceptions
New Mexico	7 days	7 days	\$36	\$815	700 weeks	66 2/3% PIWW	\$815	No	None	\$815	\$557,872 if disability rating > 80%; \$398,480 if < 80%	\$815	700 weeks
New York	7 days, wage replacement benefits only	14 days	\$150.00	\$905	Duration of TTD disability	66 2/3% PIWW	\$905	No	None	\$905	525 weeks if loss of earning capacity greater than 95%	\$905	None
North Carolina	7 days	21 days	\$30	\$992	Duration of TTD disability	66 2/3% PIWW	\$992	500 weeks ^V	None	\$1,028	\$20,000	\$1,028	500 weeks
North Dakota	5 days	5 days	\$576	\$1,200	104 weeks or MMI 260 weeks	66 2/3% PIWW	\$1,200	Until injured worker qualifies for normal old age Social Security benefit	None	\$336	Based on whole body impairment, up to 100% lump sum payment	\$1,200	\$300,000 or death
Ohio	7 days	14 days	\$311	\$932; \$621 if getting Social Security Retirement	Duration of TTD disability	72% PIWW for the first 12 weeks; 66 2/3% thereafter	\$932	No	None	\$311	225 weeks	\$932	None
Oklahoma	3 days, TTD only	None	None	\$607	104 weeks, with additional 52 weeks if consequential injury found	70% AWW	\$668	15 years or upon reaching Social Security retirement age, whichever is longer	None	\$323	350 weeks	Spouse = \$607 With Children = \$667.71	None
Oregon	3 days	14 days	Not less than \$50 or 90% AWW; whichever is less	\$1,339	Duration of TTD disability	66 2/3% PIWW	\$1,339 ^X	Lifetime plus benefits to surviving spouse and children	None	\$1,339	n/a	Spouse = \$672 With Children = \$1,339	None
Pennsylvania	7 days	14 days	90% AWW if AWW is \$524.50 or less	\$1,049	Duration of TTD disability subject to conversion to partial benefits at 104 weeks ^Y	66 2/3%	\$1,049	Disability up to 500 weeks	None	\$1,049	500 weeks	\$1,049	None
Rhode Island	3 days	No payment for waiting period days	None	\$1,253, max up to 80% AWW	Duration of TTD disability	75% (of spendable income)	\$1,253	No	None	\$1,253	312 weeks, extendable if injury causes material obstacle to employment	\$1,253	None
South Carolina	7 days	14 days	\$75 if wages are >\$75; otherwise, comp rate is equal to wages	\$846	Up to 500 weeks	66 2/3% PIWW	\$846	500 weeks ^Z	403,460	Depends on scheduled body part	340 weeks	\$846	500 weeks

Table C continued

Workers' Compensation State Laws as of 2018

State	Waiting Period		Temporary Total Disability (TTD)			Permanent Total Disability (PTD)				Permanent Partial Disability (PPD)		Death Benefits (DB)	
	Waiting Period	Retro-active Period	Min Weekly Benefit	Max Weekly Benefit	Max Duration (Weeks)	Basis of PTD Calculation	Max Weekly Benefit	Max Duration (Weeks)	Limit to Monetary PTD Benefits	Max Weekly Benefit	Max Benefit for "Unscheduled Injuries"	Max Weekly Benefit ³	Statutory Limit for Dependency Benefits
South Dakota	7 consecutive days, TTD only	7 days	\$403	\$805	Duration of TTD disability	66 2/3% PIWW	\$805	No	None	\$805	312 weeks	Spouse = \$805 With Children = \$805 + \$11.51 per child	None
Tennessee	7 days	14 days	\$139	\$1022	450 weeks	66 2/3% PIWW	\$929	Until age 65	None	\$929	450 weeks	\$929	\$419
Texas	7 days	14 days	\$141	\$938	104 weeks	TTD 70% AWW; PTD 75%; PPD 70%	\$938	No	None	\$656	401 weeks	\$938	None
Utah	3 days	14 days	\$45	\$879	312 weeks	66 2/3% AWW at time of injury not to exceed 85% of the SAWW	\$747	No ^{2a}	None	\$586	312 weeks	\$747 + \$20 / child	None
Vermont	3 days TTD; 8 days PTD; no waiting period for medical benefits	10 days, TTD only	\$437	\$1,311	Duration of disability; insurer must review after 2 years	66 2/3% PIWW	\$1,311	No	None	\$1,311	405 weeks for non-spinal; 550 weeks spinal	\$1,311	None ^{a,b}
Virginia	7 days	21 days	\$261	\$1,043	500 weeks	66 2/3% PIWW	\$1,043	500 weeks	None	\$1,043	500 weeks	\$1,043	500 weeks
Washington	The 3 days immediately following the DOI	14 calendar days immediately following the DOI	\$179 ^{2C}	\$1,428	Duration of TTD disability	60% to 75% (depending on marital status and number of children)	\$1,428	None	There is a maximum payment for lump sums only, up to \$8,500	\$1,428	\$205,485	\$1,428	N/A
West Virginia	3 days	7 consecutive days	\$193	\$823	104 weeks	66 2/3% PIWW	\$823	Payable until age 70, for all PTD awards granted on or after 07/1/2003	None	\$576	None	\$823	N/A
Wisconsin	3 days	7 non-consecutive days	\$30	\$1,016	Duration of TTD disability	66 2/3% PIWW	\$1,016	No	None	\$362	1,000 weeks	\$1,016	\$298,200 or 1,000 weeks

Wyoming	3 days	9 days	\$280.50	SAMW; \$935; 7/18 (updated quarterly)	24 months or in extraordinary circumstances may extend beyond to provide a reasonable reoperation period	66 2/3% PIMW or SAMW	\$935; 7/18	Paid for 80 months then benefit becomes extended PTD and extended PTD must be renewed annually	None	\$578; 7/18	None	2x the SAMW; \$1,870 per week for 07/18	None
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- a For both "Spouse Only" and "Spouse plus Children" unless otherwise noted.
- b Unless claimant is in a reemployment training program, in which case PPI benefits can be paid at the weekly TTD rates
- c Benefit payable to widower ceases 12 years after death date, unless at time of death widow/er is PTD or reaches age 52 before the 12 years expire. Children eligible to receive DB until 18 years old; or if 19 or older and is wholly dependent upon the deceased employee and incapable of self-support by reason of mental or physical disability; and persons of any age while they are attending the first four years of vocational school, trade school, or college; and persons of any age while they are attending high school.
- d Based on Arizona's AMW. Calculated by finding Arizona's average daily wage and multiplying it times seven.
- e There are some limited exceptions where benefits can be paid for 240 weeks.
- f Amount may be higher based on Labor Code 4703.5
- g Or at 5 years following determination of PTD for an accident date on or after an employee reaches age 70.
- h Benefits can extend beyond age 75 if the individual does not qualify for Social Security benefits due to the injury resulting in many missed quarters of work, thus preventing eligibility for Social Security benefits.
- i Spouse also entitled to tuition benefit at vocational technical center or community college.
- j \$220 if no dependents, with a maximum of \$330 if 4 or more dependants. In all cases claimant receives rate based on actual wages if less than statutory min.
- k If amputation of a member or enucleation of an eye takes place, weekly PPD maximum is \$1,480.12.
- L After 500 weeks, additional benefits are payable from second injury fund in 150-week increments. TTD benefits subject to child support withholding.
- m Does not apply to firefighters.
- n 520 weeks under §213. No durational limit under §212.
- o 144 months or on the date of what would have been the 70th birthday of the deceased employee, provided that a minimum of 5 years of death benefits has been paid.
- p 800 weeks conclusive payment with factual determination thereafter.
- q If an individual returns to work but is still on medical restrictions resulting in a wage less than PIWW, he/she may be eligible for partial benefits equal to 80 percent of the after-tax value of the difference between the new wage and PIWW.
- r 102% of SAWW.
- s Any day on which a worker earns less than full wage because of an injury is considered a day of disability for the waiting period, and neither the 5 day period nor the 14-day period have to consist of consecutive calendar days.
- t Unless the worker waives the retroactive payment and receives sick leave benefit from the employer instead.
- u Consecutive or cumulative days within a 20 day period, TTD only
- v If AWW is 30 percent or less of SAWW, employee is compensated at rate equal to their AWW, but not to exceed 90 percent of employee's after-tax earnings.
- w And extended by commission if employee has sustained a total loss of wage-earning capacity.
- x If the worker returns to work, the workers' wages plus PTD may not exceed the workers' wage at injury.

Table C continued

Workers' Compensation State Laws as of 2018

- y Disability under PA laws means loss of earning power. PA law allows employer/insurer to request "Impairment Rating Examination" after employee has received 104 weeks of full benefit payments. If IRE shows less than 50% impairment based on AMA Guides then benefits are reclassified as partial disability compensation and are subject to a 500-week cap.
- z Except for paraplegic, quadraplegic, or brain damage benefits for life.
- aa PTD benefits are awarded for life, but PTD status may be reexamined by submitting employee to reasonable medical evaluations, rehabilitation & retraining efforts, disclosure of Federal Income Tax returns.
- ab There is no statutory limit but after minimum of 330 weeks spousal benefits end at age 62 when eligible for Social Security, or with remarriage. ac \$43.19 if DOI prior to 7/08. 100% of the workers' gross monthly wage if DOI after 7/08. With dependents 15% of the statewide SAMW+\$10 for spouse+\$10 for each dependent up to 5 dependents.

PIWW	Pre-injury Weekly wage
PIMW	Pre-injury Monthly wage
AWW	Average weekly wage
NWW	Net weekly wage
SAWW	State-wide average weekly wage
SAMW	State-wide average monthly wage
AMW	Average Monthly wage

Sources: NCCI (2019a); Louisiana Department of Labor; Massachusetts Labor and Workforce Department; New York Workers' Compensation Board; North Dakota Workforce Safety & Insurance; Ohio Bureau of Workers' Compensation; Washington Department of Labor and Industries; Wyoming Department of Workforce Services

Appendix D: Workers' Compensation Costs Paid by Employees

In most states, the direct costs of workers' compensation programs are paid by employers either by purchasing insurance from private carriers or state funds or by self-insuring employers paying the costs directly. In three states, however, a portion of the direct costs of workers' compensation is paid by employees.

States Where Costs Are Paid by Employees

New Mexico applies a per capita assessment based on employment on the last day of the quarter. Since 2004, the quarterly workers' compensation fee is \$4.30 per covered worker, which is split between employers and employees. The employers' share is \$2.30 per covered worker and the employees' share is \$2.00. Most of the total fee (\$4.00 — \$2.00 from employers and \$2.00 from employees) is now used primarily to fund the operation of the New Mexico Workers' Compensation Administration. (Funds from General Revenue previously paid for these administrative costs.) The additional \$0.30 per covered worker is paid by employers to fund the Workers' Compensation Uninsured Employers Fund.

Oregon assesses employers and employees for the Workers Benefit Fund, which pays monthly cost-of-living increases for workers. Between April of 2013 and 2016, the Oregon Workers Benefit Fund Assessment was 3.3 cents per hour worked — employers paid 1.65 cents and workers paid 1.65 cents per hour. In 2017, the assessment fell to 2.8 cents per hour worked—1.4 cents per hour for each party.

Washington employees pay part of the workers' compensation premium costs through payroll deductions. These deductions go toward state fund medical benefits and cost-of-living adjustments for the Supplemental Pension Fund. In 2017, employees contributed 25.0 percent of state fund premiums and paid half of the cost-of-living adjustment premium for the aforementioned fund.

Treatment of the Costs Paid by Employees in Past Reports

Prior to this year, costs paid by workers in Washington were included as costs of the program, but not the costs paid by workers in New Mexico and Oregon.⁸⁰ There are four reasons why all payments by workers to a workers' compensation program should be included as costs of the program.

- (1) To provide results that are consistent among all states;
- (2) To provide a more accurate measure of the costs of workers' compensation programs;
- (3) The benefits received by injured workers who paid for part of the costs of workers' compensation in New Mexico and Oregon are included in the NASI data for those states, and it is misleading to include the benefits but not the costs;
- (4) Most labor economists recognize the distinction between the nominal incidence of the costs of a program and the actual incidence. For example, most employers bear the nominal incidence of workers' compensation insurance because the premiums are paid by those employers. However, a substantial portion of the actual cost of workers' compensation is paid by workers in the form of lower wages than the workers would have received in the absence of workers' compensation. A review of the theory and empirical findings by Chelius and Burton (1994, 26) reached this conclusion: "*a substantial portion of workers' compensation costs (and even, according to some estimates, all of the costs) are shifted onto workers.* [emphasis in original]" While the degree of cost shifting to workers may have changed to some degree since the 1990s, the general notion that the assessing the costs of a program by focusing solely on the nominal share paid by employers is still an invalid and misleading approach.⁸¹

80 McLaren, Baldwin, and Boden (2018) a note in Table 13. *Workers' Compensation Cost by Type of Insurer, 1996-2016* indicates that "Employee contributions to workers' compensation costs in Washington state are included in the total from 2011 to 2016."

81 Leigh et al. (2009) is another study that concludes workers pay a substantial portion of workers' compensation program costs indirectly in the form of lower wages.

Data on Costs Paid by Employees

Based on these four reasons, NASI will now include employee contributions in all tables, figures and analysis in the annual editions of *Workers' Compensation: Benefits, Costs, and Coverage*.⁸² The amounts for the last five years are shown in Table D.1.

The importance of the costs of the workers' compensation programs relative to the total costs of the program varies among the three states. In New Mexico, the \$6.1 million of costs paid by employees represented 1.5 percent of the total costs of \$450.1 million in 2017. In Oregon, the \$41.9 million of employee costs represented 4.1 percent of the total

Table D.1

Employee Costs, Employer Costs, and Benefits for States in which Employees Directly Pay for a Portion of the Workers' Compensation Program, 2013–2017

(Millions of Dollars)

	2013	2014	2015	2016	2017
New Mexico					
Employee Costs	5.9	6.0	6.0	6.0	6.1
Employer Costs	440.8	480.0	488.3	449.3	444.1
Total Costs	446.7	486.0	494.3	455.3	450.1
Benefits	292.3	298.5	303.2	288.2	278.6
Oregon					
Employee Costs	43.5	44.9	47.0	48.5	41.9
Employer Costs	897.5	911.6	896.8	951.4	969.3
Total Costs	940.9	956.5	943.8	999.9	1,011.2
Benefits	659.8	655.7	632.2	629.5	688.6
Washington					
Employee Costs	540.2	586.1	628.7	667.6	681.0
Employer Costs	2,029.2	2,101.8	2,217.4	2,431.1	2,425.8
Total Costs	2,569.5	2,688.0	2,846.1	3,098.7	3,106.8
Benefits	2,338.6	2,399.9	2,412.3	2,437.1	2,464.8
Total					
Employee Costs	589.6	637.0	681.7	722.1	729.0
Employer Costs	3,367.6	3,493.5	3,602.4	3,831.8	3,839.2
Total Costs	3,957.1	4,130.5	4,284.1	4,553.9	4,568.2
Benefits	3,290.7	3,354.2	3,347.7	3,354.9	3,432.0

Sources: New Mexico Workers' Compensation Administration Economic Research & Policy Bureau; Oregon Department of Consumer and Business Services; Washington State Department of Labor & Industries.

82 Employee costs in these states are included in Tables 13 and 14. In Table 13, costs are allocated by using the ratios of privately insured benefits, state fund insured benefits, and self-insured benefits to total benefits.

costs of \$1,011.2 million for the workers' compensation program in 2017. In Washington, the employee contributions were much more significant. The costs paid by employees of \$681 million represented 21.9 percent of the total costs of \$3,106.8 million in Washington in 2017. For the three states in combination, employee contributions of \$729 million were 16.0 percent of total costs in 2017. From a

national perspective, the total costs of all U.S. workers' compensation programs were \$97,371 million, as show in Table 13, of which employee contribution in the three states of \$729 million represented only 0.7% of the national total. Nonetheless, the inclusion of the costs of the program paid by employees provides a more accurate measure of the magnitude of the program.

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